Radio's MASTER ENCYCLOPEDIA

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RADIO'S MASTER ENCYCLOPEDIA

OFFICIAL EQUIPMENT MANUAL of the RADIO INDUSTRY

What to Buy and Where to Buy It

- ILLUSTRATIONS
- SPECIFICATIONS
- DESCRIPTIONS
- PRICES

Classified Directory of All Manufacturers in the U. S. A.

Directory of Trade Names, Trade Marks, etc.

1939

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World Radio History

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World Radio History

CLASSIFIED DIRECTORY

RADIO'S MASTER ENCYCLOPEDIA

AIR CHARGERS—See "Generators"

AIRCRAFT COMMUNICATION EQUIPMENT

RCA Manufacturing Co., Camden, N. J.
Bendix Aircraft Corp., 105 W. Adams St., Chicago, Ill.
Fairchild Aerial Camera Corp., 62-10 Woodside Ave., Woodside, L. I., N. Y.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Lear Development Co., Roosevelt Field, Mineola, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

AMATEUR RECEIVING SETS

Hallicrafters, Inc., 2611 So. Indiana Ave., Chicago, Ill.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Howard Radio Co., 1731 Belmont Ave., Chicago, Ill.
Meissner Mfg. Co., Mt. Carmel, Ill. (Kits)
National Company, 61 Sherman St., Malden, Mass.
Radio Mfg. Engineers, Inc., 111 Harrison Ave., Peoria, Ill.
RCA Manufacturing Co., Camden, N. J.
Barr Laboratories, Inc., 227 Fulton St., New York, N. Y.
Breting Radio Mfg. Co., 2177 Venice Blvd., Los Angeles, Calif.
Eastern Radio Specialty Co., 227 Greenwich St., New York, N. Y.
Eilen Radio Laboratories, 136 Liberty St., New York, N. Y.
Fischer-Smith, 162 State St., W. Englewood, N. J.
Gaylord Mfg. Co., 1227 Washington Blvd., Chicago, Ill.
General Telev. & Radio Corp., 267 W. 17th St., New York, N. Y.
Haigis Laboratories, Inc., Maple Shade, N. J.
Patterson Radio Co., 1320 S. Los Angeles St., Los Angeles, Calif.
Per Wal Radio & Telev. Co., 140 N. Dearborn St., Chicago, Ill.
Radio Constructors Labs., 136 Liberty St., New York, N. Y.
Radio Transceiver Labs., 86-27 115th St., Richmond Hill, N. Y.
Ross & Co., A. H., Glenside, Pa.
Sargent Co., E. M., 212 9th St., Oakland, Calif.

AMATEUR & TRANSMITTING EQUIPMENT

See Individual Classification—such as, Transformers, Condensers, Transmitting, etc.

AMPLIFIERS & SOUND SYSTEMS

Power Amplifier Units

Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Bogen Co., Inc., David, 663 Broadway, New York, N. Y.
Electronic Design Corp., 164 N. May St., Chicago, Ill.
General Transformer Corp., 1250 W. Van Buren St., Chicago,
Gibbs & Co., Thomas B., 900 W. Lake St., Chicago, Ill.
National Co., Inc., 61 Sherman St., Malden, Mass.
Operadio Mfg. Co., St. Charles, Ill.
Phelphs Dodge Copper Products Corp., Los Angeles, Calif. (Kits)
RCA Manufacturing Co., Camden, N. J.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill. (Kits)
Sundt Engineering Co., 4238 Lincoln Ave., Chicago, Ill.
Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y. (Kits)
Universal Microphone Co., Ltd., Inglewood, Calif.
Webster Company, The, 5622 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wisconsin.
Acme Sound Co., 2758 Broadway, New York, N. Y.
Allied Recording Co., 126 W. 46th St., New York, N. Y.
American Transformer Co., 178 Emmet St., Newark, N. J.
Amplifier Co. of Amer., 17 W. 20th St., New York, N. Y.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Audio Development Co., 4351 France Ave. S., Minneapolis, Minn.
Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.
Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.
Bell Sound Systems, Inc., 61-62 E. Goodale St., Columbus, Ohio
Bendix Radio Mfg. Co., Wood Lake, Minn.
Collins Radio Co., Cedar Rapids, Iowa
Deluxe Sound Co., 123 South St., Bogota, N. J.
De Vry, Inc., Herman A., 1111 Center St., Chicago, Ill.
Dunn-Hall Co., 1477 W. Adams St., Los Angeles, Calif.
Electra Corp., 1500 N. Kostner Ave., Chicago, Ill.
Electronic Devices, Inc., Warren, Pa.
Electronic Sound Labs., Inc., 5912 Melrose Ave., Hollywood, Calif.
Emco Products Company, 78 Reade St., New York, N. Y.
Espey Mfg. Co., Inc., 67 Irving Place, New York, N. Y.
Fox Sound Equipment Corp., 3120 Munroe St., Toledo, Ohio
Gates Radio & Supply Co., 115 North St., Quincy, Ill.
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill. (Kits)
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Laurehk Radio Mfg. Co., E. Michigan St., Adrian, Mich.
Lipman Engineering Co., 415 VanBraam St., Pittsburgh, Pa.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Million Radio & Television, 685 W. Ohio St., Chicago, Ill.
Morlen Electric Co., Inc., 60 W. 15th St., New York, N. Y.
Ottawa Radio Co., Ottawa, Ill.
Pictur-Fone Corp., 806 S. Main St., Lima, Ohio
Piezo Elec. Labs., 612 Rockland Ave., New Dorp, S. I., N. Y.
Public-Ad, Inc., 2015 E. 65th St. Cleveland, Ohio
Radio Amplifiers Laboratories, 59 Walker St., New York, N. Y.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Radiotone Recording Co., 6103 Melrose Ave., Hollywood, Calif.
Rauland Corp., 3341 Belmont Ave., Chicago, Ill.
Recording Equip. Mfg. Co., 6611 Sunset Blvd., Hollywood, Calif.
Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Segelsound, Inc., 235-237 Pine St., Gardner, Mass.
Setchell-Carlson Co., Inc., 2233 University Ave., St. Paul, Minn.
Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Sound Products, 704 N. Curson Ave., Hollywood, Calif.
Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, Ohio
Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
Tech Laboratories, 703 Newark Ave., Jersey City, N. J.
Techna Corp., 926 Howard St., San Francisco, Calif.
Terpening, L. H., 220 E. 23rd St., New York, N. Y.
Toledo Sound Equip. Laboratories, 1215 Jackson St., Toledo, Ohio
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
United Sound Eng. Co., 2233 University Ave., St. Paul, Minn.
Vibraloc Mfg. Co., 1273 Mission St., San Francisco, Calif.
Vibro-Master Co., 2744 Broadway, New York, N. Y.
Volu-Tone Co., 226 N. Main St., Los Angeles, Calif.
Western Electric Co., 195 Broadway, New York, N. Y.

Sound Systems Complete

Bogen Co., Inc., David, 663 Broadway, New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Electronic Design Corp., 164 N May St., Chicago, Ill.
Gibbs & Co., Thomas B., 900 W. Lake St., Chicago, Ill.
Operadio Mfg. Co., St. Charles, Ill.
Presto Recording Corp., 139 W. 19th St., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Sundt Engineering Co., 4238 Lincoln Ave., Chicago, Ill.
Universal Microphone Co., Ltd., Inglewood, Calif.
Ward Products Corp., 1523 E. 45th St., Cleveland, Ohio
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wisconsin
Acme Sound Co., 2758 Broadway, New York, N. Y.
Allied Recording Co., 126 W. 46th St., New York, N. Y.
Amplifier Co. of America, 17 W. 20th St., New York, N. Y.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Audio Development Co., 4351 France Ave. S., Minneapolis, Minn.

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CLASSIFIED DIRECTORY (Continued)

Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.
Automatic Radio Mfg. Co., Inc., 122 Brookline Ave., Boston, Mass.
Bell Sound Systems, Inc., 61 E. Goodale St., Columbus, Ohio
Bendix Radio Mfg. Co., Wood Lake, Minn.
Collins Radio Company, Cedar Rapids, Iowa
Deluxe Sound Co., 123 South St., Bogota, N. J.
De Vry, Inc., Herman A., 1111 Center St., Chicago, Ill.
Dunn-Hall Co., 1477 W. Adams St., Los Angeles, Calif.
Electra Corp., 1500 N. Kostner Ave., Chicago, Ill.
Electrical Research Labs., 2500 Cottage Grove Ave., Chicago, Ill.
Electronic Devices, Inc., Warren, Pa.
Electronic Sound Labs., Inc., 5912 Melrose Ave., Hollywood, Calif.
Fox Sound Equipment Corp., 3120 Munroe St., Toledo, Ohio
Gates Radio & Supply Co., 115 North St., Quincy, Ill.
Hetro Electr. Industries, Inc., 4611 Ravenswood Ave., Chicago, Ill.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Lipman Engineering Co., 415 VanBraam St., Pittsburgh, Pa.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Mellophone Corp., 714 University Ave., Rochester, N. Y.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Million Radio & Television, 685 W. Ohio St., Chicago, Ill.
Morlen Electric Co., Inc., 60 W. 15th St., New York, N. Y.
Ottawa Radio Co., Ottawa, Ill.
Pacent Engineering Corp., 79 Madison Ave., New York, N. Y.
Pictur-Fone Corp., 806 S. Main St., Lima, Ohio
Piezo Elec. Labs., 612 Rockland Ave., New Dorp, S. I., N. Y.
Public-Ad, Inc., 2015 E. 65th St., Cleveland, Ohio
Radio Amplifier Labs., 59 Walker St., New York, N. Y.
Radio Receptod Co., Inc., 251 W. 19th St., New York, N. Y.
Radiotone Recording Co., 6103 Melrose Ave., Hollywood, Calif.
Rangertone, Inc., 201 Verona Ave., Newark, N. J.
Rauland Corp., 3341 Belmont Ave., Chicago, Ill.
Recording Equip. Mfg. Co., 6611 Sunset Blvd., Hollywood, Calif.
Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.
Remler Co., Ltd., 2101 Bryant, San Francisco, Calif. (Plugs)
Segelsound, Inc., 235-237 Pine St., Gardner, Mass.
Sonora Elec. Phonograph Co., 160 Varick St., New York, N. Y.
Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Sound Products, 704 N. Curson Ave., Hollywood, Calif.
Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, Ohio
Speak-O-Phone Rec. & Equip. Co., 23 W. 60th St., New York, N. Y.
Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
Tech Laboratories, 703 Newark Ave., Jersey City, N. J.
Techna Corp., 926 Howard St., San Francisco, Calif.
Terpening, L. H., 220 E. 23rd St., New York, N. Y.
Toledo Sound Equip. Labs., 1215 Jackson St., Toledo, Ohio
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
United Sound Eng. Co., 2233 University Ave., St. Paul, Minn.
Vibraloc Mfg. Co., 1273 Mission St., San Francisco, Calif.
Volu-Tone Co., 226 N. Main St., Los Angeles, Calif.
Western Electric Co., 195 Broadway, New York, N. Y.

Pre-Amplifiers

Amperite Company, 561 Broadway, New York, N. Y.
Operadio Mfg. Co., St. Charles, Ill.
Webster Electric Co., Racine, Wisconsin

ANTENNA EQUIPMENT

Antenna Accessories

Alpha Wire Corp., 50 Howard St., New York, N. Y.
American Radio Hardware Co., Inc., 476 Bway., New York, N. Y.
Amy, Aceves & King, 11 W. 42nd St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Burean St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn., N. Y.
Fleron & Son, Inc., M. M., 113 N. Broad St., Trenton, N. J.
Insuline Corp. of America, 25 Park Pl., New York, N. Y.
Jackson Electro Corp., 625 Broadway, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
Littelfuse Laboratories, 4238 Lincoln Ave., Chicago, Ill.
Meissner Mfg. Co., Mt. Carmel, Ill.
Mueller Mfg. Co., 1573 E. 31st St., Cleveland, Ohio
Phelps Dodge Copper Products Corp., 2375 E. 27th St., Los Angeles, Calif.
Philmore Mfg. Co., 113 University Pl., New York, N. Y.
Premax Sales Div., Chisholm-Ryder Co., Niagara Falls, N. Y.
RCA Manufacturing Co., Camden, N. J.
Snyder, Inc., 813 Noble St., Philadelphia, Pa.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y.
Acme Wire Co., New Haven, Conn.
Alden Products Co., 715 Center St., Brockton, Mass.
American Enameled Magnet Wire Co., Port Huron, Mich.
Collins Radio Company, Cedar Rapids, Iowa
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Consolidated Wire & Assoc. Corp., Peoria and Harrison, Chicago, Ill.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Doolittle & Faulkner, Inc., 7421 S. Loomis Blvd., Chicago, Ill.
Eagle Electric Mfg. Co., 59-79 Hall St., Brooklyn, N. Y.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
F. & H. Radio Labs., Fargo, N. Dakota
Fowler Mfg. Co., 9 Rutger St., St. Louis, Mo.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Electric Co., 1285 Boston Ave., Bridgeport, Conn.
General Insulated Wire Corp., 53 Park Pl., New York, N. Y.
General Winding Co., 254 W. 31st St., New York, N. Y.
Holyoke Co., Inc., 720 Main St., Holyoke, Mass.
Knox Porcelain Corp., Knoxville, Tenn.
Laurehk Radio Mfg. Co., E. Michigan St., Adrian, Mich.
Philco Radio & Television Corp., Philadelphia, Pa.
Porcelain Products, Inc., 124 W. Front St., Findlay, Ohio
Rivard Mfg. Co., Toledo, Ohio
Spargo Wire Co., Rome, N. Y.
Sparks-Withington Co., E. Ganson Ave., Jackson, Mich.
Specialties Mfg. Company, 3152 Cass Ave., Detroit, Mich.
Ultramar Mfg. Corp., 1160 Howe St., Chicago, Ill.

Antenna All-Wave Kits

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Amy, Aceves & King, 11 W. 42nd St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
Deutschmann Corp., Tobe, Canton, Mass.
RCA Manufacturing Co., Camden, N. J.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y
Ward Products Corp., 1523 E. 45th St., Cleveland, Ohio
Bassett Research Corp., 1436 Maccabees Bldg., Detroit, Mich. (Systems-Kits)
Brach Mfg. Corp., L. S., 55 Dickinson St., Newark, N. J.
Burch Presteel Products Co., Chattanooga, Tenn.

Antenna Amateur Kits

Chisholm-Ryder Co., Inc., (Premax Products) Niagara Falls, N. Y.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y.
Verti-Flex Div., Illinois Seating Corp., 2138 N. Racine Ave., Chicago, Ill.

Antenna Broadcast Kits

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Chisholm-Ryder Co., Inc., Niagara Falls, N. Y. (Premax Products)
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
Deutschmann Corp., Tobe, Canton, Mass.
Fleron & Son, Inc., M. M., 113 N. Broad St., Trenton, N. J.
Insuline Corp. of America, 25 Park Pl., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y.
Verti-Flex Div., Illinois Seating Corp., 2138 N. Racine Ave., Chicago, Ill.

Ultra-High Frequency Antennas

Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Johnson Co., E. F., Weseca, Minn.
Premax Sales Div., Chisholm-Ryder Co., Niagara Falls, N. Y.

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CLASSIFIED DIRECTORY (Continued)

AUTO "B" ELIMINATORS

Pioneer Genemotor Corp., 466 W. Superior St., Chicago, Ill.

AUTOMOBILE ANTENNAS

Alpha Wire Corp., 50 Howard St., New York, N. Y.
American Radio Hardware Co., Inc., 476 B'way, New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Burton-Rogers Company, 755 Boylston St., Boston, Mass.
Deutschmann Corp., Tobe, Canton, Mass.
Fleron & Son, Inc., M. M., 113 N. Broad St., Trenton, N. J.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn., N. Y.
Philmore Mfg. Co., 113 University Place, New York, N. Y.
Premax Sales Div., Chisholm-Ryder Co., Niagara Falls, N. Y.
Radiart Corp., The, Shaw Ave. at E. 133rd St., Cleveland, Ohio
RCA Manufacturing Co., Camden, N. J.
Snyder, Inc., 813 Noble St., Philadelphia, Pa.
Ward Products Corp., 1523 E. 45th St., Cleveland, Ohio
ABC Radio Labs., 3334 N. New Jersey St., Indianapolis, Ind.
Charles Avnet Co., 156 Chambers St., New York, N. Y.
Cons. Wire & Associated Corps., 512 S. Peoria St., Chicago, Ill.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
D. & H. Mfg. Co., Inc., 18 W. Irvington Pl., Denver, Colo.
Fishwick Radio Co., 139 W. 4th St., Cincinnati, Ohio
Galvin Mfg. Corp., 847 W. Harrison St., Chicago, Ill.
Inland Mfg. Div., General Motors Corp., Dayton, Ohio
Laurehk Radio Mfg. Co., E. Michigan St., Adrian, Mich.
Noblitt-Sparks Industries, Inc., Columbus, Ind.
Norwest Radio Labs., 3454 Fullerton Ave., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Pioneer Specialty Co., 521 St. Jean Ave., Detroit, Mich.
Radio Electric Service, 1918 Newton St., Saginaw, Mich.
Radio Engineering Labs., Inc., 25-14 41st Ave., L. I. City, N. Y.
Schiffmann Bros., 3840 N. Ashland Ave., Chicago, Ill.
Specialties Mfg. Co., 3152 Cass Ave., Detroit, Mich.
Tichenor Co., 7323 W. Chicago Blvd., Chicago, Ill.
Top-Streem, Inc., Minneapolis, Minn.
United Motors Service, Inc., Detroit, Mich.
Victory Mfg. Co., Inc., 2021 S. Michigan Ave., Chicago, Ill.
Wedge Mfg. Co., 2334 S. Michigan Ave., Chicago, Ill.

AUTOMOBILE REMOTE CONTROL HEADS

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Star Machine Manufacturers, Inc., 1379 E. Bay Ave., New York, N. Y.
Dual Remote Control Co., 7228 Warwick St., Detroit, Mich.
Stewart Mfg. Corp., F. W., 340 W. Huron St., Chicago, Ill.
Universal Controls, Inc., 21-07 40th St., L. I. City, N. Y.

BALLASTS—See "Resistor Tubes"

BATTERIES

Burgess Battery Co., Freeport, Ill.
Globe-Union, Inc., 900 E. Keefe Ave., Milwaukee, Wis. (Storage)
Kato Engineering Co., 530 North Front St., Mankato, Minn. (Light Plant Batteries)
Bond Electric Corp., New Haven, Conn.
Bright Star Battery Co., Clifton, N. J.
Economic Supply Co., 2017 Grand Ave., Kansas City, Mo. (Storage)
Electric Storage Battery Co., Allegheny Ave. & 19th St., Phila. Pa.
General Dry Battery Co., Cleveland, Ohio
Gen-E-Rotor, 908 Keo. St., Des Moines, Iowa (Storage)
Marathon Battery Co., Wausau, Wis.
Monark-Battery Co., Inc., 4556 W. Grand Ave., Chicago, Ill. (Storage)
National Carbon Co., Inc., 30 E. 42nd St., New York, N. Y. ("Eveready")
Ray-O-Vac Co., Madison, Wisconsin
Ruralite Engineering Co., 2700 Hawkeye Drive, Sioux City, Iowa (Batteries—32 volt)
U. S. Elec. Mfg. Corp., 222 W. 14th St., New York, N. Y. ("Usalite")
U S L Battery Co., Niagara Falls, N. Y. (Storage)
Universal Battery Co., 3410 S. LaSalle St., Chicago, Ill. (Storage)
White Wind Electric Co., 2300 E. Douglas Ave., Wichita, Kan. (Storage)
Willard Storage Battery Co., Cleveland, Ohio

BATTERY CHARGERS & ELIMINATORS

American Television & Radio Corp., 300 E. Fourth St., St. Paul, Minn. (Eliminators)
Kato Engineering Co., 530 North Front St., Mankato, Minn.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Pioneer Genemotor Corp., 466 W. Superior St., Chicago, Ill. (Eliminators)
Ward Leonard Electric Co., Mount Vernon, N. Y.
Automatic Electrical Devices Co., 324 E. 3rd St., Cincinnati, Ohio
Electro Products Labs., 549 W. Randolph St., Chicago, Ill. (Eliminators)

BATTERY CLIPS—See "Hardware, Miscellaneous"

BOOKS and MANUALS

Radio & Technical Publishing Co., 45 Astor Pl., New York, N. Y.
Radio, Ltd., 7460 Beverly Blvd., Los Angeles, Calif.
RCA Manufacturing Co., Camden, N. J.
Rider, John F., 404 Fourth Ave., New York, N. Y.
Akrad Products Co., 362 Wooster Ave., Akron, Ohio
American Radio Relay League, W. Hartford, Conn.
Blakiston's Son & Co., Inc., 1012 Walnut St., Philadelphia, Pa.
Cameron Publishing Co., Woodmont, Conn.
Capitol Radio Research Labs., 993 Nat'l Press Bldg., Washington, D. C.
Drake & Co., Frederick J., 179 No. Michigan Ave., Chicago, Ill. (Cyclopedia)
McGraw-Hill Book Co., 330 W. 42nd St., New York, N. Y.
Pacific Radio Publishing Co., Box 3278, San Francisco, Calif.
Popular Book Corp., 99 Hudson St., New York, N. Y.
Radcraft Publications, Inc., 99 Hudson St., New York, N. Y.
Supreme Publication, 3727 W. 13th St., Chicago, Ill.
Van Nostrand Co., Inc., D., 250 Fourth Ave., New York, N. Y.
Wiley & Sons, Inc., John, 440 Fourth Ave., New York, N. Y.

CABINETS

Metal and Steel Cabinets

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Insuline Corp. of America, 25 Park Place., New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Par-Metal Products Corp., 3525 41st St., Long Island City, N. Y.
Collins Radio Company, Cedar Rapids, Iowa
Sheet Metal Specialty Co., 1417 W. Pico Blvd., Los Angeles, Calif.

Plastic Cabinets

Associated Attleboro Mfrs., Inc., Attleboro, Mass.
Auburn Button Works, Auburn, N. Y.
Chicago Molded Products Co., 2140 Walnut St., Chicago, Ill.
General Plastics, Inc., North Tonawanda, N. Y.
Richardson Co., 2738 Lake St., Melrose Park, Chicago, Ill.

Wood Cabinets

Adler Manufacturing Co., 29th & Chestnut Sts., Louisville, Ky.
Alden Corporation, Asheville, N. C.
Castlewood Mfg. Co., Inc., Louisville, Ky.

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CLASSIFIED DIRECTORY (Continued)

Caswell-Runyon Co., Huntington, Ind.
Charlotte Furniture Co., Charlotte, Mich.
Chicago Novelty Furniture Co., 1750-60 N. Campbell Ave., Chicago, Ill.
Chillicothe Furniture Co., Chillicothe, Mo.
Churchill Cabinet Co., 2119 Churchill St., Chicago, Ill.
Corbett Cabinet Mfg. Co., St. Marys, Pa.
Greco Cabinet Co., 48 Mangin St., Brooklyn, N. Y.
Home Furniture Co., York, Pa.
Illinois Wood Products Corp., 2512 Damen Ave., Chicago, Ill.
Ingraham Co., Bristol, Conn.
Luce Furniture Corp., 655 Godfrey Ave., S. W., Grand Rapids, Mich.
Melburn Radio Mfg. Co., 2218 S. Hoover St., Los Angeles, Calif.
Mitchell, Robert Furniture Co., 420 Main St., Cincinnati, Ohio
Quality Cabinet Corp., Peru, Ind.
Red Lion Cabinet Co., Red Lion, Pa.
Sheip, Henry H. Mfg. Co., 1702-1716 Randolph St., Phila., Pa.
Standard Cabinet Co., Inc., 543 Union St., Brooklyn, N. Y.
Standard Cabinet Mfg. Co., 251 E. Canal St., Peru, Ind.
Steger Furniture Mfg. Co., Inc., Steger, Ill.
Superior Cabinet Corp., 3611 14th Ave., Brooklyn, N. Y.
Tillotson Furniture Corp., Jamestown, N. Y.
Union Chest & Cabinet Corp., Rochester, N. Y.
Warren Furniture Co., Warren, Pa.
Watterson Radio Mfg. Co., Dallas, Texas
Worrick & Co., F. C., Tulley, Mass.

CAMERAS & ACCESSORIES

Universal Camera Co., 28 W. 23rd St., New York, N. Y.

CEMENTS—See "Lacquers"

CERAMICS—See "Insulation"

CHOKES, AUDIO—See "Transformers & Chokes"

CLOCKS—Electric, World Time Clock, Regular Clock and International 24 Hour Clock Combined. Commercial and Home Sizes . See also "Switches, Time"

Gordon Specialties Co., 1104 S. Wabash Ave., Chicago, Ill.
Gilbert, Wm. L., Clock Corp., Winsted, Conn.
Hammond Clock Co., 2915 N. Western Ave., Chicago, Ill.
Ingraham Co., E., Bristol, Conn.
Lux Clock Mfg. Co., Waterbury, Conn.
New Haven Clock Co., New Haven, Conn.
Seth Thomas Clocks, Thomaston, Conn.
Sky Pilot Organization, Pearl River, N. Y.
Warren Telechron Co., Ashland, Mass.
Waterbury Clock Co., Waterbury, Conn.

COIL MACHINERY

Morris Register Co., Council Bluffs Iowa (Coil Winder)
Meissner Mfg. Co., Mt. Carmel, Ill.
Universal Winding Co., Providence, R. I.

COILS

R. F.—I. F., R. F. Chokes, Transmitting and Receiving

Alladin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill.
Barker & Williamson, Ardmore, Penn.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.
Coto-Coil Co., Inc., 71 Willard Ave., Providence, R .I .
Freed Transformer Corp., 72 Spring St., New York, N. Y.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson, C. E. F., Waseca, Minn.
Meissner Mfg. Co., Mt. Carmel, Ill.
Miller Co., J. W., 5917 So. Main St., Los Angeles, Calif.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill. (Plate Chokes, Line Chokes)
National Company, 61 Sherman St., Malden, Mass.
Ohmite Manufacturing Co., 4835 West Flournoy St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Alden Products Co., 715 Center St., Brockton, Mass.
Automatic Winding Co., 900 Passaic Ave., E. Newark, N. J.
Best Mfg. Co., Inc., 1200 Grove St., Irvington, N. J.
Bond Radio Co., 13139 Hamilton Ave., Detroit, Mich.
Burlington Laboratories, 1617 No. Damen Ave., Chicago, Ill.
Coast Coil Co., Costa Mesa, Calif.
Collins Radio Company, Cedar Rapids, Iowa
Decker Mfg. Co., Box 42, So. Pasadena, Calif.
Electronic Products Co., 5356 E. 9th St., Los Angeles, Calif.
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Ferrocart Corporation of America, William St. & Aqueduct Lane, Hastings-on-Hudson, N. Y. (Core Materials)
General Mfg. Co., 8066 S. Chicago Ave., Chicago, Ill.
General Radio Co., 30 State St., Cambridge, Mass.
General Winding Co., 254 W. 31st St., New York, N. Y.
Greyhound Equipment Co., 1720 Church Ave., Brooklyn, N. Y. (Coil windings)
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Melburn Radio Mfg. Co., 2218 S. Hoover St., Los Angeles, Calif.
Merril Mfg. Co., 4835 Edison St., Los Angeles, Calif.
Norwalk Engineering Corp., 55 Chestnut St., So. Norwalk, Conn.
Philco Radio & Television Corp., Philadelphia, Pa.
Precision Inductance Corp., 591 Broadway, New York, N. Y.
Premier Crystal Laboratories, Inc., 53 Park Row, New York, N. Y.
Radio Engineering Labs., Inc., 25-14 41st St., Long Island City, N. Y.
Sara Co., J & L, 123 Liberty St., New York, N. Y.
Short Wave Inductor Co., 1428 N. Wells St., Chicago, Ill.
Sickles Co., F. W., 308 Main St., Springfield, Mass.
Teleradio Engineering Corp., 484 Broome St., New York City, N. Y.
Western Radio Products Co., Box 105, Alhambra, Calif.
Ultramar Mfg. Corp., 1160 Howe St., Chicago, Ill.

COIL FORMS

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.

CONDENSERS

Ceramic Condensers

Central Radio Labs., 900 E. Keefe Ave., Milwaukee, Wis.
Erie Resistor Corp., Erie, Pa.
Muter Co., 1255 S. Michigan Ave., Chicago, Ill.

Electrolytic Condensers

Aerovox Corporation, New Bedford, Mass.
Cornell-Dubilier Electric Corp., 1000 Hamilton Ave., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Dumont Electric Co., 514 Broadway, New York, N. Y.
Girard-Hopkins, 1437 23rd Ave., Oakland, Calif.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
RCA Manufacturing Co., Camden, N. J.
Solar Manufacturing Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
American Condenser Co., 2508 S. Michigan Ave. Chicago, Ill.
Ariston Mfg. Corp., 4045 Diversey Ave., Chicago, Ill.
Atlas Condenser Prods. Co., 548 Westchester Ave., New York, N. Y.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Condenser Corp. of America, Hamilton Blvd., So Plainfield, N. J.
Condenser Products Co., 1369-75 N. Branch St., Chicago, Ill.
Consolidated Condenser Co., 365 W. Superior St., Chicago, Ill.
Consolidated Wire & Associated Corp., Peoria & Harrison Sts., Chicago, Ill.
Cosmic Radio Corp., 699 E. 135th St., New York, N. Y.
Crowley & Co., Inc., H. L., 1 Central Ave., West Orange, N. J.
Curtis Condenser Corp., 3088 W. 106th St., Cleveland, Ohio
Illinois Condenser Co., 3252 W. North Ave., Chicago, Ill.
Magnavox Co., Ft. Wayne, Ind.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Potter Condenser Co., 1950 Sheridan Road, North Chicago, Ill.

Industrial Capacitors

Aerovox Corp., New Bedford, Mass.
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
J. E. Fast & Co., 3123 N. Crawford Ave., Chicago, Ill.
Illinois Condenser Co., 1160 N. Howe St., Chicago, Ill.
Potter Condenser Co., 1950 Sheridan Road, No. Chicago, Ill.

Ignition, Radio Condensers

Aerovox Corporation, New Bedford, Mass.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Brooklyn, N. Y.
Girard-Hopkins, 1437 23rd Ave., Oakland, Calif.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
National Union Radio Corp., 57 State St., Newark, N. J.
Solar Manufacturing Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Ariston Mfg. Corp., 4045 Diversey Ave., Chicago, Ill.
Consolidated Condenser Co., 365 W. Superior St., Chicago, Ill.
Consolidated Wire & Associated Corps., Peoria and Harrison Sts., Chicago, Ill.
Dumont Electric Co., 514 Broadway, New York, N. Y.
Micamold Radio Corporation, 1087 Flushing Ave., Bklyn, N. Y.

Mica Condensers

Aerovox Corporation, New Bedford, Mass.
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Dumont Electric Co., 514 Broadway, New York, N. Y.
P. R. Mallory & Co., 3029 E. Washington St., Indianapolis, Ind.
Sangamo Electric Co., Springfield, Ill.
Solar Mfg. Co., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Electromotive Mfg. Co., Inc., 797 E. 140th St., New York, N. Y.
Filtermatic Mfg. Co., 6913 Ditman St., Philadelphia, Pa.
A. W. Franklin Mfg. Corp., 175 Varick St., New York, N. Y.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Philco Radio & Television Corp., Philadelphia, Pa.

Paper—Tubular—Fixed Condensers

Aerovox Corporation, New Bedford, Mass.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Dumont Electric Co., 514 Broadway, New York, N. Y.
Erie Resistor Corp., Erie, Pa.
Girard-Hopkins, 1437 23rd Ave., Oakland, Calif.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Solar Manufacturing Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Ariston Mfg. Corp., 405 Diversey Ave., Chicago, Ill.
Atlas Condenser Prods. Co., 543 Westchester Ave., New York, N. Y.
Bond Electric Corp., 257 Cornelison Ave., Jersey City, N. J.
Bond Radio Co., 13139 Hamilton Ave., Detroit, Mich.
Condenser Corp. of America, Hamilton Blvd., So. Plainfield, N. J.
Condenser Products Co., 1369-75 N. Branch St., Chicago, Ill.
Consolidated Condenser Co., 365 W. Superior St., Chicago, Ill.
Consolidated Wire & Associated Corps., Peoria & Harrison Sts., Chicago, Ill.
Cosmic Radio Corp., 699 E. 135th St., New York, N. Y.
Crowley & Co., Inc., H. L., 1 Central Ave., West Orange, N. J.
Curtis Condenser Corp., 3808 W. 106th St., Cleveland, Ohio
Dwyer Electric Products Co., 10 S. LaSalle St., Chicago, Ill.
Economy Condenser Corp., 3033 N. Pulaski Road, Chicago, Ill.
Fast & Co., J. E., 3123 N. Crawford Ave., Chicago, Ill.
Gaylord Mfg. Co., 1227 Washington Blvd., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
General Radio Co., 30 State St., Cambridge, Mass.
Girard Continental Condenser Corp., 2341 Wolfram St., Chicago, Ill.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Kellogg Switchboard & Supply Co., 1066 W. Adams St., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Magnavox Co., Ft. Wayne, Ind.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Morrill & Morrill, 30 Church St., New York, N. Y.
Philco Radio & Television Corp., Philadelphia, Pa.
Potter Co., North Chicago, Ill.
Sevison Engineering Co., 379 Phillips Ave., Toledo, Ohio
Stromberg-Carlson Tel. Mfg. Co., 100 Carlson Road, Rochester, N. Y.

Silvered Mica Condensers

Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Erie Resistor Corp., Erie, Pa.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.

Transmitting Paper & Electrolytic Condensers

Aerovox Corp., New Bedford, Mass.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Dumont Electric Co., 514 Broadway, New York, N. Y.
Girard-Hopkins, 1437—23rd Ave., Oakland, Calif.
Mallory & Co., P. R., 3029 E. Washington St., Indianapolis, Ind.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill.
Ecco High Frequency Corp., 120 W. 20th St., New York, N. Y.
Electronic Products Co., 5356 E. 9th St., Los Angeles, Calif.
J. E. Fast & Co., 3123 N. Crawfold Ave., Chicago, Ill.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.
Morrill & Morrill, 30 Church St., New York, N. Y.

Transmitting Mica and Glass Condensers

Aerovox Corp., New Bedford, Mass.
Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Dumont Electric Co., 514 Broadway, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Sangamo Electric Co., Springfield, Ill.
Solar Manufacturing Co., 599 Broadway, New York, N. Y.
Consolidated Wire & Associated Corp., Peoria & Harrison Sts., Chicago, Ill.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Potter Condenser Co., 1950 Sheridan Road, North Chicago, Ill.

Trimmer and Padder Condensers

Aladdin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Mallory & Co. Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Meissner Mfg. Co., 7th & Belmont, Mt. Carmel, Ill.
Miller Co., J. W., 5917 S. Main St., Los Angeles, Calif.
National Company, 61 Sherman St., Malden, Mass.
RCA Manufacturing Co., Camden, N. J.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Automatic Winding Co., Inc., 900 Passaic Ave., East Newark, N. J.
De-Jur-Amsco Corp., Bridge St., Shelton, Conn.
Electromotive Mfg. Co. Inc., 797 E. 140th St., New York, N. Y.
General Mfg. Co., 8066 S. Chicago Ave., Chicago, Ill.
Guthman & Co., Inc., Edwin I., 400 S. Peoria St., Chicago, Ill.
Sickles Co., F. W., 300 Main St., Springfield, Mass.
Teleradio Engineering Corp., 484 Broome St., Newark, N. J.

Variable, Receiving Condensers

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Meissner Mfg. Co., Mt. Carmel, Ill.
Miller Co., J. W., 5917 S. Main St., Los Angeles, Calif.
National Company, 61 Sherman St., Malden, Mass.
RCA Manufacturing Co., Camden, N. J.
Winchester Co., The 466 W. Superior St., Chicago, Ill.
Alden Products Co., 715 Center Street, Brockton, Mass.
American Steel Package Co., Squire Ave., Defiance, Ohio
Automatic Winding Co., 900 Passaic St., Newark, N. J.
De Adco Products Co., 9 W. Illinois St., Chicago, Ill.
DeJur Amsco Corp., Bridge St., Shelton, Conn.
General Instrument Corp., 829 Newark Ave., Elizabeth, N. J.
Guthman & Co., Edwin I., 402 S. Peoria St., Chicago, Ill.
Radio Condenser Co., Davis St., Camden, N. J.
Reliance Die & Stamping Co., 1260 Flaybourn Ave., Chicago, Ill.
Scoville Mfg. Co., 90 Mill St., Waterbury, Conn.
United Scientific Labs., Inc., 440 Lafayette St., New York, N. Y.

Variable, Transmitting Condensers

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
National Company, 61 Sherman St., Malden, Mass.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa

Special Purpose Variable Condensers

General Radio Co., 30 State St., Cambridge, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Philadelphia, Pa.

Vibrator Condensers

Aerovox Corporation, New Bedford, Mass.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Cornell-Dubilier Elec. Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Girard-Hopkins, 1437 23rd Ave., Oakland, Calif.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
National Union Radio Corp., 57 State St., Newark, N. J.
Solar Manufacturing Corp., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.

CORES, Transformer—See "Transformers & Chokes"

CRYSTALS

Bliley Electric Co., Union Station Bldg., Erie, Pa.
RCA Manufacturing Co., Camden, N. J.
American Piezo Supply Co., 3921 Agnes, Kansas City, Mo.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Burnett Radio Laboratory, Wm. W. L., 4814 Idaho St., San Diego, Calif.
Hipower Crystal Co., 2035 Charleston St., Chicago, Ill.
Petersen Radio Co., Council Bluffs, Iowa
Piezo Electric Laboratories, 612 Rockland Ave., New Dorp, N. Y.
Precision Crystal Labs., 1211 Liberty St., Springfield, Mass.
Precision Piezo Service, 427 Asia St., Baton Rouge, La.
Premier Crystal Laboratories, Inc., 53 Park Row, New York, N. Y.
Scientific Radio Service, University Park, Hyattsville, Md.
Valpey Crystals, 377 Summer St., Medway, Mass.

CRYSTAL HOLDERS

Bliley Electric Co., Union Station Bldg., Erie, Pa.
Bud Radio Inc., 5205 Cedar Ave., Cleveland, Ohio
Insuline Corp. of America, 25 Park Place, New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Bellefonte Radio Engineering Laboratory, Bellefonte, Pa.
Collins Radio Company, Cedar Rapids, Iowa
Commercial Radio Equip. Co., 7205 Baltimore Ave., Kansas City, Mo.
Hipower Crystal Co., 2035 Charleston St., Chicago, Ill.

CRYSTAL RECEIVING SETS

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Philmore Mfg. Company, 113 University Place, New York, N. Y.
Barsock Co., 202 State St., Chicago, Ill.
Federal Stamping & Eng. Corp., 25 Lafayette St., Brooklyn, N. Y.
Lambert, Leon, Wichita, Kansas

DIALS & ACCESSORIES

Complete Dials

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Coto-Coil Co., Inc., 71 Willard Ave., Providence, R. I.
Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill. (Also Auto)
Eby, Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Gordon Specialties Co., 1104 S. Wabash Ave., Chicago, Ill.
Insuline Corp. of America., 25 Park Place, New York, N. Y.
Meissner Mfg. Co., Mt. Carmel, Ill.
National Company, 61 Sherman St., Malden, Mass.
Star Machine Mfrs. Inc., 1379 E. Bay Ave., New York, N. Y. (Auto)
American Emblem Co., Inc., Utica, N. Y.
Carroll Co., J. B., Albany at Carroll Ave., Chicago, Ill.
De-Jur-Amsco Corp., Bridge St., Shelton, Conn.
General Radio Co., 30 State St., Cambridge, Mass.
Premier Crystal Laboratories, Inc., 53 Park Row, New York, N. Y.
Radio Engineering Labs., Inc., 25-14 41st St., L. I. C., N. Y.
Sheet Metal Specialty Co., 1417 W. Pico St., Los Angeles, Calif.
Watertown Mfg. Co., Echo Lake Rd., Watertown, Conn.

Dial Escutcheons

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Erie Resistor Corp., Erie, Pa. (Molded)
American Emblem Co., Inc., P. O. Box 116, Utica, N. Y.
Auld Co., D. L., 5th Ave. & 5th St., Columbus, Ohio
Daven Co., 158 Summit St., Newark, N. J.
Sheet Metal Specialty Co., 1417 W. Pico St., Los Angeles, Calif.

Dial Faces or Scales

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Central Radio Labs., 900 E. Keefe Ave., Milwaukee, Wis.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mallory & Co., P. R., Indianapolis, Ind.
National Company, 61 Sherman St., Malden, Mass.
American Emblem Co., Inc., Utica, N. Y.
Bastian Bros. Co., 1600 N. Clinton Ave., Rochester, N. Y.

Dial Knobs

Centralab, 900 E. Keefe Ave., Milwaukee, Wis.
Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Erie Resistor Corp., Erie, Pa.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
National Company, 61 Sherman St., Malden, Mass.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Star Machine Mfrs. Inc., 1379 E. Bay Ave., New York, N. Y.
Supreme Instruments Co., 414 Howard St., Greenwood, Miss.
Alden Products Co., 715 Center St., Brockton, Mass.
Auburn Button Works, Auburn, N. Y.
Cutler-Hammer, Inc., N. 12th & W. St. Paul Ave., Milwaukee, Wis.
Daven Co., 158 Summit St., Newark, N. J.
General Radio Co., 30 State St., Cambridge, Mass.
Philco Radio & Television Corp., Philadelphia, Pa.
Warsaw Button Co., Warsaw, N. Y.
Watertown Mfg. Co., Echo Lake Rd., Watertown, Conn.

Dial Name Plates

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Coto-Coil Co. Inc., 71 Willard Ave., Providence, R. I.
Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Gordon Specialties Co., 1104 S. Wabash Ave., Chicago, Ill.
Angell Embossing Co., Dayton, Ohio
Etched Products Corp., 39-01 Queens Blvd., L. I. City, N. Y.
Etching Company of America, 1500 Montana St., Chicago, Ill.
General Etching & Mfg. Co., 3070 W. Grand Ave., Chicago, Ill.
Grammes & Sons, Inc., L. F., 239 Union St., Allentown, Pa.
Mayer, Geo. J. Co., 142 S. Meridian, Indianapolis, Ind.
Metal Etching Corp., Essex & Wortman Ave., Brooklyn, N. Y.
Rochester Metal Etching Co., Rochester, N. Y.

Dial Pointers

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
American Emblem Co., Utica, N. Y.
Smith, Richardson Co., Wakefield, Mass.
Winn's, Sons, J. H., Winchester, Mass.

Dial Cable and Belts

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
General Cement Mfg. Co., Rockford, Ill.
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.

EARPHONES—See "Headphones"

ELECTRONIC ORGANS & MUSICAL INSTRUMENTS

Hammond Clock Co., 2915 N. Western Ave., Chicago, Ill.
Meissner Laboratories, Inc., Milburn, N. J.
Rangertone, Inc., 201 Verona Ave., Newark, N. J.

FACSIMILE RECORDERS

Bruno Labs., Inc., 30 W. 15th St., New York, N. Y. (Kits)
Crosley Corp., Cincinnati, Ohio
Finch Telecommunications Labs., Inc., 37 W. 57th St., New York, N. Y.
International Industries, Inc., Ann Arbor, Mich.

FILTERS, NOISE—See "Interference Filters"

FLASHLIGHTS

Burgess Battery Co., Freeport, Ill.
Bond Electric Corp., New Haven, Conn.
National Carbon Co. ("Eveready"), 30 E. 42d St., New York, N.Y.
Ray-O-Vac, Madison, Wisconsin
U. S. Electric Mfg. Corp., ("Usalite"), 222 W. 14th St., New York, N. Y.

GENERATORS

Converters and Inverters, Rotary Machines, Gas Engine Plants—Windchargers, Air Chargers, etc.

American Television & Radio Corp., St. Paul, Minn. (Inverters, etc.)
Electronic Laboratories, Inc., Indianapolis, Ind. (Converters, etc.)
Heintz & Kaufman, Ltd., So. San Francisco, Calif. (Gas Engine AC Plants)
Kato Engineering Co., 530 North Front St., Mankato, Miss. (Light and Power Plants, Converters, Generators)
Mallory & Co., Inc., P. R., Indianapolis, Ind. (Converters, etc.)
Pioneer Genemotor Corp., 466 W. Superior St., Chicago, Ill. (Gas-Electric Plants, Converters, Dynamotors)
Premax Sales Division, Chisholm-Ryder Co., Niagara Falls, N. Y. (Windchargers)
RCA Manufacturing Co., Camden, N. J. (Converters)
Autonator Laboratories, Inc., 8440 S. Chicago Ave., Chicago, Ill. (Generators)
Bodine Electric Co., 2254 W. Ohio St., Chicago, Ill. (Converters & Genemotors)
Breez-Electric Corp., 450 N. Oakley Blvd., Chicago, Ill. (Windchargers)
Briggs & Stratton, Milwaukee, Wis. (Gas Engine Chargers)
Carter Motor Co., 361 W. Superior St., Chicago, Ill. (Genemotors, Converters)
Continental Motors Corp., 12801 E. Jefferson, Detroit, Mich. (Gas Engine Chargers)
Diehl Mfg. Co., Elisabethport, N. J. (Converters)
Eicor, Inc., 515 S. Laflin St., Chicago, Ill. (Dynamotors)
Electrical Research Laboratories, Inc., 2222 Diversey Parkway, Chicago, Ill. (Gas Engine and Windchargers)
Electric Specialty Co., Stamford, Conn. (Converters & Genemotors)
Farmpower Products Corp., 2525 Clybourn Ave., Chicago, Ill. (Gas Engine and Windchargers)
Gen-E-Rotor, 908 Keo St., Des Moines, Iowa (Windchargers)
Hetro El. Industries, Inc., 4611 Ravenswood Ave., Chicago, Ill. Gas Engine and Windchargers)
Janette Mfg. Company, 556 W. Monroe St., Chicago, Ill. (Rotary Converters, Gas Engine Plants and Motor Generators)
Johnson Motors, Waukegan, Ill. (Gas Engine Chargers)
Lauson Co., New Holstein, Wis. (Gas Engines)
Lear Development, Inc., 121 W. 17th St., New York, N. Y. (AC Plants)
Mercury Electric Co., 1045 Washington Blvd., Chicago, Ill. (Gas Engine Chargers)
Midwest-Timmermann Co., 727 Iowa St., Dubuque, Iowa (Gas Engine Chargers)
Onan & Sons, D. W., 43 Royalston Ave., Minneapolis, Minn. (AC Plants)
Parris-Dunn Corp., 115 S. 15th St., Clarinda, Iowa (Windchargers)
Ruralite Co., Sioux City, Iowa (Windchargers)
Sentinel Radio Corp., 2222 Diversey Pkway., Chicago, Ill. (Gas Engine and Windchargers)
Wedge Mfg. Co., 2334 S. Michigan Ave., Chicago, Ill. (Gas Engine Chargers and AC Plants)
White Wind Electric Co., 2300 E. Douglas Ave., Wichita, Kan. (Windchargers)
Wincharger Corp., 3700 Hawkeye Drive, Sioux City, Iowa (Windchargers)
Wind-Impeller Electric Works, Elsworth, Iowa (Windchargers)

World Radio History

CLASSIFIED DIRECTORY (Continued)

Wind Gen-E-Rotor, Des Moines, Iowa (Windcharger)
Zephyr Power Co., Dodge & 11th Sts., Omaha, Neb. (Windchargers)

GENERATORS, SIGNAL—See "Test Equipment"

GLOBES & LOGS—See "Radio Logs & Globes"

GRID BIAS CELLS

Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.

GRILLE CLOTH

General Cement Mfg. Co., 2012 Cumberland St., Rockford, Ill.
Cleveland Wire Cloth & Mfg. Co., 2573 E. 78th St., Cleveland, Ohio (Grille Cloth)
Hintze, A. G., 300 W. Adams St., Chicago, Ill. (Grille Cloth)
Olek, A., 4759 Melrose St., Philadelphia, Pa.
Orinoka Mills, York, Pa. (Grille Cloth)
Tindall Fabrics Corp., 486 Pawtucket Ave., Pawtucket, R. I. (Grille Cloth)

HARDWARE

Binding Posts

American Radio Hardware Co. Inc., 476 Broadway, New York, N. Y.
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Cinch Mfg. Co., 2335 W. Van Buren St., Chicago, Ill.
General Radio Co., 30 State St., Cambridge, Mass.

Connectors, Cable, Microphone, Octal, etc.

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.
American Radio Hardware Co., 476 Broadway, New York, N. Y.
Bruno Laboratories, Inc., 30 W. 15th St., New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Eastern Mike-Stand Co., 56 Christopher Ave., Brooklyn, N. Y.
Eby, Inc., Hugh H., 2066 Hunting Park Ave., Philadelphia, Pa.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Jones, Howard B., 2300 Wabansia Ave., Chicago, Ill.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Alden Products Co., 715 Center St., Brockton, Mass.
Brach Mfg. Co., L. S., 55 Dickerson St., Newark, N. J.
Cannon Electric Dev. Co., 420 West Ave., 33, Los Angeles, Calif.

Felt Washers

American Felt Co., 315 Fourth Ave., New York, N. Y.
Continental Felt Co., Broadway, New York, N. Y.

Grommets

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Gordon Specialties Co., 1104 S. Wabash Ave., Chicago, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Canfield Rubber Co., R. R. Ave., & Garden St., Bridgeport, Conn.
Goodall Rubber Co. Inc., 50 Murray St., New York, N. Y.
Goodyear Rubber Co., 85 Chambers St., New York, N. Y.
United States Rubber Co., 51 Hudson St., New York, N. Y.

Jacks and Plugs

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.
American Radio Hardware Co., 476 Broadway, New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseco, Minn.
Jones, Howard B., 2300 Wabansia Ave., Chicago, Ill.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Alden Products Co., 715 Center St., Brockton, Mass.
Chicago Telephone Supply Co., Elkhart, Ind.
Cinch Mfg. Co., 2335 W. Van Buren St., Chicago, Ill.

Mounting Brackets

American Radio Hardware Co., 476 Broadway, New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio (for Steel Racks)
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Inc.
Par-Metal Products Corp., 3525 41st St., Long Island City, N. Y. (for Steel Racks)

Rivets and Eyelets

Insuline Corp. of America, 25 Park Place, New York, N. Y.
Manufacturers Screw & Supply House, 215-A W. Lllinois St., Chicago, Ill.
Millford Rivet Company, Millford, Conn.
Stimpson Co., Edwin B., 97 Franklin Ave., Brooklyn, N. Y.
Thomson Mfg. Co., Judson L., 130 South St., Waltham, Mass. (Rivets)
Tubular Rivet & Stud Co., Boston, Mass.
United Shoe Machinery Co., Waterbury Brass Goods Branch, Waterbury, Conn. (Eyelets)

Screws and Nuts

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
General Cement Mfg. Co., Rockford, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Manufacturers Screw & Supply House, 215-A W. Lllinois St., Chicago, Ill.
Millford Rivet Company, Millford, Conn.
Pheoll Mfg. Co., 80 Walker St., New York, N. Y. (Nuts & Screws)

Screws, Self-Tapping

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Excel Screw Corp., 80 Washington St., New York, N. Y.
Parker-Kalon Corp., 198 Varick St., New York, N. Y.

Shields, Coil

Hammarlund Mfg. Co., Inc., 424 W. 33rd St., New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Erie Can Co., 816 Erie St., Chicago, Ill.
Goat Radio Tube Parts, Inc., 314 Dean St., Brooklyn, N. Y.
Hegeler Zinc Co., Danville, Ill.

Shields, Tube

Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
National Union Radio Corp., 57 State St., Newark, N. J.
Barnes Metal Products Co., 4425 W. 16th St., Chicago, Ill.
Erie Can Co., 816 Erie St., Chicago, Ill.
Goat Radio Tube Parts, Inc., 314 Dean St., Brooklyn, N. Y.
Hegeler Zinc Co., Danville, Ill.

Sockets—Tube

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.
American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Jones, Howard B., 2300 Wabansia Ave., Chicago, Ill.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Meissner Mfg. Co., Mt. Carmel, Ill.
National Company, 61 Sherman St., Malden, Mass.
Alden Products Co., 715 Center St., Brockton, Mass.
Cannon Electric Dev. Co., 420 West Ave., 33, Los Angeles, Calif.
Cinch Mfg. Co., 2335 W. Van Buren St., Chicago, Ill.
Franklin Mfg. Co., A. W., 175 Varick St., New York, N. Y.
General Radio Co., 30 State St., Cambridge, Mass.
Isolantite, Inc., 233 Broadway, New York, N. Y.

Sockets—Pilot Light

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Alden Products Co., 715 Center St., Brockton, Mass.
American Emblem Co., Inc., Box 116-J, Utica, N. Y.
Drake Manufacturing Co., 1713 West Hubbard St., Chicago, Ill.
Micarta Fabricators, Inc., 4619 Ravenswood Ave., Chicago, Ill.

Soldering and Terminal Lugs

American Radio Hardware Co., 476 Broadway, New York, N. Y.
Belden Manufacturing Co., 4647 W. Van Buren St., Chicago, Ill.
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Jones, Howard B., 2300 Wabansia Ave., Chicago, Ill.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.
Cinch Mfg. Corp., 2335 W. Van Buren St., Chicago, Ill.
Goat Radio Tube Parts, Inc., 314 Dean St., Brooklyn, N. Y.
Zierick Mfg. Corp., 385 Gerard Ave., New York, N. Y.

Terminal Strips, Plates, etc.

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
General Cement Mfg. Co., Rockford, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Meissner Mfg. Co., Mt. Carmel, Ill.
Miller Co., J. W., 5917 S. Main St., Los Angeles, Calif.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.
Cinch Mfg. Corp., 2335 W. Van Buren St., Chicago, Ill.
Franklin Mfg. Co., A. W., 175 Varick St., New York, N. Y.
Manufacturers Screw & Supply House, 215-A W. Illinois St., Chicago, Ill.
Micarta Fabricators, Inc., 4619 Ravenswood Ave., Chicago, Ill.
Modern Radio Parts Mfg. Corp., 55 W. 42nd St., New York, N. Y.
Precision Fabricators, Inc., 15 E. 26th St., New York, N. Y.

Washers

American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
American Felt Co., 315 Fourth Ave., New York, N. Y. (Felt Washers)
Manufacturers Screw & Supply House, 215-A W. Illinois St., Chicago, Ill.
National Lock Washer Co., 65 Johnson St., Newark, N. J. (Lock-washers)
Pheoll Mfg. Co., 80 Walker St., New York, N. Y.
Precision Fabricators, Inc., Mt. Hope Ave., Rochester, N. Y. (Fibre)
Shakeproof Lock Washer Co., 2539 N. Keeler Ave., Chicago, Ill. (Washers)
Thompson-Bremer Corp., 1642 West Austin Ave., Chicago, Ill. (Lock-washers)
Western Felt Works, 4115 Ogden Ave., Chicago, Ill. (Felt-washers)
Wrought Washer Mfg. Co., 2225 S. Bay St., Milwaukee, Wis. (Washers)

Miscellaneous Hardware

Alpha Wire Corp., 50 Howard St., New York, N. Y.
American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
General Cement Mfg. Co., Rockford, Ill.
Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Jackson Electro Corp., 625 Broadway, New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.
Johnson Co., E. F., Waseca, Minn.
Littelfuse Laboratories, 4238 Lincoln Ave., Chicago, Ill. (Fuses and Fuse Mountings)
Mallory & Co., P. R., Indianapolis, Ind.
Meuller Electric Co., 1573 E. 31st St., Cleveland, Ohio (Battery Clips)
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
National Company, 61 Sherman St., Malden, Mass.
RCA Manufacturing Co., Camden, N. J.
Atlas Tack Corp., 1079 Pleasant St., Fairhaven, Mass.
Fahnestock Electric Co., 46-44 11th St., L. I. City, N. Y. (Clips)
Federal Sales Co., 26 S. Jefferson St., Chicago, Ill.
Manufacturers Screw & Supp. House, 215 W. Illinois St., Chicago, Ill.
Stevens Walden, Inc., Worcester, Mass.
United Carr Fastener Co., 15 Madison Sq. N., New York, N. Y.
Zierick Mfg. Co., 385 Gerard Ave., New York, N. Y.

HEADPHONES

Crystal Headphones

Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio

Dynamic Headphones

Western Electric Co., 195 Broadway, New York, N. Y.

Magnetic Headphones

Philmore Mfg. Co., Inc., 113 University Place, New York, N. Y.
Acme Specialty Co., 1770 W. Berteau Ave., Chicago, Ill.
Cannon Co., C. F., Springwater, New York
Dictograph Products Co., Inc., 580 Fifth Ave., New York, N. Y.
Kellogg Switchboard & Supply Co., 6650 S. Cicero Ave., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Trimm Radio Mfg. Co., 1770 W. Berteau Ave., Chicago, Ill.
Western Electric Co., 195 Broadway, New York, N. Y.

Headphone Cords

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.

HORNS & BAFFLES—See "Speakers"

I. F. TRANSFORMERS—See "Coils"

INSULATION

Varnished Tubing, Sleeving, Cambric Cloth, Spaghetti, Etc.

Alpha Wire Corp., 50 Howard St., New York, N. Y. (Spaghetti)
American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill. (Beads)
Birnbach Radio Co., 145 Hudson St., New York, N. Y. (Spaghetti)
Cardwell Mfg. Co., Allen D., 81 Prospect St., Brooklyn, N. Y. (Sheets)

World Radio History

CLASSIFIED DIRECTORY (Continued)

General Cement Mfg. Co., Rockford, Ill. (Cambric and Spaghetti)
National Company, Inc., Malden, Mass. (Sheets)
Acme Wire Co., The, New Haven, Conn. (Varnished)
American Insulator Corp., New Freedom, Pa. (Ceramics)
American Lava Corp., Cherokee Blvd. & Manufacturers Rd., Chatanooga, Tenn. (Steatite Ceramics)
American Mica Works Corp., 47 West St., New York, N. Y. (Mica)
Associated Attleboro Mfrs. Inc., Attleboro, Mass. (Plastics)
Auburn Button Works, Auburn, N. Y. (Plastics)
Bakelite Corp., 247 Park Ave., New York, N. Y. (Plastics)
Boonton Molding Co., Boonton, N. J. (Plastics)
Brand & Co., Wm., 276 Fourth Ave., New York, N. Y. (Mica)
Colt's Patent Fire Arms Mfg. Co., Hartford, Conn. (Plastics)
Continental-Diamond Fibre Co., Newark, Del. (Fibre)
Crowley & Co. Inc., Henry L., 1 Central Ave., West Orange, N. J. (Ceramics)
Formica Insulation Co., 4638 Spring Grove Ave., Cincinnati, Ohio (Plastics)
Franklin Fibre Lamitex Corp., Wilmington, Del. (Fibre & Plastics)
General Electric Co., Schenectady, N. Y. (Plastics)
General Plastics Inc., N. Tonawonda, N. Y. (Plastics)
Isolantite, Inc., 233 Broadway, New York, N. Y. (Ceramics)
Jenkins Bros., Bridgeport, Conn. (Friction Tape)
Kurz-Kasch Co., Dayton, Ohio (Plastics)
Maas and Waldstein Co., Newark, N. J. (Cements—Enamels—Lacquers)
Mica Insulator Co., 200 Varick St., New York, N. Y. (Plastics)
Micarta Fabricators, Inc., 4619 Ravenswood Ave., Chicago, Ill.
Mycalex Corp. of America, 101 W. 31st St., New York, N. Y. (Plastics)
National Vulcanized Fibre Co., Wilmington, Del. (Fibre & Plastics)
Recto Molded Products Inc., Cincinnati, Ohio (Plastics)
Resinox Corporation, 230 Park Ave., New York, N. Y. (Molding Powders & Resins)
Spaulding Fibre, Co., Inc., 310 Wheeler St., Tonawanda, N. Y. (Fibre & Plastics)
Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa. (Ceramics)
Snythane Corp., Highland Ave., Oaks, Pa. (Plastics)
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa. (Plastics)
Wilmington Fibre Specialty Co., New Castle, Del. (Fibre & Plastics)
Zophar Mills, Inc., 128—26th St., Brooklyn, N. Y. (Waxes and Compounds)

Lacquers—Varnishes and Cements

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill. (Coil Dope, etc.)
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill. (Cone & Speaker Repair)
General Cement Mfg. Co., Rockford, Ill. (Coil Dope, Speaker Repair, Crystallizing, etc.)
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y. (Speaker Repair, etc.)
Leotone Radio Co., 63 Dey St., New York, N. Y. (Cone Repair)
National Co., Inc., Malden, Mass. (Coil Dope, etc.)
Acme Wire Company, 1255 Dixwell Ave., New Haven, Conn.
Maas & Waldstein, 438 Riverside Ave., Newark, N. J.
Resinox Corporation, 230 Park Ave., New York, N. Y. (Varnishes)
Zophar Mills, Inc., 120—26th St., Brooklyn, N. Y.

INSULATORS—Glass

(See also Antenna Equipment, Accessories)

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.

INSULATORS—Standoff, Strain, Feedthru, Etc.

Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Coto-Coil Company, Inc., 71 Willard Ave., Providence, R. I.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Meissner Mfg. Co., 7th & Belmont, Mt. Carmel, Ill.
National Company, 61 Sherman St., Malden, Mass.
American Lava Corp., Chatanooga, Tenn.
Consolidated Wire & Assoc. Corps., Peoria & Harrison, Chicago, Ill.
Corning Glass Works, Corning, N. Y.
General Radio Co., 30 State St., Cambridge, Mass.
Isolantite, Inc., 233 Broadway, New York, N. Y.
Porcelain Products, Inc., Findlay, Ohio

INTER-COMMUNICATION SYSTEMS

Bogen Co., Inc., David, 663 Broadway, New York, N. Y.
Gibbs & Co., Thomas B., 900 W. Lake St., Chicago, Ill.
Operadio Manufacturing Co., St. Charles, Ill.
RCA Manufacturing Co., Camden, N. J.
Signal Electric Mfg. Co., Menominee, Mich.
Universal Microphone Co., Inglewood, Calif.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wis.
Amplifier Co. of America, 17 W. 20th St., New York, N. Y.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Amplivox Radio & Sound Labs., 227 Fulton St., New York, N. Y.
Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.
Bell Sound Systems, Inc., 61 E. Goodale St., Columbus, Ohio
Central Communication Devices, Inc., 140 W. 22nd St., New York, N. Y.
Chicago Sound Systems Co., 160 E. Illinois St., Chicago, Ill.
Columbia Sound Co., 135 Liberty St., New York, N. Y.
Commun-A-Phone Systems, Inc., 1175 Broad St., Newark, N. J.
Connecticut Telephone & Electric Corp., Meriden, Conn.
Consolidated Communications Corp., 1215 Fidelity Bldg., Baltimore, Md.
Dictograph Products Co., Inc., 580 Fifth Ave., New York, N. Y.
El-Kay Mfg. Corp., 200 Fifth Ave., New York, N. Y.
Electronic Devices, Inc., Warren, Pa.
Electronic Sound Labs., Inc., 5912 Melrose Ave., Hollywood, Calif.
Electrux Sound Systems, 616 Fifth St., Minneapolis, Minn.
Espey Mfg. Co., Inc., 67 Irving Place, New York, N. Y.
Fox Sound Equipt. Corp., 3120 Monroe St., Toledo, Ohio
Gates Radio & Supply Co., 115 North St., Quincy, Ill.
General Electric Co., Bridgeport, Conn.
Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.
Intercall Systems, Inc., 5th & Norwood, Dayton, Ohio
Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.
Million Radio & Tel. Co., 685 W. Ohio St. ,Chicago, Ill.
Pacent Engineering Corp., 79 Madison Ave., New York, N. Y.
Philco Radio & Television Corp., Philadelphia, Pa.
Pictur-Fone Corp., 806 S. Main St., Lima, Ohio
Public-Ad, Inc., 2015 E. 65th St., Cleveland, Ohio
Radio Amplifiers Labs., 59 Walker St., New York, N. Y.
Radiofone Corp., 136 W. 22nd St., New York, N. Y.
Radio Receptor Co., 251 W. 19th St., New York, N. Y.
Regal Manufacturing Co. Inc., 14-16 W. 17th St., New York, N. Y.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Schwartz Electrical Products, Inc., 307 S. Meridian St., Portland, Ind.
Segelsound, Inc., 235 Pine St., Gardner, Mass.
Sound Products, Inc., 704 N. Curson Ave., Hollywood, Calif.
Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, Ohio
Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
Techna Corp., 926 Howard St., San Francisco, Calif.
Telemotor Corporation, 260 Fifth Ave., New York, N. Y.
Transfone Corp. of America, 14 W. 45th St., New York, N. Y.
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
Triumph Mfg. Co., 4017-19 West Lake St., Chicago, Ill.
United Reproducers, Springfield, Ohio
United Scientific Labs. Inc., 440 Lafayette St., New York, N. Y.
United Sound Eng. Co., 2233 University Ave., St. Paul, Minn.
Western Electric Co., 195 Broadway, New York, N. Y.
Western Sound & Electric Lab. Inc., 311 W. Kilb Ave., Milwaukee, Wis.

World Radio History

CLASSIFIED DIRECTORY (Continued)

INTERFERENCE FILTERS (Noise Eliminators)

Aerovox Corporation, New Bedford, Mass.
Alpha Wire Corp., 50 Howard St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Cornell-Dubilier Electric Corp., 1000 Hamilton Ave., S. Plainfield, N. J.
Deutschmann Corp., Tobe, Canton, Mass.
Dumont Electric Co., 514 Broadway, New York, N. Y.
Girard Hopkins, 1437—23rd Ave., Oakland, Calif.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Meissner Mfg. Co., Mt. Carmel, Ill.
Miller Co., J. W., 5917 S. Main St., Los Angeles, Calif.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Ohmite Manufacturing Co., 4835 W. Flournoy St., Chicago, Ill.
Philmore Mfg. Co., 113 University Place, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Snyder, Inc., 813 Noble St., Philadelphia, Pa.
Solar Manufacturing Co., 599 Broadway, New York, N. Y.
Sprague Products Co., North Adams, Mass.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y.
United Transformer Corp., 72 Spring St., New York, N. Y.
Audio Development Co., 4351 France Ave., S., Minneapolis, Minn.
Automatic Electrical Devices Co., 324 E. 3rd St., Cincinnati, Ohio
Consolidated Wire & Associated Corp., Peoria & Harrison Sts., Chicago, Ill.
Espey Mfg. Co., Inc., 124 E. 25th St., New York, N. Y.
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Pacent Engineering Corp., 79 Madison Ave., New York, N. Y.

KEYS—See "Telegraph Instruments"

KNOBS—See "Dials and Accessories"

LUGS, Terminal Soldering—See "Hardware"

LACQUERS, CEMENTS, Etc.

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill. (Coil Dope, etc.)
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill. (Cone & Speaker Repair)
General Cement Mfgfl Co., Rockford, Ill. (Coil Dope, Speaker Repair)
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway. Brooklyn, N. Y. (Speaker Repair, etc.)
Leotone Radio Co., 63 Dey St., New York, N. Y. (Cone Repair)
National Co., Inc., Malden, Mass. (Coil Dope, etc.)

METERS

Laboratory Meters

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
RCA Manufacturing Co., Camden, N. J.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Acoustic Consultants, Inc., 1270 Sixth Ave., New York, N. Y.
Associated Research, Inc., 16 N. May St., Chicago, Ill.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Boonton Radio Corp., Boonton, N. J.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Daven Co., 158 Summit St., Newark, N. J.
Ferris Instrument Corp., Boonton Ave., Boonton, N. J.
General Electric Co., Lynn, Mass.
General Engineers, 2241 Garrett Rd., Upper Darby, Pa.
General Radio Co., 30 State St., Cambridge, Mass.
Leeds & Northrup Co., 4970 Stenton Ave., Collingdale, Pa.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.
Tech Laboratories, 7 Lincoln St., Jersey City, N. J.
United Cinephone Corp., 43-37 33rd St., Long Island City, N. Y.
Wright's Elec. Inst. Lab., Reed College, Portland, Ore.

Output Meters—See "Test Equipment"

Panel Meters

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Elec. Inst. Co., Dupont Ave., Cleveland, Ohio
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.
Sterling Mfg. Co., 9205 Detroit Ave., Cleveland, Ohio
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Associated Research, Inc., 16 N. May St., Chicago, Ill.
Beede Electrical Instrument Co., Penacook, N. H.
Daven Co., 158 Summit St., Newark, N. J.
General Electric Co., Schenectady, N. Y.
Hoyt Electrical Instr. Co., Penacook, N. H.
Instrument Specialties Co., 70 Patterson Ave., Little Falls, N. J.
Marion Electrical Instrument Corp., Manchester, N. H. (Meters)
Westinghouse Electric & Mfg. Co., Newark, N. J.

Pocket Meters

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Sterling Mfg. Co., 9205 Detroit Ave., Cleveland, Ohio

Portable Meters

Sterling Mfg. Co., 9205 Detroit Ave., Cleveland, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
General Electric Co., Schenectady, N. Y.
Westinghouse Electric & Mfg. Co., Newark, N. J.

MICA—See "Insulation"

MICROPHONES

Carbon Microphones

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Insuline Corp., 25 Park Place, New York, N. Y.
Philmore Mfg. Co., 113 University Place, New York, N. Y.
Shure Brothers, 225 W. Huron St., Chicago, Ill.
Sundt Engineering Co., 4238 Lincoln Ave., Chicago, Ill.
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Bond Radio Co., 13139 Hamilton Ave., Detroit, Mich.
Couch Co., Inc., S. H., North Quincy, Mass.
Electrovoice Mfg. Co., Inc., South Bend, Ind.
Kellogg Switchboard Supply Co., 1066 W. Adams St., Chicago, Ill.
Lifetime Corporation, The, 1012 Madison Ave., Toledo, Ohio
Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.
Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
Volu-tone Co., 226 N. Main St., Los Angeles, Calif.
Western Electric Co., 195 Broadway, New York, N. Y.

Condenser Microphones

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Carrier Microphone Co., 439 S. La Brea Ave., Inglewood, Calif.
Lifetime Corp., The, 1012 Madison Ave., Toledo, Ohio
Miles Reproducer Co., 812 Broadway, New York, N. Y.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.

Contact Microphones

Amperite Company, 561 Broadway, New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Shure Brothers, 225 W. Huron St., Chicago, Ill.

Crystal Microphones

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Astatic Microphone Laboratory, 830 Market St., Youngstown, Ohio
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Operadio Mfg. Co., St. Charles, Ill.
Shure Brothers, 225 W. Huron St., Chicago, Ill.
Turner Co., 909—17th St., Cedar Rapids, Iowa
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Webster Electric Co., Racine, Wis.
Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, Ohio

Dynamic Microphones

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Leotone Radio Co., 63 Dey St., New York, N. Y.
Operadio Mfg. Co., St. Charles, Ill.
RCA Manufacturing Co., Camden, N. J.
Turner Co., 909—17th St., Cedar Rapids, Iowa
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Carrier Microphone Co., 439 S. LaBrea Ave., Inglewood, Calif.
Electronic Sound Labs., Inc., 5912 Melrose Ave., Hollywood, Calif.
Electrovoice Mfg. Co., 324 E. Colfax Ave., So. Bend, Ind.
Lifetime Corp., The, 1012 Madison Ave., Toledo, Ohio
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Transducer Corporation, 30 Rockefeller Plaza, New York, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

Home Broadcast Microphones

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Philmore Mfg. Co., 113 University Place, New York, N. Y.
Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.
Pilgrim Electric Corp., 21 West 19th St., New York, N. Y.

Velocity (Ribbon) Microphones

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Amperite Company, 561 Broadway, New York, N. Y.
Bruno Laboratories, Inc., 30 West 15th St., New York, N. Y.
Operadio Mfg. Co., St. Charles, Ill.
RCA Manufacturing Co., Camden, N. J.
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wisc.
Bell Sound Systems, Inc., 61-62 E. Goodale St., Columbus, Ohio
Carrier Microphone Co., 439 S. LaBrea Ave., Inglewood, Calif.
Colortone Acoustic Devices, 205 Oliver Bldg., South Bend, Ind.
Electronic Sound Labs, Inc., 5912 Melrose Ave., Hollywood, Calif.
Electrovoice Mfg. Co., Inc., South Bend. Ind.
Lifetime Corporation, The, 1012 Madison Ave., Toledo, Ohio
Million Radio and Television, 685 W. Ohio St., Chicago, Ill.
Volu-tone Co., 266 N. Main St., Los Angeles, Calif.

Microphone Stands

American Microphone Co., Inc., 1915 S. Western Ave., Los Angeles, Calif.
Amperite Company, 561 Broadway, New York, N. Y.
Astatic Microphone Laboratory, 830 Market St., Youngstown, Ohio
Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Bogen Co. Inc., David, 663 Broadway, New York, N. Y.
Bruno Laboratories, Inc., 30 W. 15th St., New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Eastern Mike-Stand Co., 56 Christopher St., Brooklyn, N. Y.
Electronic Design Corp., 164 N. May St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Shure Brothers, 225 W. Huron St., Chicago, Ill.
Universal Microphone Co., Ltd., 424 Warren Lane, Inglewood, Calif.
Webster Company, 5622 Bloomingdale Ave., Chicago, Ill.
Electrovoice Mfg. Co., Inc., South Bend, Ind.
Lifetime Corporation, The, 1012 Madison Ave., Toledo, Ohio
Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Segelsound, Inc., 235 Pine St., Gardner, Mass.
United Sound Engineering Co., 2233 University, St. Paul, Minn.
Western Electric Co., 195 Broadway, New York, N. Y.

Microphone Fittings and Accessories, Mountings, Rings, Swivels, Switches, Controls, Adapters, Etc.

American Microphone Co., Inc., 1915 Western Ave., Los Angeles, Calif.
American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.
Astatic Microphone Laboratory, 830 Market St., Youngstown, Ohio
Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Bogen Co., Inc., David, 663 Broadway, New York, N. Y.
Bruno Laboratories, Inc., 30 W. 15th St., New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio (Carbon Granules)
Eastern Mike-Stand Co., 56 Christopher St., Brooklyn, N. Y.
Electronic Design Corp., 164 N. May St., Chicago, Ill.
Jones, Howard B., 2300 Wabansia Ave., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Shure Brothers, 225 W. Huron St., Chicago, Ill.
Universal Microphone Co., 424 Warren Lane, Inglewood, Calif.
Cannon Electric Development Co., 420 West Ave., 33, Los Angeles, Calif.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Colortone Acoustic Devices, South Bend, Ind.
Electrovoice Mfg. Co., South Bend, Ind.
Ellis Electrical Laboratory, Inc., 3502 Wesley Ave., Berwyn, Ill.
Foraco Corp., 2111 Woodward Ave., Detroit, Mich.
Miles Reproducer Co. Inc., 812 Broadway, New York, N. Y.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
United Sound Engineering Co., 2233 University, St. Paul, Minn.
Western Electric Co., 195 Broadway, New York, N. Y.

Microphone Cable—See "Wire"

Microphone Connectors—See "Hardware, Connectors"

MOTORCYCLE RADIOS—

See "Receiving Sets, Motorcycle"

NAMEPLATES—Etched and Embossed

See "Dials and Accessories"

NOISE FILTERS & ELIMINATORS—

See "Interference Filters"

PAPER TUBES

Paramount Paper Tube Co., 2035 Charleston St., Chicago, Ill.
Stone Paper Tube Co., Inc., 900 Franklin St., N.E., Washington, D.C.

PERMANENT MAGNETS

Thomas & Skinner Steel Products Co., 1113 E. 23rd St., Indianapolis, Ind.

World Radio History

CLASSIFIED DIRECTORY (Continued)

PHONOGRAPHS—See "Recording Equipment"

PICKUPS—See "Recording Equipment"

PILOT LAMPS

P. R. Mallory & Co. Inc., Indianapolis, Ind.
National Union Radio Corp., 57 State St., Newark, N. J.
Tung Sol Lamp Works, Inc., 95 Eighth Ave., Newark, N. J.
General Electric Co., Newark, N. J.

PLUG-IN COILS—See "Coils"

PUSH-BUTTON SWITCHES & TUNING ASSEMBLIES—See "Switches"

RACKS—PANELS—CHASSIS—CARRYING CASES

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Custom Auto Trunk Co., Inc., 300 W. 19th St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Par-Metal Products Corp., 35-25—41st St., Long Island City, N. Y.
Acro Tool & Die Works, 1401 Wilton Ave., Chicago, Ill.
Atlas Mfg. Co., 1515 Grand Ave., Kansas City, Mo.
Bakelite Corp., 247 Park Ave., New York, N. Y.
Collins Radio Company, Cedar Rapids, Iowa
Erie Can Co., 816 Erie St., Chicago, Ill.
Formica Insulation Co., 4638 Spring Grove Ave., Cincinnati, Ohio
Hadley Co., Robt. M., 711 E. 61st St., Los Angeles, Calif.
Karp Metal Products Co. Inc., 120—30th St., Brooklyn, N. Y.
Stevens Walden, Inc., Worcester, Mass.
Quality Hdwe. & Mach. Corp., 5849 Ravenswood Ave., Chicago, Ill.
Weber Bros. Metal Works, 108 N. Jefferson St., Chicago, Ill.

RADIO LOGS AND GLOBES

Cram Co., George F., 30 E. Georgia St., Indianapolis, Ind. (Globes and Maps)
Haynes Radio Log, 161 W. Harrison St., Chicago, Ill.
Milfred Mfg. Co., 757 Venice Blvd., Los Angeles, Calif. (Logs)
Sky Pilot Organization, Radio Park, Pearl River, N. Y. (Logs)
Weber-Costello Co., Chicago Heights, Chicago, Ill. (Globes)

RECEIVING SETS

Howard Radio Co., 1731 Belmont Ave., Chicago, Ill.
Meissner Mfg. Co., Mt. Carmel, Ill. (Kits)
Philmore Mfg. Co., 113 University Place, New York, N. Y.
RCA Manufacturing Co., Front & Cooper St., Camden, N. J.
Aetna Radio Corp., 1066 W. Adams St., Chicago, Ill.
Air King Products Co., 27 Hooper St., Brooklyn, N. Y.
Andrea, Inc., F. A. D., 48-02—48th Ave., Woodside, L. I. City, N. Y.
Ansley Radio Corp., 240 W. 23rd St., New York, N. Y.
Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass.
Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill.
Capehart Corp., E. Pontiac St., Fort Wayne, Ind.
Case Electric Corp., Marion, Ind.
Cavalcade Radio Corp., 271—7th St., San Francisco, Calif.
Champion Radio Laboratories, 14553 Madison Ave., Lakewood, Ohio
Climax Radio & Telev. Co., 511 Sangamon St., Chicago, Ill.
Colonial Radio Corp., 254 Rano St., Buffalo, N. Y.
Continental Radio & Telev. Corp., 325 W. Huron St., Chicago, Ill.
Crosley Corp., 1329 Arlington St., Cincinnati, Ohio
Delco Radio Div., General Motors Corp., Kokomo, Ind.
Detrola Radio & Telev. Corp., 3630 W. Fort St., Detroit, Mich.
Dunn-Hall Co., 1477 W. Adams St., Los Angeles, Calif.
Electrical Research Laboratories, Inc., 2222 Diversey Pkway., Chicago, Ill.
Electro Acoustic Products Co., Ft. Wayne, Ind.
Emerson Radio & Phonog. Corp., 111—8th Ave., New York, N. Y.
Espey Mfg. Co., Inc., 124 E. 25th St., New York, N. Y.
Fada Radio & Elec. Co., 30-20 Thomson Ave., Long Island City, N. Y.
Fairbanks, Morse & Co., 21st & Northwestern Ave., Indianapolis, Ind.
Freed Mfg. Co., 44 W. 18th St., New York, N. Y.
Galvin Mfg. Corp., 847 W. Harrison St., Chicago, Ill.
Garod Radio Corp., 115 Fourth Ave., New York, N. Y.
General Electric Co., 1285 Boston, Ave., Bridgeport, Conn.
General Household Utilities Co., 2638 N. Crawford, Chicago, Ill.
Gillillan Bros. Inc., 1815 Venice Blvd., Los Angeles, Calif.
Grebe Mfg. Co. Inc., 119 Fourth Ave., New York, N. Y
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill. (Kits)
Halson Radio & Television, Inc., Meriden, Conn.
Hetro Electrical Ind. Inc., 4611 Ravenswood Ave., Chicago, Ill.
Herbert H. Horn Mfg. Co., 1201 S. Olive St., Los Angeles, Calif.
International Industries, Inc., 4th & William St., Ann Arbor, Mich.
Kingston Radio Co., Inc., Kokomo, Ind.
Laurehk Radio Mfg. Co., 1. Michigan St., Adrian, Mich.
Lincoln Radio & Television Corp., 841 Jackson Blvd., Chicago, Ill.
Majestic Radio & Telev. Co., 2600 W. 50th St., Chicago, Ill.
Marconiphone, Inc., 679 Madison Ave., New Work, N. Y.
Midwest Radio Corp., 909 Broadway, Cincinnati, Ohio
Mission Bell Radio Mfg. Co., 833 Venice Blvd., Los Angeles, Calif.
Namco Mfg. Co. Inc., 142 W. 26th St., New York, N. Y.
Noblitt-Sparks Industries, Columbus, Ind.
Pacific Radio Corp., 5016 S. Main St., Los Angeles, Calif.
Pacific Radio Corp., 844 W. Adams St., Chicago, Ill.
Packard Bell Radio Co., 1318 S. Grand Ave., Los Angeles, Calif.
Peerless Radio Mfg. Co., Division St. & Broadway, Albany, N. Y.
Philco Radio & Telev. Corp., Tioga & C Sts., Philadelphia, Pa.
Pierce Airo, Inc., (DeWald), 440 Lafayette St., New York, N. Y.
Pilot Radio Corp., 37-06—36th St., L. I. City, N. Y.
Port-O-Matic Corp., 1013 Madison Ave., New York, N. Y. (Portable Phono-Radio)
Radiobar Co. of America, 7100 McKinley St., Los Angeles, Calif.
Radio Products Corp., 3800 W. Cortland, Chicago, Ill.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
E. H. Scott Radio Labs. Inc., 4450 Ravenswood Ave., Chicago, Ill.
Sentinel Radio Corp., 2222 Diversey Pkway, Chicago, Ill.
Silver Corp., McMurdo, 2900 S. Michigan Blvd., Chicago, Ill.
Simplex Radio Co., Monroe & King Sts., Sandusky, Ohio
Sky-Chief Radio Corp., 44 W. 18th St., New York, N. Y.
Sonora Radio & Television Corp., Merchandise Mart Bldg., Chicago, Ill.
Sparks-Withington Co., E. Ganson Ave., Jackson, Mich.
Stewart-Warner Corp., 1826 Diversey Pkway., Chicago, Ill.
Stromberg-Carlson Tele. Mfg. Co., 100 Carlson Rd., Rochester, N. Y.
Trav-Ler Radio & Telev. Corp., 1036 W. Van Buren St., Chicago, Ill.
Trebor Radio Co., Pasadena, Calif.
Troy Radio Mfg. Co., 1144 S. Olive St., Los Angeles, Calif.
Ultramer Mfg. Corp., 1160 Howe St., Chicago, Ill.
United American Bosch Corp., 3664 Main St., Springfield, Mass.
United Motors Service, 3044 S. LaSalle St., Chicago, Ill.
Universal Battery Co., 3410 LaSalle St., Chicago, Ill.
Warwick Mfg. Co., 1700 W. Washington Blvd., Chicago, Ill.
Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.
Western Auto Supply Co., 2107 Grand St., Kansas City, Mo.
Westinghouse Electric Supply Co., 150 Varick St., New York, N. Y.
Wilcox Gay Corp., Charlotte, Mich.
Zenith Radio Corp., 3620 S. Iron St., Chicago, Ill.
Zephyr Radio Co., 13139 Hamilton Blvd., Detroit, Mich.

Motor Cycle Radios

RCA Manufacturing Co., Camden, N. J.
Link, Fred M., 125 W. 17th St., New York, N. Y.

World Radio History

CLASSIFIED DIRECTORY (Continued)

RECEIVING SETS, CRYSTAL

See "Crystal Receiving Sets"

RECEIVING SETS—Short Wave

See "Amateur Receiving Sets"

RECORDING EQUIPMENT

Discs

Gibbs, Thomas B., 900 W. Lake St., Chicago, Ill.
Presto Recording Corp., 139 W. 19th St., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Universal Microphone Co., Ltd., Inglewood, Calif.
Aliled Recording Products Co., 128 W. 46th St., New York, N. Y.
Audio Devices, Inc., 1600 Broadway, New York, N. Y.
Celluloid Corp., 10 E. 40th St., New York, N. Y.
Dencose, Inc., 29 W. 57th St., New York, N. Y.
Fairchild Aerial Camera Corp., 88-06 Van Wyck Blvd., Jamaica, L. I., N. Y.
Federal Recorder Co., 50 W. 57th St., New York, N. Y.
Mirror Record Corp., 54 W. 25th St., New York, N. Y.
Piezo Electric Laboratories, 612 Rockland Ave., New Dorp, S. I., N. Y.
Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Speak-O-Phone Rec. & Equip. Co., 23 W. 60th St., New York, N. Y.
Vibro-Master Co., 2744 Broadway, New York, N. Y.

Needles

Presto Recording Corp., 139 W. 19th St., New York, N. Y.
Edco Mfg. Corp., 132 W. 22nd St., New York, N. Y.
Electrovox Co., 424 Madison Ave., New York, N. Y.
Koulish Co., Inc., Meyer, 64 Fulton St., New York, N. Y.
Mirror Record Corp., 54 W. 25th St., New York, N. Y.
Permo Products Corp., 6415 Ravenswood Ave., Chicago, Ill.
Phonograph Needle Mfg. Co., 42-46 Dudley St., Providence, R. I.
Rangertone, Inc., 201 Verona Ave., Newark, N. J.

Phonograph, Assemblies (Record Players)

Bogen Co. Inc., David, 663 Broadway, New York, N. Y.
Garrard Sales Corp., 17 Warren St., New York, N. Y.
General Industries Co., 3537 Taylor St., Elyria, Ohio
Operadio Manufacturing Co., 13th & Indiana St., St. Charles, Ill.
RCA Manufacturing Co., Camden, N. J.
Webster Company, The., 5622-5707 Bloomingdale Ave., Chicago, Ill.
Electro Acoustic Products Co., Ft. Wayne, Ind.
General Electric Co., Bridgeport, Conn. (Wireless)
Philco Radio & Telev. Co., Philadelphia, Pa. (Wireless)
Regal Amplifier Mfg. Corp., 14 W. 17th St., New York, N. Y. (Wireless)
Zenith Radio Corp., 6001 Dickens Ave., Chicago, Ill. (Wireless)

Phono Motors

Garrard Sales Corp., 17 Warren St., New York, N. Y.
General Industries Co., 3537 Taylor St., Elyria, Ohio
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Diehl Mfg. Co., Elizabethport, N. J.
General Electric Co., Schenectady, N. Y.
Hansen Mfg. Co., Inc., Princeton, Ind.
Hetro Electrical Industries, Inc., 4611 Ravenswood Ave., Chicago, Ill.
Western Electric Co., 195 Broadway, New York, N. Y.

Phonograph Oscillators

Meissner Mfg. Co., Mt. Carmel, Ill.
RCA Manufacturing Co., Camden, N. J.

Pick-Ups, Crystal

Astatic Microphone Laboratory, 830 Market St., Youngstown, Ohio
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
RCA Manufacturing Co., Camden, N. J.
Shure Brothers, 225 W. Huron St., Chicago, Ill.
Universal Microphone Co., Inglewood, Calif.
Webster Electric Co., Racine, Wisc.

Pick-Ups, Dynamic

Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

Pick-Ups, Magnetic

Audak Co., 500 Fifth Ave., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Turner Company, Cedar Rapids, Iowa
Upco Engineering Laboratories, Inc., 254 Canal St., New York, N. Y.
Universal Microphone Co., Inglewood, Calif.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wisc.
Dynaphone Corp., 507 Fifth Ave., New York, N. Y.
Electrical Labs. Inc., 141 E. 25th St., New York, N. Y.
Electrical Research Labs., 2500 Cottage Grove Ave., Chicago, Ill.
Lifetime Corp., The, 1012 Madison Ave., Toledo, Ohio
Pacent Engineering Corp., 79 Madison Ave., New York, N. Y.
Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
Unit Reproducers Mfg. Co., 999 E. Main St., Rochester, N. Y.
United Reproducers, Springfield, Ohio
Western Electric Co., 195 Broadway, New York, N. Y.

Pick-Ups, Vibration

Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Shure Bros., 225 W. Huron St., Chicago, Ill.
Volu-tone Co., 226 N. Main St., Los Angeles, Calif.

Record Changers

Garrard Sales Corp., 17 Warren St., New York, N. Y.
General Industries Co., Elyria, Ohio
RCA Manufacturing Co., Camden, N. J.
Capehart Corp., E. Pontiac St., Ft. Wayne, Ind.
Hardray, Inc., 524 W. Broadway, New York, N. Y.
Recording Equipt. Mfg. Co., 6611 Sunset Blvd., Hollywood, Calif.
Stromberg-Carlson Tel. Mfg. Co., 100 Carlson Rd., Rochester, N. Y.

Recorders

Audak Co., 500 Fifth Ave., New York, N. Y.
Bogen Co., Inc., David, 663 Broadway, New York, N. Y.
Gibbs, Thomas B., 900 W. Lake St., Chicago, Ill.
Presto Recording Corp., 139 W. 19th St., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Universal Microphone Co., Inglewood, Calif.
Allied Recording Co., 126 W. 46th St., New York, N. Y.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Ansley Radio Corp., 240 W. 23rd St., New York, N. Y.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Dencose, Inc., 29 W. 57th St., New York, N. Y.
Fairchild Aerial Camera Corp., 88-06 Van Wyck Boulevard, Jamaica, L. I., N. Y.
Federal Recorder Co., 50 W. 57th St., New York, N. Y.
General Communication Products, Inc., Lexington Ave. at Vine, Hollywood, Calif.
Mirror Record Corp., 54 W. 25th St., New York, N. Y.
Proctor Co., Inc., B. A., 17 W. 60th St., New York, N. Y.
Radiotone, Inc., 6105 Melrose Ave., Hollywood, Calif.
Rangertone, Inc., 201 Verona Ave., Newark, N. J.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Speak-O-Phone Rec. & Equip. Co., 23 W. 60th St., New York, N. Y.
Vibro-Master Co., 2744 Broadway, New York, N. Y.

Recording Heads—Cutting Heads

Audak Company, 500 Fifth Ave., New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Presto Recording Corp., 139 W. 19th St., New York, N. Y.
Universal Microphone Co., 424 Warren Lane, Inglewood, Calif
Upco Engineering Labs. Inc., 254 Canal St., New York, N. Y.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Fairchild Aerial Camera Corp., 88-06 Van Wyck Blvd., Jamaica, L. I., N. Y.
General Communication Products, Inc., Lexington Ave. at Vine, Hollywood, Calif.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Radiotone, Inc., 6105 Melrose Ave., Hollywood, Calif.
Rangertone, Inc., 201 Verona Ave., Newark, N. J.
Speak-O-Phone Recording & Equip. Co., 23 W. 60th St., New York, N. Y.
United Cinephone Corp., 43-37 33rd St., Long Island City, N. Y.

RECTIFIERS

Mallory & Co. Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
RCA Manufacturing Co., Camden, N. J.
United Transformer Corp., 72 Spring St., New York, N. Y.
Ward Leonard Elec. Co., Mount Vernon, N. Y.
Automatic Electrical Devices Co., 324 E. 3rd St., Cincinnati, Ohio
B.-L. Electric Mfg. Co., The, 1828 Washington St., St. Louis, Mo.
Fansteel Metallurgical Corp., North Chicago, Ill.
General Electric Co., Bridgeport, Conn.
Raytheon Mfg. Co., Waltham, Mass.
Sonolux Co., 3 Central Ave., East Newark, N. J.
Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

RELAYS

Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa.
Meissner Mfg. Co., Mt. Carmel, Ill.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Signal Electric Mfg. Co., Menominee, Mich.
Struthers Dunn, Inc., 139 N. Juniper St., Philadelphia, Pa.
Triplett Electrical Instrument Co., Bluffton, Ohio
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Ward Leonard Electric Co., South St., Mount Vernon, N. Y.
Weston Electr. Instr. Corp., 614 Frelinghuysen Ave., Newark, N. J.
Allen-Bradley Co., 110 W. Greenfield Ave., Milwaukee, Wis.
Automatic Electric Inc., 1033 W. Van Buren St., Chicago, Ill.
Bunnell & Co., J. H., 215 Fulton St., New York, N. Y.
General Electric Co., Schenectady, N. Y.
Guardian Electric Mfg. Co., 1623 W. Walnut St., Chicago, Ill.
Leach Relay Co., Los Angeles, Calif.
Lear Developments, Inc., 121 W. 17th St., New York, N. Y.
Specialties Mfg. Co., 3152 Cass Ave., Detroit, Mich.

REMOTE CONTROLS FOR AMPLIFIERS

Bogen Co. Inc., David, 663 Broadway, New York, N. Y.
Operadio Mfg. Co., St. Charles, Ill.

REMOTE CONTROLS FOR AUTOS—See "Automobile"

RESISTANCE CORDS, AC-DC

Alpha Wire Corporation, 50 Howard St., New York, N. Y.
Belden Manufacturing Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
Ohmite Manufacturing Co., 4835 W. Flournoy St., Chicago, Ill.

RESISTORS

Carbon (Fixed) Resistors

Aerovox Corporation, New Bedford, Mass.
Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Girard Hopkins, 1437—23rd Ave., Oakland, Calif.
International Resistance Co., 401 N. Broad St., Philadelphia Pa.
Wirt Company, 5221 Greene St., Philadelphia, Pa.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Carborundum Co. (Globar Div), Niagara Falls, N. Y.
Electromotive Mfg. Co. Inc., 797 E. 140th St., New York, N. Y.
Ohio Carbon Co., 12508 Berea Rd., Cleveland, Ohio
Speer Carbon Co., Theresia St., St. Marys, Pa.
Stackpole Carbon Co., Tannery St., St. Marys, Pa.
White Dental Mfg. Co., S. S. 10 E. 40th St., New York, N. Y.

Carbon (Variable) Resistors

Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Clarostat Mfg. Co., 285 N. Sixth St., Brooklyn, N. Y.
Mallory & Co. Inc., P. R., Indianapolis, Ind.
Wirt Company, 5221 Greene St., Philadelphia, Pa.
Yaxley Manufacturing Co., Indianapolis, Ind.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Chicago Telephone Supply Co., Elkhart, Ind.
Stackpole Carbon Co., Tannery St., St. Marys, Pa.

Industrial Resistors

Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Ward Leonard Electric Co., South St., Mount Vernon, N. Y.
Wirt Co., The, 5221 Greene St., Philadelphia, Pa.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Hardwick & Hindle, Inc., 40 Hermon St., Newark, N. J.
Lectrohm, Inc., 5133 W. 25th Place, Cicero, Ill.
Precision Resistor Co., 334 Badger Ave., Newark, N. J.

Power Rheostats

Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
Ohmite Manufacturing Co., 4835 W. Flournoy St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Ward Leonard Electric Co., South St., Mount Vernon, N. Y.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
De-Jur-Amsco Corp., Shelton, Conn.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.
Precision Resistor Co., 334 Badger Ave., Newark, N. J.

Precision Resistors

Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co. Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Daven Co., 158 Summit St., Newark, N. J.
General Radio Co., 30 State St., Cambridge, Mass.
Leeds & Northrup, 4970 Stenton Ave., Philadelphia, Pa.
Morrill & Morrill, 30 Church St., New York, N. Y.
Precision Resistor Co., 334 Badger Ave., Newark, N. J.
Shallcross Mfg. Company, Collingdale, Pa.
Tech Laboratories, 7 Lincoln St., Jersey City, N. J.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Resistor Tubes—(Plug-in Ballasts)

Amperite Company, 561 Broadway, New York, N. Y.
Arcturus Radio Tube Co., Newark, N. J.
Champion Radio Works, 88 Holten St., Danvers, Mass.
Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
Fleron & Sons, M. M., 113 N. Broad St., Trenton, N. J.
Hygrade Sylvania Corp., Emporium, Pa.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Jackson Electro Corp., 625 Broadway, New York, N. Y.
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
Raytheon Production Corp., 420 Lexington Ave., New York, N. Y.
Triad Mfg. Co., Inc., Pawtucket, R. I.
Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.

Suppressors, Auto Noise

Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, Ohio
Erie Resistor Corp., 644 W. 12th St., Erie, Pa.
Insuline Corp. of America, 23 Park Place, New York, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.
Mallory & Co. Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Ward Products Corp., The, 1523 E. 45th St., Cleveland, Ohio
Wirt Company, 5221 Greene St., Philadelphia, Pa.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Electromotive Mfg. Co., Inc., 797 E. 140th St., New York, N. Y.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Ohio Carbon Co., 12508 Berea Rd., Lakewood, Ohio
Stackpole Carbon Co., Tannery St., St. Marys, Pa.

Wirewound Fixed, Metal Clad, Flexible, Black Enamel, Cement Coated and Vitreous Enamel Resistors

Aerovox Corp., New Bedford, Mass.
Atlas Resistor Co., 423 Broome St., New York, N. Y.
Clarostat Mfg. Co., 285 N. 6th St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Pa.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.
Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y.
Wirt Co., 5221 Greene St., Philadelphia, Pa.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.
Micamold Radio Corp., 1087 Flushing Ave., Brooklyn, N. Y.
Philco Radio & Television Corp., Philadelphia, Pa.
Precision Resistor Co., 334 Badger Ave., Newark, N. J.
States Co., 19 New Park Ave., Hartford, Conn.
Shallcross Mfg. Co., 10 Jackson Ave., Collingdale, Pa.

Wirewound Adjustable Black Enamel, Cement Coated and Vitreous Enamel Resistors

Aerovox Corp., New Bedford, Mass.
Atlas Resistor Co., 423 Broome St., New York, N. Y.
Clarostat Mfg. Co., 285 N. Sixth St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co., Inc., P. R., 3029 E. Washington St., Indianapolis, Ind.
Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y.
Wirt Co., 5221 Greene St., Philadelphia, Pa.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J.

R. F. CHOKES—See "Coils"

RHEOSTATS, Power—

See "Resistors—Power Rheostats"

ROTARY MACHINES—See "Generators"

SCREW MACHINE PRODUCTS (Radio)

Shafts, Bushings, Posts, Etc.

Babson-Dow Mfg. Co., 58 Fulda St., Boston, Mass.
Fischer Special Mfg. Co., The, 2729 Morgan St., Cincinnati, Ohio
Holmes & Rice, Ave. A & Poinier, Newark, N. J.
Machinery Products Co., 2024 N. Major Ave., Chicago, Ill.
Manufacturers Screw & Supply House, 215-A W. Illinois St., Chicago, Ill.
Mattatuck Mfg. Co., The, 2000 E. Main St., Waterbury, Conn.
Olson Bros. Co., 185 Camp St., Plainville, Conn.
Thorrez & Maes Mfg. Co., 1936 Camille St., Jackson, Mich.
Wright Machine Co., 73 Armory St., Worcester, Mass.

SERVICE MANUALS—See "Books"

SHAFTS, FLEXIBLE

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill (Auto)
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.
Johnson Co., E. F., Waseca, Minn.
Fischer Spring Co., Chas., Kent Ave., Brooklyn, N. Y. (Auto)
Victory Mfg. Co., Inc., 2021 S. Michigan Ave., Chicago, Ill. (Auto)
White Dental Mfg. Co., S. S., 10 E. 40th St., New York, N. Y. (Auto)

SHIELDS, TUBE—See "Hardware"

SIGNAL GENERATORS—See "Test Equipment"

SOCKETS—See "Hardware"

SOLDER

Gardiner Metal Co., 4820 S. Campbell Ave., Chicago, Ill.
Kester Solder Co., 420 Wrightwood Ave., Chicago, Ill.
New York Solder Co., 15 Crosby St., New York, N. Y.
Ruby Chemical Co., 56 McDowell St., Columbus, Ohio

SPEAKERS

Crystal Speakers

Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio

Dynamic Speakers

Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Operadio Mfg. Co., 13th & Indiana, St. Charles, Ill.
Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Quam Nichols Co., Cottage Grove Ave., 33rd Place, Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Wright DeCoster, Inc., 2233 University Ave., St. Paul, Minn.
Ariston Mfg. Corp., 4045 Diversey Ave., Chicago, Ill.
Arlavox Mfg. Co., 430 S. Green St., Chicago, Ill.
Best Mfg. Co., Inc., 1200 Grove St., Irvington, N. J.
Boudette & Co., Chelsea, Mass.
Colortone Acoustic Devices, 205 Oliver Bldg., South Bend, Ind.
Consolidated Radio Products Co., 361 W. Superior, Chicago, Ill.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Lansing Mfg. Co., 6900 McKinley Ave., Los Angeles, Calif.
Nordendale Mfg. Co., 2100 Fulton St., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Radio Receptor Co., 251 W. 19th St., New York, N. Y.
Radio Speakers, Inc., 1338 S. Michigan Ave., Chicago, Ill.
Rola Company, 2570 E. Superior Ave., Cleveland, Ohio
Stromberg-Carlson Tel. Mfg. Co., Rochester, N. Y.
Unit Reproducers, Springfield, Ohio
Victory Speakers, Inc., 7131 E. 14th St., Oakland, Calif.

Dynamic Speaker Units

Atlas Sound Corporation, 1451—39th St., Brooklyn, N. Y.
Racon Electric Co., Inc., 52 E. 19th St., New York, N. Y.
Fox Sound Equipment Corp., 3120 Monroe St., Toledo, Ohio
Western Electric Co., 195 Broadway, New York, N. Y.

High Frequency Speaker Units

Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Racon Electric Co. Inc., 52 E. 19th St., New York, N. Y.

Magnetic Speakers

Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Quam Nichols Co., Cottage Grove Ave., 33rd Place, Chicago, Ill.
Wright DeCoster, Inc., 2233 University Ave., St. Paul, Minn.
Arlavox Mfg. Co., 430 S. Green St., Chicago, Ill.
Best Mfg. Co., Inc., 1200 Grove St., Irvington, N. J.
Boudette & Co., Chelsea, Mass.
C. F. Cannon, Springwater, N. Y.
Consolidated Radio Products Co., 361 W. Superior, Chicago ,Ill.
Radio Speakers, Inc., 1338 S. Michigan Ave., Chicago, Ill.
Rola Company, 2570 E. Superior Ave., Cleveland, Ohio
Stromberg-Carlson Tel. Mfg. Co., Rochester, N. Y.
United Reproducers, Springfield, Ohio
Victory Speakers, Inc., 7131 E. 14th St., Oakland, Calif.

Permanent Magnet Dynamic Speakers

Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Cinaudagraph Corp., Stamford, Conn.
Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Operadio Mfg. Co., 13th & Indiana, St. Charles, Ill.
Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Quam Nichols Co., Cottage Grove Ave. & 33rd Place, Chicago, Ill.
Racon Electric Co., 52 E. 19th St., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Wright DeCoster, Inc., 2233 University Ave., St. Paul, Minn.
Ariston Mfg. Co., 4045 Diversey Ave., Chicago, Ill.
Arlavox Mfg. Co., 430 S. Green St., Chicago, Ill.
Best Mfg. Co. Inc., 1200 Grove St., Irvington, N. J.
Boudette & Co., Chelsea, Mass.
Colortone Acoustic Devices, 205 Oliver Bldg., South Bend, Ind.
Consolidated Radio Products Co., 361 W. Superior, Chicago, Ill.
Continental Motors Corp., 12801 E. Jefferson St., Detroit, Mich.
Lifetime Corporation, The, 1012 Madison Ave., Toledo, Ohio
Philco Radio & Television Corp., Philadelphia, Pa.
Radio Receptor Co., 251 W. 19th St., New York, N. Y.
Radio Speakers, Inc., 1338 S. Michigan Ave., Chicago, Ill.
Rola Company, 2570 E. Superior Ave., Cleveland, Ohio
Unit Reproducers Mfg. Co., 999 E. Main St., Rochester, N. Y.
Unit Reproducers, Springfield, Ohio

Permanent Magnet Speaker Units

Atlas Sound Corporation, 1451—39th St., Brooklyn, N. Y.
Racon Electric Co., Inc., 52 E. 19th St., New York, N. Y.
Fox Sound Equipment Corp., 3120 Monroe St., Toledo, Ohio
Western Electric Co., 195 Broadway, New York, N. Y.

Speaker Baffles and Horns

Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Bogen Co. Inc., David, 663 Broadway, New York, N. Y.
Cinaudagraph Corp., 2 Seleck St., Stamford, Conn.
Electronic Design Corp., 164 N. May St., Chicago, Ill.
Jensen Radio Mfg. Co., 6601 S. Laramie Ave., Chicago, Ill.
Leotone Radio Co., 63 Dey St., New York, N. Y.
Operadio Mfg. Co., St. Charles, Ill.
Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Racon Electric Co., 52 E. 19th St., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago, Ill.
Webster Electric Co., Racine, Wis.
Wright DeCoster, Inc., 2233 University Ave., St. Paul, Minn.
Acme Sound Co., 2758 Broadway, New York, N. Y.
Amplion Products Corp., 38 W. 21st St., New York, N. Y.
Bell Sound Systems, Inc., 61-62 Goodale St., Columbus, Ohio
Colortone Acoustic Devices, 205 Oliver Bldg., South Bend, Ind.
Electronic Sound Labs., 5912 Melrose Ave., Hollywood, Calif.
Fox Sound Equipment Corp., 3120 Monroe St., Toledo, Ohio
General Illuminating Corp., 16 Calendar St., Providence, R. I.
Illinois Wood Products Corp., Chicago, Ill.
Kainer & Co., 763 West Lexington St., Chicago, Ill.
Lansing Mfg. Co., 6900 McKinley Ave., Los Angeles, Calif.
Lifetime Corp., The, 1012 Madison Ave., Toledo ,Ohio
Lipman Eng. Co., 415 Van Braam St., Pittsburgh, Pa.
Melphone Corp., 714 University Ave., Rochester, N. Y.
Miles Reproducer Co., 812 Broadway, New York, N. Y.
Pictur-Fone Co., 806 S. Main St., Lima, Ohio
Radio Receptor Co., 251 W. 19th St., New York, N. Y.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, Ohio
Toledo Sound Equipment Labs., 1215 Jackson Ave., Toledo, Ohio
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
Unit Reproducers Mfg. Co., 999 E. Main St., Rochester, N. Y.
United Sound Eng. Co., 2229 University Ave., St. Paul, Minn.
Weber Bros. Metal Works, 108 N. Jefferson St., Chicago, Ill.
Western Electric Co., 195 Broadway, New York, N. Y.

Speaker Baffle Stands and Fixtures

Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Racon Electric Co. Inc., 52 E. 19th St., New York, N. Y.

Speaker Cones (Replacement)

Carron Manufacturing Co., 415 S. Aberdeen St., Chicago, Ill.
Leotone Radio, Inc., 63 Dey St., New York, N. Y.
Racon Electric Co. Inc., 52 E. 19th St., New York, N. Y.
Hawley Products Co., 201 N. First Ave., St. Charles, Ill.
Masland Mfg. Corp., Amber & Willard, Philadelphia, Pa.
Multiplex Radio Service, 88 Fourth Ave., Brooklyn, N. Y.
United Pressed Products Co., 407 S. Aberdeen, Chicago, Ill.

Speaker Field Coils (Replacement)

Carron Manufacturing Co., 415 S. Aberdeen St., Chicago, Ill.
Leotone Radio, Inc., 63 Dey St., New York, N. Y.
International Transformer Co., 22 W. 22nd St., New York, N. Y.
Multiplex Radio Service, 88 Fourth Ave., Brooklyn, N. Y.
United Pressed Products Co., 407 S. Aberdeen, Chicago, Ill.

Speaker Field Supplies

Atlas Sound Corp., 1451—39th St., Brooklyn, N. Y.
Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Racon Electric Co. Inc., 52 E. 19th St., New York, N. Y.
Wright DeCoster, Inc., 2233 University Ave., St. Paul, Minn.

Speaker Miscellaneous Accessories—Shims, Cement, Grille Cloth, Etc.

Carron Manufacturing Co., 415 S. Aberdeen St., Chicago, Ill.
Leotone Radio, Inc., 63 Dey St., New York, N. Y.
General Cement Mfg. Co., Rockford, Ill.
Cleveland Wire Cloth & Mfg. Co., 3573 E. 78th St., Cleveland, Ohio (Grille Cloth)
Hintze, A. G., 300 W. Adams St., Chicago, Ill. (Grille Cloth)
Orinoka Mills, York, Pa. (Grille Cloth)
Tindall Fabrics Corp., 486 Pawtucket Ave., Pawtucket, R. I. (Grille Cloth)

SPEAKER TESTERS—See "Test Equipment"

SUPPRESSORS—(See "Resistors")

World Radio History

CLASSIFIED DIRECTORY (Continued)

SWITCHES

Jack Switches

Mallory & Co., Inc., P. R., Indianapolis, Ind.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.

Knife Switches

Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Insuline Corp. of America, 25 Park Place, New York City, N. Y.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Eagle Electric Mfg. Co., 59-79 Hall St., Brooklyn, N. Y.

Push-Button Switches

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Mallory & Co. Inc., P. R., Indianapolis, Ind.
Meissner Mfg. Co., Mt. Carmel, Ill.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
National Company, 61 Sherman St., Malden, Mass.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.

Push-Button Tuning Assemblies

Aladdin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill.
Mallory & Co. Inc., P. R., Indianapolis, Ind.
Meissner Mfg. Co., Mt. Carmel, Ill.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
De-Jur-Amsco Corp., Shelton, Conn.
Electro-Motive Mfg. Co. Inc., 797 E. 140th St., New York, N. Y.
Franklin Mfg. Corp., 175 Varick St., New York, N. Y.
Oak Mfg. Co., 711 W. Lake St., Chicago, Ill.
F. W. Stewart Mfg. Corp., 342 W. Huron St., Chicago, Ill.

Selector Band-changing and Rotary Switches

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill. (Tap Switch)
Barker & Williamson, Ardmore, Pa. (Band Switching Turret)
Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Clarostat Mfg. Co., Inc., 285 N. 6th St., Brooklyn, N. Y.
Mallory & Co. Inc., P. R., Indianapolis, Ind.
Meissner Mfg. Co., Mt. Carmel, Ill.
Miller Co., J. W., 5917 S. Main St., Los Angeles, Calif.
Ohmite Manufacturing Co., 4835 Flournoy St., Chicago, Ill.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Readrite Meter Works, Bluffton, Ohio
Triplett Electrical Instrument Co., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Wirt Company, 5221-27 Greene St., Philadelphia, Pa.
Yaxley Manufacturing Co., Indianapolis, Ind.
Best Mfg. Co., Irvington, N. Y.
Oak Mfg. Co., 711 W. Lake St., Chicago, Ill.

Toggle Switches

Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Carling Tool & Mfg. Co., 626 Capitol Ave., Hartford, Conn.
Cutler-Hammer, Inc., W. St. Paul Ave., Milwaukee, Wis.
Delta Electric Co., Marion, Ind.
Federal Anti-Capacity Switch Corp., Laird St., Buffalo, N. Y.

Tone Switches

Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.
Chicago Telephone Supply Co., Elkhart, Ind.
Carling Tool & Mfg. Co., 626 Capitol Ave., Hartford, Conn.
Cutler-Hammer, Inc., N. 12th & W. St. Paul Ave., Milwaukee, Wis.

Time Switches

Sangamo Electric Company, Springfield, Ill.
Rhodes, Inc., M. H., 1270 Sixth Avenue, New York, N. Y.
Tork Clock Co., Inc., 31 South St., Mount Vernon, N. Y.

TELEGRAPH INSTRUMENTS

Keys, Code Practice Sets—Instructograph

Fleron & Son, Inc., M. M., 113 N. Broad St., Trenton, N. J. (Practice Sets)
Instructograph Co., 912 Lakeside Place, Chicago, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y. (Practice Sets)
Les Logan Co., 646 Jessie St., San Francisco, Calif. (Speed-x Keys)
McElroy, T. R., 100 Brookline Ave., Boston, Mass.
Signal Electric Mfg. Co., Menominee, Mich. (Practice Sets & Keys)
Chandler System Co., Asheville, N. C.
Gardiner-Levering Co., Haddon Heights, N. J.
Go-Devil Instrument Co., 263 Mill St., Poughkeepsie, N. Y.
National Electric & Mfg. Co., 45 Morris St., Jersey City, N. J.
Teleplex Co., 67 Park Place, New York, N. Y. (Practice Sets)
Universal Signal Appliance Co., 64 W. 22nd St., New York, N. Y.
Vibroplex Co., Inc., 832 Broadway, New York, N. Y.

TELEVISION

Aerovox Corporation, New Bedford, Mass. (Condensers)
Aladdin Radio Industries, Inc., 466 W. Superior St., Chicago, Ill. (I. F. Transformers)
Kenyon Transformer Co., 840 Barry St., New York, N. Y. (Yokes)
National Union Radio Corp., 57 State St., Newark, N. J. (Tubes)
RCA Manufacturing Co., Camden, N. J. (Tubes, Condensers, Transformers, etc.)
Sprague Products Co., North Adams, Mass. (Condensers)
United Transformer Corp., 72 Spring St., New York, N. Y. (Transformers, Condensers)
American Television Corp., 130 W. 56th St., New York, N. Y. (Receivers)
Andrea Radio Corp., Woodside, L. I., N. Y. (Televisor Kits)
DuMont Labs., Inc., Allen B., 2 Main Ave., Passaic, N. J. (Receivers, etc.)
General Electric Co., Schenectady, N. Y. (Capacitors)

TEST EQUIPMENT

Adapters

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Burton-Rogers Co., 755 Boylston St., Boston, Mass.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Alden Products Co., 715 Center St., Brockton, Mass.

Analyzers

Aerovox Corporation, New Bedford, Mass. (Interference)
Burton-Rogers Co., 755 Boylston St., Boston, Mass.
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill. (Interference)
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Dayton Acme Co., Cincinnati, Ohio
Hickok Electrical Inst. Co., 10514 Dupont Ave., Cleveland, Ohio
Jackson Elec. Inst. Co., 129 Wayne Ave., Dayton, Ohio
Precision Apparatus Co. Corp., 821 E. New York Ave., Bklyn, N. Y.
Radio City Products Co., 88 Park Place, New York, N. Y.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Service Instruments, Inc., 404 Fourth Ave., New York, N. Y.
Simpson Elec. Co., 5216 W. Kinzie St., Chicago, Ill.
Sprague Products Co., North Adams, Mass. (Interference)
Supreme Instruments Corp., Greenwood, Miss.
Triplett Elec. Inst. Corp., 122 Main St., Bluffton, Ohio
Weston Electricel Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Dumont Laboratories, Inc., Allen B., Upper Montclair, N. J.
Hoyt Elec. Instrument Co., Penacock, N. H.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Ohio Inst. Co., 9410 St. Catherine Ave., Cleveland, Ohio
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Radio Products Co., 125 Sunrise Pl., Dayton, Ohio
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

Bridges—Capacitor

Aerovox Corp., New Bedford, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Deutschmann Corp., Tobe, Canton, Mass.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Meck Instruments, John, 164 N. May St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Solar Manufacturing Co., 599 Broadway, New York, N. Y.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Co., 122 Main St., Bluffton, Ohio
General Radio Co., 30 State St., Cambridge, Mass.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.

Bridges—Inductance

Aerovox Corp., New Bedford, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Deutschmann Corp., Tobe, Canton, Mass.
Meck Instruments, John, 164 N. May St., Chicago, Ill.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
RCA Manufacturing Co., Camden, N. J.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Supreme Instruments Corp., Greenwood, Miss.
General Radio Co., 30 State St., Cambridge, Mass.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.

Capacity Analyzers

Carron Mfg. Co., 415 E. Aberdeen St., Chicago, Ill.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Deutschmann Corp., Tobe, Canton, Mass.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Meck Instruments, John, 164 N. May St., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Solar Mfg. Corp., 599 Broadway, New York, N. Y.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Consolidated Wire & Assoc. Corps., 512 S. Peoria St., Chicago, Ill.
Potter Co., North Chicago, Ill.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

Crystal Calibrators

RCA Manufacturing Co., Camden, N. J.
Burnett Radio Lab., Wm. W. L., 4814 Idaho St., San Diego, Calif.
General Engineers, 2241 Garrett Rd., Upper Darby, Pa.

Decade Boxes

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Muter Company, 1255 S. Michigan Ave., Chicago, Ill.
Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.
Supreme Instrument Co., Greenwood, Miss.
Associated Research, Inc., 16 N. May St., Chicago, Ill.
Daven Co., 158 Summit St., Newark, N. J.
Electronic Apparatus Co., 814 N. Damen Ave., Chicago, Ill.
Leeds & Northrup, 4970 Stenton Ave., Philadelphia, Pa.
Shallcross Mfg. Co., 10 Jackson Ave., Collingdale, Pa.
Tech Laboratories, 7 Lincoln St., Jersey City, N. J.
Televiso Co., 341 N. Pulaski Road, Chicago, Ill.

Modulators, Frequency

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
RCA Manufacturing Co., Camden, N. J.
Supreme Instruments Corp., Greenwood, Miss.
DuMont Labs., Inc., Allen B., 542 Valley Rd., Upper Montclair, N. J.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Ultramar Mfg. Corp., 1160 Chatham St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.

Modulation Indicators

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
RCA Manufacturing Co., Camden, N. J.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston El. Instr. Co., 614 Frelinghuysen Ave., Newark, N. J.
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill. (Monitor)
J. M. P. Mfg. Co., 3049 N. 34th St., Milwaukee, Wisc.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.

Multimeters

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Elec. Inst. Co., Dupont Ave. Cleveland, Ohio
Insuline Corp. of America, 25 Park Pl., New York, N. Y.
Jackson Elec. Inst. Co., 129 Wayne Ave., Dayton, Ohio
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Simpson Electric Co., 5216 Kinzie St., Chicago, Ill.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Webster Electric Co., Racine, Wis.
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.
Gray Inst. Co., 64 W. Jackson St., Philadelphia, Pa.
Hoyt Elec. Inst. Co., Penacook, N. H.
J. M. P. Mfg. Co., Inc., 3049 N. 34th St., Milwaukee, Wis.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Ohio Instrument Co., 9410 St. Catherine Ave., Cleveland, Ohio
Philco Radio & Television Corp., Philadelphia, Pa.
Radio Products Co., 125 Sunrise Pl., Dayton, Ohio
Shallcross Mfg. Co., 10 Jackson Ave., Collingdale, Pa.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.
Westinghouse Electric Co., Orange St., Newark, N. J.

Ohmmeters

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Meck Instruments, John, 164 N. May St., Chicago, Ill.
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., 88 Park Pl., New York, N. Y.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Simpson SElectric Co., 5216 W. Kinzie St., Chicago, Ill.
Sterling Mfg. Co., 9205 Detroit Ave., Cleveland, Ohio
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Apparatus Design Co., Elizabeth & Randolph, Chicago, Ill.
Associated Research, Inc., 16 N. May St., Chicago, Ill.
Leeds & Northrup, 4970 Stenton Ave., Philadelphia, Pa.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Shallcross Mfg. Co., 10 Jackson Ave., Collingdale, Pa.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.

World Radio History

CLASSIFIED DIRECTORY (Continued)

United Motors Service, 3044 W. Grand Blvd., Detroit, Mich.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

Oscillators, A. F.

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
McElroy, T. R., 100 Brookline Ave., Boston Mass.
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Supreme Instruments Corp., Greenwood, Miss.
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
American Comm. Corp., 1650 Broadway, New York, N. Y.
Boonton Radio Corp., Boonton, N. J.
General Radio Co., 30 State St., Cambridge, Mass.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Laurehk Radio Mfg. Co., Adrian, Mich.
Philco Radio & Television Corp., Philadelphia, Pa.
Sound Apparatus Co., 150 W. 46th St., New York, N. Y.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W .Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.

Oscillators, R. F.

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Meck Instruments, John, 164 N. May St., Chicago, Ill.
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.
Supreme Instruments Corp., Greenwood ,Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.
Boonton Radio Corp., Boonton, N. J.
Communication Inst., Inc., 125 W. 40th St., New York, N. Y.
DuMont Labs., Inc., Allen B., 542 Valley Road, Upper Montclair, N. J.
Ferris Instrument Corp., Boonton Ave., Boonton, N. J.
General Radio Co., 30 State St., Cambridge, Mass.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

Oscilloscopes (Oscillographs)

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
National Co., 61 Sherman St., Malden, Mass.
RCA Manufacturing Co., Camden, New Jersey
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Sundt Eng. Co., 4238 Lincoln Ave., Chicago, Ill. (Neobeam Oscilloscope)
Supreme Instruments Corp., Greenwood, Miss.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill. (Kit)
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.
DuMont Labs., Inc., Allen B., 542 Valley Road, Upper Montclair, N. J.
Holloway Company, 72 Spring St., New York, N. Y.
J. M. P. Mfg. Co., Inc., 3049 N. 34th St., Milwaukee, Wis.
Radio Products Co., 125 Sunrise Place, Dayton, Ohio
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.
United Sound Eng. Co., 2233 University Ave., St. Paul, Minn.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.
Westinghouse Electric & Mfg. Co., Newark, N. J.

Output Meters

Burton Rogers Co., 755 Boylston St., Boston, Mass.
Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Readrite Meter Works, 136 E. College Ave., Bluffton, Ohio
Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.
Supreme Instrument Co., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Consolidated Wire & Assoc. Corps., 512 S. Peoria St., Chicago, Ill.
Daven Co., 158 Summit St., Newark, N. J.
General Radio Co., 30 State St., Cambridge, Mass.
Hoyt Electrical Instr. Co., Penacook, N. H.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Tech Labs., 703 Newark Ave., Jersey City, N. J.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Ultramar Mfg. Corp., 1160 Chatham St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.

Resistance Analyzer and Indicator

International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Muter Company, The, 1255 S. Michigan Ave., Chicago, Ill.

Signal Generators

Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Jackson Electrical Instrument Co., 129 Wayne Ave., Dayton, Ohio
Precision Apparatus Corp., 821 E. New York Ave., Bklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Readrite Meter Works, Bluffton, Ohio
Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instruments Co., Bluffton, Ohio

Speaker Testers

Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.
Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Oxford Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Wright DeCoster, Inc., St. Paul, Minn.
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.
Multiplex Radio Service, Inc., 88 Fourth Ave., Brooklyn, N. Y.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.

Tube Testers (Tube Checkers)

Burton-Rogers Co., 755 Boylston St., Boston, Mass.
Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, Ohio
Jackson Elec. Inst Co., 129 Wayne Ave., Dayton, Ohio
Meck Instruments, John, 164 N. May St., Chicago, Ill.
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Radiotechnic Laboratories, Inc., 1328 Sherman Ave., Evanston, Ill.
RCA Manufacturing Co., Camden, N. J.
Readrite Meter Works, Bluffton, Ohio
Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.
Supreme Instruments Co., Greenwood, Miss.
Triplett Electric Instrument Co., Bluffton, Ohio
Weston Electrical Instrument Co., 614 Frelinghuysen Ave., Newark, N. J.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Apparatus Design Co., Elizabeth & Randolph Sts., Chicago, Ill.
Bendix Radio Corp., General Motors Bldg., Detroit, Mich.
Consolidated Wire & Ass. Corps., 512 S. Peoria St., Chicago, Ill.
Dayton Acme Co., Cincinnati, Ohio
Foraco Corp., 2111 Woodward Ave., Detroit, Mich.
Gray Instrument Co., 64 W. Jackson St., Philadelphia, Pa.
Hoyt Elec. Inst. Co., Penacock, N. H.
J. M. P. Mfg. Co., Inc., 3049 N. 34th St., Milwaukee, Wis.
L & L Electric Co., 346 Madison Ave., Memphis, Tenn.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.
Philco Radio & Television Co., Philadelphia, Pa.
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Radio Constructors Labs., 136 Liberty St., New York, N. Y.
Radio Products Co., 125 Sunrise Place, Dayton, Ohio
Ra-Fone Co., 4105 Broadway, Oakland, Calif.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 2017—19 West Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

V. T. Voltmeters

Clough-Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Precision Apparatus Corp., 821 E. New York Ave., Brooklyn, N. Y.
Radio City Products Co., Inc., 88 Park Place, New York, N. Y.
Supreme Instruments Corp., Greenwood, Miss.
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J.
Monarch Mfg. Co., 3341 Belmont Ave., Chicago, Ill.
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Tefft Radio Co., Plymouth, Mich.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Motors Service, 3044 Grand Blvd., Detroit, Mich.

Vibrator Testers

Clough Brengle Co., 2815 W. 19th St., Chicago, Ill.
Hickok Electrical Instrument Co., Dupont Ave., Cleveland, Ohio
Mallory & Co., Inc., P. R., Indianapolis, Ind.
Radiart Corp., Shaw Ave., at 133rd St., Cleveland, Ohio
Triplett Electrical Instrument Corp., 122 Main St., Bluffton, Ohio
Bendix Products Corp., 401 Bendix Drive, South Bend, Ind.
Million Radio & Television Co., 685 W. Ohio St., Chicago, Ill.
Preceptor Mfg. Co., 179 Minna St., San Francisco, Calif.
Radio Products Co., 125 Sunrise Place, Dayton, Ohio
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Webber Co., Earl, 1313 W. Randolph St., Chicago, Ill.

TEST LEADS

Alpha Wire Corp., 50 Howard St., New York, N. Y.
American Radio Hardware Co., 476 Broadway, New York, N. Y.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Burton-Rogers Co., 755 Boylston St., Boston, Mass.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Mueller Electric Co., 1583 E. 31st St., Cleveland, Ohio
Supreme Instruments Corp., Greenwood, Miss.

TOOLS

Drills

Kraeuter & Co., Inc., 563—18th Ave., Newark, N. J.
Signal Electric Mfg. Co., Menominee, Mich. (Portable Electric)
Stanley Works, New Britain, Conn.

Neutralizing Tools

American Radio Hardware Co., 476 Broadway, New York, N. Y.
Bud Radio, Inc., 5205 Cedar Ave., Cleveland, Ohio
Carron Mfg. Co., 415 S. Aberdeen St., Chicago, Ill.
General Cement Mfg. Co., Rockford, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Meissner Mfg. Co., Mt. Carmel, Ill.

Pliers

Kraeuter & Co., Inc., 563 Eighteenth Ave., Newark, N. J.
Utica Drop Forge & Tool Corp., Utica, N. Y.
Hinsdale Mfg. Co., 427 W. Randolph St., Chicago, Ill.
K-D Mfg. Co., Lancaster, Pa.

Punches and Chisels

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Kraeuter & Co., Inc., 563 Eighteenth Ave., Newark, N. J.
Meissner Mfg. Co., Mt. Carmel, Ill.
Utica Drop Forge & Tool Corp., Utica, N. Y.

Saws

Forsberg Manufacturing Co., Bridgeport, Conn.

Screw Drivers

American Radio Hardware Co., 476 Broadway, New York, N. Y.
Forsberg Manufacturing Co., Bridgeport, Conn.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Park Metalware Co., Inc., Orchard Park, N. Y.
Utica Drop Forge & Tool Corp., Utica, N. Y.
General Hardware Mfg. Co., 16 Warren St., New York, N. Y.
Hinsdale Mfg. Co., 427 W. Randolph St., Chicago, Ill.

Soldering Irons and Tools

Carron Manufacturing Co., 415 S. Aberdeen St., Chicago, Ill.
Drake Electric Works, Inc., 3654 Lincoln Ave., Chicago, Ill.
Electric Soldering Iron Co., Inc., Deep River, Conn.
General Cement Mfg. Co., Rockford, Ill. (Tips)
Insuline Corp. of America, 25 Park Place, New York, N. Y.
Jackson Electro Corp., 625 Broadway, New York, N. Y.
Supreme Instruments Corp., Greenwood, Miss.
Vasco Electrical Mfg. Co., 4116 Avalon Blvd., Los Angeles, Calif.
American Electrical Heater Co., 6110 Cass Ave., Detroit, Mich.
Brach Mfg. Corp., L. S., 55 Dickerson St., Newark, N. J.
Cole Radio Works, 86 Westville Ave., Caldwell, N. J.
Ideal Commutator Dresser Co., Sycamore, Ill.
Lenk Mfg. Company, The, Newton Lower Falls, Mass.
Stanley Works, New Britain, Conn.

Torches—Gasoline and Alcohol

Baumgarth Mfg. Co., 836 Hubbard St., Chicago, Ill.
Lenk Mfg. Company, The, Newton Lower Falls, Mass.

Wrenches

American Radio Hardware Co., Inc., 476 Bway, New York, N. Y.
General Cement Mfg. Co., Rockford, Ill.
Insuline Corp. of America, 25 Park Place, New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn, N. Y.
Park Metalware Co., Inc., Orchard Park, N. Y.
Utica Drop Forge & Tool Corp., Utica, N. Y.
Stevens Walden, Inc., Worcester, Mass.

Miscellaneous Tools

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill. (Plug-Puller)
American Radio Hardware Co., Inc., 476 Bway, New York, N. Y.
Cooks Mfg. Co., Yonkers, N. Y. (Service Jacks)
Insuline Corp. of America, 25 Park Place, New York, N. Y. (Circle Cutter)
J. F. D. Mfg. Co., 4111 Ft. Hamilton Pkway, Bklyn, N. Y. (Remote-O-Cable Replacer)
Morris Register Co., Council Bluffs, Iowa (Coil-Winder)
Acro Tool & Die Works, 1401 Wilson Ave., Chicago, Ill. (Service Jacks)
Cole Radio Works, 86 Westville Ave., Caldwell, N. J. (Iron Stands)
General Hardware Mfg. Co., 16 Warren St., New York, N. Y. (Circle Cutter)
Wire Stripper Co., 1729 Eastham Ave., East Cleveland, Ohio (Wire Strippers)

TRADE MAGAZINES AND PERIODICALS

American Radio Relay League, Inc., 38 LaSalle Road, West

World Radio History

CLASSIFIED DIRECTORY (Continued)

Hartford, Conn. ("QST")
Bryan Davis Publishing Co., Inc., 19 E. 47th St., New York, N. Y. ("Service," "Radio Engineering")
Caldwell-Clements, Inc., 480 Lexington Ave., New York, N. Y. ("Radio Today")
Henderson Publications, Inc., 1270 Sixth Ave., New York, N. Y. ("Parts," "Radio & Electric Appliance Journal")
Institute of Radio Service Men, Inc., 510 North Dearborn St., Chicago, Ill. ("The I.R.S.M. News and Digest")
McGraw-Hill Publishing Co., Inc., 330 West 42nd St., New York, N. Y. ("Radio Retailing," "Electronics")
Phonograph Publications Co., Inc., 99 Hudson St., New York, N. Y. ("The Radio Weekly")
Popular Book Corp., 99 Hudson St., New York, N. Y. "(Short Wave & Television")
Radcraft Publications, Inc., 99 Hudson St., New York, N. Y. ("Radio-Craft")
Radio Jobber News, Inc., 524 E. Superior Ave., Cleveland, Ohio ("Radio Jobber News")
Radio, Ltd., 7460 Beverly Blvd., Los Angeles, Calif. ("Radio")
Tech Publications, Inc., Washington & South Ave., Dunellen, N. J. ("Radio News")

TRANSFORMERS

Audio Transformers—Input, Inter-stage, Output, Driver, Modulation, Microphone, Line, etc.

Amperite Company, 561 Broadway, New York, N. Y. (Microphone Input)
Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Co., Bellwood, Illinois
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Operadio Mfg. Co., 13th & Indiana St., St. Charles, Ill. (Output)
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
RCA Manufacturing Co., Camden, N. J.
National Company, 61 Sherman St., Malden, Mass.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
Acme Electric & Mfg. Co., 38 Water St., Cuba, N. Y.
American Transformer Co., 178 Emmet St., Newark, N. J.
Arlab Mfg. Co., 1250 N. Pauline St., Chicago, Ill.
Arlavox Mfg. Co., 430 So. Green St., Chicago, Ill.
Chicago Transformer Corp., 3501 W. Addison St., Chicago, Ill.
Collins Radio Company, Cedar Rapids, Iowa
Dongan Electric Mfg. Co., 2987 Franklin St., Detroit, Mich.
Empire Radio Manufacturers, 114 E. 47th St., New York, N. Y.
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
General Radio Co., 30 State St., Cambridge, Mass.
Kellogg Switchboard & Supply Co., 6650 So. Cicero Ave., Chicago, Ill.
Magnetic Windings Co., 16th & Butler Sts., Easton, Pa.
Marine Radio Corp., 91 Third Ave., New York, N. Y.
National Mill Supply Co., 207 E. Columbia St., Ft. Wayne, Ind.

Cathode Ray Tube Transformers

Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Chokes

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Commercial and Broadcast Transformers

Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
American Transformer Co., 178 Emmet St., Newark, N. J.
Collins Radio Company, Cedar Rapids, Iowa
Ecco High Frequency Corp., 120 W. 20th St., New York
Feerranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Marine Radio Corp., 91 Third Ave., New York, N. Y.

Exact Duplicate—Replacement Transformers

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St , Chicago, Ill.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.

Filament Transformers

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Oscilloscope Transformers

Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Plate Transformers

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.,—INCA, 2375 E. 27th St., Los Angeles, Calif.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Power Transformers

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Co., Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
RCA Manufacturing Co., Camden, N. J.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
Acme Electric Mfg. Co., 38 Water St., Cuba, N. Y.
American Transformer Co., 178 Emmet St., Newark, N. J.
Arlab Mfg. Co., 1250 N. Pauline St., Chicago, Ill.
Arlavox Mfg. Co., 430 So. Green St., Chicago, Ill.
Chicago Transformer Corp., 3501 W. Addison St., Chicago, Ill.
Dongan Electric Mfg. Co., 2987 Franklin St., Detroit, Mich.
Empire Radio Manufacturers, 114 E. 47th St., New York, N. Y.
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Magnetic Windings Co., 16th & Butler Sts., Easton, Pa.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Marine Radio Corp., 91 Third Ave., New York, N. Y.
National Mill Supply Co., 207 E. Columbia St., Ft. Wayne, Ind.

Vibrator Transformers

Freed Transformer Co., 72 Spring St., New York, N. Y.
General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Co., The, 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Company, Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.

Voltage Regulators—Transformers

General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Halldorson Company, Inc., 4500 Ravenswood Ave., Chicago, Ill.
Jefferson Electric Co., Bellwood, Ill.
Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.
Phelps Dodge Copper Products Corp.—INCA, 2375 E. 27th St., Los Angeles, Calif.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
Acme Electric & Mfg. Co., 38 Water St., Cuba, N. Y.
American Transformer Co., 178 Emmet St., Newark, N. J.
International Transformer Co., 39 W. 20th St., New York, N. Y.
Marine Radio Corp., 91 Third Ave., New York, N. Y.
Raytheon Manufacturing Co., 190 Willow St., Waltham, Mass.
Skaggs Transformer Co., 5894 Broadway, Los Angeles, Calif.
Standard Electrical Products Co., 317 Sibley St., St. Paul, Minn.

TRANSMITTERS, Amateur

Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
American Communications Corp., 1650 Broadway, New York, N. Y.
Bassett Research Corp., 211 Service Court, South Bend, Ind.
Collins Radio Co., Cedar Rapids, Iowa
General Engineers, 2241 Garrett Road, Upper Darby, Pa.
Harvey Radio Laboratories, Inc., 25 Thorndike St., Cambridge. Mass
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Lear Development Co., Roosevelt Field, Mineola, N. Y.
Lincoln Radio & Television Corp., 841 Jackson Blvd., Chicago, Ill.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Marine Radio Co., 91 Third Ave., New York, N. Y.
Radio Engineering Labs., Inc., Long Island City, N. Y.
Radio Engineering & Mfg. Co., 26 Journal Sq., Jersey City, N. J.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Radio Transceiver Labs., 8627—115th St., Richmond Hill, N. Y.
Skaggs Transformer Co., 5894 Broadway, Los Angeles, Calif.
Technical Products International, 135 Liberty St., New York, N. Y.
Televiso Co., 341 N. Pulaski Road, Chicago, Ill.
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
Vibraloc Mfg. Co., 3691 Mission St., San Francisco, Calif.

Transmitters, Amateur Kits

General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.
Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.
Thordarson Elec. Mfg. Co., 500 W. Huron St., Chicago, Ill.
United Transformer Corp., 72 Spring St., New York, N. Y.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Guthman & Co., Inc., Edwin I., 402 S. Peoria St., Chicago, Ill.
Harbray Co., 4701 N. Sheridan Road, Chicago, Ill.
Peerless Radio Mfg. Co., Division St. & Bway, Albany, N. Y..
Radio Engineering & Mfg. Co., 26 Journal Sq., Jersey City, N. J.
Skaggs Transformer Co., 5894 Broadway, Los Angeles, Calif.
Technical Products International, 135 Liberty St., New York, N. Y.

Transmitters, Aviation

Cardwell Mfg. Corp., Allen D., 81 Prospect St., Brooklyn, N. Y.
RCA Manufacturing Co., Camden, N. J.
Aeronautical Radio Co., Roosevelt Field, Mineola, N. Y.
Aircraft Radio Corp., Boonton, N. J.
Bassett Research Corp., 211 Service Court, South Bend, Ind.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
General Communication Products, Inc., Lexington Ave. at Vine, Hollywood, Calif.
General Engineers, 2241 Garrett Road, Upper Darby, Pa.
Harvey Radio Laboratories, Inc., 25 Thorndike St., Cambridge, Mass.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Lear Development Co., Roosevelt Field, Mineola, N. Y.
Marine Radio Corp., 91 Third Ave., New York, N. Y.
Peerless Radio Mfg. Co., Division St. & Bway, Albany, N. Y.
Phoenix Radio Products Lab., 2040 No. Holly Ave., Chicago, Ill.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Televiso Co., 341 N. Pulaski Road, Chicago, Ill.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
United Cinephone Corp., 43-37—33rd St., Long Island City, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

Transmitters, Broadcast

RCA Manufacturing Co., Camden, N. J.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
Marine Radio Co., 91 Third Ave., New York, N. Y.
Piezo Electric Laboratories, 612 Rockland Ave., New Dorp, S. I., N. Y.
Radio Engineering Labs., Inc., Long Island City, N. Y.
Radio Engineering & Mfg. Co., 26 Journal Sq., Jersey City, N. J.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
United Cinephone Corp., 43-37—33rd St., Long Island City, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

Transmitters, Commercial

RCA Manufacturing Co., Camden, N. J.
Bassett Research Corp., 211 Service Ct., South Bend, Ind.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
General Communication Products, Inc., Lexington Ave. at Vine, Hollywood, Calif.
General Electric Co., Schenectady, N. Y.
General Engineers, 2241 Garrett Road, Upper Darby, Pa.
Harvey Radio Laboratories, Inc., 25 Thorndike St., Cambridge, Mass.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Lear Development Co., Roosevelt Field, Mineola, N. Y.
Marine Radio Co., 91 Third Ave., New York, N. Y.
Piezo Electric Laboratories, 612 Rockland Ave., New Dorp, S. I., N. Y.
Radio Engineering Labs., Inc., Long Island City, N. Y.
Radio Engineering & Mfg. Co., 26 Journal Sq., Jersey City, N. J.
Radio Laboratories, Inc., 2701 California Ave., Seattle, Wash.
Radiomarine Corp. of America, 75 Varick St., New York, N. Y.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Radio Transceiver Labs., 86-27—115th St., Richmond Hill, N. Y.
Sound Products, 704 N. Curson Ave., Hollywood, Calif.
Transformer Corp. of America, 69 Wooster St., New York, N. Y.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., Chicopee Falls, Mass.

Transmitters, Marine

Hallicrafters, Inc., 2611 Indiana Ave., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Aeronautical Radio Co., Roosevelt Field, Mineola, N. Y.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Cinema Engineering Co., 7606 Santa Monica Blvd., Hollywood, Calif.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
General Engineers, 2241 Garrett Road, Upper Darby, Pa.

World Radio History

CLASSIFIED DIRECTORY (Continued)

Harvey Radio Laboratories, Inc., 25 Thorndike St., Cambridge, Mass.
Jefferson-Travis Radio Mfg. Corp., 198 Milburn Ave., Baldwin, N. Y.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Lear Development Co., Roosevelt Field, Mineola, N. Y.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Marine Radio Corp., 91 Third Ave., New York, N. Y.
Radio Laboratories, Inc., 2701 California Ave., Seattle, Wash.
Radiomarine Corp. of America, 75 Varick St., New York, N. Y.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Radio Television Industries Corp., 2 Linden St., Reading, Mass.
Skaggs Transformer Corp., 5894 Broadway, New York, N. Y.
Sound Products, 704 N. Curson Ave., Hollywood, Calif.
Televiso Co., 341 N. Pulaski Road, Chicago, Ill.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
Triumph Mfg. Co., 4017 W. Lake St., Chicago, Ill.
Vibraloc Mfg. Co., 3691 Mission St., San Francisco, Calif.
Western Electric Co., 195 Broadway, New York, N. Y.

Transmitters, Police

Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.
RCA Manufacturing Co., Camden, N. J.
Bassett Research Corp., 211 Service Court, South Bend, Ind.
Bendix Radio Corp., 60 E. 25th St., Chicago, Ill.
Collins Radio Co., 2920 First Ave., Cedar Rapids, Iowa
Ferranti Electric, Inc., 30 Rockefeller Plaza, New York, N. Y.
General Electric Co., Schenectady, N. Y.
General Engineers, 2241 Garrett Road, Upper Darby, Pa.
Haigis Laboratories, Inc., Maple Shade, N. J.
Harvey Radio Laboratories, Inc., 25 Thorndike St., Cambridge, Mass.
Jefferson-Travis Radio Mfg. Corp., 198 Milburn Ave., Baldwin, N. Y.
Kaar Engineering Co., 619 Emerson St., Palo Alto, Calif.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Radio Laboratories, Inc., 2701 California Ave., Seattle, Wash.
Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.
Skaggs Transformer Co., 5894 Broadway, Los Angeles, Calif.
Televiso Co., 341 N. Pulaski Road, Chicago, Ill.
Transmitter Equipment Mfg. Co., 130 Cedar St., New York, N. Y.
Vibraloc Mfg. Co., 3691 Mission St., San Francisco, Calif.
Western Electric Co., 195 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., Chicopee Falls, Mass.

Transmitter Foundation Units and Miscellaneous

Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.
National Company, 61 Sherman St., Malden, Mass.
Radio Mfg. Engineers, Inc., 111 Harrison St., Peoria, Ill.
Acoustic Consultants, Inc., 1270 Sixth Ave., New York, N. Y. (Modulation Indicator)
Blaw-Knox Co., Blawnox, Allegheny Co., Pa. (Vertical Radiators)
Burnett Radio Laboratory, Wm. W. L., 4814 Idaho St., San Diego, Calif. (Frequency Measurements)
Guthman Co., E. I., 402 S. Peoria St., Chicago, Ill. (Frequency Meter and Monitor)
Harrell, D. H., 7731 Essex Ave., Chicago, Ill. (Vertical Radiators)
Hoke Vertical Radiators, 135 S. Market St., Petersburg, Va. (Vertical Radiators)
International Derrick & Supply Co., 875 Michigan Ave., Columbus, Ohio (Vertical Radiators)

TUBES

Ballast—Resistor Tubes

Amperite Company, 561 Broadway, New York, N. Y.
Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.
Champion Radio Works, 88 Holten St., Danvers, Mass.
Clarostat Mfg. Co., 285 No. 6th St., Brooklyn, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn, N. Y.
Hygrade Sylvania Corp., Emporium, Pa.
Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.
National Union Radio Corp., 57 State St., Newark, N. J.
Raytheon Production Corp., 420 Lexington Ave., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Triad Manufacturing Co., Inc., Blackstone & Fountain Sts., Pawtucket, R. I.
Arco Tube Co., 227 Central Ave., Newark, N. J.
Duresite Laboratories, 52 Courtlandt St., Paterson, N. J.
Hytron Corp., 23 New Derby St., Salem, Mass.
Philco Radio & Telev. Corp., Philadelphia, Pa.
Western Electric Co., 195 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., Bloomfield, N. J.
World Bestos Corp., 52 Courtlandt St., Paterson, N. J.

Receiving Tubes

Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.
Champion Radio Works, 88 Holten St., Danvers, Mass.
Hygrade Sylvania Corp., Emporium, Pa.
Ken-Rad Tube & Lamp Corp., Owensboro, Ky.
National Union Radio Corp., 57 State St., Newark, N. J.
Raytheon Production Corp., 420 Lexington Ave., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Triad Manufacturing Co., Inc., Blackstone & Fountain Sts., Pawtucket, R. I.
Tung Sol Lamp Works, Inc., 95 Eighth Ave., Newark, N. J.
General Electric Co., Bridgeport, Conn.
Hytron Corp., 23 New Derby St., Salem, Mass.
New Republic Radio Corp., North Bergen, N. J.
Philco Radio & Television Corp., Philadelphia, Pa.
Western Electric Co., 195 Broadway, New York, N. Y.

Transmitting, Industrial, Television, Special Purpose Tubes

Amperex Electronic Products Corp., 79 Washington St., Brooklyn, N. Y.
Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J
Eby, Inc., Hugh H., 4700 Stenton Ave., Philadelphia, Pa. (Photo Cells)
Eitel-McCullough, Inc., 798 San Mateo Ave., San Bruno, Calif.
Heintz & Kaufman, Ltd., So Francisco, Calif. (Gammatron)
National Union Radio Corp., 57 State St., Newark, N. J.
Raytheon Production Corp., 420 Lexington Ave., New York, N. Y.
RCA Manufacturing Co., Camden, N. J.
Taylor Tubes, Inc., 2341 Wabansia Ave., Chicago, Ill.
Triad Mfg. Co., Inc., Pawtucket, R. I.
Weston Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark, N. J. (Photo Cells)
Cathode Ray & Television Tube Co., Brockton, Mass.
Collins Radio Company, Cedar Rapids, Iowa
Continental Electric Co., St. Charles, Ill.
Dumont Laboratories, Inc., Allen B., Upper Montclair, N. J.
Electronic Products Co., 5356 E. Ninth St., Los Angeles, Calif.
Federal Telegraph Co., 200 Mt. Pleasant Ave., Newark, N. J.
General Electric Co., Bridgeport, Conn.
G-M Labs. Inc., 1731 Belmont Ave., Chicago, Ill. (Photo Cells)
Hytron Corp., 23 New Derby St., Salem, Mass.
Link, Fred M., 125 W. 17th St., New York, N. Y.
Lowenberg, F., 10 E. 40th St., New York, N. Y. (Photo Cells)
National Radio Tube Co., Inc., 3420—18th St., San Francisco, Calif.
Sheldon Electric Company, 76 Colt St., Providence, R. I.
Sheldon Manufacturing Company, Irvington, N. J.
The Engineering Company, 57-59 Branford St., Newark, N. J.
United Electronics Co., 42 Spring St., Newark, N. J.
Western Electric Co., 195 Broadway, New York, N. Y.
Westinghouse Electric & Mfg. Co., Bloomfield, N. J.

TUNING UNITS—

Automatic, Mechanical, Inductance and Motor Operated Push-button Assemblies Complete

Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
Meissner Mfg. Co., Mt. Carmel, Ill.
Muter Company, The, 1255 So. Michigan Ave., Chicago, Ill.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.

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CLASSIFIED DIRECTORY (Continued)

Addison Radio Mfg. Co., 3017 Carroll Ave., Chicago, Ill.
Autocratic Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.
Automatic Device Manufacturers, 4243 W. Ogden, Chicago, Ill.
Automatic Winding Co., Inc., 900 Passaic Ave., East Newark, N. J.
Delco Radio Div. General Motors Corp., Kokomo, Ind.
Empire Radio Manufacturers, 114 E. 41st St., New York, N. Y.
Franklin Mfg. Corp., A. W., 175 Varick St., New York, N. Y.
General Instrument Corp., 829 Newark Ave., Elizabeth, N. J.
Guthman & Co., Inc., E. I., 400 S. Peoria St., Chicago, Ill.
Harbray Co., 4701-13 N. Sheridan Road, Chicago, Ill.
Hetro Electr. Industries, Inc., 4611 Ravenswood Ave., Chicago, Ill.
Hunter Pressed Steel Co., Lansdale, Pa.
Oak Mfg. Co., 711 W. Lake St., Chicago, Ill.
Stewart Mfg. Corp., F. W., 340 W. Huron St., Chicago, Ill.
Teleradio Engineering Corp., 484 Broome St., New York, N. Y.
Teber Radio Co., Pasadena, Calif.

VARNISHES—See "Lacquers"

VIBRAPACKS

Electronic Laboratories, Inc., Indianapolis, Ind.
Mallory & Co., Inc., P. R., Indianapolis, Ind.

VIBRATORS—Auto Radio, Farm Radio, Inverter, Etc.

American Television & Radio Corp., 300 E. Fourth St., St. Paul, Minn.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
Meissner Mfg. Co., 7th & Belmont, Mt. Carmel, Ill.
Radiart Corp., Shaw Ave. at E. 133rd St., Cleveland, Ohio
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Delco Appliance Div. General Motors Sales Corp., 391 Lyell Ave., Rochester, N. Y.
Oak Manufacturing Co., 711 W. Lake St., Chicago, Ill.
Pauley-James Corp., 4619 Ravenswood Ave., Chicago, Ill.

VOLTAGE REGULATORS—Resistance

See "Resistor Tubes"

VOLUME & TONE CONTROLS—Potentiometers, Attenuators, T-Pads, L-Pads, Etc.

Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wisconsin
Clarostat Mfg. Co., 285 N. Sixth St., Brooklyn, N. Y.
International Resistance Co., 401 N. Broad St., Philadelphia, Pa.
Mallory & Co., Inc., P. R., Indianapolis, Ind.
RCA Manufacturing Co., Camden, N. J.
Utah Radio Products Co., 820 Orleans St., Chicago, Ill.
Wirt Company, 5221 Greene St., Philadelphia, Pa.
Yaxley Div., P. R. Mallory & Co., Indianapolis, Ind.
Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.
Chicago Telephone Supply Co., Elkhart, Ind.
Hardwick, Hindle, Inc., 40 Hermon St., Newark, N. J. (Rheostats)
Jenkins & Adair, Inc., 3333 Belmont Ave., Chicago, Ill.
Philco Radio & Television Corp., Philadelphia, Pa.
Remler Co., Ltd., 2101 Bryant St., San Francisco, Calif.
Stackpole Carbon Co., St. Marys, Pa.
Tech Laboratories, 703 Newark Ave., Jersey City, N. J.

WASHERS—Iron, Brass and Lock-Washers

See "Hardware"

WAXES—See "Insulation"

WINDCHARGERS—See "Generators"

WIRE

Antenna Wire

Alpha Wire Corporation, 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire, Inc., 30 Church St., New York, N. Y.
Johnson Co., E. F., Waseca, Minn.
Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago, Ill.
Acme Wire Co., 1225 Dixwell Ave., New Haven, Conn.
American Enameled Magnet Wire Co., Port Huron, Mich.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Copperwald Steel Co., 9th St. & Allegheny Ave., Glassport, Pa.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.
Phelps Dodge Copper Products Corp., Fort Wayne, Ind.
Triangle Conduit & Cable Co., Inc., Horace Harding & Queens Blvds., Elmhurst, N. Y.

Antenna Transmission Wire

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 North Western Ave., Chicago, Ill.
Technical Appliance Corp., 17 E. 16th St., New York, N. Y.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Copperwald Steel Co., 9th St. & Allegheny Ave., Glassport, Pa.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Phelps Dodge Copper Products Corp., Fort Wayne, Ind.
Triangle Conduit & Cable Co., Inc., Horace Harding & Queens Blvds., Elmhurst, N. Y.

Concentric Cable

American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill
Alden Products Co., 715 Centre St., Brockton, Mass.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Bassett Research Corp., 211 Service Court, South Bend, Ind.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
General Insulated Wire Corp., 53 Park Place, New York, N. Y
Isolantite, Inc., 233 Broadway, New York, N. Y.
Phelps Dodge Copper Products Corp., Fort Wayne, Ind.
Triangle Conduit & Cable Co., Inc., Horace Harding & Queens Blvds., Elmhurst, N. Y.
Western Electric Co., 195 Broadway, New York, N. Y.

Flat Woven Cable

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Alden Products Co., 715 Centre St., Brockton, Mass.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Holyoke Co., Inc., 720 Main St., Holyoke, Mass.

Hook-Up Wire

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
American Enameled Magnet Wire Co., Port Huron, Mich.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Diamond Braiding Mills, Chicago Heights, Ill.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Insulated Wire Corp., 53 Park Place, New York, N. Y.
Holyoke Co., Inc., 720 Main St., Holyoke, Mass.
Lowell Insulated Wire Co., 171 Lincoln St., Lowell, Mass.
Phelps Dodge Copper Products Corp., Fort Wayne, Ind.

Ignition Cable

Alpha Wire Corp., 50 Howard St., New York, N. Y.

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CLASSIFIED DIRECTORY (Concluded)

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn, N. Y
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.

Lamp Cord

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
Holyoke Co., Inc., 720 Main St., Holyoke, Mass.

Litzendraht

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Acme Wire Co., 1225 Dixwell Ave., New Haven, Conn.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Essex Wire Corp., 14310 Woodward, Detroit, Mich.
Guthman & Co., Inc., E. I., 400 S. Peoria St., Chicago, Ill.
Hudson Wire Co., Winsted Division, 981 Main St., Winsted, Conn

Magnet Wire

Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., 30 Church St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
Acme Wire Co., 1225 Dixwell Ave., New Haven, Conn.
American Enameled Magnet Wire Co., Port Huron, Mich.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
Guthman & Co., Inc., E. I., 400 S. Peoria St., Chicago, Ill.
Hudson Wire Co., Winsted Division, 981 Main St., Winsted, Conn.
Phelps Dodge Copper Corp., Fort Wayne, Ind.
Rea Magnet Wire Co., Inc., E. Pontiac St., Fort Wayne, Ind.
Roebling Sons Co., John A., Trenton, N. J.
Swedish Iron & Steel Co., 17 Battery Place, New York, N. Y.

Microphone Cable

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., Inc., 145 Hudson St., New York, N. Y.
Brush Development Co., 3311 Perkins Ave., Cleveland, Ohio
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
Webster Company, The, 5622-5708 Bloomingdale Ave., Chicago Illinois
Alden Products Co., 715 Center St., Brockton, Mass.
Anaconda Wire & Cable Co., 25 Broadway, New York, N. Y.
Consolidated Wire & Associated Corp., Peoria & Harrison Sts., Chicago, Ill.
Continental Wire Co., 110 Lafayette St., New York, N. Y.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Diamond Braiding Mills, Chicago Heights, Ill.
Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.
General Cable Corp., 420 Lexington Ave., New York, N. Y.
General Insulated Wire Corp., 53 Park Place, New York, N. Y.
Rupp's Assembling & Mfg. Works, 2341 N. Seminary, Chicago, Ill
Simplex Wire & Cable Co., Cambridge, Mass.

Resistance Cable

Alden Products Co., 715 Centre St., Brockton, Mass.
Driver-Harris Co., Harrison, N. J.

Wire Shield

Alpha Wire Corp., 50 Howard St., New York, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.
Birnbach Radio Co., 145 Hudson St., New York, N. Y.
Cornish Wire Co., Inc., 30 Church St., New York, N. Y.
J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway, Bklyn, N Y
Lenz Electric Mfg. Co., 1751 N. Western Ave., Chicago, Ill.
Muter Co., 1255 S. Michigan Ave., Chicago, Ill.

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INDEX of TRADE NAMES, TRADE MARKS, ETC.

RADIO'S MASTER ENCYCLOPEDIA

"ABC"—ABC Radio Labs., 3334 N. N. Jersey St., Indianapolis, Ind.

"ACA"—Amplifier Co. of America, 17 W. 20th St., New York, N. Y.

"ACME"—Acme Elec. & Mfg. Co., Cuba, N. Y.

"ACME DELTA"—Raytheon Mfg. Co., 190 Willow St., Waltham, Mass.

"ACOUSTICON"—Dictograph Products Co., Inc., 580—5th Ave., New York, N. Y.

"ACOUSTIC" COMPENSATOR"—Amperite Company, 561 Broadway, New York, N. Y.

"ACRATONE" Receivers—Federated Purchaser, Inc., 25 Park Pl., New York, N. Y.

"ADASHAFT" Volume Controls—Centralab (Globe-Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.

"ADD-A-SWITCH" Volume Controls—Wirt Co., 5221 Greene St., Philadelphia, Pa.

"ADJUST-A-VOLT"—Standard Electrical Products Co., 1500 N. Halsted St., Chicago, Ill.

"ADJUSTOHM" Resistors—Ward Leonard Electric Co., Mount Vernon, New York

"ADMIRAL" Receivers—Continental Radio & Television Corp., 325 W. Huron St., Chicago, Ill.

"AIR CELL" Battery—National Carbon Co., 30 E. 42nd St., New York, N. Y.

"AIREX"—Electronic Products Co., 5356 E. 9th St., Los Angeles, Calif.

"AIR LINE" Receivers—Montgomery Ward & Co., W. Chicago & N. Larr Sts., Chicago, Ill.

"AIRMASTER" Receivers—Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass.

"AIR QUEEN"—Knox Porcelain Corp., Knoxville, Tenn.

"ALCOA"—Aluminum Corp. of America, New Kensington, Pa.

"ALIGN-AIRE"—Meissner Mfg. Co., Mt. Carmel, Ill.

"ALL RANGE" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"ALNICO"—Continental Motors Corp., 12801 E. Jefferson, Detroit, Mich.

"ALNICO-ALNI"—Taylor-Wharton Iron & Steel Co., Highbridge, N. J.

"ALONSON" Receivers—Commonwealth Radio Mfg. Co., 4848 Lincoln Ave., Chicago, Ill.

"ALSIMAG" Insulation—American Lava Corp., Chattanooga, Tenn.

"AMCO" Condensers—Gaylord Mfg. Co., 605 W. Washington St., Chicago, Ill.

"AMCON" Condensers—American Condenser Corp., 2508 S. Michigan Ave., Chicago, Ill.

"AMERICAN BEAUTY" Irons—American Electrical Heater Co., 6110 Cass Ave., Detroit, Mich.

"AMERTRAN"—American Transformer Co., 178 Emmet St., Newark, N. J.

"AMPHENOL"—American Phenolic Corp., 1250 W. Van Buren St., Chicago, Ill.

"AMPLICALL"—The Webster Company, 5622-5708 Bloomingdale Ave., Chicago, Ill.

"ANALYZER"—Weston Electrical Instrument Co., 614 Frelinghuysen Ave., Newark, N. J.

"ANSERCOL"—Sound Products, 704 N. Curson Ave., Hollywood, Calif.

"ANTENNA MAST-ER"—D. & H. Mfg. Co., Inc., 1159 California St., Denver, Colo.

"ARCADIA" Receivers—Wells-Gardner & Co., 2701 N. Kildare Ave., Chicago, Ill.

"ARLAB", VITAVOX—Arlavox Mfg. Co., 430 S. Green St., Chicago, Ill.

"ARHCO"—American Radio Hardware Co., Inc., 476 Broadway, New York, N. Y.

"ARISTOCRAT"—Diehl Mfg. Co., Elizabethport, N. J.

"ARISTON"—Ariston Mfg. Corp., 4045-4047 Diversey Ave., Chicago, Ill.

"ARMITE"—Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.

"ARVIN" Receivers—Noblitt-Sparks Industries, Columbus, Ind.

"ASTATIC"—Astatic Microphone Lab. Inc., 830 Market St., Youngstown, O.

"ATOMS" Condensers—Sprague Products Co., North Adams, Mass.

"ATR"—American Television & Radio Corp., 300 E. 4th St., St. Paul, Minn.

"AUDAX" Pickups—Audak Co., 500 Fifth Ave., New York, N. Y.

"AUTOMASTER" Receivers—Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass.

"AUTOPHONE"—Calvert Motors Associates, 1028 Linden Ave., Baltimore, Md.

"AUTO-ROLA" Receivers—Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass.

"AUTO TOP" Antenna—Wedge Mfg. Co., 2334 S. Michigan Ave., Chicago, Ill.

"AUTOTUNE System"—Collins Radio Co., Cedar Rapids, Ia.

"BALDWIN, NATHANIEL"—Consolidated Radio Products Co., 361-69 W. Superior St., Chicago, Ill.

"BALLASTRON" Tubes—Micamold Radio Corp., Flushing and Porter Aves., Brooklyn, N. Y.

"BARCLAY" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"BEAM-A-SCOPE"—General Electric Co., Bridgeport, Conn.

"BEAVER"—Cornell-Dubilier Corp., So. Plainfield, N. J.

"BELFONE"—Bell Sound Systems, Inc., 61 E. Goodale St., Columbus, O.

"BERKSHIRE" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"BIRCO"—Birnbach Radio Co., 145 Hudson St., New York, N. Y.

"BLUEBIRD"—RCA Manufacturing Co., Camden, N. J.

"BLUE FLYER"—General Industries Co., Elyria, O.

"BLUE RIBBON"—Curtis Condenser Corp., 3088 W. 106th St., Cleveland, O.

"BLUE WIZARD"—H. E. Peer's Tool Products, 1355 S. Flower St., Los Angeles, Calif.

"BRADLEY OHM", "BRADLEY STATS"—Allen-Bradley Co., 1326 S. Second St., Milwaukee, Wis.

"BONRAD"—Bond Radio Co., 13139 Hamilton Ave., Detroit, Mich.

"BRAIDITE" Wire—Cornish Wire Co., 30 Church St., N. Y. City

"BRADAX", "BRALAC" Wire—Lenz Electric Mfg. Co., 1751 Northwestern Ave., Chicago, Ill.

"BROADBAND" Speakers—Racon Electric Co. Inc., 52 E. 19th St., New York, N. Y.

"BROOKLINE" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"BROWN DEVIL"—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"BROWNING" Receivers—Tobe Deutschmann Corp., Canton, Mass.

"BUCKINGHAM" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

World Radio History

TRADE NAMES, TRADE MARKS (Continued)

"BULLET" Microphones, "BULLET-PHONE" System—Transducer Corp., 30 Rockefeller Plaza, New York, N. Y.

"B & W"—Barker & Williamson, Ardmore, Pa

"CALL-PHONE" System—United Sound Engineering Co., 2233 University Ave., St. Paul, Minn.

"CANDOHM" Resistors—Muter Company, 1255 S. Michigan Ave., Chicago, Ill.

"CANNON-BALL" Headphones—C. F. Cannon Co., Springwater, N. Y.

"CARDIOID" Microphone—Western Electric Co., 195 Broadway, New York, N. Y.

"CARDIAPHONE"—Astatic Microphone Laboratory, 830 Market St., Youngstown, O.

"CARNEGIE" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"CARRIER"—Carrier Microphone Co., 439 S. LaBrea Ave., Inglewood, Calif.

"C-D"—Cornell Dubilier Electric Corp., So. Plainfield, N. J.

"CENTRALAB"—Central Radio Labs. (Globe-Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wisc.

"CERAMICON" Resistors—Erie Resistor Corp., Erie, Pa.

"CERAMITES", Condensers—National Union Radio Corp., 57 State St., Newark, N. J.

"CETRON"—Continental Electric Co., Geneva, Ill.

"CHALLENGER" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"CHAMPION"—Decca Records, Inc., 50 W. 57th St., N. Y. City

"CHANALYST"—Service Instruments Corp., 404 Fourth Ave., New York, N. Y.

"CHARGICATOR"—Instrument Specialties Co., 70 Patterson Ave., Little Falls, N. J.

"CHANGE-O-NAME" Dial Plates—Crowe Name Plate Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.

"CHIEFTAIN" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"CHITRAN"—Chicago Transformer Corp., 3501 W. Addison St., Chicago, Ill.

"C.H.T." Transformers—Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.

"CINAUDAGRAPH"—Cinaudagraph Corp., 2 Selleck St., Stamford, Conn.

"CLAMPIPE" Clamps—Mueller Electric Co., 1583 E. 31st St., Cleveland, O.

"CLARION" Amplifiers—Transformer Corp. of America, 69 Wooster St., New York, N. Y.

"CLARION" Receivers—Clarion Corp., 35 E. Wacker Dr., Chicago, Ill.

"CLEAR CHANNEL" Antenna Systems—Belden Mfg. Co., 4647 W. Van Buren St., Chicago, Ill.

"CLEENCUT" Amplifiers—Allied Recording Co., 126 W. 46th St., New York, N. Y.

"CLIMATITE"—Phelps Dodge Copper Products Corp., Inca Mfg. Div., 2375 E. 27th St., Los Angeles, Calif.

"CLIPPER" Microphone—American Microphone Co., 1915 S. Western Ave., Los Angeles, Calif.

"CLIPPER" Receivers—Radio Products Sales Co., 238 W. 15th St., Los Angeles, Calif.

"COL-MAR" Aerials—Pioneer Specialty Co., 521 St. Jean Ave., Detroit, Mich.

"COMET PRO"—The Hammarlund Mfg. Co. Inc., 424-438 W. 33rd St., New York, N. Y.

"COMUN-A-PHONE" System—Standard Sound Products Co., 55 W. 42nd St., New York, N. Y.

"COMMUNI-CALL"—Chicago Sound Systems Co., 160 E. Illinois St., Chicago, Ill.

"COMMUNO-PHONE"—David Bogen Co., Inc., 663 Broadway, New York, N. Y.

"CONCORD" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"CONFIDENCE"—Apparatus Design Co., Elizabeth & Randolph, Chicago, Ill.

"CONVERSAFONE"—The Lifetime Corp., 1012 Madison Ave., Toledo, O.

"CORDOHM" Resistors—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"CORLAC" Wire, "COR-NEX" Aerial—Cornish Wire Co., 30 Church St., New York, N. Y.

"CORONATION" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"CORONET" Tubes—Arcturus Radio Tube Co., 720 Frelinghuysen Ave., Newark, N. J.

"CORWICO"—Cornish Wire Co., 30 Church St., New York, N. Y.

"CORULITE" Antenna—Premax Products, Division Chisholm-Ryder Co., Inc., Niagara Falls, N. Y.

"COTTONITE"—The Acme Wire Co., New Haven, Conn.

"COTO"—Coto-Coil Co., Inc., 71 Willard Ave., Providence, R. I.

"CO-X" Cable—Transducer Corp., 30 Rockefeller Plaza, New York, N. Y.

"CROLITE" Condensers—Henry L. Crowley & Co., Inc., 1 Central Ave., West Orange, N. J.

"CRUSADER" Receivers—Pacific Radio Corp., 844 W. Adams St., Chicago, Ill.

"CUNNINGHAM"—RCA Manufacturing Co., Camden, N. J.

"DACO" Test Equipt.—Dayton Acme Co., Cincinnati, O.

"DECO"—Dumont Elec. Co., 514 Broadway, New York, N. Y.

"DANDEE" Condensers—Aerovox Corp., New Bedford, Mass.

"DE JONG"—DeAdco Products Co., 1665 N. Monticello, Chicago, Ill.

"DELUXE" Transformers—American Transformer Co., 178 Emmet St., Newark, N. J.

"DEFIANCE" Condenser—American Steel Package Co., Defiance, Ohio

"DELCO" Receivers—United Motors Service, 3044 W. Grand Blvd., Detroit, Mich.

"DELTA-T" Pads—Clarostat Mfg. Co., 285 N. 6th, Bklyn., N. Y.

"DEPENDABLE"—Radio City Products Co., Inc., 88 Park Place, New York, N. Y.

"DETERMOHM"—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"DEVONSHIRE" Antenna—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"DEWALD"—Pierce Airo, Inc., 440 Lafayette St., New York, N. Y.

"DILECTO"—Continental-Diamond Fibre Co., Newark, Dela.

"DILOPHANE"—Continental-Diamond Fibre Co., Newark, Dela.

"DIVIDOHM"—Ohmite Manufacturing Co., 4835 W. Flournoy St., Chicago, Ill.

"DOMINO" Condensers—Solar Manufacturing Corp., 599 Broadway, New York, N. Y.

"DORAFONE"—Setchell-Carlson Mfg. Co. Inc., 2233 University Ave., St. Paul, Minn.

"DULAC" Wire—Lenz Electric Mfg. Co., 1751 Northwestern Ave., Chicago, Ill.

"DUN-CHARGER"—Parris-Dunn Corp., 115 S. 15th St., Clarinda, Iowa

"DUNCO"—Struthers Dunn, Inc., 139 N. Juniper St., Phila., Pa.

"DUO TAP" Receptacles—M. M. Fleron & Sons, 113 N. Broad St., Trenton, N. J.

"DURESITE"—World Bestos Corp., 52 Cortland, Paterson, N. J.

"DUREZ"—General Plastics, Inc., North Tonawanda, N. Y.

"DYKANOL" Capacitors—Cornell-Dubilier Electric Corp., 1000 Hamilton Blvd., So. Plainfield, N. J.

"DYNAPHONE", "DYNATONE"—Ansley Radio Corp., 240 W. 23rd St., New York, N. Y.

World Radio History

TRADE NAMES, TRADE MARKS (Continued)

"DYNA-TEX" Speaker Cones—Masland Mfg. Corp., Amber & Willard Sts., Philadelphia, Pa.

"EASY-CALL"—Schwartz Electrical Products, Inc., 307 S. Meridian St., Portland, Ind.

"EFFARSEE"—Fishwick Radio Co., 407 E. 8th St., Cincinnati, O.

"EIMAC"—Eitel-McCullough, Inc., 798 San Mateo Ave., San Bruno, Calif.

"ELECTAR"—Ediphone, Inc., 142 W. 14th St., New York, N. Y.

"ELECTRO-CALL" System—United Scientific Labs. Inc., 440 Lafayette St., New York, N. Y.

"ELECTROCELL" Tubes—F. Loewenberg, 10 E. 40th St., New York, N. Y.

"ELECTROTONE" Receivers—Harris Mfg. Co., 2422 W. 7th St., Los Angeles, Calif.

"ELIM-O-STAT" Filters—Solar Mfg. Co., 599 Broadway, New York, N. Y.

"ELMENCO"—Electro-Motive Mfg. Co., 797 E. 140th St., New York, N. Y.

"EMERSON"—Emerson Radio & Phonograph Corp., 111 Eighth Ave., New York, N. Y.

"ENAMELITE"—The Acme Wire Co., New Haven, Conn.

"ENAMELOID-CLOISONNE"—Gemloid Corp., 425 Fourth Ave., New York, N. Y.

"ENSIGN" Receivers—Espey Mfg. Co., 124 E. 25th St., N. Y. City

"ERLA" Receivers—Electrical Research Laboratory, Inc., 2222 Diversey Pkwy., Chicago, Ill.

"ESCO"—Electric Specialty Co., Stamford, Conn.

"ESICO"—Electric Soldering Iron Co., Inc., Deep River, Conn.

"EUREKA"—Bond Radio Co., 13139 Hamilton Ave., Detroit, O.

"EVEREADY" Batteries—National Carbon Co., 30 E. 42nd St., New York, N. Y.

"EXCEL"—Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, O.

"EXIDE" Battery—Electric Storage Battery Co., Allegheny Ave. & 19th St., Philadelphia, Pa.

"EX-STAT"—Tilton Electric Co., 15 E. 26th St., New York, N. Y.

"FACTORYPHONE"—Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.

"FADE-OUT"—Alden Products Co., 715 Center St., Brockton, Mass.

"FARADON", RCA—RCA Manufacturing Co., Camden, N. J.

"FIELDFREE"—Phelps Dodge Copper Products Corp., Inca Mfg. Division, 2375 E. 27th St., Los Angeles, Calif.

"FILMOGRAPH"—Miles Reproducer Co., 812 Broadway, New York, N. Y.

"FILTERAD"—Automatic Electrical Devices Co., 324 E. 3rd St., Cincinnati, O.

"FILTERETTE", "FILTERIZER", "FILTER-MITE"—Tobe Deutschmann Corp., Canton, Mass.

"FILTERNOYS"—Continental Carbon Inc., 13900 Lorain Ave., Cleveland, O.

"FILTERVOLTS, ICA"—Insuline Corp. of America, 25 Park Pl., New York, N. Y.

"FILTRON"—Consolidated Wire & Assoc. Corps., 512 S. Peoria St., Chicago, Ill.

"FIRESIDE" Receivers—Freely Corp., 2 W. 20th St., New York, N. Y.

"FISH-POLE", "FLEX-ROD" Antennas—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"FLOOD-LITE" Flashlight—Burgess Battery Co., Freeport, Ill.

"FRANKLIN"—Mission Bell Radio Co., Inc., 833 Venice Blvd., Los Angeles, Calif.

"FREED-EISEMANN" Receivers—Sky-Chief Mfg. Co., 44 W. 18th St., New York, N. Y.

"FRESHMAN MASTERPIECE"—Belmont Radio Corp., 1257 Fullerton Ave., Chicago, Ill.

"FYBEROID"—Wilmington Fibre Specialty Co., Wilmington, Del.

"GAMMATRON" Tubes—Heintz & Kaufman, Ltd., So. San Francisco, Calif.

"GARRARD" Phono Motors—Garrard Sales Co., 17 Warren St., New York, N. Y.

"GC"—General Cement Mfg. Co., Rockford, Ill.

"GEN-E-MOTOR"—Pioneer Genemotor Corp., 466 W. Superior St., Chicago, Ill.

"GEN-RAL"—General Manufacturing Co., 8066 So. Chicago Ave., Chicago, Ill.

"GEN-WIN"—General Winding Co., 254 W. 31st, New York City

"G-H" Condensers, Etc.—Girard Hopkins, 1437—23rd Ave., Oakland, Calif.

"GLOBAR"—Carborundum Co., Niagara Falls, N. Y.

"GOLD MEDAL" Amplifiers—Amplifier Co. of America, 17 W. 20th St., New York, N. Y.

"GRAFOLINE"—General Cement Mfg. Co., Rockford, Ill.

"GREEN FLYER"—General Industries Co., 3537 Taylor St., Elyria, O.

"GRUNOW" Receivers—General Household Utilities Co., 2638 N. Pulaski Rd., Chicago, Ill.

"HAMMETER"—Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.

"HAMSWITCH"—P. R. Mallory & Co., Indianapolis, Ind.

"HANDY-PHONE"—General Electric Co., Bridgeport, Conn.

"HI-FARAD" Condensers—Aerovox Corp., New Bedford, Mass.

"HI-FI"—American Injector Co., Detroit, Mich.

"HIVAC" Tubes—Winchester Co., The, 466 W. Superior St., Chicago, Ill.

"HOBBS" Receivers—Mission Bell Radio Mfg. Co., Inc., 833 Venice Blvd., Los Angeles, Calif.

"HOMCHARGER"—Automatic Electric Devices Co., 324 E. 3rd St., Cincinnati, O.

"HOTSPOT" Irons—Vasco Electrical Mfg. Co., 4116 Avalon Blvd., Los Angeles, Calif.

"HOYT"—Burton-Rogers Co., 755 Boylston St., Boston, Mass.

"HUSHATONE"—Brush Development Co., 3311 Perkins Ave., Cleveland, O.

"HYDRO"—Unit Reproducers Mfg Co., 999 E. Main St., Rochester, N. Y.

"HY-TOWER" Wind-charger—Parris-Dunn Corp., Clarinda, Ia.

"HYVOL" Condensers—Aerovox Corp., New Bedford, Mass.

"ICA"—Insuline Corp. of America, 25 Park Pl., New York, N. Y.

"IDECO"—The International Derrick & Equip. Co., 875 Michigan Ave., Columbus, Ohio

"ILLINI"—Illinois Wood Products Corp., Chicago, Ill.

"INCA" Transformers—Phelps Dodge Copper Products Corp., Inca Mfg. Division, 2375 E. 27th St., Los Angeles, Calif.

"INLAN-TENNA"—Inland Mfg. Div., General Motors Corp., 14 Coleman Ave., Dayton, O.

"INSTANSOLDER"—Cole Radio Works, 86 Westville Ave., Caldwell, N. J.

"INSUROK"—The Richardson Co., 2738 Lake St., Melrose Park, Chicago, Ill.

"INTERVOX" System—Radio Laboratories, Inc., 2701 California Ave., Seattle, Wash.

"IRC"—International Resistance Co., 401 N. Broad St., Philadelphia, Pa.

"IRON HORSE" Generator—Johnson Motors, Waukegan, Ill.

"JERDEE", "J. F. D."—J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkway., Brooklyn, N. Y.

"KADETTE" Receivers—International Industries, Inc., 5th & William Sts., Ann Arbor, Mich.

"KATOLIGHT"—Kato Engineering Co., Mankato, Minn.

World Radio History

TRADE NAMES, TRADE MARKS (Continued)

"KENMORE" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"KEN-O-DRIVE," "KEN-O-DYNE," "KEN-O-LINE," "KEN-O-TAP" **Transformers**—Kenyon Transformer Co., Inc., 840 Barry St., New York, N. Y.

"KINETIC" **Speakers**—Vitavox Company, 430 S. Green St., Chicago, Ill.

"KINGSTON" **Antennas**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"KINK-AIDS"—Akrad Products Co., 362 Wooster Ave., Akron, O.

"KITTEN CALL"—Peerless Radio Co., Division St. & Broadway, Albany, N. Y.

"KNIGHT" **Receivers**—Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill.

"KOVAR"—Stupakoff Laboratories, Inc., 6627 Hamilton Ave., Pittsburgh, Pa.

"LAFAYETTE"—Wholesale Radio Service Co., Inc., 100 Sixth Ave., New York, N. Y.

"LAMICOID"—Mica Insulator Co., 200 Varick St., New York, N. Y.

"LA SALLE" **Receivers**"—Champion Radio Laboratories, 14553 Madison Ave., Lakewood, O.

"LAURETTE"—Laurehk Radio Mfg. Co., Adrian, Mich.

"LAVA" **Insulation**—American Lava Corp., Chattanooga, Tenn.

"LAYERBILT" **Battery**—National Carbon Co., 30 E. 42nd St., New York, N. Y.

"LEARADIO"—Lear Developments, Inc., 121 W. 17th St., New York, N. Y.

"LEICHNER CAPACITORS"—Hollywood Sound Company, 3930 S. Wayne Ave., Ft. Wayne, Ind.

"LENZAC", "LENZITE" **Wire**—Lenz Electric Mfg. Co., 1751 Northwestern Ave., Chicago, Ill.

"LION" **Transformers**—Arlab Mfg. Co., 430 S. Green St., Chicago, Ill.

"LITTLE GIANT" **Condensers**"—Solar Manufacturing Co., 599 Broadway, New York, N. Y.

"LITTLE SIX" **Battery**—Burgess Battery Co., Freeport, Ill.

"LIQUIDOPE" **Cement**—General Cement Mfg. Co., Rockford, Ill.

"LONG RANGE TWINS" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"LORAINE" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"LUMARITH"—Celluloid Corp., 10 E. 40th St., New York, N. Y

"LYRIC"—Federal Instrument Corp., 343 Classon Ave., Brooklyn, N. Y.

"MAC" **Keys**—T. R. McElroy, 100 Brookline Ave., Boston, Mass.

"MAGICORE"—Henry L. Crowley & Co., 1 Central Ave., West Orange, N. J.

"MAGIC MAGNET" **Speakers**—Cinaudagraph Corp., 2 Selleck St., Stamford, Conn.

"MAGIC PHONE"—Comun-A-Phone Systems, Inc., 1175 Broad St., Newark, N. J.

"MAGIC ROD" **Antenna**—Radio Electric Service, 1918 Newton St., Saginaw, Mich.

"MAGNA"—Unit Reproducers Mfg. Co., 999 E. Main St., Rochester, N. Y.

"MAINLINER" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"MAJOR BOWES" **Microphone**—Pilgrim Corp., 21 W. 19th St., New York, N. Y.

"MARK TIME" **Switches**—M. H. Rhodes, Inc., 1270—6th Ave., New York, N. Y.

"MASTERPIECE" **Receivers**—McMurdo Silver Corp., 3354 N. Paulina St., Chicago, Ill.

"MECK" **Testers**—John Meck Instruments, 164 N. May St., Chicago, Ill.

"MEGGIT"—Cole Radio Works, 86 Westville Ave., Caldwell, N. J.

"MEGRITE" **Condensers**—Cosmic Radio Corp., 699 E. 135th St., New York, N. Y.

"MENTOR" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"MERTONE"—Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.

"MESCO"—National Electric & Mfg. Co., 45 Morris St., Jersey City, N. J.

"METALEX" **Horns**—Wright DeCoster, Inc., St. Paul, Minn.

"METALLIZED" **Resistors**—International Resistance Co., 401 N. Broad St., Philadelphia, Pa.

"MICABOND"—Continental-Diamond Fibre Co., Newark, Del.

"MICRANOL" **Condensers**—Tobe Deutschmann Corp., Canton, Mass.

"MICRODYNE" **Pickups**—Audak Co., 500 Fifth Ave., New York, N. Y.

"MICROHM" **Resistors**—Precision Resistor Co., 334 Badger Ave., Newark, N. J.

"MICROMASTER" **Dials**—Crowe Name Plate & Mfg. Co., 3701 Ravenswood Ave., Chicago, Ill.

"MICROTOL" **Relays**—Western Electrical Instrument Corp., Newark, N. J.

"MINICAP" **Condensers**—Solar Mfg. Corp., 599 Broadway, New York, N. Y.

"MIRACO" **Receivers**"—Midwest Radio Corp., 909 Broadway, Cincinnati, O.

"MIR-O-RAY" **Reflecting Material**—Arcturus Radio Tube Co., Newark, N. J.

"MIRROR"—Morlen Electric Co., Inc., 60 W. 15th, New York City

"MITES"—Atlas Condenser Products, 548 Westchester Ave., New York, N. Y.

"MOBILETTE" —Calvert Motors Associates, 1028 Linden Ave., Baltimore, Md.

"MONARCH" **Receivers**—Champion Radio Laboratories, 14553 Madison Ave., Lakewood, O.

"MONITOR" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"MONOBOARD" **Antenna**—Radiart Corp., 1329 Shaw Ave., Cleveland, O.

"MONOTRON" **Television Tubes**—National Union Radio Corp., 57 State St., Newark, N. J.

"MOTOROLA" **Receivers**—Galvin Mfg. Corp., 847 W. Harrison St., Chicago, Ill.

"MOTOROLA TOPPER" **Antenna**—Galvin Mfg. Corp., 847 W. Harrison St., Chicago, Ill.

"MOTORTONE" **Receiver**—Pierce Airo, Inc., (DeWald), 440 Lafayette St., New York, N. Y.

"MULTIBAND" **Antenna**—Collins Radio Co., Cedar Rapids, Ia.

"MULTICOUPLER" **Antenna System**—Amy, Aceves & King, 11 W. 42nd St., New York, N. Y.

"MULTI-TAP" **Transformers**—General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.

"MULTITESTER"—Radio City Products Co. Inc., 88 Park Pl., New York, N. Y.

"MULTIVOLT"—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"MUSIQUE" **Receivers**—Laurehk Radio Mfg. Co., E. Michigan St., Adrian, Mich.

"MYCALEX"—Electronic Mechanics, Inc., 201 E. 12th St., New York, N. Y.

"NA-ALD"—Alden Products Co., 715 Center St., Brockton, Mass.

"NEILITE"—Watertown Mfg. Co., Watertown, Conn.

"NEOBEAM" **Oscilloscope**—Sundt Engineering Co., 4238 Lincoln Ave., Chicago, Ill.

"NEUMANN"—Sound apparatus Co., 150 W. 46th, New York City

"NIPERMAG"—Cinaudagraph Corp., Stamford, Conn.

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TRADE NAMES, TRADE MARKS (Continued)

"NOISE-MASTER" **Antenna**—Cornish Wire Co., Inc., 30 Church St., New York, N. Y.

"NOKOIL" **Speakers**—Wright-DeCoster, Inc., 2233 University Ave., St. Paul, Minn.

"NORMANDY" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"OHIOHM"—Ohio Carbon Co., 12508 Berea Rd., Cleveland, O.

"NUCOR" **Wire**—Cornish Wire Co., 30 Church St., New York City

"OHMOID"—Wilmington Fibre Specialty Co., Wilmington, Del.

"OHMSPUN"—States Co., 19 New Park Ave., Hartford, Conn.

"OLD FAITHFUL"—Gen-E-Rotor, 614 Grand Ave., Des Moines, Ia.

"ONAN"—D. W. Onan & Sons, 440 Royalston Ave., Minneapolis, Minn.

"ORGATRON"—Everett Piano Co., South Haven, Mich.

"PAM" **Sound Systems**—S. H. Couch Co., Inc., North Quincy, Mass.

"PATTERSON"—Pierson-DeLance, Inc., 2345 W. Washington Blvd., Los Angeles, Calif.

"PEAK"—Eastern Radio Specialty Co., 227 Greenwich St., New York, N. Y.

"PEEWEE" **Clip**—Mueller Electric Co., 1583 E. 31st, Cleveland, O.

"PERFECT" **Records**—American Record Corp., 1776 Broadway, New York, N. Y.

"PERMADISK"—Federal Recorder Co., 1775 Broadway, New York, N. Y.

"PERMAG" **Speakers**—Oxford-Tartak Radio Corp., 915 W. Van Buren St., Chicago, Ill.

"PERMOFLUX" **Speakers**—Continental Motors Corp., 12801 E. Jefferson St., Detroit, Mich.

"PERRINE POLAR BEAR" **Battery**—Perrine Quality Products Corp., 55 Rumford Ave., Waltham, Mass.

"PHENOLITE"—National Vulcanized Fibre Co., Wilmington, Del.

"PHILCOPHONE" **System**—Philco Radio & Television Corp., Philadelphia, Pa.

"PHONOCALL" System—The Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.

"PHONOHM" **Volume Controls**—Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.

"PHONOMETER"—Acoustic Consultants, Inc., 1270 Sixth Ave., New York, N. Y.

"PHOTOPHONE"—RCA Manufacturing Co., Camden, N. J.

"PHOTRONIC" **Cells**—Weston Electrical Inst. Corp., 614 Frelinghuysen Ave., Newark, N. J.

"PINCOR"—Pioneer Gen-E-Motor Corp., 466 W. Superior St., Chicago, Ill.

"PLUGGIN" **Condensers**—Tobe Deutschmann Corp., Canton, Mass.

"POLYSTYRENE"—Bakelite Corp., 247 Park Ave., New York, N. Y.

"PORT-A-PHONE"—Electronic Devices, Inc., Warren, Pa.

"PORT-O-MATIC" **Receivers**—Lehman Radio Salon, Inc., 1013 Madison Ave., New York, N. Y.

"POWER-CHARGER"—Briggs & Stratton Corp., Milwaukee, Wis.

"POWERHOUSE" **Battery**—Burgess Battery Co., Freeport, Ill.

"POWERIZER"—Radio Receptor Co., Inc., 251 W. 19th St., New York, N. Y.

"PRECEPTOR"—Ra-Fone Co., 4105 Broadway, Oakland, Calif.

"PREMAX" **Antennas**—Chisholm-Ryder Co., Niagara Falls, N. Y.

"PREMIER" **Speakers**—Oxford-Tartak Corp., 915 W. Van Buren St., Chicago, Ill.

"PRESTO"—Presto Recording Corp., 139 W. 19th, New York City

"PRIVAPHONE"—Miles Reproducer Co., Inc., 812 Broadway, New York, N. Y.

"PROCTOR"—Proctor Co. Inc., 17 W. 60th St., New York, N. Y.

"PROD LITE"—Radio City Products Co. Inc., 88 Park Pl., New York, N. Y.

"PRO" **Receivers**—Hammarlund Mfg. Co., 424 W. 33rd St., New York, N. Y.

"PURATONE"—L. S. Brach Mfg. Corp., 55 Dickerson St., Newark, N. J.

"PUSH-A-BUTTON" **Receivers**—Autocrat Radio Co., 3855 N. Hamilton Ave., Chicago, Ill.

"PYREX" **Glass**—Corning Glass Works, Corning, N. Y.

"PYROHM" **Resistors**—Aerovox Corporation, New Bedford, Mass.

"Q METER"—Boonton Radio Corp., P. O. Box 344, Boonton, N. J.

"QUEEN BEE"—Gen-E-Rotor, 614 Grand Ave., Des Moines, Ia.

"QUEENSTON", "QUENTON" **Antennas**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"QUIETONE" **Filters**—Cornell Dubilier Electric Corp., 1000 Hamilton Blvd., S. Plainfield, N. J.

"QX CHECKER"—Boonton Radio Corp., P. O. Box 344, Boonton, N. J.

"RADIAERIAL"—Western Coil & Electrical Co., 215 State St., Racine, Wis.

"RADIODYNE" **Receivers**—Western Coil & Electrical Co., 215 State St., Racine, Wis.

"RADIOFONE"—Radiofone Corp., 136 W. 22nd, New York City

"RADIOHM" **Volume Controls**—Centralab (Globe Union, Inc.), 900 E. Keefe Ave., Milwaukee, Wis.

"RADIOJAC"—Cooks Mfg. Co., 274 Mile Square Rd., Yonkers, N. Y.

"RADIO NURSE"—Zenith Radio Corp., 6001 W. Dickens Ave., Chicago, Ill.

"RADIOSCOPE" **Set Servicer**—Bendix Radio Corp., General Motors Bldg., Detroit, Mich.

"RADIOTRON"—RCA Manufacturing Co., Radiotron, Div., Harrison, N. J.

"RADIO-TYME"—Gibb Mfg. Corp., 216 N. Clinton St., Chicago, Ill.

"RAD-O-FONE"—Sentinel Radio Corp., 2222 Diversey Pkwy., Chicago, Ill.

"RAMCO"—Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.

"RANGE FINDER" **Flashlights**—Burgess Battery Co., Freeport, Illinois.

"RANGER EXAMINER"—Readrite Meter Works, Bluffton, O.

"RANGER RECORDER"—Rangertone, Inc., 201 Verona Ave., Newark, N. J.

"RAPIDEX" **Duplicator**—International Industries, Inc., Ann Arbor, Mich.

"RAY-O-VAC" **Batteries**—Ray-O-Vac Co., Madison, Wis.

"RCA-VICTOR"—RCA Manufacturing Co., Inc., Front & Cooper Sts., Camden, N. J.

"READO" **Facsimile Recorder**—Crosley Corp., Cincinnati, O.

"READY-SPOT" **Flashlights**—Burgess Battery Co., Freeport, Ill.

"RE-CIRK-IT"—Heinemann Electric Co., Box 299, Trenton, N. J.

"RECTICHARGER", "RECTIFILTER"—Raytheon Mfg. Co., 190 Willow St., Waltham, Mass.

"RED DEVIL"—Ohmite Mfg. Co., 4835 W. Flournoy, Chicago, Ill.

"RED HEAD" **Antennas**—Schiffmann Brothers, 3840 N. Ashland Ave., Chicago, Ill.

"RED HEAD" **Condensers**—Consolidated Wire & Associated Corp., Peoria & Harrison Sts., Chicago, Ill.

"RED TOP" **Generator**—Pioneer Gen-E-Motor Corp., 466 W. Superior St., Chicago, Ill.

"REL"—Radio Engineering Laboratories, Inc., 25-14 Forty-first Ave., L. I. City, N. Y.

"REMCO"—Recording Equipment Mfg. Co., 6611 Sunset Blvd., Hollywood, Calif.

"REMOTE-O-CABLE" **Tool**—J. F. D. Manufacturing Co., 4111 Ft. Hamilton Pkwy., Brooklyn, N. Y.

"REPUBLIC" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

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"RESONOSCOPE"—Acoustic Consultants, Inc., 1270 Sixth Ave., New York, N. Y.

"REX" **Headphones**—Acme Specialty Co., 1770 Berteau Ave., Chicago, Ill.

"RITEOHM"—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"RIVARD"—Rivard Wire and Cable Corp., 1014 Madison Ave., Toledo, O.

"RK" **Amateur Tubes**—Raytheon Production Corp., 420 Lexington Ave., New York, N. Y.

"RME"—Radio Manufacturing Engineers, 111 Harrison St., Peoria, Ill.

"ROAMIO" **Receivers**—Crosley Radio Corp., 1329 Arlington St., Cincinnati, O.

"ROBOTROL"—Consolidated Wire & Assoc. Corps., 512 S. Peoria St., Chicago, Ill.

"ROCKET" **Crystal Microphone**—Shure Bros., 225 W. Huron St., Chicago, Ill.

"ROTO RANGER"—Simpson Electric Co., 5216 W. Kinzie St., Chicago, Ill.

"RTL"—Radiotechnic Laboratory, 1328 Sherman Ave., Chicago, Ill.

"RUBYFLUID"—The Ruby Chemical Co., 68-70 McDowell St., Columbus, O.

"RUF-KOAT" **Varnish**—General Cement Mfg. Co., Rockford, Ill.

"RURALITE"—Ruralite Co., The, P. O. Box 86, Sioux City, Ia.

"RURLPOWER"—Farmpower Products Corp., 2525 Clybourn Ave., Chicago, Ill.

"SAMPSON" **Sound Systems**—S. H. Couch Co., Inc., North Quincy, Mass.

"SEALDTITE" **Condensers**—Solar Mfg. Corp., 599 Broadway, New York, N. Y.

"SELECTIVE ANALYZER"—Weston Electrical Instrument Co., 614 Frelinghuysen Ave., Newark, N. J.

"SELECTOR"—Ecco High Frequency Corp., 120 W. 20th St., New York, N. Y.

"SIGNAL"—Signal Electric Mfg. Co., Menominee, Mich.

"SILCOR" **Transformers**—American Transformer Co., 178 Emmet St., Newark, N. J.

"SILKENITE"—The Acme Wire Co., New Haven, Conn.

"SI-LEN-SER"—Espey Mfg. Co., 124 E. 25th St., New York, N. Y.

"SILVERTONE" **Receivers**—Sears, Roebuck & Co., 925 S. Homan St., Chicago, Ill.

"SKY BUDDY" **Receiver**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"SKY CHALLENGER" **Receiver**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"SKY CHAMPION" **Receiver**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"SKY-CHIEF" **Receiver**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"SKYRIDER" **Receivers**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"SLIDEOHM" **Resistors**—Aerovox Corp., New Bedford, Mass.

"SNAPPER, THE," **Test Clip**—Mueller Electric Co., 1583 E. 31st St., Cleveland, O.

"SNUG-FIT" **Antenna**—F. & H. Radio Labs., Fargo, N. D.

"SOCKET SELECTOR"—Weston Electrical Instrument Co., 614 Frelinghuysen Ave., Newark, N. J.

"SONOCHORDE" **Reproducer**"—Boudette & Co., Malden, Mass.

"SOLAREX" **Condensers**—Solar Mfg. Co., 599 Broadway, New York, N. Y.

"SPARTON" **Receivers**—Sparks-Withington Co., E. Ganson Ave., Jackson, Mich.

"SPAULDA", "SPAULDITE"—Spaulding Fibre Co., Inc., 310 Wheeler St., Tonawanda, N. Y.

"SPEEDLINE" **Antenna**—The Radiart Corp., 1329 Shaw Ave., Cleveland, O.

"SPEED-X"—Speed-X Mfg. Co., Inc., 646 Jessie St., San Francisco, Calif.

"SPIRASHIELD"—The Muter Co., 1255 S. Michigan Ave., Chicago, Ill.

"SPRACOL" **Condensers**—Sprague Products Co., North Adams, Mass.

"STANCO"—Standard Electrical Products Co., 1500 N. Halsted St., Chicago, Ill.

"STANCOR" **Transformers**—Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.

"STANDARD" **Condensers**—Curtis Condenser Corp., 3088 W. 106th St., Cleveland, O.

"STA-PUT" **Antenna**—Consolidated Wire & Assoc. Corp., 512 S. Peoria St., Chicago, Ill.

"STATIKTESTER"—Hickok Electrical Instrument Co., 10514 Dupont Ave., Cleveland, O.

"STENTORIAN" **Amplifier Kits**—General Transformer Corp., 1250 W. Van Buren St., Chicago, Ill.

"STRATOSPHERE" **Antenna**—Herbert H. Horn Mfg. Co., 1201 S. Oliver St., Los Angeles, Calif.

"STREAMLINE"—Norwest Radio Labs., Blaine Ave. & Hill St., Shelby, Mont.

"STREAMLINER" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"STENTORIAN"—General Transformer Co., 1250 W. Van Buren St., Chicago, Ill.

"S.S.I."—Sound Systems, Inc., 6545 Carnegie Ave., Cleveland, O.

"SUNCO"—Sundt Eng. Co., 4238 Lincoln Ave., Chicago, Ill.

"SUPER"—Curtis Condenser Corp., 3088 W. 106th, Cleveland, O.

"SUPER-DAVOHM"—The Daven Company 158-160 Summit St., Newark, N. J.

"SUPER-GRIP" **Tools**—Forsberg Mfg. Co., Bridgeport, Conn.

"SUPER-PRO" **Receiver**—The Hammarlund Mfg. Co., Inc., 424-438 W. 33rd St., New York, N. Y.

"SUPERPHONE SYSTEM"—The Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.

"SUPER SEAL"—Girard Continental Condenser Corp., 2341 Wolfram St., Chicago, Ill.

"SUPREME" **Amplifiers**—David Bogen Co., 633 Broadway, New York, N. Y.

"SYLVANIA"—Hygrade Sylvania Corp., Emporium, Pa.

"SYNCRATONE" **Receivers**—Gaylor Mfg. Co., 605 W. Washington St., Chicago, Ill.

"SYROCO"—Syracuse Ornamental Co., Syracuse, N. Y.

"SYROCOWOOD"—Syracuse Ornamental Co., Syracuse, N. Y.

"S-X"—Essex Wire Corp., 14310 Woodward Ave., Detroit, Mich.

"TACO"—Technical Appliance Corp., 17 E. 16th, New York City

"TALK-BAK" **Speakers**—Wright-DeCoster, Inc., St. Paul, Minn.

"TECHNIPOWER"—Technical Products International, 135 Liberty St., New York, N. Y.

"TELECHRON"—Warren Telechron Co., Ashland, Mass.

"TELETALK" **System**—Webster Electric Co., Racine, Wis.

"TELFAIR INTERFONE"—Specialties Associates, Inc., 405 Lexington Ave., New York, N. Y.

"TENNADEX" **Aerial**—Snyder, Inc., 813 Noble St., Phila., Pa.

"TEST-O-LITE"—L. S. Brach Mfg. Corp., 55 Dickerson St., Newark, N. J.

"THORITE" **Screw-drivers**—The Forsberg Mfg. Co., Bridgeport, Conn.

"TIFFANY TONE" **Receivers**—Herbert H. Horn, Mfg. Co., 1201 S. Olive St., Los Angeles, Calif.

"TINY MIKE" **Condensers**—Sprague Products Co., North Adams, Mass.

"TINY TIM" **Receivers**—Dunn-Hall Mfg. Co., 1477 W. Adams St., Los Angeles, Calif.

"TOBE MU-SWITCH"—Tobe Deutschmann Corp., Canton, Mass.

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TRADE NAMES, TRADE MARKS (Concluded)

"TOKFONE"—Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.

"TOM THUMB" **Condensers**—Solar Mfg. Co., 599 Broadway, New York, N. Y.

"TOM THUMB" **Receivers**—Automatic Radio Mfg. Co., 122 Brookline Ave., Boston, Mass.

"TOM THUMB" **Saws**—The Forsberg Mfg. Co., Bridgeport, Conn.

"TOPPING"—Vibraloc Mfg. Co., 3691 Mission St., San Francisco, Calif.

"TRANSFIER"—Automatic Electric Devices Co., 324 E. 3rd St., Cincinnati, O.

"TRANSFONE"—Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.

"TRANSMICA", "TRANSOIL" **Condensers**—Solar Mfg. Corp., 599 Broadway, New York, N. Y.

"TRANS-O-MATIC" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"TRANSPHONE" **System**"—Transphone Corp. of America, 14 W. 45th St., New York, N. Y.

"TRANSRADIANT"—Magnavox Co., Ft. Wayne, Ind.

"TRANSTAT"—American Transformer Co., 178 Emmet St., Newark, N. J.

"TRI-BAR" **Antenna**—Premax Products, Division Chisholm-Ryder Co., Inc., Niagara Falls, N. Y.

"TRIMM", "ACME"—Trimm Radio Mfg. Co., 1770 W. Berteau Ave., Chicago, Ill.

"TRI-POLAR" **Crystal Microphone**—Shure Bros., 225 W. Huron St., Chicago, Ill.

"TRU-DIAL"—Mission Bell Radio Co., Inc., 833 Venice Blvd., Los Angeles, Calif.

"TRUETONE" **Receivers**—Western Auto Supply Co., 2107 Grand St., Kansas City, Mo.

"TRU-FIDELITY" **Transformers**—Thordarson Electric Mfg. Co., 500 W. Huron St., Chicago, Ill.

"TRU-TAN" **Pick-up**—Astatic Microphone Laboratory, 830 Market St., Youngstown, O.

"TRU-VAC" **Tubes**—Continental Electric Co., Geneva, Ill.

"TRUVOLT" **Resistors**—P. R. Mallory & Co., Indianapolis, Ind.

"TUBECHECKER"—Weston Electrical Instrument Co., 614 Frelinghuysen Ave., Newark, N. J.

"TUBEOHM" **Resistors**—Muter Co., The, 1255 S. Michigan Ave., Chicago, Ill.

"TUNIT"—Setchell-Carlson Mfg. Co., Inc., 2233 University St., St. Paul, Minn.

"TURBO" **Tubing**—William Brand & Co., 268 4th Ave., N. Y. City

"TUR-ETTE" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"TWINPHONE"—Executone, Inc., 415 Lexington Ave., N. Y. City

"TYMIT"—Tork Clock Co., Inc., 31 South St., Mt. Vernon, N. Y.

"ULTRA" **Wide-Range Microphone**—Shure Bros., 225 W. Huron St., Chicago, Ill.

"ULTRADYNE"—Regal Manufacturing Co., Inc., 14-16 W. 17th St., New York, N. Y.

"ULTRA SKYRIDER" **Receiver**—Hallicrafters, Inc., 2611 S. Indiana Ave., Chicago, Ill.

"UNEEDIT"—Bright Star Battery Co., Clifton, N. J.

"UNIPLEX" **Crystal Microphone**—Shure Bros., 225 W. Huron St., Chicago, Ill.

"UNIVERSAL" **Accessories**—Franklin Mfg. Corp., 175 Varick St., New York, N. Y.

"UNIVERSAL" **Clips**—Mueller Electric Co., 1583 E. 31st St., Cleveland, O.

"UNIVEX"—Universal Camera Corp., 28 W. 23rd, New York City

"U.S.E."—United Sound Engineering Co., 2233 University Ave., St. Paul, Minn.

"USL"—U S L Battery Corp., Niagara Falls, N. Y.

"UTC"—United Transformer Corp., 72 Spring St., New York, N. Y.

"VARIAC"—General Radio Co., 30 State St., Cambridge, Mass.

"VARIMATCH", "VARIPOWER", "VARITAP", "VARITRAN" **Transformers**—United Transformer Corp., 72 Spring, N. Y. City

"VARIOHM" **Resistors**—P. R. Mallory & Co., Inc., Indianapolis, Ind.

"V-DOUBLET" **Antenna**—General Electric Co., Bridgeport, Conn.

"VELOTRON" **Microphone**—Bruno Laboratories, Inc., 30 W. 15th St., New York, N. Y.

"VERTENNA"—Norwest Radio Labs., Blaine Ave. & Hill St., Shelby, Mont.

"VERTI-FLEX" **Antenna**—Illinois Seating Corp. (Verti-flex Division), 2138 N. Racine Ave., Chicago, Ill.

"VIBRAPOWR"—Pauley-James Corp., 4619 Ravenswood Ave., Chicago, Ill.

"VIBROMIKE"—Brush Development Co., 3311 Perkins Ave., Cleveland, O.

"VICTORPHONES"—RCA Manufacturing Co., Camden, N. J.

"VICTORY" **Receivers**—Champion Radio Labs., 14553 Madison Ave., Lakewood, O.

"VIDEOTRON" **Television Tubes**—National Union Radio Corp., 57 State St., Newark, N. J.

"VIKING" **Tools**—The Forsberg Mfg. Co., Bridgeport, Conn.

"VITAVOX"—Arlovox Mfg. Co., 430 S. Green St., Chicago, Ill.

"VITRECON" **Resistors**—Continental Carbon, Inc., 13900 Lorain Ave., Cleveland, O.

"VITROHM" **Resistors**—Ward Leonard Electric Co., Mt. Vernon, N. Y.

"VOCACALL", "VOCAGRAPH"—Electronic Design Corp., 164 N. May St., Chicago, Ill.

"VOCALION"—Brunswick Record Corp., 1776 Broadway, New York, N. Y.

"VOCALPHONE"—Sound Products, 704 N. Curson Ave., Hollywood, Calif.

"VOCAPHONE" **System**—Miles Reproducer Co., Inc., 114 W. 14th St., New York, N. Y.

"VOICE-MIRROR"—Acoustic Consultants, Inc., 1270 Sixth Ave., Rockefeller Center, N. Y.

"VOYCALL" **System**—Lake Mfg. Co., Inc., 2323 Chestnut St., Oakland, Calif.

"VULCOID"—Continental-Diamond Fibre Co., Newark, Del.

"WASHER CHARGER"—Midwest-Timmermann Co., 727 Iowa St., Dubuque, Ia.

"WEE-PEE-WEE" **Clips**—Mueller Electric Co., 1583 E. 31st St., Cleveland, O.

"WHALE" **Tools**—The Forsberg Mfg. Co., Bridgeport, Conn.

"WHIRLWIND" **Flashlight**—Burgess Battery Co., Freeport, Ill.

"WILCO"—The H. A. Wilson Co., 105 Chestnut St., Newark, N. J.

"WINCHARGER"—Wincharger Corp., Sioux City, Ia.

"WINDERMERE", "WINDEX", "WINSLOW" **Antennas**—Ward Products Corp., 1523 E. 45th St., Indianapolis, Ind.

"WIRE WATT" **Resistors**—Ohmite Mfg. Co., 4835 W. Flournoy St., Chicago, Ill.

"WIRTHY" **Resistors**—Wirt Co., 5221 Greene St., Philadelphia, Pa.

"WOODITE"—Syracuse Ornamental Co., Syracuse, N. Y.

"XCELITE" **Tools**—Park Metalware Co., Inc., Orchard Park, N. Y.

"YAXLEY"—P. R. Mallory & Co., 3029 E. Washington St., Indianapolis, Ind.

"YORKSHIRE" **Antenna**—Ward Products Corp., 1523 E. 45th St., Cleveland, O.

"ZEPHYR" **Antenna**—The Radiart Corp., 1329 Shaw Ave., Cleveland, O.

"ZEPHYR" **Reproducer**—Shure Bros., 225 W. Huron St., Chicago, Ill.

"ZIPOHM" **Resistors**—Muter Company, 1255 S. Michigan Ave., Chicago, Ill.

World Radio History

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Freed Transformer Corp., 72 Spring St., New York, N. Y.	J	19-20-21-22
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Gibbs & Company, Thomas B., 900 W. Lake St., Chicago, Ill.	C	19-20
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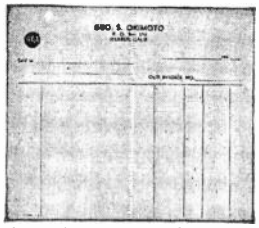
RCA Radiotron — RADIO TUBES

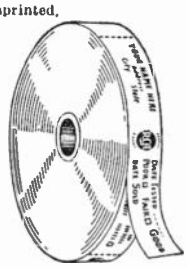
No. 694—Decalcomania; two-color; for store or car. FREE on request.



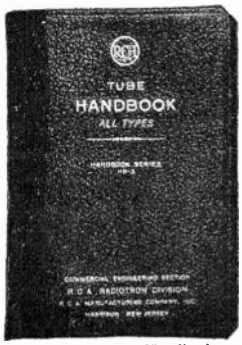
No. 318—Bill Head. Imprinted. $1.00 for 500.

No. 1416—Service Engineer's Pencil. $1.00.

No. 698—O.K. Tags. FREE on request.



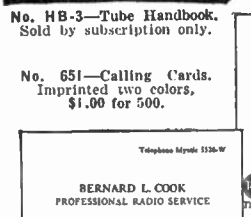
No. 1402—Metal and Glass Tube Test Stickers. $1.00 per roll imprinted.



No. HB-3—Tube Handbook. Sold by subscription only.

No. 696 — Repair Ticket. Imprinted. $0.85 for 300; $2.25 for 1000.

No. 651—Calling Cards. Imprinted two colors, $1.00 for 500.



STANDARD GLASS TYPES

Type	Description	List Price
00-A	Detector Triode	$2.25
01-A	Detector-Amplifier Triode	.80
1A4	Super-Control R-F Amp.-Pentode	1.75
1A6	Pentagrid Converter	1.75
1B4	Screen-Grid R-F Amp. Pentode	2.25
1B5/25S	Duplex-Diode Triode	1.25
1C6	Pentagrid Converter	1.75
1F4	Power Amplifier Pentode	1.50
1F6	Duplex-Diode Pentode	2.25
1-V	Half-Wave High-Vacuum Rectifier	1.25
2A3	Power Amplifier Triode	2.50
2A5	Power Amplifier Pentode	1.25
2A6	Duplex-Diode High-Mu Triode	1.25
2A7	Pentagrid Converter	1.50
2B7	Duplex-Diode Pentode	1.75
5Z3	Full-Wave High Vacuum Rectifier	1.25
6A4/LA	Power Amplifier Pentode	1.50
6A6	Class B Twin Amplifier	1.75
6A7	Pentagrid Converter	1.50
6B7	Duplex-Diode Pentode	1.50
6C6	Triple-Grid Detector Amplifier	1.25
6D6	Triple-Grid Super Control Amp.	1.25
6E5	Electron-Ray (Indicator Type)	1.50
6F7	Triode-Pentode	2.00
6G5	Electron-Ray (Indicator Type)	1.50
6N5	Electron-Ray (Indicator Type)	1.75
6U5	Electron-Ray (Indicator Type)	1.50
10	Power Amplifier Triode	2.75
11	Detector-Amplifier Triode	2.25
12	Detector-Amplifier Triode	2.25
12A7	Pentode Rectifier	2.25
12Z3	Half-Wave High-Vacuum Rectifier	1.50
15	R-F Amplifier Pentode	2.25
19	Class B Twin Amplifier	1.50
20	Power Amplifier Triode	2.25
22	R-F Amplifier Tetrode	2.00
24-A	R-F Amplifier Tetrode	1.25
25Z5	High-Vacuum Rectifier-Doubler	1.25
26	Amplifier Triode	.80
27	Detector-Amplifier Triode	.80
30	Detector-Amplifier Triode	1.00
31	Power Amplifier Triode	1.00
32	R-F Amplifier Tetrode	1.75
33	Power Amplifier Pentode	$1.50
34	Super-Control R-F Amp. Pentode	1.75
35	Super-Control R-F Amp. Tetrode	1.25
36	R-F Amplifier Tetrode	1.25
37	Detector-Amplifier Triode	1.00
38	Power Amplifier Pentode	1.25
39/44	Super-Control R-F Amp. Pentode	1.25
40	Voltage Amplifier Triode	1.00
41	Power Amplifier Pentode	1.25
42	Power Amplifier Pentode	1.25
43	Power Amplifier Pentode	1.50
45	Power Amplifier Triode	1.00
46	Dual-Grid Power Amplifier	1.50
47	Power Amplifier Pentode	1.50
48	Power Amplifier Tetrode	4.00
49	Dual-Grid Power Amplifier	1.25
50	Power Amplifier Triode	2.50
53	Class B Twin Amplifier	2.00
55	Duplex-Diode Triode	1.50
56	Super-Triode Amplifier Detector	.80
57	Triple-Grid Amplifier Detector	1.25
58	Triple-Grid Super-Control Amp.	1.25
59	Triple-Grid Power Amplifier	2.00
71-A	Power Amplifier Triode	1.00
75	Duplex-Diode Hi-Mu Triode	1.25
76	Super-Triode Amplifier Detector	.80
77	Triple-Grid Detector Amplifier	1.50
78	Triple-Grid Super-Control Amp.	1.25
79	Class B Twin Amplifier	1.50
80	Full-Wave High-Vacuum Rectifier	.80
81	Half-Wave High-Vacuum Rectifier	2.25
82	Full-Wave Mercury-Vapor Rectifier	1.50
83	Full-Wave Mercury-Vapor Rectifier	1.75
83-V	Full-Wave High-Vacuum Rectifier	2.25
84/6Z4	Full-Wave High-Vacuum Rectifier	1.75
85	Duplex-Diode Triode	1.25
89	Triple-Grid Power Amplifier	1.50
V99	Detector-Amplifier Triode	1.50
X99	Detector-Amplifier Triode	1.50
112-A	Amplifier-Detector Triode	1.00
874	Voltage Reg. (Glow Discharge)	4.50
876	Current Regulator (Ballast Tube)	6.50
886	Current Regulator (Ballast Tube)	8.00

ALL-METAL TYPES

Type	Description	List Price
5T4	Full-Wave High-Vacuum Rectifier	$2.50
5W4	Full-Wave High-Vacuum Rectifier	1.00
5Z4	Full-Wave High-Vacuum Rectifier	2.00
6A8	Pentagrid Converter	1.50
6B8	Duplex Diode Pentode	1.75
6C5	Detector-Amplifier Triode	1.25
6F5	High-Mu Triode	1.25
6F6	Power Amplifier Pentode	1.50
6H6	Twin Diode	1.25
6J5	Detector Amplifier Triode	1.50
6J7	Triple-Grid Detector Amplifier	1.50
6K7	Triple-Grid Super-Control Amp.	1.50
6K8	Triode-Hexode Converter	$1.75
6L6	Beam Power Amplifier	2.25
6L7	Pentagrid Mixer Amplifier	1.75
6N7	Class B Twin Amplifier	1.75
6Q7	Duplex-Diode High-Mu Triode	1.50
6R7	Duplex-Diode Triode	1.50
6S7	Triple-Grid, Super-Control Amp.	2.25
6V6	Beam Power Amplifier	1.75
6X5	Full-Wave High-Vacuum Rectifier	1.50
25A6	Power Amplifier Pentode	1.50
25L6	Beam Power Amplifier	2.25
25Z6	High-Vacuum Rectifier-Doubler	1.50

G-SERIES TYPES

Type	Description	List Price
1C7G	Pentagrid Converter	$2.25
1D5G	Super-Control R-F Amp. Pentode	2.25
1D7G	Pentagrid Converter	1.75
1E5G	R-F Amplifier Pentode	2.25
1E7G	Twin Pentode Power Amplifier	2.75
1F5G	Power Amplifier Pentode	2.25
1F7GV	Duplex-Diode Pentode	2.25
1G5G	Power Amplifier Pentode	2.00
1H4G	Detector Amplifier	1.00
1H6G	Duplex-Diode Triode	1.75
1J6G	Class B Twin Amplifier	1.50
5U4G	Full-Wave High-Vacuum Rectifier	1.50
5V4G	Full-Wave High-Vacuum Rectifier	2.50
5X4G	Full-Wave High-Vacuum Rectifier	1.50
5Y3G	Full-Wave High-Vacuum Rectifier	1.00
5Y4G	Full-Wave High-Vacuum Rectifier	1.00
6A8G	Pentagrid Converter	1.50
6AC5G	High-Mu Power Amplifier Triode	1.25
6B8G	Duplex Diode Pentode	1.75
6C5G	Detector Amplifier Triode	1.25
6C8G	Twin Triode Amplifier	1.50
6D8G	Pentagrid Converter	2.25
6F5G	High-Mu Triode	1.25
6F6G	Power Amplifier Pentode	1.50
6F8G	Twin-Triode Amplifier	1.50
6G6G	Power Amplifier Pentode	2.25
6H6G	Twin Diode	$1.25
6J5G	Detector-Amplifier Triode	1.50
6J7G	Triple-Grid Detector Amplifier	1.50
6K5G	High-Mu Triode	1.50
6K6G	Power Amplifier Pentode	1.50
6K7G	Triple-Grid Super-Control Amp.	1.50
6L5G	Detector Amplifier Triode	2.25
6L6G	Beam Power Amplifier	2.50
6L7G	Pentagrid Mixer Amplifier	1.75
6N7G	Class B Twin Amplifier	1.75
6Q7G	Duplex-Diode High-Mu Triode	1.50
6R7G	Duplex-Diode Triode	1.50
6S7G	Triple-Grid Super-Control Amp.	2.25
6T7G	Duplex-Diode High-Mu Triode	2.25
6U7G	Triple-Grid Super-Control Amp.	1.50
6V6G	Beam Power Amplifier	1.75
6X5G	Full-Wave High-Vacuum Rectifier	1.75
6Y6G	Beam Power Amplifier	2.25
6Z7G	Class B Twin Amplifier	1.75
6ZY5G	Full-Wave High-Vacuum Rectifier	1.50
25A6G	Power Amplifier Pentode	1.50
25A7G	Rectifier-Pentode	2.25
25B6G	Power Amplifier Pentode	1.75
25L6G	Beam-Power Amplifier	2.25
25Z6G	High-Vacuum Rectifier-Doubler	1.50

QUICKER START—QUIETER OPERATION—UNIFORM VOLUME—UNIFORM PERFORMANCE AND SEALED CARTON PROTECTION

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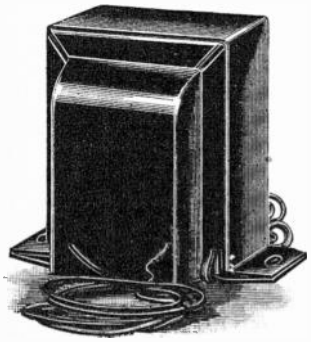
World Radio History

RCA TRANSFORMERS AND ACCESSORIES

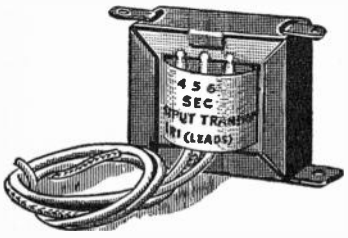
Universal Interstage A-F Transformer



Permits all audio replacements with a single unit. Center tapped primary and center tapped secondary for connecting either from or to any single or pushpull stage. Easily mounted on any type of chassis. Also recommended to step up pickup output for use with low gain amplifiers. **Specifications:** SIZE—2 x 2⅜ x 2⅞ in. Shielded black finish case—vacuum wax impregnated. TURN RATIO—Primary to secondary 1:3 overall. PRIMARY CURRENT—10 milliamperes d.c. (max.) FREQUENCY RESPONSE—30-10,000 cycles. PRIMARY CONNECTIONS — Primary connects to any single or push-pull triode. Secondary, to any single or push-pull stage regardless of tube type.

No. 9632, Net Price $1.20

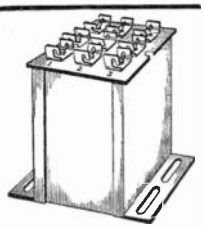
UNIVERSAL OUTPUT TRANSFORMERS



Fits any combination of tubes and speakers ordinarily encountered in service work. Quickly mounted by means of slot angle brackets; silicon steel core; windings protected with a baked varnish impregnation. Tinned terminals and long primary leads. **Specifications:** SIZE—Standard Model—2¾ x 2¼ x 2in. Tropical Model—2¾ x 2⅜ x 3 in. VOICE COIL IMPEDANCES—1 to 15 ohms. PRIMARY LOAD IMPEDANCES — 1,000 to 20,000 ohms. MAXIMUM WORKING POTENTIAL—500 volts. MAXIMUM PLATE CURRENT (each tube) — 55 milliamperes. FREQUENCY RANGE—80 to 10,000 cycles.

No. 7852, Net Price $1.20

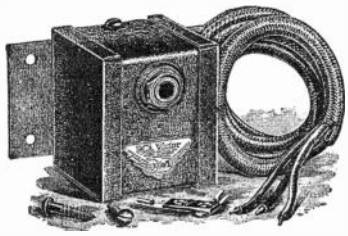
SPECIAL TROPICAL MODEL



Same transformer as above, in a special case having vacuum wax impregnated windings and complete potting in asphalt, for use under the most severe climatic conditions.

No. 7853, Net Price $1.41

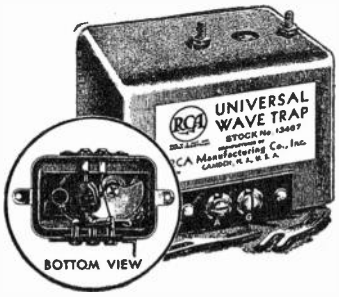
RCA EARPHONE ADAPTOR



A handy unit for connecting hearing aids or headphones to any radio. Has three positions—one for radio alone, one for both earphones and radio, and one for earphones alone. Easily connected across voice coil and gives proper impedance match. Finished in attractive brown wrinkle lacquer and fitted with 36 inch cable and terminal block.

No. 9715, Net Price $2.10

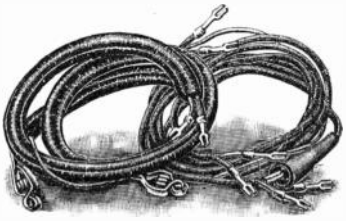
UNIVERSAL WAVE TRAP



A necessity for anyone troubled by interference from powerful nearby broadcasting stations, code stations or cross-modulation effects. Also helpful for broad tuning receivers. Magnetic core transformer provides a high-Q circuit. Low loss air dielectric adjustable capacitor. Attenuation is minus 30 db or 32-1 voltage reduction.

No. 13467, Net Price $1.59

OSCILLOGRAPH CONNECTING CABLES



For connecting between your oscillograph, test oscillator and radio chassis, you need low capacity shielded cable with handy connecting clips. No. 9797 assembly consists of three shielded cables designed especially for this use. A necessity for everyone using the oscillographic method of alignment.

No. 9797, Net Price $1.50

RCA VICTOR SERVICE NOTES

Eight volumes covering complete service information on all RCA Radiola, Victor Talking Machine Co. and RCA Victor and service test equipment produced from 1923 until 1938. Contain not only all wiring diagrams but also complete alignment instructions and other details available from no other source.

No. 100—1923-1928	No. 104—1934
No. 101—1929-1930	No. 105—1935
No. 102—1931-1932	No. 106—1936
No. 103—1933	No. 107—1937

Net Price, each volume $1.25

RCA VICTOR CABINET REFINISHING KIT

Here is a kit that should be a part of every service engineer's equipment. Every customer appreciates a nice clean piece of furniture and you can sell this service for a good price if you have and use this kit. Entire contents packed in a durable leatherette case with snap buttons. Contains one each of the following:

Can Refco oil	Can Tripoli
Can rubbing oil	Assorted Sandpaper
Assorted stick shellac	Touch-up brush
Spatula	Rubbing block
Two packages of aniline stain powders	Instruction sheet

No. 9546, Net Price $2.90

"MAGIC EYE" KIT

Now you can install a genuine Magic Eye tuning indicator on almost any receiver having automatic volume control. This kit of complete parts makes installation work a matter of moments. Just drill the hole, mount the bracket and make a few wiring connections. Complete installation instructions included. Kit contains the following:

- 1 RCA-6U5 Electron-ray tube
- 1 Tube socket and cable assembly
- 1 Mounting bracket
- 1 Rubber tube cushion
- 1 18,000 ohm resistor
- 1 Tube escutcheon
- 4 Screws with nuts and lock-washers

No. 9688, Net Price $1.80

Net

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World Radio History

Cunningham Radio Tubes

STANDARD SINCE 1915

STANDARD GLASS TYPES

Type	Description	List Price
00-A	Detector Triode	$2.25
01-A	Detector-Amplifier Triode	.80
1A4	Super Control R-F Amp.-Pen.	1.75
1A6	Pentagrid Converter	1.75
1B4	Screen Grid R-F Amp. Pen.	2.25
1B5/25S	Duplex-Diode Triode	1.25
1C6	Pentagrid Converter	1.75
1F4	Power Amplifier Pentode	1.50
1F6	Duplex-Diode Pentode	2.25
1-V	Half-Wave High-Vac. Rec.	1.25
2A3	Power Amplifier Triode	2.50
2A5	Power Amplifier Pentode	1.25
2A6	Duplex-Diode High-Mu Triode	1.25
2A7	Pentagrid Converter	1.50
2B7	Duplex-Diode Pentode	1.75
5Z3	Full-Wave High-Vac. Rec.	1.25
6A4/LA	Power Amplifier Pentode	1.50
6A6	Class B Twin Amplifier	1.75
6A7	Pentagrid Converter	1.50
6B7	Duplex-Diode Pentode	1.50
6C6	Triple-Grid Detector Amplifier	1.25
6D6	Triple-Grid Super Control Amp.	1.25
6E5	Electron-Ray (Indicator Type)	1.50
6F7	Triode-Pentode	2.00
6G5	Electron-Ray (Indicator Type)	1.50
6N5	Electron-Ray (Indicator Type)	1.75
6U5	Electron-Ray (Indicator Type)	1.50
10	Power Amplifier Triode	2.75
11	Detector-Amplifier Triode	2.25
12	Detector-Amplifier Triode	2.25
12A7	Pentode Rectifier	2.25
12Z3	Half-Wave High-Vac. Rec.	1.50
15	R-F Amplifier Pentode	2.25
19	Class B Twin Amplifier	1.50
20	Power Amplifier Triode	2.25
22	R-F Amplifier Tetrode	2.00
24-A	R-F Amplifier Tetrode	1.25
25Z5	High-Vacuum Rec.-Doubler	1.25
26	Amplifier Triode	.80
27	Detector-Amplifier Triode	.80
30	Detector-Amplifier Triode	1.00
31	Power Amplifier Triode	1.00
32	R-F Amplifier Tetrode	1.75
33	Power Amplifier Pentode	1.50
34	Super-Control R-F Amp. Pen.	1.75
35	Super-Control R-F Amp. Tet.	1.25
36	R-F Amplifier Tetrode	1.25
37	Detector-Amplifier Triode	1.00
38	Power Amplifier Pentode	1.25
39/44	Super-Control R-F Amp. Pen.	1.25
40	Voltage Amplifier Triode	1.00
41	Power Amplifier Pentode	1.25
42	Power Amplifier Pentode	1.25
43	Power Amplifier Pentode	1.50
45	Power Amplifier Triode	1.00
46	Dual-Grid Power Amplifier	1.50
47	Power Amplifier Pentode	1.50
48	Power Amplifier Tetrode	4.00
49	Dual-Grid Power Amplifier	1.25
50	Power Amplifier Triode	2.50
53	Class B Twin Amplifier	2.00
55	Duplex-Diode Triode	1.50
56	Super-Triode Amplifier Det.	.80
57	Triple-Grid Amplifier Det.	1.25
58	Triple-Grid Super-Con. Amp.	1.25
59	Triple-Grid Power Amplifier	2.00
71-A	Power Amplifier Triode	1.00
75	Duplex-Diode Hi-Mu Triode	1.25
76	Super-Triode Amplifier Det.	.80
77	Triple-Grid Detector Amp.	1.50
78	Triple-Grid Super-Con. Amp.	1.25
79	Class B Twin Amplifier	1.50
80	Full-Wave High-Vac. Rec.	.80
81	Half-Wave High-Vac. Rec.	2.25
82	Full-Wave Mer.-Vapor Rec.	1.50
83	Full-Wave Mer.-Vapor Rec.	1.75
83-V	Full-Wave High-Vac. Rec.	2.25
84/6Z4	Full-Wave High-Vac. Rec.	1.75
85	Duplex-Diode Triode	1.25
89	Triple-Grid Power Amplifier	1.50
V99	Detector-Amplifier Triode	1.50
X99	Detector-Amplifier Triode	1.50
112-A	Amplifier-Detector Triode	1.00
874	Volt. Reg. (Glow Discarge)	4.50
876	Current Reg. (Ballast Tube)	6.50
886	Current Reg. (Ballast Tube)	8.00

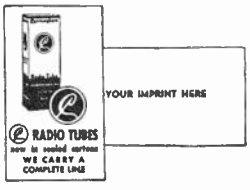
ALL-METAL TYPES

Type	Description	List Price
5T4	Full-Wave High-Vac. Rec.	$2.50
5W4	Full-Wave High-Vac. Rec.	1.00
5Z4	Full-Wave High-Vac. Rec.	2.00
6A8	Pentagrid Converter	1.50
6B8	Duplex Diode Pentode	1.75
6C5	Detector-Amplifier Triode	1.25
6F5	High-Mu Triode	1.25
6F6	Power Amplifier Pentode	1.50
6H6	Twin Diode	1.25
6J5	Detector Amplifier Triode	1.50
6J7	Triple-Grid Detector Amp.	1.50
6K7	Triple-Grid Super-Con. Amp.	1.50
6K8	Triode-Hexode Converter	1.75
6L6	Beam Power Amplifier	2.25
6L7	Pentagrid Mixer Amplifier	1.75
6N7	Class B Twin Amplifier	1.75
6Q7	Duplex-Diode High-Mu Triode	1.50
6R7	Duplex-Diode Triode	1.50
6S7	Triple-Grid, Super-Con. Amp.	2.25
6V6	Beam Power Amplifier	1.75
6X5	Full-Wave High-Vac. Rec.	1.50
25A6	Power Amplifier Pentode	1.50
25L6	Beam Power Amplifier	2.25
25Z6	High-Vac. Rectifier-Doubler	1.50

G-SERIES TYPES

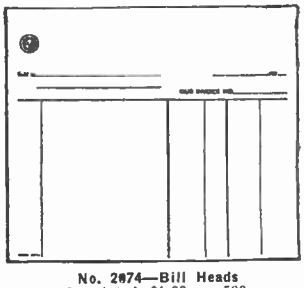
Type	Description	List Price
1C7G	Pentagrid Converter	$2.25
1D5G	Super-Control R-F Amp. Pen.	2.25
1D7G	Pentagrid Converter	1.75
1E5G	R-F Amplifier Pentode	2.25
1E7G	Twin Pentode Power Amp.	2.75
1F5G	Power Amplifier Pentode	2.25
1F7GV	Duplex-Diode Pentode	2.25
1G5G	Power Amplifier Pentode	2.00
1H4G	Detector Amplifier	1.00
1H6G	Duplex-Diode Triode	1.75
1J6G	Class B Twin Amplifier	1.50
5U4G	Full-Wave High-Vac. Rec.	1.50
5V4G	Full-Wave High-Vac. Rec.	2.50
5X4G	Full-Wave High-Vac. Rec.	1.50
5Y3G	Full-Wave High-Vac. Rec.	1.00
5Y4G	Full-Wave High-Vac. Rec.	1.00
6A8G	Pentagrid Converter	1.50
6AC5G	High-Mu Power Amp. Triode	1.25
6B8G	Duplex Diode Pentode	1.75
6C5G	Detector Amplifier Triode	1.25
6C8G	Twin Triode Amplifier	1.50
6D8G	Pentagrid Converter	2.25
6F5G	High-Mu Triode	1.25
6F6G	Power Amplifier Pentode	1.50
6F8G	Twin-Triode Amplifier	1.50
6G6G	Power Amplifier Pentode	2.25
6H6G	Twin Diode	1.25
6J5G	Detector-Amplifier Triode	1.50
6J7G	Triple-Grid Detector Amp.	1.50
6K5G	High-Mu Triode	1.50
6K6G	Power Amplifier Pentode	1.50
6K7G	Triple-Grid Super-Con. Amp.	1.50
6L5G	Detector Amplifier Triode	2.25
6L6G	Beam Power Amplifier	2.50
6L7G	Pentagrid Mixer Amplifier	1.75
6N7G	Class B Twin Amplifier	1.75
6Q7G	Duplex-Diode High-Mu Triode	1.50
6R7G	Duplex-Diode Triode	1.50
6S7G	Triple-Grid Super-Con. Amp.	2.25
6T7G	Duplex-Diode High-Mu Triode	2.25
6U7G	Triple-Grid Super-Con. Amp.	1.50
6V6G	Beam Power Amplifier	1.75
6X5G	Full-Wave High-Vac. Rec.	1.75
6Y6G	Beam Power Amplifier	2.25
6Z7G	Class B Twin Amplifier	1.75
6ZY5G	Full-Wave High-Vac. Rec.	1.50
25A6G	Power Amplifier Pentode	1.50
25A7G	Rectifier-Pentode	2.25
25B6G	Power Amplifier Pentode	1.75
25L6G	Beam-Power Amplifier	2.25
25Z6G	High-Vacuum Rec.-Doubler	1.50

SALES AIDS



No. 2220—Calling Cards
Printed in two colors $1.00 per 500

No. 2363—Repair Ticket
With your imprint:
300, $0.85; 1000, $2.25

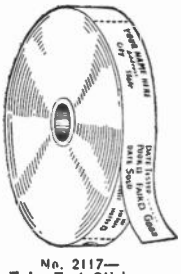


No. 2074—Bill Heads
Imprinted, $1.00 per 500

1417—Service Engineer's Pencil—$1.00

No. 3205—Handbills
3-line imprint $1.50 per 1000
(minimum order)

No. 2296—Dummy Cartons
Lots of 25, FREE on request



No. 2117—
Tube Test Stickers
$1.00 per roll
imprinted

No. 3304—Program Schedule
3-line imprint $0.50 per 200
(minimum order)

QUICKER START—QUIETER OPERATION—UNIFORM VOLUME—
UNIFORM PERFORMANCE AND SEALED CARTON PROTECTION

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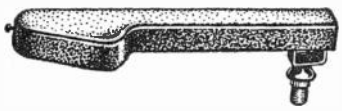
(APPLY FOR DISCOUNTS)

World Radio History

RCA RECORD-PLAYING PARTS

PHONOGRAPH PICKUPS

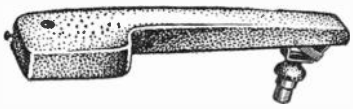
JUNIOR CRYSTAL PICKUP



RCA's most popular-priced crystal pickup. Plays 10" or 12" records; completely sealed crystal; needle position is offset to assure true tracking; swiveled pick-up arm; shock-proof mounting parts included. Finished in attractive brown wrinkle lacquer.
Specifications: IMPEDANCE—100,000 ohms at 1,000 cycles (1600 mmfd over range 70-7000 cycles). FREQUENCY RANGE—70-7000 cycles. OUTPUT VOLTAGE—1.5 volts at 1000 cycles with 500,000 ohm load. NEEDLE PRESSURE—2.7 oz.

No. 9842—Net Price $2.97
No. 31050—Crystal Cartridge for above..... 2.25

SENIOR CRYSTAL PICKUP



Top needle loading and automatic needle ejection; ejector functions as a needle positioning bracket. Same pickup and arm assembly as used on the new RCA Victor Automatic Record Changer. Built-in Shorting switch included in pickup. Finished in brown wrinkle lacquer; shock-proof mounting parts included.
Specifications: IMPEDANCE—100,000 ohms at 1,000 cycles (1600 mmfd. over range 70-7000 cycles). FREQUENCY RANGE—70-7000 cycles. OUTPUT VOLTAGE—1.5 volts at 1000 cycles with 500,000 ohm load. NEEDLE PRESSURE—3 oz.

No. 9847—(less Needle Bracket). Net Price..$4.17
No. 9948—Needle Box and Pickup Rest.... .45
No. 31156—Crystal Cartridge for above..... 2.55

DE LUXE CRYSTAL PICKUP

Adjustable spring counter-balance and off-set crystal mount insure minimum record wear. Chromium plated combination arm rest and needle positioning bracket included. Arm pivot mounted by means of ball-bearing assembly and rubber cushioned to prevent vibration pickup.
Specifications: IMPEDANCE—80,000 ohms. FREQUENCY RANGE—45-7000 cycles (!) VOLTAGE OUTPUT — 1.5 volts. NEEDLE PRESSURE — Adjustable. FINISH — Brown wrinkle lacquer, chromium trim.

No. 14818—Net Price $8.97

INERTIA TYPE SUSPENSION ARMS

FOR RCA MAGNETIC PICKUPS

Excellent response characteristics. Include a plain escutcheon and a plug for connecting to magnetic pickup. Fit all automatic record changers except the RAE-59, RAE-26 and RAE-79.

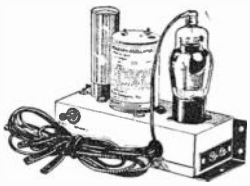
No. 9678—Walnut Finish. Net Price.....$4.50
No. 9679—Black Finish. Net Price..... 4.50

JUNIOR TYPE PICKUP

For many years a favorite with service engineers. Particularly adaptable to modernization jobs on old phonographs where space is limited. Especially recommended for installation with No. 9841 Motor and Turntable Assembly. Arm is so designed that correct needle tracking is assured. Impedance 1400 ohms; output .30 volts. Entire unit finished in attractive smooth bronze lacquer.

No. 12329—Net Price $4.05

PHONOGRAPH OSCILLATOR



A Miniature Broadcasting Station for Every Receiver. This unit permits you to connect *any* pickup or record player to *any* radio without removing the chassis or making internal connections. Also may be used for inexpensive P.A. System. Includes radio-record switch.

Specifications

TUBE REQUIRED—6A7 or 2A7. OUTPUT FREQUENCY—1400-1700 k.c. POWER SUPPLY—Obtained from receiver. Insulated clips furnished for connection to filament and plate tube prongs.

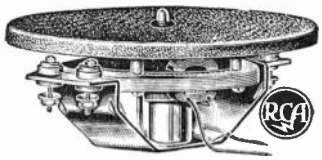
No. 9554 (less tube). Net Price.....$5.85

AUTOMATIC RECORD CHANGER

New! Exactly the same as used in the finest 1939 RCA Victrolas. Plays seven 12-inch records or eight 10-inch records automatically and repeats last record. When records are not chipped or warped, both 10- and 12-inch may be played in mixed sequence. Simple, fool-proof design; positive in operation. Shock-absorbing coupling between motor and turntable; shock-proof mounting ports. Top loading crystal pick-up with automatic needle ejector and receptacle.
Specifications: PICKUP IMPEDANCE 100,000 ohms at 1000 cycles (1600 mmfd. over the range 70-7000 cycles). OUTPUT—1.5 volts at 1000 cycles with 500,000 ohm load. NEEDLE PRESSURE—3 oz. POWER SUPPLY—110-120 volts, 60 cycles, 25 watts. DIMENSIONS—Motorboard 14¾" wide by 11½" deep. Space required above motorboard with record suspended 4¼". Space required below ⅞" cabinet rail, 4¼". Clearance required for record support arms ¾" beyond motorboard. FINISH—Attractive brown wrinkle lacquer with chromium trim.

No. 9844 Net Price $44.97
No. 9844A—For 50-60 Cycle Use 46.47

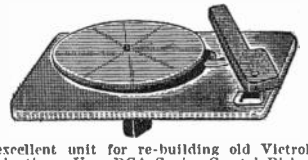
SYNCHRONOUS REACTION MOTOR AND TURNTABLE



Shock-proof mountings; free from wows; simple in design; practically wear- and trouble-free. Turntable diameter 7"; finished in attractive brown flock. Plays any size record up to 12" in diameter. Consumes only 10 watts. Requires only small space for mounting. Ideal for modernization work.

No. 9841—Net Price $3.90

MANUAL MOTORBOARD ASSEMBLY



An excellent unit for re-building old Victrolas or Combinations. Uses RCA Senior Crystal Pickup and a new self-starting motor. Entire assembly furnished with shock-proof spring mounting suspension. Includes pickup shorting switch. Finished in attractive brown wrinkle lacquer.
Specifications: POWER SUPPLY—110-120 volts, 60 cycles, 25 watts. PICKUP IMPEDANCE—100,000 ohms at 1000 cycles (1600 mmf. over entire frequency range). OUTPUT—1.5 volts with 500,000 ohm load. FIDELITY—Flat—70-7000 cycles. NEEDLE PRESSURE—3 oz. DIMENSIONS—Turntable 9" Dia., Motorboard 14¾" wide by 11½" deep. Space required beneath board 3". Clearance above board 3¼".

No. 9850—Net Price $17.97

RCA VICTROLA ATTACHMENT MODEL R-93C

An inexpensive instrument that quickly converts any modern A-C radio into an electrical radio-phonograph combination. Plays both ten and twelve-inch records. Includes cushion-mounted, constant speed electric motor, latest type feather-touch crystal pickup and new true-tracking tone arm. Cabinet attractively finished in fine walnut veneers; 11⅜" wide by 9⅞" deep by 3" high.

Specifications

POWER SUPPLY—110-120 volts, 60 cycles, 10 watts. PICKUP IMPEDANCE — 100,000 ohms at 1,000 cycles. CABLE CONNECTION—32-inch cable with male fitting for connection to 1939 RCA Victor radios (use No. 9824 Switch and Cable Assembly for connecting to other radios.)

No. R-93C, Net Price..... ..... 8.97

AERODYNAMIC MICROPHONE

The new RCA Aerodynamic is of the pressure-operated dynamic type very popular with all microphone users. Trim, streamlined—excellent fidelity—small size. Insensitive to mechanical vibration. Requires no excitation or power supply. Low impedance type may be located up to 1,000 ft. from input amplifier. High impedance type fitted with a 30-ft. shielded cable. Both are impervious to changes in temperature and have a minimum of wind response. Thoroughly shielded and not affected by R-F or A-C fields.

Specifications

TYPE — Pressure operated. FREQUENCY RANGE—100 to 6,000 cycles. IMPEDANCE—250 ohms or 40,000 ohms. AVERAGE OPERATING LEVEL: —68 db. (10 bar signal across open circuit). DIMENSIONS — 2⅝" wide by 3" high by 3⅜" deep. Net weight 1¼ lbs. FINISH—Polished chromium. STAND FITTING SIZE—⅛" pipe thread. Adapter included for ⅝"—27 Fitting. CABLE—6 ft. shielded.

Net Price (Less Stand)

No. MI-6226-A—Low Impedance Type $13.77
No. MI-6228—High Impedance Type—40,000 ohms, includes 30 ft. shielded cable 15.57
No. MI-6227—Table Stand shown above. Finished in chromium and black with felt covered base 2.25

DOUBLE-BUTTON CARBON MICROPHONE

For microphone applications where good performance at lowest price is an essential. Attractive appearance, smooth frequency response, low carbon hiss. Mounted in handy, rugged, all-metal cases, suitable for desk or hand use.

Specifications

TYPE—Two-button carbon-grain. FREQUENCY RANGE—50 to 6500 cycles. OUTPUT LEVEL — —63 db. (open circuit). D.C. RESISTANCE—200 ohms per button. OUTPUT IMPEDANCE — 250 ohms. OPERATING VOLTAGE—4 to 6 volts. DIMENSIONS—6" high, 3½" wide, 2" thick. Net weight 2 lbs. Shpg. Wt. 4 lbs.

No.	Net Price
11480—Brown wrinkle lacquer finish	$5.85
4501—Plain black finish	5.85

Net

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World Radio History

Sylvania

REG. U. S. PAT. OFF.

THE SET-TESTED TUBE

PRICES EFFECTIVE APRIL 4, 1938

01A	Amplifier and Detector	$ .80
0Z4G	Full Wave Gas Filled Rectifier	1.50
1A1	Ballast Tube	1.50
1A4P	Super Control Pentode Amplifier	1.75
1A4T	Super Control Tetrode Amplifier	1.75
1A6	Pentagrid Converter	1.75
1B1	Ballast Tube	1.50
1B4P	Screen Grid R-F Pentode Amplifier	2.25
1B5/25S	Double Diode Triode	1.25
1C1	Ballast Tube	1.50
1C6	Pentagrid Converter	1.75
†1C7G	Pentagrid Converter	2.25
1D1	Ballast Tube	1.50
†1D5GP	Super Control Pentode Amplifier	2.25
1D5GT	Super Control Tetrode Amplifier	2.25
1D7G	Pentagrid Converter	1.75
1E1	Ballast Tube	1.50
1E5GP	Screen Grid R-F Pentode Amplifier	2.25
1E7G	Double Pentode Output Tube	2.75
1F1	Ballast Tube	1.50
1F4	Power Output Pentode	1.50
1F5G	Power Output Pentode	2.25
1F6	Double Diode Pentode	2.25
†1F7G	Double Diode Pentode	2.25
1G1	Ballast Tube	1.50
1G5G	Power Output Pentode	2.00
†1H4G	Amplifier and Detector	1.00
1H6G	Double Diode Triode	1.75
†1J6G	Class B Twin Amplifier	1.50
1K1	Ballast Tube	1.50
1V	Half Wave High Vacuum Rectifier	1.25
2A3	Power Amplifier Triode	2.50
2A5	Cathode Type Power Pentode	1.25
2A6	Double Diode High Mu Triode	1.25
2A7	Pentagrid Converter	1.50
2A7S	(Maj) Pentagrid Converter	2.50
2B7	Double Diode Pentode	1.75
2B7S	(Maj) Double Diode Pentode	2.50
2E5	Tuning Indicator	1.50
2S/4S	(Maj) Double Diode	2.75
2Z2/G84	(Maj) Half Wave Rectifier	2.00
5U4G	Full Wave Rectifier	1.50
5V4G	Full Wave High Vacuum Rectifier	2.50
5W4	(Met) Full Wave High Vacuum Rectifier	1.00
5X4G	Full Wave High Vacuum Rectifier	1.50
†5Y3G	Full Wave High Vacuum Rectifier	1.00
†5Y4G	Full Wave High Vacuum Rectifier	1.00
5Z3	Full Wave High Vacuum Rectifier	1.25
5Z4	(Met) Full Wave High Vacuum Rectifier	2.00
6	Ballast Tube	1.50
6A3	Power Amplifier Triode	2.00
6A4/LA	Power Amplifier Pentode	1.50
6A5G	Power Amplifier Triode	2.00
6A6	Class B Twin Amplifier	1.75
*6A7	Pentagrid Converter	1.50
6A7S	(Maj) Pentagrid Converter	2.50
6A8	(Met) Pentagrid Converter	1.50
†6A8G	Pentagrid Converter	1.50
6B4G	Triode Power Amplifier	2.00
6B5	Power Output Amplifier	2.25
†6B6G	Interchangeable with Type 6Q7G	
6B7	Double Diode Pentode	1.50
6B7S	(Maj) Double Diode Pentode	2.50
6B8	(Met) Double Diode Pentode	$1.75
6B8G	Double Diode Pentode	1.75
6C5	(Met) Triode Amplifier	1.25
†6C5G	Triode Amplifier	1.25
6C6	R-F Pentode	1.25
6C7	(Maj) Double Diode Triode	2.00
6C8G	Twin Triode Amplifier	1.50
6D6	Super Control R-F Pentode	1.25
6D7	(Maj) R-F Pentode	2.00
6D8G	Pentagrid Converter	2.25
6E5	Tuning Indicator	1.50
6E6	Double Triode Power Amplifier	2.00
6E7	(Maj) Super Control R-F Pentode	2.00
6F5	(Met) High Mu Triode Amplifier	1.25
†6F5G	High Mu Triode Amplifier	1.25
6F6	(Met) Power Output Pentode	1.50
†6F6G	Power Output Pentode	1.50
6F7	Pentode Triode	2.00
6F7S	(Maj) Pentode Triode	2.00
6F8G	Double Triode Amplifier	1.50
6G5	Tuning Indicator	1.50
6G6G	Power Output Pentode	2.25
6H6	(Met) Double Diode	1.25
†6H6G	Double Diode	1.25
6J5	(Met) Triode Amplifier	1.50
†6J5G	Triode Amplifier	1.50
6J7	(Met) Triple Grid Amplifier and Detector	1.50
†6J7G	Triple Grid Amplifier and Detector	1.50
†6K5G	High Mu Triode Amplifier	1.50
6K6G	Cathode Type Power Pentode	1.50
6K7	(Met) Triple Grid Super Control Pentode	1.50
†6K7G	Triple Grid Super Control Pentode	1.50
6L5G	Triode Amplifier and Detector	2.25
6L6	(Met) Power Amplifier	2.25
†6L6G	Power Amplifier	2.50
6L7	(Met) Heptode Mixer	1.75
6L7G	Heptode Mixer	1.75
†6N6G	Power Output Amplifier	2.25
6N7	(Met) Class B Power Amplifier	1.75
6N7G	Class B Power Amplifier	1.75
6P7G	Pentode Triode	2.25
6Q7	(Met) Double Diode High Mu Triode	1.50
†6Q7G	Double Diode High Mu Triode	1.50
6R7	(Met) Double Diode Medium Mu Triode	1.50
6R7G	Double Diode Medium Mu Triode	1.50
6S7G	Triple Grid Super Control Pentode	2.25
6T5	Tuning Indicator	1.50
6T7G	Double Diode High Mu Triode	2.25
6U5	Tuning Indicator	1.50
6U7G	R-F Pentode	1.50
6V6	(Met) Beam Power Amplifier	1.75
6V6G	Beam Power Amplifier	1.75
†6V7G	Duodiode Triode	1.50
6X5	(Met) Full Wave High Vacuum Rectifier	1.50
6X5G	Full Wave High Vacuum Rectifier	1.50
6Y5	(Maj) Full Wave Rectifier	2.00
6Y6G	Beam Power Amplifier	2.25
6Y7G	Class B Twin Amplifier	1.50
6Z5	(Maj) Full Wave Rectifier	2.00
10	Power Amplifier and Oscillator	2.75
12A	Power Amplifier	1.00
12A5	Power Output Pentode	2.25
12A7	Output Pentode and Rectifier	2.25

*See Reverse Side. †See Reverse Side.

CONTINUED ON REVERSE SIDE

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World Radio History

Sylvania

REG. U. S. PAT. OFF.

THE SET-TESTED TUBE

(CONTINUED FROM PAGE 5B)

12Z3	Half Wave High Vacuum Rectifier	$1.50
15	2 Volt R-F Pentode	2.25
19	Class B Twin Amplifier	1.50
20	Dry Cell Power Amplifier	2.25
22	Screen Grid Amplifier	2.00
*24A	A-C Screen Grid Amplifier	1.25
24S	(Maj) A-C Screen Grid Amplifier	1.50
25A6	(Met) Power Amplifier Pentode	1.50
25A6G	Power Amplifier Pentode	1.50
25A7G	Output Pentode & Rectifier	2.25
25B6G	Power Amplifier Pentode	1.75
25L6	(Met) Beam Power Amplifier	2.25
25L6G	Beam Power Amplifier	2.25
*25Z5	Rectifier and Voltage Doubler	1.25
25Z6	(Met) High Vacuum Rec. and Volt. Doub.	1.50
†25Z6G	High Vacuum Rectifier and Volt. Doub.	1.50
*26	A-C Amplifier	.80
*27	A-C Amplifier and Detector	.80
27S	(Maj) A-C Amplifier and Detector	1.25
30	Amplifier and Detector	1.00
31	Power Amplifier	1.00
32	Screen Grid Amplifier	1.75
33	Power Pentode	1.50
34	Super Control R-F Pentode	1.75
*35/51	Super Control Tetrode	1.25
35S/51S	(Maj) Super Control Tetrode	1.50
36	Screen Grid Amplifier	1.25
37	Amplifier and Detector	1.00
38	Power Amplifier Pentode	1.25
39/44	Super Control R-F Pentode	1.25
40	Voltage Amplifier	1.00
41	Cathode Type Power Pentode	1.25
*42	Cathode Type Power Pentode	1.25
43	Cathode Type Power Pentode	1.50
*45	Power Amplifier	1.00
46	Power Amplifier	1.50
*47	Power Pentode	1.50
48	Power Amplifier Tetrode	4.00
49	Power Amplifier	$1.25
50	Power Amplifier	2.50
53	Class B Twin Amplifier	2.00
55	Double Diode Triode	1.50
55S	(Maj) Double Diode Triode	1.75
56	A-C Amplifier and Detector	.80
56AS	(Maj) A-C Amplifier and Detector	1.50
56S	(Maj) A-C Amplifier and Detector	1.50
57	R-F Pentode	1.25
57AS	(Maj) R-F Pentode	1.75
57S	(Maj) R-F Pentode	1.75
58	Super Control R-F Pentode	1.25
58AS	(Maj) Super Control R-F Pentode	1.75
58S	(Maj) Super Control R-F Pentode	1.75
59	Triple Grid Power Amplifier	2.00
*71A	Power Amplifier	1.00
*75	Double Diode High Mu Triode	1.25
75S	(Maj) Double Diode High Mu Triode	1.75
76	A-C Amplifier and Detector	.80
77	R-F Pentode	1.50
78	Super Control R-F Pentode	1.25
79	Class B Twin Amplifier	1.50
*80	Full Wave Rectifier	.80
81	Half Wave Rectifier	2.25
82	Full Wave Mercury Vapor Rectifier	1.50
83	Full Wave Mercury Vapor Rectifier	1.75
83V	Full Wave High Vacuum Rectifier	2.25
84	Full Wave High Vacuum Rectifier	1.75
85	Double Diode Triode	1.25
85AS	(Maj) Double Diode Triode	1.75
89	Triple Grid Power Amplifier	1.50
V99	Dry Cell Amplifier and Detector	1.50
99	Dry Cell Amplifier and Detector	1.50
182B	Power Amplifier	2.00
183	Power Amplifier	2.00
210-T	Power Amplifier and Oscillator	2.75
485	Amplifier and Detector	2.00
864	Amplifier and Detector	2.00

Type numbers followed by a "G" (1C7G) designate glass tubes with octal bases. (Bal.) Ballast; (Maj.) Majestic; (Met.) Metal.

Average Dealer Sales by Tube Types

As an assistance in ordering and maintaining stock, we have broken down all current tubes into 5 classes. Generally speaking, approximately 56% of replacement sales will come from Group "A," 19% from Group "B,' 16% from Group "C," 8% from Group "D," and 1% from Group "E."

Even the small dealer should maintain generous supplies of Group "A" tubes, reasonable quantities of Group "B"; and his own experience will dictate his requirements of Groups "C," "D," and "E."

These classifications, naturally, are compiled on a national basis and are intended only as a general guide. Sectional differences will change them, as, for instance, dry battery tubes in farm areas, AC-DC types in cities employing direct current, etc., etc.

***GROUP A TYPES**—6A7, 24A, 25Z5, 26, 27, 35/51, 42, 45, 47, 71A, 75, 78, 80.

GROUP B TYPES—2A5, 5Z3, 6C6, 6D6, 6F6, 6K7, 30, 32, 34, 36, 39/44, 41, 43, 56, 57, 58, 76, 77, 84.

GROUP C TYPES—01A, 1B5/25S, 1C7G, 1D5GP, 1D5GT, 1H4G, 1H6G, 2A3, 2A7, 5V4G, 5Y3G, 5Y4G, 5Z4, 6A6, 6A8, 6A8G, 6B5, 6B7, 6C5, 6C5G, 6E5, 6F5G, 6F6G, 6F7, 6H6, 6H6G, 6J7G, 6K7G, 6L6, 6L6G, 6Q7, 6Q7G, 12A, 12Z3, 25A6G, 25Z6G, 33, 37, 38, 46, 59, 81, 82, 83, 85, 89, 183, 485.

GROUP D TYPES—1A4P, 1A4T, 1A6, 1B4P, 1C6, 1D7G, 1E5GP, 1E7G, 1F4, 1F5G, 1F6, 1F7G, 1J6G, 1V, 2A6, 2B7, 2E5, 5U4G, 5W4, 6A3, 6A4/LA, 6A5G, 6B8, 6D8G, 6E6, 6F5, 6G5 6J5, 6J5G, 6J7, 6K5G, 6K6G, 6L5G, 6L7, 6L7G, 6N6G, 6N7, 6N7G, 6P7G, 6R7, 6S7G, 6T5, 6T7G, 6U7G, 6V6, 6V6G, 6V7G, 6X5, 6X5G, 10, 12A7, 15, 19, 22, 25A6, 25L6, 25L6G, 25Z6, 31, 49, 50, 53, 55, 79, 83V, 99, 182B, 210-T.

GROUP E TYPES—ALL OTHER TYPES

† "G" Tubes indicated by a dagger (†) are popular types, and a stock should be maintained according to your requirements. Your own experience will govern requirements of other "G" types.

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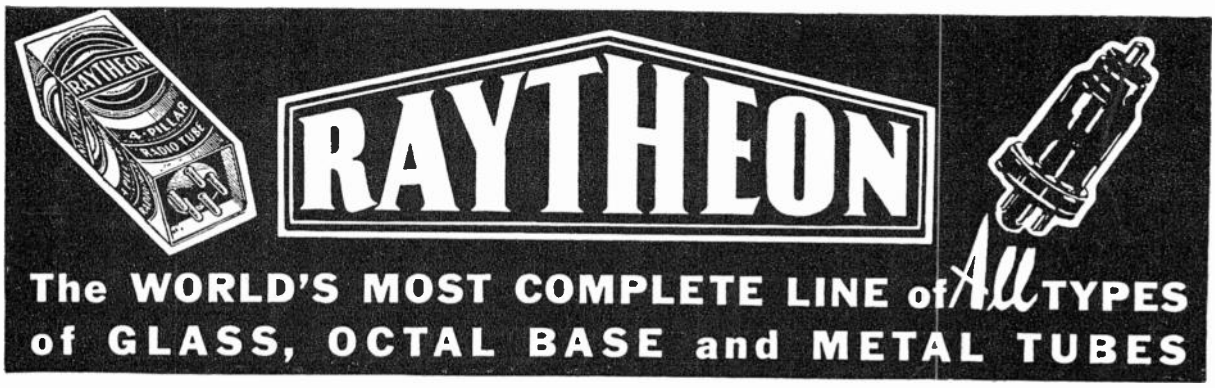
World Radio History



There is a RAYTHEON tube for any replacement you will ever need to make. RAYTHEON is a *big* money-making line . . . with liberal discounts . . . an exclusive Profit-Protection from "cut prices" . . . and a powerful consumer demand produced by $5,000,000.00 worth of advertising in the last 7 years which has made the buying public conscious that RAYTHEON is *the* quality tube!

RAYTHEON makes tubes for over 65% of all licensed set manufacturers! For that reason RAYTHEON tubes must not only meet the exacting standards of more Chief Engineers than any other tube—but they must perform in more diversified circuits than any other tube! You can't go wrong when you replace with RAYTHEON.

Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube
00-A	$2.25	5W4G (Oct.)	$1.00	6J7 (Met.)	$1.50	25A6 (Met.)	$1.50	L42B (Res.)	$1.00	59	$2.00
01-A	.80	5X4G (Oct.)	1.50	6J7G (Oct.)	1.50	25A6G (Oct.)	1.50	L42C (Res.)	1.00	60R30G (Res.)	1.00
NB1 (Res.)	1.00	5Y3G (Oct.)	1.00	6J8G (Oct.)	2.25	25A7G (Oct.)	2.25	L42D (Res.)	1.00	71-A	1.00
NB2 (Res.)	1.00	5Y4G (Oct.)	1.00	6K5G (Oct.)	1.50	25B6G (Oct.)	1.75	43	1.50	75	1.25
NB3 (Res.)	1.00	5Z3	1.25	6K6G (Oct.)	1.50	25L6 (Met.)	2.25	45	1.00	75-S (Maj.)	1.75
NB4 (Res.)	1.00	5Z4 (Met.)	2.00	6K7 (Met.)	1.50	25L6G (Oct.)	2.25	46	1.50	76	.80
NB5 (Res.)	1.00	5Z4MG (Oct.)	2.00	6K7G (Oct.)	1.50	25Z5	1.25	47	1.50	77	1.50
NB6 (Res.)	1.00	6A3	2.00	6K8 (Met.)	1.75	25Z6 (Met.)	1.50	48	4.00	78	1.25
NB7 (Res.)	1.00	6A4 (LA)	1.50	6L5G (Oct.)	2.25	25Z6G (Oct.)	1.50	49	1.25	79	1.50
NB8 (Res.)	1.00	6A5G (Oct.)	2.00	6L6 (Met.)	2.25	10	2.75	49A (Res.)	1.00	80	.80
OZ4G (Oct.)	1.50	6A6	1.75	6L6G (Oct.)	2.50	12-A	1.00	49A1 (Res.)	1.00	81	2.25
OZ4 (Met.)	1.50	6A7	1.50	6L7 (Met.)	1.75	15	2.25	49A2 (Res.)	1.00	82	1.50
1A1 (Res.)	1.50	6A7-S (Maj.)	2.50	6L7G (Oct.)	1.75	19	1.50	49B2 (Res.)	1.00	83	1.75
1A4	1.75	6A8 (Met.)	1.50	6N5	1.75	20	2.25	K49B (Res.)	1.00	83-V	2.25
1A6	1.75	6A8-G (Oct.)	1.50	6N6G (Oct.)	2.25	22	2.00	K49C (Res.)	1.00	84 (6Z4)	1.75
1B1 (Res.)	1.50	6AB5	1.75	6N6MG (Oct.)	2.50	24-A	1.25	K49CB (Res.)	1.00	85	1.25
1B4/951	2.25	6AC5G (Oct.)	1.25	6N7 (Met.)	1.75	24-S (Maj.)	1.50	K49D (Res.)	1.00	85AS (Maj.)	1.75
1B5/25S	1.25	6B4G (Oct.)	2.00	6N7G (Oct.)	1.75	26	.80	L49B (Res.)	1.00	89	1.50
1C6	1.75	6B5	2.25	6P7G (Oct.)	2.25	27	.80	L49C (Res.)	1.00	V99	1.50
1C7G (Oct.)	2.25	6B6G (Oct.)	1.50	6Q6G (Oct.)	2.25	27-S (Maj.)	1.25	L49D (Res.)	1.00	X99	1.50
1D5G (Oct.)	2.25	6B7	1.50	6Q7 (Met.)	1.50	30	1.00	50	2.50	140R (Res.)	1.00
1D7G (Oct.)	1.75	6B7-S (Maj.)	2.50	6Q7G (Oct.)	1.50	31	1.00	52	2.00	140R4 (Res.)	1.00
1E5G (Oct.)	2.25	6B8 (Met.)	1.75	6R7 (Met.)	1.50	32	1.75	53	2.00	140R8 (Res.)	1.00
1E7G (Oct.)	2.75	6B8G (Oct.)	1.75	6R7G (Oct.)	1.50	33	1.50	55	1.50	165L4 (Res.)	1.00
1F4	1.50	6C5 (Met.)	1.25	6S7 (Met.)	2.25	34	1.75	55A1 (Res.)	1.00	165R (Res.)	1.00
1F5G (Oct.)	2.25	6C5G (Oct.)	1.25	6S7G (Oct.)	2.25	35/51	1.25	55A2 (Res.)	1.00	165R4 (Res.)	1.00
1F6	2.25	6C6	1.25	6T5	1.50	35S/51S (Maj.)	1.50	55B2 (Res.)	1.00	165R8 (Res.)	1.00
1F7G (Oct.)	2.25	6C7 (Maj.)	2.00	6T7G/6Q6G		36	1.25	K55B (Res.)	1.00	182B/482B	2.00
1G5G (Oct.)	2.00	6C8G (Oct.)	1.50	(Oct.)	2.25	L36B (Res.)	1.00	K55C (Res.)	1.00	183/483	2.00
1H4G (Oct.)	1.00	6D6	1.25	6U5	1.50	37	1.00	K55D (Res.)	1.00	185R (Res.)	1.00
1H6G (Oct.)	1.75	6D7 (Maj.)	2.00	6U7G (Oct.)	1.50	38	1.25	L55B (Res.)	1.00	185R4 (Res.)	1.00
1J5G (Oct.)	2.25	6D8G (Oct.)	2.25	6V6 (Met.)	1.75	39/44	1.25	L55C (Res.)	1.00	185R8 (Res.)	1.00
1J6G (Oct.)	1.50	6E5	1.50	6V6G (Oct.)	1.75	40	1.00	L55D (Res.)	1.00	340 (Res.)	1.00
1-V	1.25	6E6	2.00	6V7G (Oct.)	1.50	41	1.25	55-S (Maj.)	1.75	485	2.00
2A3	2.50	6E7 (Maj.)	2.00	6W5G (Oct.)	1.50	42	1.25	56	.80	878R48 (Res.)	1.00
2A5	1.25	6F5 (Met.)	1.25	6W7G (Oct.)	2.25	42A (Res.)	1.00	56AS (Maj.)	1.50	950	2.25
2A6	1.25	6F5G (Oct.)	1.25	6X5 (Met.)	1.50	42A1 (Res.)	1.00	56-S (Maj.)	1.50	951/1B4	2.25
2A7	1.50	6F6 (Met.)	1.50	6X5G/600	1.50	42A2 (Res.)	1.00	57	1.25	WD-11	2.25
2A7S (Maj.)	2.50	6F6G (Oct.)	1.50	6Y5 (Maj.)	2.00	42B2 (Res.)	1.00	57AS (Maj.)	1.75	WX-12	2.25
2B7	1.75	6F7	2.00	6Y6G (Oct.)	2.25	K42B (Res.)	1.00	57-S (Maj.)	1.75	BA	7.50
2B7S (Maj.)	2.50	6F7-S (Maj.)	2.00	6Y7G (Oct.)	1.50	K42C (Res.)	1.00	58	1.25	BH	4.65
2E5	1.50	6F8G (Oct.)	1.50	6Z4/84	1.75	K42D (Res.)	1.00	58AS (Maj.)	1.75	BR	2.75
2S/4S (Maj.)	2.75	6G5/6H5	1.50	6Z5 (Maj.)	2.00	K42E (Res.)	1.00	58-S (Maj.)	1.75	LA (6A4)	1.50
2Z2/G84 (Maj.)	2.00	6G6G (Oct.)	2.25	6ZY5G (Oct.)	1.50						
5T4 (Met.)	2.50	6H6 (Met.)	1.25	6Z7G (Oct.)	1.75						
5U4G (Oct.)	1.50	6H6G (Oct.)	1.25	12A5	2.25						
5V4G (Oct.)	2.50	6J5 (Met.)	1.50	12A7	2.25						
5W4 (Met.)	1.00	6J5G (Oct.)	1.50	12Z3	1.50						

(Oct.) Octal, (Met.) Metal, (Maj.) Majestic, (Res.) Resistance

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ASK FOR CONFIDENTIAL DISCOUNTS

4-1-38

43	1.50	6K6G	[illegible]	G84/2Z2	2.10
45	.95	6K7G	1.45	KELLOGG HEATER TYPE	
46	1.60	6L5G	2.35		
47	1.60	6L6G	2.60		
48	4.50	6L7G	1.85		
49	1.35	6N6G	2.35	401	$1.90

RADIO TUBE SHIELDS

Type	LIST PRICE
ST12CT	$0.15
ST14CT	.15
S14	.15

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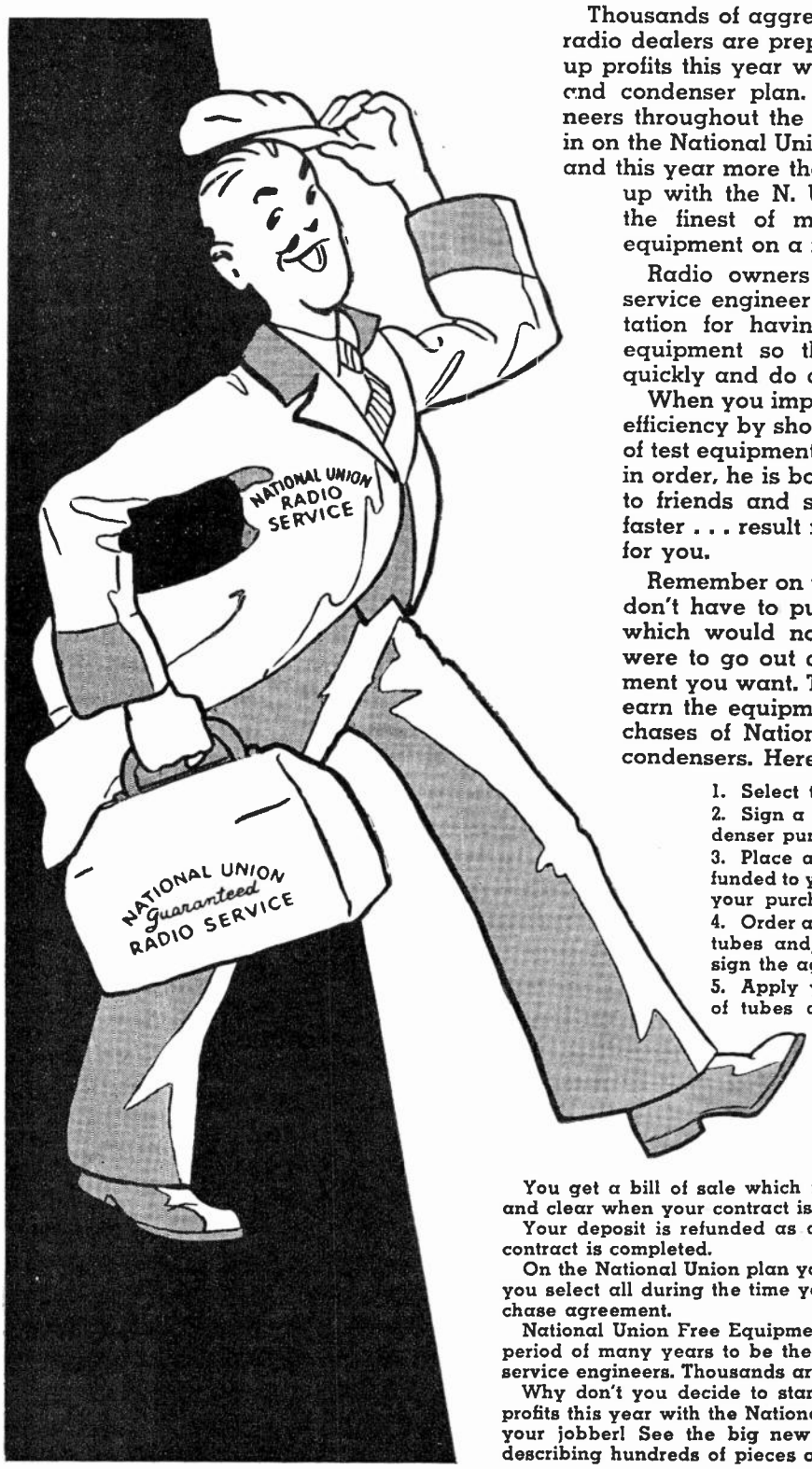
ASK FOR CONFIDENTIAL DISCOUNTS

World Radio History

STEP UP! Get Equipment FREE with National Union Tubes and Condensers!



Thousands of aggressive service engineers and radio dealers are preparing to step up sales, step up profits this year with the National Union tube and condenser plan. Hard hitting service engineers throughout the country have been cashing in on the National Union plan for nearly ten years and this year more than ever it is important to tie up with the N. U. program which provides the finest of modern high efficiency test equipment on a free offer basis.

Radio owners will naturally turn to the service engineer who builds himself a reputation for having the latest things in test equipment so that he can service radios quickly and do a 100% satisfactory job.

When you impress one customer with your efficiency by showing him a handsome piece of test equipment you are using to put his set in order, he is bound to pass the word along to friends and so your prospect list grows faster . . . result more business, more money for you.

Remember on the National Union plan you don't have to put up the amount of money which would normally be required if you were to go out and buy the modern equipment you want. Through National Union you earn the equipment through every day purchases of National Union Radio tubes and condensers. Here's all you do:

1. Select the equipment you want.
2. Sign a National Union tube and/or condenser purchasing agreement.
3. Place a small deposit which will be refunded to you as a merchandise credit when your purchasing agreement is completed.
4. Order a small quantity of National Union tubes and/or condensers at the time you sign the agreement.
5. Apply your regular monthly purchases of tubes and condensers against the requirements of the contract.

NOTE THESE FACTS

The instrument is shipped to you immediately after your contract is accepted.

You get a bill of sale which makes the instrument yours free and clear when your contract is completed.

Your deposit is refunded as a merchandise credit when your contract is completed.

On the National Union plan you have the use of the instrument you select all during the time you are buying against your purchase agreement.

National Union Free Equipment Plan has proven itself over a period of many years to be the fairest, squarest deal offered to service engineers. Thousands are cashing in on it!

Why don't you decide to start now to step up sales, step up profits this year with the National tube and condenser plan? See your jobber! See the big new N. U. Catalog illustrating and describing hundreds of pieces of equipment you can have.

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World Radio History

RAYTHEON

The WORLD'S MOST COMPLETE LINE of *All* TYPES of GLASS, OCTAL BASE and METAL TUBES

There is a RAYTHEON tube for any replacement you will ever need to make. RAYTHEON is a *big* money-making line . . . with liberal discounts . . . an exclusive Profit-Protection from "cut prices" . . . and a powerful consumer demand produced by $5,000,000.00 worth of advertising in the last 7 years which has made the buying public conscious that RAYTHEON is *the* quality tube!

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Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube	Type No.	List Price Per Tube
00-A	$2.25	5W4G (Oct.)	$1.00	6J7 (Met.)	$1.50	25A6 (Met.)	$1.50	L42B (Res.)	$1.00	59	$2.00
01-A	.80	5X4G (Oct.)	1.50	6J7G (Oct.)	1.50	25A6G (Oct.)	1.50	L42C (Res.)	1.00	60R30G (Res.)	1.00
NB1 (Res.)	1.00	5Y3G (Oct.)	1.00	6J8G (Oct.)	2.25	25A7G (Oct.)	2.25	L42D (Res.)	1.00	71-A	1.00
NB2 (Res.)	1.00	5Y4G (Oct.)	1.00	6K5G (Oct.)	1.50	25B6G (Oct.)	1.75	43	1.50	75	1.25
NB3 (Res.)	1.00	5Z3	1.25	6K6G (Oct.)	1.50	25L6 (Met.)	2.25	45	1.00	75-S (Maj.)	1.75
NB4 (Res.)	1.00	5Z4 (Met.)	2.00	6K7 (Met.)	1.50	25L6G (Oct.)	2.25	46	1.50	76	.80
NB5 (Res.)	1.00	5Z4MG (Oct.)	2.00	6K7G (Oct.)	1.50	25Z5	1.25	47	1.50	77	1.50
NB6 (Res.)	1.00	6A3	2.00	6K8 (Met.)	1.75	25Z6 (Met.)	1.50	48	4.00	78	1.25
NB7 (Res.)	1.00	6A4 (LA)	1.50	6L5G (Oct.)	2.25	25Z6G (Oct.)	1.50	49	1.25	79	1.50
NB8 (Res.)	1.00	6A5G (Oct.)	2.00	6L6 (Met.)	2.25	10	2.75	49A (Res.)	1.00	80	.80
OZ4G (Oct.)	1.50	6A6	1.75	6L6G (Oct.)	2.50	12-A	1.00	49A1 (Res.)	1.00	81	2.25
0Z4 (Met.)	1.50	6A7	1.50	6L7 (Met.)	1.75	15	2.25	49A2 (Res.)	1.00	82	1.50
1A1 (Res.)	1.50	6A7-S (Maj.)	2.50	6L7G (Oct.)	1.75	19	1.50	49B2 (Res.)	1.00	83	1.75
1A4	1.75	6A8 (Met.)	1.50	6N5	1.75	20	2.25	K49B (Res.)	1.00	83-V	2.25
1A6	1.75	6A8-G (Oct.)	1.50	6N6G (Oct.)	2.25	22	2.00	K49C (Res.)	1.00	84 (6Z4)	1.75
1B1 (Res.)	1.50	6AB5	1.75	6N6MG (Oct.)	2.50	24-A	1.25	K49CB (Res.)	1.00	85	1.25
1B4/951	2.25	6AC5G (Oct.)	1.25	6N7 (Met.)	1.75	24-S (Maj.)	1.50	K49D (Res.)	1.00	85AS (Maj.)	1.75
1B5/25S	1.25	6B4G (Oct.)	2.00	6N7G (Oct.)	1.75	26	.80	L49B (Res.)	1.00	89	1.50
1C6	1.75	6B5	2.25	6P7G (Oct.)	2.25	27	.80	L49C (Res.)	1.00	V99	1.50
1C7G (Oct.)	2.25	6B6G (Oct.)	1.50	6Q6G (Oct.)	2.25	27-S (Maj.)	1.25	L49D (Res.)	1.00	X99	1.50
1D5G (Oct.)	2.25	6B7	1.50	6Q7 (Met.)	1.50	30	1.00	50	2.50	140R (Res.)	1.00
1D7G (Oct.)	1.75	6B7-S (Maj.)	2.50	6Q7G (Oct.)	1.50	31	1.00	52	2.00	140R4 (Res.)	1.00
1E5G (Oct.)	2.25	6B8 (Met.)	1.75	6R7 (Met.)	1.50	32	1.75	53	2.00	140R8 (Res.)	1.00
1E7G (Oct.)	2.75	6B8G (Oct.)	1.75	6R7G (Oct.)	1.50	33	1.50	55	1.50	165L4 (Res.)	1.00
1F4	1.50	6C5 (Met.)	1.25	6S7 (Met.)	2.25	34	1.75	55A1 (Res.)	1.00	165R (Res.)	1.00
1F5G (Oct.)	2.25	6C5G (Oct.)	1.25	6S7G (Oct.)	2.25	35/51	1.25	55A2 (Res.)	1.00	165R4 (Res.)	1.00
1F6	2.25	6C6	1.25	6T5	1.50	35S/51S (Maj.)	1.50	55B2 (Res.)	1.00	165R8 (Res.)	1.00
1F7G (Oct.)	2.25	6C7 (Maj.)	2.00	6T7G/6Q6G		36	1.25	K55B (Res.)	1.00	182B/482B	2.00
1G5G (Oct.)	2.00	6C8G (Oct.)	1.50	(Oct.)	2.25	L36B (Res.)	1.00	K55C (Res.)	1.00	183/483	2.00
1H4G (Oct.)	1.00	6D6	1.25	6U5	1.50	37	1.00	K55D (Res.)	1.00	185R (Res.)	1.00
1H6G (Oct.)	1.75	6D7 (Maj.)	2.00	6U7G (Oct.)	1.50	38	1.25	L55B (Res.)	1.00	185R4 (Res.)	1.00
1J5G (Oct.)	2.25	6D8G (Oct.)	2.25	6V6 (Met.)	1.75	39/44	1.25	L55C (Res.)	1.00	185R8 (Res.)	1.00
1J6G (Oct.)	1.50	6E5	1.50	6V6G (Oct.)	1.75	40	1.00	L55D (Res.)	1.00	340 (Res.)	1.00
1-V	1.25	6E6	2.00	6V7G (Oct.)	1.50	41	1.25	55-S (Maj.)	1.75	485	2.00
2A3	2.50	6E7 (Maj.)	2.00	6W5G (Oct.)	1.50	42	1.25	56	.80	878R48 (Res.)	1.00
2A5	1.25	6F5 (Met.)	1.25	6W7G (Oct.)	2.25	42A (Res.)	1.00	56AS (Maj.)	1.50	950	2.25
2A6	1.25	6F5G (Oct.)	1.25	6X5 (Met.)	1.50	42A1 (Res.)	1.00	56-S (Maj.)	1.50	951/1B4	2.25
2A7	1.50	6F6 (Met.)	1.50	6X5G/600	1.50	42A2 (Res.)	1.00	57	1.25	WD-11	2.25
2A7S (Maj.)	2.50	6F6G (Oct.)	1.50	6Y5 (Maj.)	2.00	42B2 (Res.)	1.00	57AS (Maj.)	1.75	WX-12	2.25
2B7	1.75	6F7	2.00	6Y6G (Oct.)	2.25	K42B (Res.)	1.00	57-S (Maj.)	1.75	BA	7.50
2B7S (Maj.)	2.50	6F7-S (Maj.)	2.00	6Y7G (Oct.)	1.50	K42C (Res.)	1.00	58	1.25	BH	4.65
2E5	1.50	6F8G (Oct.)	1.50	6Z4/84	1.75	K42D (Res.)	1.00	58AS (Maj.)	1.75	BR	2.75
2S/4S (Maj.)	2.75	6G5/6H5	1.50	6Z5 (Maj.)	2.00	K42E (Res.)	1.00	58-S (Maj.)	1.75	LA (6A4)	1.50
2Z2/G84 (Maj.)	2.00	6G6G (Oct.)	2.25	6ZY5G (Oct.)	1.50						
5T4 (Met.)	2.50	6H6 (Met.)	1.25	6Z7G (Oct.)	1.75						
5U4G (Oct.)	1.50	6H6G (Oct.)	1.25	12A5	2.25						
5V4G (Oct.)	2.50	6J5 (Met.)	1.50	12A7	2.25						
5W4 (Met.)	1.00	6J5G (Oct.)	1.50	12Z3	1.50						

(Oct.) Octal, (Met.) Metal, (Maj.) Majestic, (Res.) Resistance

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World Radio History

FREE! RAYTHEON

DEALER AND SERVICE HELPS

SEND FOR YOUR COPY OF THE NEW COMPLETE CATALOG OF RAYTHEON DEALER HELPS

Without any cost to you — we will gladly furnish you with large window display cards, a copy of the Raytheon Pocket Trouble Shooter, Raytheon Consumer price list, tube stickers, technical data sheets and timely window banners. Write today for your copy of the new complete catalog of Raytheon dealer and service helps.

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World Radio History

NATIONAL UNION
RADIO TUBES

Since 1930, National Union has contributed greatly to the Tube Industry from technical and scientific standpoints. National Union Tubes are made in the Company's two modern plants at Newark, N. J. National Union sells more service dealers than any other company in the industry. National Union's standards are higher, and best materials are used throughout. All National Union Tubes are fully guaranteed.

NOTICE: In compliance with State Laws, this list shows retailers minimum resale prices under any State Fair Trade Act.

SEPTEMBER 15th, 1938 EDITION

*Interchangeable with types not branded with "T"

GLASS TYPES

Type	List Price
00A	$2.40
01A	.90
01AA	.95
*1A4T	1.85
1A6	1.85
*1B4T/951	2.35
1B5/25S	1.35
1C6	1.85
1F4	1.60
1F6	2.40
1V	1.20
2A3	2.65
2A5	1.35
2A6	1.35
2A7	1.60
2B6	2.60
2B7	1.70
2E5	1.60
5Z3	1.20
6A3	2.10
6A4	1.60
6A6	1.70
6A7	1.45
6AB5	1.85
6B5	2.35
6B7	1.60
6C6	1.30
6D6	1.30
6E5	1.60
6E6	2.10
6F7	2.10
6G5/6H5	1.60
6N5	1.85
6T5	1.60
6U5	1.60
10	2.90
12A	1.10
12A5	2.35
12A7	2.35
12Z3	1.30
15	2.40
19	1.45
20	2.35
22	2.10
24A	1.05
25B5	2.35
25Y5	2.10
25Z5	1.30
26	.80
27	.80
30	1.00
31	1.10
32	1.80
33	1.45
34	1.80
35/51	1.15
36	1.20
37	1.10
38	1.35
39/44	1.35
41	1.20
42	1.35
43	1.50
45	.95
46	1.60
47	1.60
48	4.50
49	1.35

GLASS TYPES (continued)

Type	List Price
50	$2.75
53	2.10
55	1.60
56	.85
57	1.35
58	1.35
59	2.10
71A	.90
75	1.20
76	.85
77	1.45
78	1.30
79	1.60
80	.75
81	2.35
82	1.60
83	1.70
83V	2.35
84/6Z4	1.70
85	1.30
89	1.65
99V	1.65
99X	1.65
950	2.35
493	2.10
485	2.10

GLASS METAL "G" Tube Types

Type	List Price
0Z4G	$1.60
1C7G	2.30
*1D5GT	2.30
1D7G	1.85
*1E5GT	2.30
1E7G	2.85
1F5G	2.30
1F7G	2.30
1F7GV	2.30
1G5G	2.10
1H4G	1.10
1H6G	1.85
1J6G	1.45
5U4G	1.60
5V4G	2.40
5W4G	1.10
5X4G	1.60
5Y3G	1.10
5Y4G	1.10
6A8G	1.60
6B4G	2.10
6B6G	1.45
6B8G	1.85
6C5G	1.35
6C8G	1.60
6D8G	2.35
6F5G	1.35
6F6G	1.45
6H6G	1.35
6J5G	1.35
6J7G	1.60
6K5G	1.45
6K6G	1.45
6K7G	1.45
6L5G	2.35
6L6G	2.60
6L7G	1.85
6N6G	2.35

GLASS METAL (continued)

Type	List Price
6N7G	$1.85
6Q6G/6T7G	2.35
6Q7G	1.45
6R7G	1.45
6S7G	2.35
6U7G	1.45
6V6G	1.85
6V7G	1.45
6X5G	1.70
25A6G	1.60
25A7G	2.35
25B6G	1.85
25L6G	2.35
25N6G	2.35
25Z6G	1.60

ALL METAL

Type	List Price
0Z4	$1.60
5T4	2.60
5W4	1.10
5Z4	2.10
6A8	1.60
6B8	1.85
6C5	1.35
6F5	1.35
6F6	1.45
6H6	1.35
6J7	1.60
6K7	1.45
6L6	2.35
6L7	1.85
6N7	1.85
6Q7	1.45
6R7	1.45
6X5	1.60
25A6	1.60
25L6	2.35
25Z6	1.60

MAJESTIC TYPE TUBES

Type	List Price
24-S	$1.60
27-S	1.20
35-S (51S)	1.60
55-S	1.85
56-S	1.45
57-S	1.85
57A-S	1.85
58-S	1.85
58A-S	1.85
85A-S	1.85
2A7-S	2.40
6A7-S	2.40
6B7-S	2.40
6C7	2.10
6D7	2.10
6E7	2.10
6F7-S	2.10
6Y5	2.10
6Z5/12Z5	2.10
G84/2Z2	2.10

KELLOGG HEATER TYPE

Type	List Price
401	$1.90

NATIONAL UNION RADIO PANEL LAMPS

Lamp Number	Bulb	Base	Volts	Amp.	List Price
N48	T-3¼	Screw	2.0¶	.06	$0.20
N49		Bayonet			.22
—	T-3¼	Screw	2.1¶	.12	—
N49A		Bayonet			.22
N41	T-3¼	Screw	2.5	.50	.09
N43		Bayonet			.10
N292	T-3¼	Screw	2.9	.17	.10
N292A		Bayonet			.14
N42	T-3¼	Screw	3.2	.50	.12
N45		Bayonet			.12
N40	T-3¼	Screw	6-8*	.15	.09
N40A		Bayonet			.12
N46	T-3¼	Screw	6-8*	.25	.09
N44		Bayonet			.09
N50	G-3½	Screw	6-8	.20	.10
N51		Bayonet			.07
N50-R or G	G-3½	Screw	6-8§	.20	.13
N51-R or G		Bayonet			.10
—	G-4½	Screw	6-8	.40	—
55		Bayonet			.07

¶For "Air Cell" Receivers. *Design Voltage—6.3.
§R—Coated RED. G—Coated Green.

NATIONAL UNION AUTOMOBILE LAMPS

Lamp Number	Bulb	Base	Volts	Candle Power	List Price
		INSTRUMENT AND TAIL			
51	G-3½	Bay.	6.8	1	$0.07
51R	G-3½	Bay.	6-8	1	.10
51G	G-3½	Bay.	6-8	1	.10
55	G-4½	Bay.	6.8	1½	.07
63R	G-6	SC Bay.	6-8	3	.10
63G	G-6	SC Bay.	6-8	3	.10
64	G-6	DC Bay.	6-8	3	.12
67	G-6	SC Bay.	12-16	3	.18
63	G-6	SC Bay.	6-8	3	.07
81	G-6	SC Bay.	6-8	6	.10
		INTERIOR AND SIGNAL			
87	S-8	SC Bay.	6-8	15	.15
1129	S-8	SC Bay.	6-8	21	.19
1141	S-8	SC Bay.	12-16	21	.35
1154	S-8	Index Bay.	6-8	21 & 3	.25
1158	S-8	DC Bay.	6-8	21 & 3	.19
		FOG AND SPOT			
1133	RP-11	SC Bay.	6-8	32	.19
1133S	RP-11	SC Bay.	6-8	32	.24
1183	RP-11	SC Bay.	6-8	50	.40
1323	RP-11	SC Prefocus	6-8	32	.30
1323S	RP-11	SC Prefocus	6-8	32	.35
1503	RP-11	SC Prefocus	6-8	50	.55
		HEADLIGHTS			
1000	RP-11	DC Bay.	6-8	32 & 32	.19
1000-S	RP-11	DC Bay.	6-8	32 & 32	.24
1110	RP-11	DC Bay.	6-8	21 & 21	.19
1116	RP-11	DC Bay.	6-8	32 & 21	.19
1188	RP-11	DC Bay.	6-8	50 & 32	.50
2320	RP-11	DC Prefocus	6-8	32 & 21	.30
2330	RP-11	DC Prefocus	6-8	32 & 32	.30
2330S	RP-11	DC Prefocus	6-8	32 & 32	.35
2530	RP-11	DC Prefocus	6-8	50 & 32	.60
2331	RP-11	DC Prefocus	6-8	32 & 32	.30
2331S	RP-11	DC Prefocus	6-8	32 & 32	.35
2531	RP-11	DC Prefocus	6-8	32 & 32	.70

ALL NUMBERS WITHIN ANY BRACKET ARE INTERCHANGEABLE
R—Coated Red. G—Coated Green. S—Shielded Bulb.
S. C.—Single Contact Base. D. C.—Double Contact Base.
All Lamps are Packed 10 to a Unit Carton.

CATHODE RAY TUBES
(Also See Television Tubes)

Type	NET PRICE
2002—2" Screen	$7.50
2003—3" Screen	12.00
2005—5" Screen	22.50
2109—9" Screen	50.00
2203—Monotron	16.50

RADIO TUBE SHIELDS

Type	LIST PRICE
ST12CT	$0.15
ST14CT	.15
S14	.15

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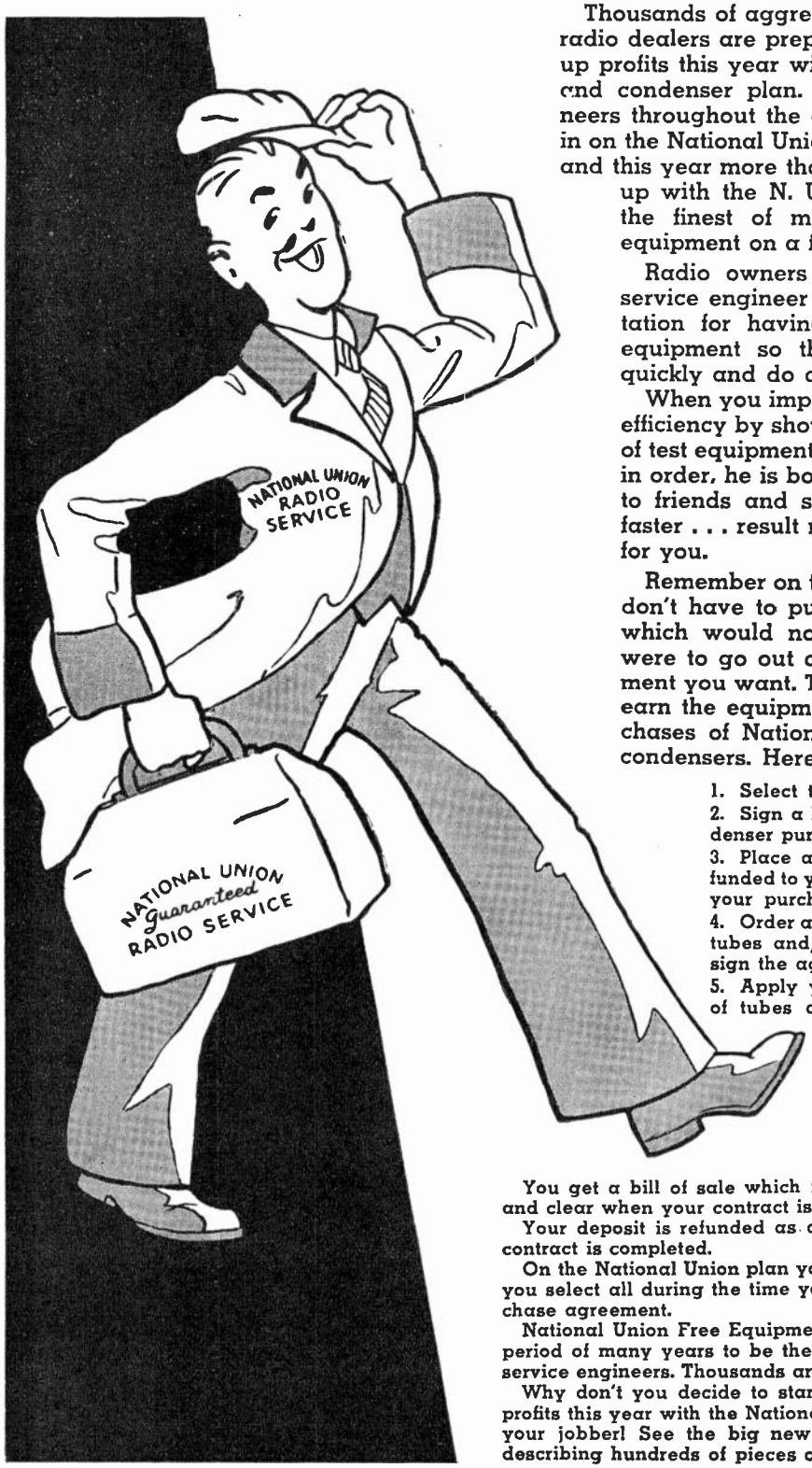
World Radio History

STEP UP! Get Equipment FREE with National Union Tubes and Condensers!



Thousands of aggressive service engineers and radio dealers are preparing to step up sales, step up profits this year with the National Union tube and condenser plan. Hard hitting service engineers throughout the country have been cashing in on the National Union plan for nearly ten years and this year more than ever it is important to tie up with the N. U. program which provides the finest of modern high efficiency test equipment on a free offer basis.

Radio owners will naturally turn to the service engineer who builds himself a reputation for having the latest things in test equipment so that he can service radios quickly and do a 100% satisfactory job.

When you impress one customer with your efficiency by showing him a handsome piece of test equipment you are using to put his set in order, he is bound to pass the word along to friends and so your prospect list grows faster . . . result more business, more money for you.

Remember on the National Union plan you don't have to put up the amount of money which would normally be required if you were to go out and buy the modern equipment you want. Through National Union you earn the equipment through every day purchases of National Union Radio tubes and condensers. Here's all you do:

1. Select the equipment you want.
2. Sign a National Union tube and/or condenser purchasing agreement.
3. Place a small deposit which will be refunded to you as a merchandise credit when your purchasing agreement is completed.
4. Order a small quantity of National Union tubes and/or condensers at the time you sign the agreement.
5. Apply your regular monthly purchases of tubes and condensers against the requirements of the contract.

NOTE THESE FACTS

The instrument is shipped to you immediately after your contract is accepted.

You get a bill of sale which makes the instrument yours free and clear when your contract is completed.

Your deposit is refunded as a merchandise credit when your contract is completed.

On the National Union plan you have the use of the instrument you select all during the time you are buying against your purchase agreement.

National Union Free Equipment Plan has proven itself over a period of many years to be the fairest, squarest deal offered to service engineers. Thousands are cashing in on it!

Why don't you decide to start now to step up sales, step up profits this year with the National tube and condenser plan? See your jobber! See the big new N. U. Catalog illustrating and describing hundreds of pieces of equipment you can have.

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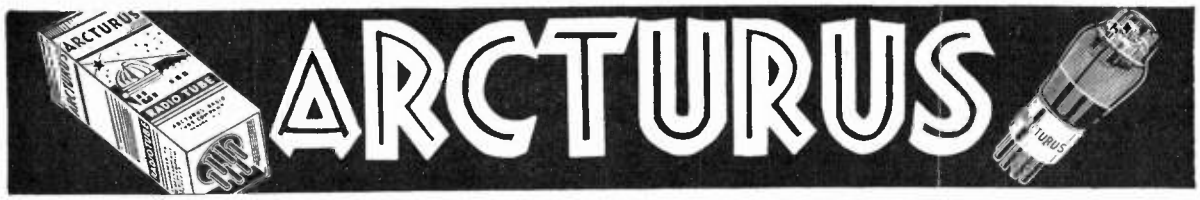


ARCTURUS

Eight Out of Ten Developments Pioneered by ARCTURUS

Progress in A.C. radio tubes since 1927 has been based on ten fundamental developments. Eight out of the ten were pioneered by Arcturus. Seldom, if ever, in any field has a manufacturer so consistently and constructively pioneered. If you are interested in building your own standing, then you must handle products fundamentally right . . . tubes consistently superior . . . **Arcturus Tubes.**

1. **Standard-base A.C. Tube**
2. **Quick-Heater**
3. **Screen Grid**
4. **Variable-Mu**
5. **Suppressor Grid (Pentode, 2A5)**
6. **Coaxial Grid (Wunderlich)**
7. Emission Control Modulator (2A7)
8. Metal Tube
9. **"G" Tube**
10. **"Coronet" Tube**

GLASS TUBES

Type No.	Description	Volts	List Price
01-A	Triode Det.-Amplifier	5.0	$0.80
1V	Diode Half-Wave Rect.	6.3	1.25
10	Triode Amp.—Class "A"	7.5	2.75
12-A	Triode Det.-Amp.	5.0	1.00
15	Pentode Amplifier	2.0	2.25
19	Dup. Tri. Amp.—Class "B"	2.0	1.50
22	Tetrode Amplifier	3.3	2.00
24	Tetrode Det. Biased-Amp.	2.5	1.25
26	Triode Amplifier	1.5	.80
27	Triode Det. Biased-Amp.	2.5	.80
30	Triode Det.-Amp.	2.0	1.00
31	Triode Power Amp.	2.0	1.00
32	Tetrode Det. Biased-Amp.	2.0	1.75
33	Pentode Amp.-Class "A"	2.0	1.50
34	Pentode R.F. Amp.	2.0	1.75
35/51	Tet. Var.-Mu Amp.-Mod.	2.5	1.25
36A	Tetrode Det. Biased-Amp.	6.3	1.25
37A	Triode Det. Biased-Amp.	6.3	1.00
38A	Pentode Amp.—Class "A"	6.3	1.25
39-44	Pentode R.F. Amp.-Mod.	6.3	1.25
41	Pentode Amp.—Class "A"	6.3	1.25
42	Pentode Amp.—Class "A"	6.3	1.25
43	Pentode Amp.—Class "A"	25.0	1.50
44	Use Type 39-44		1.25
45	Triode Amp.—Class "A"	2.5	1.00
46	Tetrode Cl. "A", "B" Amp.	2.5	1.50
47	Use PZ		1.50
48	Power Amplifier	30.0	4.00
49	Tetrode Cl. "A", "B" Amp.		1.25
50	Triode Amp.—Class "A"	7.5	2.50
51	See 35.		
53	Dup. Tri. Cl. "A", "B" Amp.	2.5	2.00
55	Dio.-Trio. Amp.—Cl. "A"	2.5	1.50
56	Triode Det. Biased-Amp.	2.5	.80
57	Pent. Det. Biased-Amp. "A"	2.5	1.25
58	Pent. Var.-Mu Amp.-Mod.	2.5	1.25
59	Pentode "A" or "B" Amp.	2.5	2.00
71A	Triode Amp.—Class "A"	5.0	1.00
75	Dio. Trio. Amp.—Class "A"	6.3	1.25
76	Triode Det. Biased-Amp.	6.3	.80
77	Pent. Det. Biased-Amp. "A"	6.3	1.50
78	Pent. Var.-Mu Amp.-Mod.	6.3	1.25
79	Dup. Trio. Amp.—Class "B"	6.3	1.50
80	Dup. Dio. Rect. Full, ½-Wave	5.0	.80
81	Dio. Rect. Half-Wave	7.5	2.25
82	Dup. Dio. Rect. Full-Wave	2.5	1.50
83	Dup. Dio. Rect. Full-Wave	5.0	1.75
83V	Dup. Dio. Rect. Full-Wave	5.0	2.25
84	Dup. Dio. Rect. Full-Wave	6.3	1.75
85	Dio. Trio. Amp.—Class "A"	6.3	1.25
89	Pentode Amp.—Class "A"	6.3	1.50
99UV	Trio. Det. or Amp.	3.3	1.50
99UX	Trio. Det. or Amp.	3.3	1.50
950	Pentode Amp.—Class "A"		2.25
AF	Dup. Dio. Full-Wave Rect.	2.5	2.00
AG	Dup. Dio. Full-Wave Rect.	5.0	2.25
GA	Pentode Amp.—Class "A"	5.0	2.75
PZ/47	Pentode Amp.—Class "A"	2.5	1.50
PZH	Pentode Amp.—Class "A"	2.5	1.75
Wunderlich "A"	Tetrode Detector	2.5	3.00
Wunderlich "A"	Auto Det.-Amp.	6.3	3.00
1A4	Pent. R.F. Amp.	2.0	1.75
1A6	Hep. Osc.-Mod.	2.0	1.75
1B4	Pent. R.F. Amp.	2.0	$2.25
1B5/25S	Duo-Dio. Trio. Det.	2.0	1.25
1C6	Hep. Osc.-Mod.	2.0	1.75
1F4	Pent. Power Output	2.0	1.50
1F6	Dup. Diode Pentode	2.0	2.25
2A3	Tri. Amp. Cl. "A"-P.P. Bias	2.5	2.50
2A5	Pentode Amp.—Class "A"	2.5	1.25
2A6	Dio. Trio. Amp.—Class "A"	2.5	1.25
2A7	Hep. Osc.-Mod.	2.5	1.50
2B7	Dio-Pent. R.F., I.F., A.F. Amp.	2.5	1.75
5Z3	Dup. Dio. Rect. Full-Wave	5.0	1.25
6A3	Triode Amplifier	6.3	2.00
6A4/LA	Pent. Amp.—Class "A"	6.3	1.50
6A6	Dup. Trio. Cl. "A", "B" Amp.	6.3	1.75
6A7	Same as 2A7	6.3	1.50
6B5	Pent. Power Output	6.3	2.25
6B7	Same as 2B7	6.3	1.50
6C6	Pent.-Det. Biased-Amp. "A"	6.3	1.25
6D6	Pent. Var.-Mu Amp.-Mod.	6.3	1.25
6E5	Cathode Ray Tun. Ind.	6.3	1.50
6F7	Trio.-Pent. Osc.-Mod.	6.3	2.00
6G5/6H5	Cathode Ray Tun. Ind.	6.3	1.50
6N5	Cathode Ray Tun. Ind.	6.3	1.75
6T5	Cathode Ray Tun. Ind.	6.3	1.50
6U5	Cathode Ray Tun. Ind.	6.3	1.50
12A5	Pent. Amp.—Class "A"	6.3; 12.6	2.25
12A7	Output Pent.-Rect. H.-W.	12.6	2.25
12Z3	Dio. Rect. Half-Wave	12.6	1.50
12Z5	Dup. Dio. Rect. Full-Wave	6.3; 12.6	1.50
25B5	Dup. Tri. Power Amp.	25.0	2.00
25Y5	Dup. Diode Rect.	25.0	2.00
25Z5	Dup. Dio. Rect. Full-Wave	25.0	1.25

OCTAL BASE "G" TUBES

Originated and Pioneered by ARCTURUS

Type No.	Description	Volts	List
1C7G	Oscillator-Modulator	2.0	$2.25
1D5G	Super Con.-R.F. Pent	2.0	2.25
1D7G	Pentagrid Converter	2.0	1.75
1E5G	R.F. Amplifier Pentode	2.0	2.25
1E7G	Dble. Pent. Power Amp.	2.0	2.75
1F5G	Power Output	2.0	2.25
1F7G	Duplex-Diode Pentode	2.0	2.25
1G5G	Pentode Power Amp.	2.0	2.00
1H4G	Detector-Amplifier	2.0	1.00
1H6G	Amplifier—Class "A"	2.0	1.75
1J5G	Pentode Power Amplifier	2.0	2.50
1J6G	Amplifier—Class "B"	2.0	1.50
5U4G	Full-Wave Rectifier	5.0	1.50
5V4G	Full-Wave Rectifier	5.0	2.50
5W4G	Full-Wave Rectifier	5.0	1.00
5X4G	Full-Wave Rectifier	5.0	1.50
5Y3G	Full-Wave Rectifier	5.0	1.00
5Y4G	Full-Wave Rectifier	5.0	1.00
6A5G	Triode Power Amplifier	6.3	2.00
6AC5G	Triode Power Amplifier	6.3	1.25
6A8G	Detector-Oscillator	6.3	1.50
6B6G	Detector-AVC	6.3	1.50
6B8G	Same as 2B7	6.3	1.75
6C5G	Detector-Amplifier	6.3	1.25
6C8G	Duplex Triode Amplifier	6.3	1.50
6D8G	Pentagrid Converter	6.3	2.25
6F5G	Amplifier	6.3	1.25
6F6G	Power Amplifier	6.3	1.50
6F8G	Duplex Triode Amplifier	6.3	1.50
6H6G	AVC Detector	6.3	1.25
6J5G	Detector Amplifier Triode	6.3	1.50
6J7G	Detector-Amplifier	6.3	1.50
6J8G	Triode-Heptode Converter	6.3	2.25
6K5G	Hi-Mu Amplifier Triode	6.3	1.50
6K6G	Power Amplifier	6.3	1.50
6K7G	Amplifier	6.3	1.50
6K8G	Triode-Hexode Converter	6.3	1.75
6L5G	Triode Detector Amplifier	6.3	2.25
6L6G	Power Amplifier	6.3	2.50
6L7G	Mixer-Amplifier	6.3	1.75
6N6G	Power Output	6.3	2.25
6N7G	Amplifier—Class "B"	6.3	1.75
6P5G	Triode Detector-Amplifier	6.3	1.50
6P7G	Detector-Oscillator	6.3	2.25
6Q7G	Detector-AVC	6.3	1.50
6R7G	Detector Amplifier	6.3	1.50
6S7G	Pentode Var. Mu Amplifier	6.3	2.25
6T7G	Dble. Dio. Trio. Det. Ampl.	6.3	2.25
6U7G	Super Con. R.F. Pent	6.3	1.50
6V6G	Beam Power Amplifier	6.3	1.75
6V7G	Duplex-Diode Triode	6.3	1.50
6X5G	Rectifier—Full Wave	6.3	1.75
6Y6G	Power Amplifier	6.3	2.25
6Z7G	Duplex Tr. Cl. "B" Amp.	6.3	1.75
6ZY5G	Vacuum Rect.—Full Wave	6.3	1.50
25A6G	Amplifier—Class "A"	25.0	1.50
25A7G	Output Pent. Rect. H.-W.	25.0	2.25
25B6G	Pentode Power Amplifier	25.0	1.75
25L6G	Beam Power Amplifier	25.0	2.25
25N6G	Power Amplifier	25.0	2.00
25Z6G	Rectifier—Full Wave	25.0	1.50

SPARTON TUBES

482B	Power Amplifier	5.0	2.00
483	Power Amplifier	5.0	2.00
485	Detector Amplifier	3.0	2.00

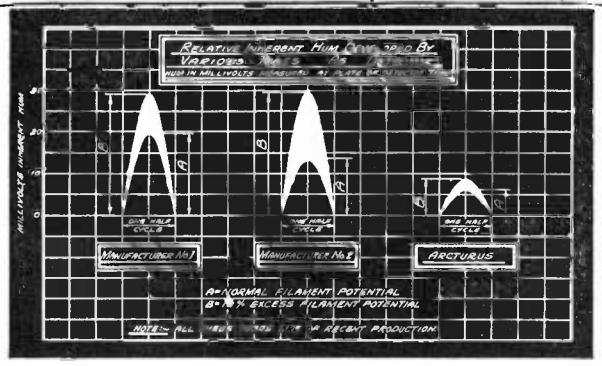
MAJESTIC TUBES

24S	Detector-Amplifier	2.5	1.50
27S	Detector-Amplifier	2.5	1.25
35S/51S	Amplifier	2.5	1.50
55S	Detector-AVC	2.5	1.75
56S	R.F. Amplifier	2.5	1.50
57S	Detector-Amplifier	6.3	1.75
57AS	Detector-Amplifier	6.3	1.75
58S	Amplifier	2.5	1.75
58AS	Amplifier	6.3	1.75
85AS	Detector-AVC	6.3	1.75
2A7S	Detector-Oscillator	2.5	2.50
6A7S	Detector-Oscillator	6.3	2.50
6B7S	Detector-Amplifier	6.3	2.50
6C7	Detector	6.3	2.00
6D7	R.F. Amplifier	6.3	2.00
6E7	R.F. Pentode	6.3	2.00
6F7S	Detector-Oscillator	6.3	2.00
6Y5	Full-Wave Rectifier	6.3	2.00
6Z5	Full-Wave Rectifier	6.3; 12.6	2.00

15 - VOLT TUBES

When ordering these tubes, specify 15 volts

22	Triode Amplifier	15.0	7.50
26	Triode Amplifier	15.0	4.50
30	Triode Amp.—Class "A"	15.0	4.50
32	Triode Hi-Mu Amp.	15.0	4.50
40 (SOI)	Triode Amp.—Class "A"	15.0	6.00
48 (RAI)	Triode Amplifier	15.0	4.50



Laboratory Tests Show Arcturus Tubes Have Less Hum

The diagram shows comparative hum output of three makes of tubes. Considerable increase in hum was shown with tubes of two manufacturers when the filament potential was increased, while the curve for Arcturus Tubes remained constant. While different manufacturers' tubes were used in this test, No. 1 and 2 are among the largest in the industry and the curves are representative of the tubes in present use. The tubes of Manufacturer No. 2 were found to have lower average hum than other makes investigated, with the exception of Arcturus.

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World Radio History

ARCTURUS "CORONET"—An Improvement on the METAL Tube

A dependable design using all the tried and proved advantages of manufacturing technique developed in the past twenty-nine years. The salient features of Arcturus Coronet Tubes are:

- Lower capacities
- More dependable vacuum
- Less Prone to gas
- Lower operating temperatures
- Quiet Operation
- Diameter identical to metal tubes
- Height — ½ inch greater
- Rugged structure
- Self-shielding

Type No.	Description	Volts	List Price
5W4	Full-Wave Rectifier	5.0	$1.00
5Y3	Full-Wave Rectifier	5.0	1.25
5Z4	Full-Wave Rectifier	5.0	2.00
6A8	Detector-Oscillator	6.3	1.50
6C5	Detector-Amplifier	6.3	1.25
6F5	Amplifier	6.3	1.25
6F6	Power-Amplifier	6.3	1.50
6H6	AVC-Detector	6.3	1.25
6J7	Detector-Amplifier	6.3	1.50
6K7	Amplifier	6.3	1.50
6L7	Mixer-Amplifier	6.3	1.75

(† When used with Modernizer replaces Type 43 Glass Tube.)

Type No.	Description	Volts	List Price
6N6	Power Output	6.3	$2.25
6N7	Amplifier—Class "B"	6.3	1.75
6Q7	Detector-AVC	6.3	1.50
6R7	Detector-Amplifier	6.3	1.50
6X5	Rectifier—Full Wave	6.3	1.50
25A6†	Amplifier—Class "A"	25.0	1.50
25Z6††	Rectifier—Full Wave	25.0	1.50
2A6*	Amplifier—Class "A"	2.5	1.75
24*	Detector Biased—Ampl.	2.5	1.50
27*	Detector Biased—Ampl.	2.5	1.50

(†† When used with special Modernizer replaces 25Z5 Glass Tube)

Type No.	Description	Volts	List Price
51 (35)*	Var.—Mu Ampl.—Mod.	2.5	$1.50
55*	Amplifier—Class "A"	2.5	1.75
56*	Detector Biased—Ampl.	2.5	1.50
57*	Det. Biased—Ampl. "A"	2.5	1.50
58*	Var.—Mu. Ampl.—Mod.	2.5	1.50
75*	Amplifier—Class "A"	6.3	1.75
77*	Det. Biased—Ampl. "A"	6.3	1.50
78*	Var.—Mu Ampl.—Mod.	6.3	1.50
80*	Rectifier Full Half-Wave	5.0	1.25
85*	Amplifier—Class "A"	6.3	1.75
Modernizer			.30

(* Use with Modernizer to replace same type Glass Tube)

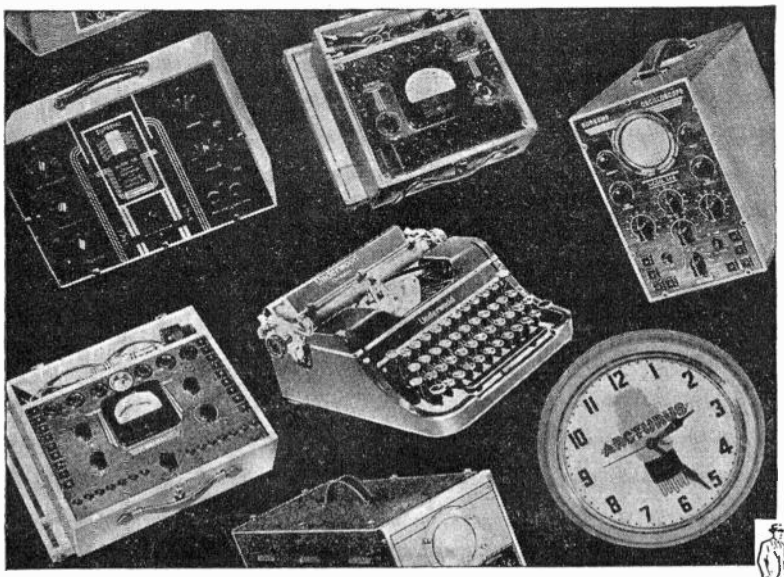
ARCTURUS BALLAST TUBES FOR USE IN AC/DC RADIOS

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
C9266	$0.80	BM55BG	$0.80	K52HG	$0.80	L42BG	$0.80	M55BG	$0.80
BK42BG	.80	K17EG	.80	K55BG	.80	L42DG	.80	2UR-224	.80
BK42CG	.80	K18BG	.80	K55CG	.80	L49BG	.80	610G	.80
BK42DG	.80	K42CG	.80	K55DG	.80	L49BJG	.80	115.40	.80
BK49BG	.80	K45CG	.80	K80BG	.80	L49CG	.80	115.41	.80
BK49DG	.80	K49AG	.80	KX18BG	.80	L49DG	.80	115.53	.80
BK55BG	.80	K49BG	.80	KX34BG	.80	L55BG	.80	165R4G	.80
BL49DG	.80	K49CG	.80	KX55CG	.80	L55BJG	.80	185R8G	.80
BM42BG	.80	K49DG	.80	L36DG	.80	M49BG	.80	185RG	.80
				L36DJG	.80				

"GT" MIDGETS

Type No.	List Price
6A8GT	$1.50
6F5GT	1.25
6J7GT	1.50
6K7GT	1.50
6Q7GT	1.50
25L6GT	2.25
25Z6GT	1.50

FREE SHOP EQUIPMENT!



Ask For Folder Giving Complete Details—Specify actual model in which you are interested: Supreme, Weston or Precision Test Equipment, Illuminated Dial Electric Clock, 3-color Neon Sign, Underwood Typewriter or Standard Charge and Cash Register, and full details will be sent you promptly. Ask for free DEALER HELPS folder, too!

The ARCTURUS EQUIPMENT DEAL is the ANSWER to your Shop Equipment Problem!

As an Arcturus dealer you can obtain your choice of high quality shop and test equipment . . . efficient, up-to-the-minute units at almost NO COST to you!

A small down payment promptly brings the equipment of your choice. Arcturus down payments average only about ONE-SIXTH the amounts required by other deals . . . as low as $3.70! Your purchases of Arcturus tubes take care of the rest. Not one cent has been added to Arcturus tube prices — your tube purchases, not your cash, pay for your equipment.

In short, the Arcturus Equipment Deal actually gives you a TWO-WAY PROFIT . . . your regular profit on every tube you sell PLUS the efficient modern equipment you need to make yours "the best equipped shop in town"!

GENUINE NEON SIGN

Brilliant . . . Attractive. Commands Attention! 14" high, 25" wide. RED, BLUE and GREEN colors in combination.

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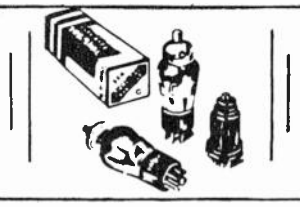
World Radio History



TUNG-SOL
RADIO TUBES

TUNG-SOL does not want just "Outlets", but rather, RETAIL PARTNERS. TUNG-SOL sales success is based on the belief in the real retail merchant—the man who lives in the community to which he caters—who builds his business by serving his neighbors—who wants to satisfy his customers and who, therefore SELLS NOTHING BUT THE HIGHEST POSSIBLE QUALITY.

Type No.	Description	List Price
00A	Triode Detector	$2.25
01A	Triode Detector, Amplifier	.75
0Z4G	Gaseous Rectifier	1.50
1A4P	Super Control R-F Ampl. Pent.	1.75
1A6	Pentagrid Converter	1.75
1B4P	R-F Amplifier Pentode	2.25
1B5/25S	Duplex-Diode Triode	1.25
1C6	Pentagrid Converter	1.75
1C7G	Pentagrid Converter	2.25
1D5GP	Super Control R-F Ampl. Pent.	2.25
1D7G	Pentagrid Converter	1.75
1E5GP	R-F Amplifier Pentode	2.25
1E7G	Twin Power Pentode	2.75
1F4	Power Output Pentode	1.50
1F5G	Power Output Pentode	2.25
1F6	Duplex Diode R-F Pentode	2.00
1F7G	Duplex Diode Pentode	2.25
1G5G	Power Output Pentode	2.00
1H4G	Detector, Amplifier Triode	1.00
1H6G	Duplex Diode Triode	1.75
1J5G	Power Amplifier Pentode	2.25
1J6G	Class "B" Twin Amplifier	1.35
1V	Half-Wave High Vacuum Rect.	1.10
2A3	Power Amplifier Triode	2.50
2A5	Power Amplifier Pentode	1.20
2A6	Duplex-Diode High Mu Triode	1.20
2A7	Pentagrid Converter	1.50
2B7	Duplex Diode R-F Pentode	1.60
2E5	Electron Ray Tuning Indicator	1.50
2G5	Electron Ray Tuning Indicator	1.50
5T4 MET	Full-Wave High Vacuum Rect.	2.50
5U4G	Full-Wave Rect.	1.50
5V4G	Full-Wave High Vacuum Rect.	2.35
5W4 MET	Full-Wave High Vacuum Rect.	1.00
5W4G	Full-Wave High Vacuum Rect.	1.00
5X4G	Full-Wave High Vacuum Rect.	1.50
5Y3G	Full-Wave High Vacuum Rect.	.90
5Y4G	Full-Wave High Vacuum Rect.	1.00
5Z3	Full-Wave High Vacuum Rect.	1.10
5Z4 MET	Full-Wave High Vacuum Rect.	2.00
6A3	Power Amplifier Triode	2.00
6A4	Power Amplifier Pentode	1.50
6A6	Class "B" Twin Amplifier	1.60
6A7	Pentagrid Converter	1.35
6A8 MET	Pentagrid Converter	1.50
6A8G	Pentagrid Converter	1.50
6AB5	Electron Ray Tuning Indicator	1.75
6AC5G	Class B_2 Power Output Triode	1.10
6B4G	Power Amplifier Triode	2.00
6B5	Direct Coupled Power Amplifier	2.25
6B7	Duplex Diode R-F Pentode	1.50
6B8 MET	Duplex Diode R-F Pentode	1.75
6B8G	Duplex Diode R-F Pentode	1.75
6C5 MET	Triode Detector, Amplifier	1.25
6C5G	Triode Detector, Amplifier	1.25
6C6	Triple Grid Detector, Amplifier	1.20
6C7§	Duplex-Diode Triode	2.00
6C8G	Cl. "A", Twin Ampl., Phase Inv.	1.50
6D6	Triple Grid Super Control Ampl.	1.10
6D8G	Pentagrid Converter	2.25
6E5	Electron Ray Tuning Indicator	1.50
6E7§	Super ControlR-F Ampl. Pentode	2.00
6F5 MET	High Mu Triode	1.25
6F5G	High Mu Triode	1.25
6F6 MET	Power Amplifier Pentode	1.35
6F6G	Power Amplifier Pentode	1.35
6F7	Triode—R-F Pentode	1.75
6F8G	Twin Triodes	1.50
6G5	Electron Ray Tuning Indicator	1.50
6G6G	Power Output Pentode	2.25
6H6 MET	Twin Diode	1.25
6H6G	Twin Diode	1.25
6J5G	Triode Detector, Amplifier	1.35
6J7MET	Triple Grid Detector, Amplifier	1.50
6J7G	Triple Grid Detector, Amplifier	1.50
6K5G	High Mu Triode	1.35
6K6G	Power Amplifier Pentode	1.35
6K7 MET	Triple Grid Super Control Ampl.	1.35
6K7G	Super Control R-F Pentode	1.35
6K8MET	Triode Hexode Converter	1.75
6L5G	Triple-Grid Super Con. Ampl.	2.25
6L6 MET	Beam Power Amplifier	2.25
6L6G	Beam Power Amplifier	2.50
6L7 MET	Pentagrid Mixer, Amplifier	1.75
6L7G	Pentagrid Mixer, Amplifier	1.75
6N5	Electron Ray Tuning Indicator	1.75
6N6G	Direct Coupled Power Amplifier	2.25
6N7 MET	Class "B" Twin Amplifier	1.75
6N7G	Class "B" Twin Amplifier	1.75
6Q7 MET	Duplex Diode High Mu Triode	1.35
6Q7G	Duplex Diode High Mu Triode	$1.35
6R7 MET	Duplex Diode Triode	1.35
6R7G	Duplex Diode Triode	1.35
6S7G	Super Control R-F Pentode	2.25
6T5	Electron Ray Tuning Indicator	1.50
6T7G	Double Diode High Mu Triode	2.25
6U5	Electron Ray Tuning Indicator	1.50
6U7G	Triple Grid Super Control Ampl.	1.35
6V6G	Beam Power Amplifier	1.75
6V7G	Duplex Diode Triode	1.35
6W5G	Full-Wave High Vacuum Rect.	1.50
6W7G	R-F Pentode	2.25
6X5 MET	Full-Wave High Vacuum Rect.	1.50
6X5G	Full-Wave High Vacuum Rect.	1.60
6Y5§	Full-Wave Rectifier	2.00
6Y6G	Beam Power Amplifier	2.25
6Y7G	Class B_2 Twin Amplifier	1.50
6Z5	Full-Wave Rectifier	2.00
6Z7G	Twin Power Triodes Class B_2	1.75
6ZY5G	Full-Wave Rectifier	1.50
10	Power Amplifier, Oscillator	2.75
12A	Triode Detector, Amplifier	.90
12A5	Power Amplifier-Pentode	2.25
12A7	Pentode and Half-Wave Rect.	2.25
12Z3	Half-Wave Rectifier	1.35
15	R-F Amplifier Pentode	2.25
19	Class "B" Twin Amplifier	1.25
20	Power Amplifier Triode	2.25
22	R-F Amplifier Tetrode	1.75
24	Tetrode R-F Amplifier, Detector	1.00
25A6 MET	Power Amplifier Pentode	1.50
25A6G	Power Amplifier Pentode	1.50
25A7G	Power Pentode Half-Wave Rect.	2.25
25B5	Direct Coupled Power Amplifier	2.00
25B6G	Power Amplifier Pentode	1.75
25L6 MET	Beam Power Amplifier	2.25
25L6G	Beam Power Amplifier	2.25
25N6G	Direct Coupled Power Amplifier	2.00
25Z5	High Vacuum Rectifier-Doubler	1.10
25Z6 MET	High Vacuum Rectifier-Doubler	1.50
25Z6G	High Vacuum Rectifier-Doubler	1.50
26	Triode Amplifier	.60
27	Triode Detector, Amplifier	.60
30	Triode Detector, Amplifier	1.00
31	Power Amplifier-Triode	.90
32	R-F Tetrode Amplifier	1.75
33	Power Amplifier Pentode	1.35
34	Super Control R-F Ampl. Pent.	1.75
35	Super Control S.G. R-F Amplifier	1.10
36	R-F Amplifier Tetrode	1.10
37	Triode Detector, Amplifier	.90
38	Power Amplifier Pentode	1.25
39/44	Super Control R-F Ampl. Pent.	1.25
40	Triode Voltage Amplifier	1.00
41	Power Amplifier Pentode	1.10
42	Power Amplifier Pentode	1.10
43	Power Amplifier Pentode	1.40
45	Triode Power Amplifier	.80
46	Dual Grid Power Amplifier	1.50
47	Power Amplifier Pentode	1.35
48	Power Amplifier Tetrode	4.00
49	Dual Grid Power Amplifier	1.25
50	Triode Power Amplifier	2.50
53	Class "B" Twin Amplifier	1.75
55	Duplex Diode Triode	1.50
56	Triode Detector, Amplifier	.80
57	Triple Grid Detector, Amplifier	1.25
58	Triple Grid Super Control Ampl.	1.25
59	Triple Grid Power Amplifier	2.00
71A	Triode Power Amplifier	.90
75	Duplex Diode High Mu Triode	1.10
76	Super Triode Amplifier, Detector	.80
77	Triple Grid Detector, Amplifier	1.35
78	Triple Grid Super Control Ampl.	1.10
79	Class "B" Twin Amplifier	1.50
80	Full-Wave High Vacuum Rect.	.60
81	Half-Wave High Vacuum	2.25
82	Full-Wave Mercury Vapor Rect.	1.50
83	Full-Wave Mercury Vapor Rect.	1.60
83V	Full-Wave High Vacuum Rect.	2.25
84/6Z4	Full-Wave High Vacuum Rect.	1.60
85	Duplex Diode Triode	1.20
89	Triple Grid Power Amplifier	1.50
99V	Triode Detector, Amplifier	1.50
99X	Triode Detector, Amplifier	1.50
183	Power Amplifier Triode	2.00
257	Power Pentode	3.55
485	Triode Detector, Amplifier	2.00
950	Power Output Pentode	2.25

Type	Normally Replaced By	Type	Normally Replaced By
'00	*00A	64	*36
00AA	00A	64-A	36
'01	*01A	65	*39/44
01AA	01A	65A	39/44
01B	*01A	67	*37
1	1-V	67A	37
1A4	1A4P	68	*38
1B4	1B4P	68A	38
1B4/951	1B4P	'71	*71A
1D5G	1D5GP	'71B	*71A
1E5G	1E5GP	75S	¶75
2A3H	2A3	80M	†83
2A7S	¶2A7	81M	81
2B7S	¶2B7	85S	¶85
6A7S	¶6A7	88	†83
6B6	6Q7G	88S	¶*6D6
6B7S	¶6B7	95	2A5
6F7S	¶6F7	96	1-V
6Q6G	6T7G	98	84/6Z4
6T5	6U5	182-A	*71A
6Y5S	6Y5§	182-B	‡183
6Y5V	6Y5§	213	80
6Z3	1-V	216	81
6Z4	84/6Z4	401A	01A
'12	*12A	450	50
12Z5	6Z5	482-A	*71A
'13	80	482-B	‡183
'13-B	80	483	183
14Z3	12Z3	484	485
'16	81	484-A	*485
'16B	81	585	50
22AC	24	586	50
24-A	24	951	1B4P
24S	¶24	986	†83
25Z5MG	25Z6		
25-25S	1B5/25S	AC22	24
25S	1B5/25S	AD	1-V
27HM	56	AF	82
27S	¶27	AG	83
35/51	35	AX	01A
35S	¶35	B	99V
35S/51S	¶35	BX	99X
'36-A	36	D1½	81
'37-A	37	D1	80
'38-A	38	DE1	27
'39	39/44	E	20
'39-A	39/44	G	40
39A/44A	39/44	H	00A
43MG	25A6	HZ-50	12Z3
'44	39/44	K24	24
		K27	27
51	35	KRI	1-V
51S	¶35	KR5	6A4
55S	¶55	KR-25	2A5
56A	*76	KR-28	84
56AS	¶*76	KR-48	47
56S	¶56	LA	6A4
57A	*6C6	P-861	84/6Z4
57AS	¶*6C6	PZ	47
57S	¶57	PZH	2A5
58A	*6D6	RE1	80
58AS	¶*6D6	RE2	81
58S	¶58	*SO-2	50

* Replaceable only in auto receivers or A.C. receivers not having series filament.

¶ When replacing a shielded tube (suffix S) with a standard glass tube, it will be necessary to equip the tube with a close-fitting, grounded metal shield.

† When receiver's transformer will stand one ampere additional filament current.

‡ Replace in the receiver all tubes of this type with type 183.

§ These tubes are supplied equipped with close fitting metal shields.

"MG" Types: Tubes having a glass bulb, inclosed in a metal shield, and on octal base use type numbers with the suffix "MG". Such types can usually be replaced by the corresponding metal type or, when space permits, with the corresponding "G" type. In some cases an external shield may be required on the "G" tubes when replacing an "MG" tube. **Exceptions:** Type 43MG is replaced by type 25A6. Type 25Z5MG is replaced by type 25Z6.

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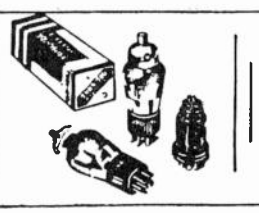
LIST PRICES EFFECTIVE OCTOBER 26, 1938.

Form T-7

World Radio History



TUNG-SOL
DEALER AIDS

T-2

FOLDER

List Prices. Vest pocket size. Lists all Glass, Metal and "G" type radio tubes. NO CHARGE.

T-4

FOLDER

Use them for envelope stuffers or wrap them up with packages. Either imprinted or space provided for your rubber stamp. NO CHARGE for 200 or less.

T-12

OUTDOOR METAL SIGN

Painted on two sides. 17" long, 11" high, with a 2" flange. The flange is punched with three screw holes to fasten the sign permanently in place. Printed in five colors on 22 gauge metal and coated with DuPont Dulux varnish that provides both a high lustre and permanency of finish when exposed to weather. 25 cents each.

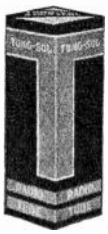
WINDOW DISPLAYS

Window Displays consisting of 2 or 4 pieces are released at frequent intervals throughout the year, they are designed to sell your service as well as TUNG-SOL RADIO TUBES. NO CHARGE.

T-59

RADIO LOG

Carefully compiled information consisting of American and Foreign broadcasting stations, short wave, television, ship calls, etc., and photographs of most all favorite radio artists. The cover is very colorful, being printed in 4 colors. The figures at the bottom of the cover represent costumes of people from many foreign countries. Imprinted with your name and address on the cover. $1.95 C.



T-49

GIANT DISPLAY CARTONS

20" high, 7" square. For general store display. NO CHARGE.

T-242

THERMOMETER

Encased in glass, mounted on a black Bakelite base, and stands 3⅜ inches high. YOUR name, address and telephone number may be imprinted on the back of the card that holds the thermometer—this will act as a constant reminder. Its distinctive appearance makes it acceptable to the trade. 12c each. (Quantities less than 50 will not be imprinted.)

T-25 T-26 T-27 T-31
T-32 T-102 T-104

ADVERTISING POST CARDS

Post cards are economical business Stimulators. Imprinted and ready for addressing. $1.00 per hundred (to cover the postage).

GERNSBACK MANUALS

GERNSBACH Manuals are available to all TUNG-SOL dealers at low prices as well as numerous items which are available free or at a nominal cost such as imprinted tube labels, price cards, gummed sealing tape, puzzles, etc.

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World Radio History

TRIAD

THE QUALITY NAME IN RADIO TUBES

REGULAR CLASS TYPES

Type	Purpose	Fil. Volts	List Price
01A	General Purpose	5.0	$0.80
1A4	Super Control Amp. Pentode	2.0	1.75
1A6	Pentagrid Converter	2.0	1.75
1B4	Screen Grid R.F. Amp. Pent.	2.0	2.25
1B5/25S	D.C. Duplex Triode	2.0	1.25
1F4	Power Amp. Pentode	2.0	1.50
1F6	Duplex-Diode Pentode	2.0	2.25
1C6	Pentagrid Converter	2.0	1.75
1-V	Half-Wave Rectifier	6.3	1.10
10	Amplifier	7.5	2.75
12A	General Purpose	5.0	1.00
12A7	Power Amplifier Pent.	6.3-12.6	2.25
12A7	Special Duplex Pent. Rec.	12.6	2.25
12Z3	Half-Wave Rectifier	12.6	1.35
19	Class B Twin Apl.	2.0	1.35
2A3	Power Amplifier Triode	2.5	2.50
2A5	Power Amplifier Pentode	2.5	1.25
2A6	Duplex-Diode High-Mu Tri.	2.5	1.25
2A7	Pentagrid Converter	2.5	1.50
2B6	Super Triode Input Sect.	2.5	2.50
	Output Sect.	2.5	2.50
2B7	Duplex-Diode Pentode	2.5	1.60
5Z3	Full Wave Rectifier	5.0	1.10
6A4	Power Amplifier Pentode	6.3	1.50
6A6	Class "B" Twin Amplifier	6.3	1.60
6A7	Pentagrid Converter	6.3	1.50
6B5	Triadyne Output Ampl	6.3	2.25
6B7	Duplex-Diode Pentode	6.3	1.50
6C6	R.F. Pentode Amplifier	6.3	1.25
6D6	Multi-Mu Pentode Amp.	6.3	1.25
6F7	Triode-Pent. Triode Unit	6.3	2.00
	Pent. Unit	6.3	2.00
22	Screen Grid Amplifier	3.3	2.00
24A	Screen Grid Amplifier	2.5	1.10
25B5	A.C.-D.C.PowerOutputAmp.	25.0	2.25
25Z5	Rectifier Doubler	25.0	1.25
26	General Purpose	1.5	.80
27	General Purpose	2.5	.80
30	General Purpose	2.0	1.00
31	Power Amplifier	2.0	1.00
32	Screen Grid Amplifier	2.0	1.75
33	Pentode Power Amplifier	2.0	1.35
34	Multi-Mu R.F. Pentode	2.0	1.75
35-51	Multi-Mu R.F. Amplifier	2.5	1.10
36	Screen Grid Amplifier	6.3	1.10
37	General Purpose	6.3	1.00
38	Pentode Power Amplifier	6.3	1.25
39-44	Multi-Mu R.F. Pentode	6.3	1.25
41	Power Amplifier Pentode	6.3	1.10
42	Pentode Power Amplifier	6.3	1.25
43	Pentode Power Amplifier	25.0	1.50
45	Power Amplifier	2.5	1.00
46	Power Amplifier—Class A	2.5	1.50
	Class B	2.5	1.50
47	Pentode Power Amplifier	2.5	1.50

TRIPLE TESTED TUBES

Type	Purpose	Fil. Volts	List Price
48	Power Amplifier Tetrode	30.0	$4.00
49	Dual Grid Power Ampl.	2.0	1.25
50	Power Amplifier	7.5	2.50
53	Class "B" Twin Amplifier	2.5	2.00
55	Duplex-Diode Triode	2.5	1.50
56	General Purpose	2.5	.80
57	R.F. Pentode Amplifier	2.5	1.25
58	Multi-Mu Pentode Ampl.	2.5	1.25
59	Power Ampl. Class A Triode	2.5	2.00
	Class A Power Ampl. Pent.	2.5	2.00
	Class B Power Ampl. Triode	2.5	2.00
71A	Power Amplifier	5.0	1.00
75	Duplex-Diode Triode	6.3	1.10
76	General Purpose	6.3	.80
77	Triple Grid Detector Ampl.	6.3	1.35
78	Multi-Mu Pentode Ampl.	6.3	1.25
79	Power Amplifier Class B	6.3	1.50
80	Full Wave Rectifier	6.3	.80
81	Half Wave Rectifier	7.5	2.25
82	Full Wave Merc. Rectifier	2.5	1.50
83	Full Wave Merc. Rectifier	5.0	1.60
83V	Full Wave High Vac. Rec.	5.0	2.25
84-6Z4	Full Wave Rectifier	6.3	1.60
85	Duplex-Diode Triode	6.3	1.25
89	Tri. Grid. Power Ampl.— Class A	6.3	1.50
	Class A Pentode	6.3	1.50
99	General Purpose	3.3	1.50
866	Half Wave Merc. Rectifier	2.5	1.75
6E5	Electron Ray	6.3	1.50
6G5	Electron Ray	6.3	1.50
6U5	Electron Ray	6.3	1.50

SHIELDED TYPES

Type	Purpose	Fil. Volts	List Price
27-S	General Purpose Amplifier	2.5	1.10
24-S	Screen Grid Amplifier	2.5	1.50
56-S	General Purpose Amplifier	2.5	1.35
35-51S	Multi-Mu R.F. Amplifier	2.5	1.50
36-S	Screen Grid Amplifier	6.3	1.75
39-44S	Multi-Mu R.F. Amplifier	6.3	1.75
55-S	Duplex-Diode Triode	2.5	1.75
57-S	Pentode R.F. Amplifier	2.5	1.75
58-S	Pent. Multi-Mu R.F. Ampl.	2.5	1.75
6D7	R.F. Pentode Amplifier	6.3	2.00
6E7	Multi-Mu Pentode Ampl.	6.3	2.00
6F7-S	Triode-Pentode	6.3	2.00
6B7-S	Duplex-Diode Pentode	6.3	2.30
6A7-S	Pentagrid Converter	6.3	2.30
2A7-S	Pentagrid Converter	2.5	2.30

SPARTON TYPES

Type	Purpose	Fil. Volts	List Price
183	Power Amplifier	5.0	2.00
482	Power Amplifier	5.0	2.00
485	Power Amplifier	3.0	2.00

A TUBE FOR EVERY RADIO NEED

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ASK FOR CONFIDENTIAL DISCOUNTS

World Radio History

TRIAD

THE QUALITY NAME IN RADIO TUBES

"G" SERIES—OCTAL BASE

Type	Purpose	Fil. Volts	List Price
1C7-G	Pentagrid Converter	2.0	$2.25
1D5	Tetrode R.F. Amplifier	2.0	2.25
1D7	Pentagrid Converter	2.0	1.75
1E5	R.F. Amplifier	2.0	2.25
1E7	Double Pentode Output	2.0	2.75
1F5	Power Output Pentode	2.0	2.25
1F7	Duplex Diode Pentode	2.0	2.25
1H4	Detector—Amplifier	2.0	1.00
1H6	Double Diode Triode	2.0	1.75
1J6	Class B Twin Amplifier	2.0	1.35
5U4	Full Wave Rectifier	5.0	1.50
5V4	Full Wave Rectifier	5.0	2.35
5W4	Full Wave Rectifier	5.0	1.00
5X4	Full Wave Rectifier	5.0	1.50
5Y3	Full Wave Rectifier	5.0	1.00
5Y4	Full Wave Rectifier	5.0	1.00
6A8	Pentagrid Converter	6.3	1.50
6AB6	Triadyne Amp	6.3	2.25
6AC5	Dynamic Couple Amp.	6.2	1.10
6B4	Triode Power Amplifier	6.3	2.00
6B6	Duplex-Diode Triode	6.3	1.35
6B8	Duplex Diode Pentode	6.3	1.75
6C5	Triode Amplifier	6.3	1.25
6C8	Twin Amplifier	6.3	1.50
6D8	Pentagrid Converter	6.3	2.25
6F5	Triode Amplifier	6.3	1.25
6F6	Power Output Pentode	6.3	1.35
6F8	Dual Triode	6.3	1.50
6G6	Low Drain Power Output	6.3	2.25
6H6	Double Diode	6.3	1.25
6J5	Triode Amplifier	6.3	1.35
6J7	Triple Grid Amplifier	6.3	1.50
6K5	Triode Amplifier	6.3	1.35
6K6	Power Pentode	6.3	1.35
6K7	Triple Grid Pentode	6.3	1.35
6L5	Triode Detector Amp.	6.3	2.25
6L6	Beam Power Amplifier	6.3	2.50
6L7	Mixer-Amplifier	6.3	1.75
6N6	Power Output Amplifier	6.3	2.25
6N7	Class B Power Amplifier	6.3	1.75
6Q6/6T7	Duplex Diode Triode	6.3	2.25
6Q7	Double Diode Triode	6.3	1.35
6R7	Double Diode Triode	6.3	1.35
6S7	Triple Grid Amplifier	6.3	2.25
6T7	Duplex-Diode Triode	6.3	2.25
6U7	Mul. Mu Pentode Amp	6.3	1.35
6V6	Beam Power Amp	6.3	1.75
6X5G	Full Wave Rectifier	6.3	1.60
6Y6	Beam Power Output	6.3	2.25
25A6	Power Amplifier Pentode	25.0	1.50
25A7	Pentode Rectifier	25.0	2.25
25B6	Beam Power Out. A.C.-D.C.	25.0	1.75
25L6	Beam Power Out. A.C.-D.C.	25.0	2.25
25N6	A.C.-D.C. Power Output Amplifier	25.0	2.25
25Z6	Rectifier	25.0	1.50

ALL METAL TYPES

Type	Purpose	Fil. Volts	List Price
5T4	Full-Wave High-Vacuum Rectifier	5.0	$2.50
5W4	Full-Wave High-Vacuum Rectifier	5.0	1.00
5Z4	Full-Wave High-Vacuum Rectifier	5.0	2.00
6A8	Pentagrid Converter	6.3	1.50
6B8	Duplex Diode Pentode	6.3	1.75
6C5	Detector-Amplifier Triode	6.3	1.25
6F5	High-Mu Triode	6.3	1.25
6F6	Power Amplifier Pentode	6.3	1.35
6H6	Twin Diode	6.3	1.25
6J7	Triple-Grid Detector Amplifier	6.3	1.50
6K7	Triple-Grid Super-Control Amplifier	6.3	1.35
6L6	Beam Power Amplifier	6.3	2.25
6L7	Pentagrid Mixer Amplifier	6.3	1.75
6N7	Class B Twin Amplifier	6.3	1.75
6Q7	Duplex-Diode High-Mu Triode	6.3	1.35
6R7	Duplex-Diode Triode	6.3	1.35
6X5	Full Wave High-Vacuum Rectifier	6.3	1.50
25A6	Power Amplifier Pentode	25.0	1.50
25L6	Beam Power Amplifier	25.0	2.25
25Z6	High-Vacuum Rectifier-Doubler	25.0	1.50

BALLAST RESISTOR UNITS

MG—Octal Base ..... **List Price $0.80**

40A2	90H	K49E	K55H	K80B	L40C	L49B
42A1	K23C	K52H	K74B	K80F	L40E	L49C
50A2	K42C	K55B	K75B	K90B	L42B	L55B
50B2	K49B	K55C	K78B	K90F	L42C	L55S1
92A	K49C	K55F	K78C	L34E	L42D	L55S2
80A						

Metal—Octal Base ..... **List Price $0.80**

50A2	92A	K49C	K55D	L40S2	L49S3
50B2	BK36H	K52H	K76B	L42D	L55B
49A	BK42C	K55B	K90B	L49B	L55S1
55A1	BK52H	K55C	L40E	L49C	L55S2

Glass 4 Prong Base ..... **List Price $1.00**

40x300	50A2	6B
50x300	50B2	340
40A2	5B	165R4

LICENSED BY R.C.A.

TRIAD TUBES

- MORE PROFITABLE
- MORE DEPENDABLE
- PREFERRED BY SET MANUFACTURERS
- PREFERRED BY SERVICEMEN
- OWNER-MANAGEMENT
- ALWAYS FIRST IN NEW TUBE DESIGN

ASK FOR CONFIDENTIAL DISCOUNTS

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World Radio History

★ Champion • RADIO TUBES

"Have Something Extra"

* Division of the Consolidated Electric Lamp Co.

Since 1924, Champion has manufactured radio tubes to the most rigid quality standards. The manufacturing policy of the company requires that only the most modern equipment and best materials available be used.

All Champion Products are fully guaranteed.

Champion offers a radio tube for every replacement need and in addition a complete line of Line Resistor Ballast Tubes (plug-in resistors) as shown on the other side of this page.

Window display material, price cards and other desirable sales helps are available upon request.

STANDARD GLASS TYPES (Regular Base)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
01A	$ .80	33	$1.50	50	$2.50	S2	$1.50	2A3	$2.50	6E5	$1.50
1V	1.25	34	1.75	53	2.00	S3	1.75	2A5	1.25	6E6	2.00
10	2.75	35	1.25	55	1.50	S3V	2.25	2A6	1.25	6H6G	1.25
12A	1.00	36	1.25	56	.80	S4/6Z4	1.75	2A7	1.50	6F7	2.00
15	2.25	37	1.00	57	1.25	S5	1.25	2B7	1.75	6G5	1.50
18	2.00	38	1.25	58	1.25	S9	1.50	2E5	1.50	6N5	1.75
19	1.50	39	1.25	59	2.00	Y99	1.50	5Z3	1.25	6U5	1.50
20	2.25	41	1.25	71A	1.00	X99	1.50	6A3	2.00	12A5	2.25
22	2.00	42	1.25	75	1.25	1A4	1.75	6A4	1.50	12A7	2.25
24A	1.25	43	1.50	76	.80	1A6	1.75	6A6	1.75	12Z3	1.50
26	.80	45	1.00	77	1.50	1B4	2.25	6A7	1.50	25B5	2.25
27	.80	46	1.50	78	1.25	1B5/25S	1.25	6B5	2.25	25Y5	2.00
30	1.00	47	1.50	79	1.50	1C6	1.75	6B7	1.50	25Z5	1.25
31	1.00	48	4.00	80	.80	1F4	1.50	6C6	1.25	950	2.25
32	1.75	49	1.25	81	2.25	1F6	2.25	6D6	1.25		

"G" GLASS TYPES (Octal Base)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
1C7G	$2.25	1J6G	1.50	6B8G	1.75	6J7G	1.50	6N7G	$1.75	6Y7G	$1.50
1D5G	2.25	5U4G	1.50	6C5G	1.25	6J8G	2.25	6Q7G	1.50	6Z7G	1.75
1D7G	1.75	5V4G	2.50	6C8G	1.50	6K5G	1.50	6R7G	1.50	6ZY5G	1.50
1E5G	2.25	5X4G	1.50	6D8G	2.25	6K6G	1.50	6S7G	2.25	25A6G	1.50
1E7G	2.75	5Y3G	1.00	6F5G	1.25	6K7G	1.50	6T7G	2.25	25A7G	2.25
1F5G	2.25	5Y4G	1.00	6F6G	1.50	6L5G	2.25	6U7G	1.50	25B6G	1.75
1F7G	2.25	6AC5G	1.10	6F8G	1.50	6L6G	2.50	6V6G	1.75	25L6G	2.25
1G5G	2.00	6A5G	2.00	6G6G	2.25	6L7J	1.75	6X5G	1.50	25N6G	2.25
1H4G	1.00	6A8G	1.50	6H6G	$1.25	6N6G	2.25	6Y6G	2.25	25Z6G	1.50
1H6G	$1.75	6B4G	$2.00	6J5G	$1.50						

METAL TYPES (Octal Base)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
5T4	$2.50	6B8	$1.75	6H6	$1.25	6L6	$2.25	6R7	$1.50	25A6	1.50
5W4	1.00	6C5	1.25	6J5	1.50	6L7	1.75	6V6	1.75	25L6	2.25
5Z4	2.00	6F5	1.25	6J7	1.50	6N7	1.75	6X5	1.50	25Z6	1.50
6A8	1.50	6F6	1.50	6K7	1.50	6Q7	1.50				

SPARTON TYPES (Regular Base)

Type	List Price	Type	List Price	Type	List Price
182B/482B	$2.00	183/483	$2.00	485	$2.00

CHAMPION 6 - 12 and 32 Volt Service Lamps

6 Volt Types

Watt	Bulb	Base	Finish	List Price
15	A17	Medium	Inside Frosted	$0.25
25	A19	"	" "	.25
50	A21	"		.35

12 Volt Types

Watt	Bulb	Base	Finish	List Price
15	A17	Medium	Inside Frosted	$0.30
25	A19	"	" "	.30
50	A21	"	" "	.40

28-32 Volt Types

Watt	Bulb	Base	Finish	List Price
15	A17	Medium	Inside Frosted	$0.20
25	A19	"	" "	.20
50	A21	"	" "	.20
100	A23	"	" "	.33

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Champion RESISTOR BALLAST TUBES

Resistor Ballast Tubes are standard for voltage reduction purposes and to supply proper voltage to pilot lamps in AC-DC receivers. With their use, fire hazard is reduced to a minimum, and the need for separate resistors for pilot lamps is eliminated. Having the same general appearance of Radio Tubes, these resistors add sales value to radio receivers and have the additional important feature of being easy to replace.

GLASS TYPES (4 Prong and Octal Base)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
100R8	$ .80	140M8	$ .80	185R4	$ .80	250R8	$ .80	270M8	$ .80	K55BG	$ .80
120R8	.80	165R	.80	185R8	.80	250L4	.80	300R4	.80	M17HG	.80
130R	.80	165R4	.80	185R44	.80	250L8	.80	320R4	.80	M27HG	.80
140R	.80	165R8	.80	185L4	.80	250M4	.80	60R30G	.80	M30HG	.80
140R4	.80	165R44	.80	185L8	.80	250M8	.80	87SR48	.80	M42HG	.80
140R8	.80	165L4	.80	185L44	.80	270R	.80	340	.80	M49HG	.80
140R44	.80	165L8	.80	185M4	.80	270R4	.80	03G	.80	M55HG	.80
140L4	.80	165L44	.80	185M8	.80	270R8	.80	33AG	.80	100-37	.80
140L8	.80	165M4	.80	200R	.80	270L4	.80	K42CG	.80	100-38	.80
140L44	.80	165M8	.80	250R	.80	270L8	.80	K49BG	.80	80S-1	.80
140M4	.80	185R	.80	250R4	.80	270M4	.80	K49CG	.80	80S-2	.80

METAL TYPES (Octal Base)

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
K23B	$ .80	*42A2	$1.10	M42C	$ .80	L49D	$ .80	L55D	$ .80	K80H	$ .80
K23C	.80	*42B2	1.10	M42D	.80	L49DJ	.80	L55E	.80	L80B	.80
K23E	.80	K42B	.80	M42H	.80	L49E	.80	L55F	.80	L80C	.80
30A	.80	K42C	.80	49A	.80	L49S1	.80	L55S1	.80	M80B	.80
36A	.80	K42D	.80	*49A1	1.10	L49S2	.80	L55S2	.80	M80C	.80
K36B	.80	K42E	.80	*49A2	1.10	L49S3	.80	L55S3	.80	K87B	.80
K36C	.80	L42B	.80	*49B2	1.10	M49B	.80	M55B	.80	92A	.80
K36D	.80	L42X	.80	KZ49A	.80	M49C	.80	M55C	.80	K92B	.80
K36E	.80	L42C	.80	K49B	.80	55A	.80	M55D	.80	K92C	.80
K36H	.80	L42CJ	.80	KZ49B	.80	*55A1	1.10	M55E	.80	K92F	.80
L36B	.80	L42CS4	.80	K49C	.80	*55A2	1.10	M55H	.80	K95B2	.80
L36C	.80	L42D	.80	KZ49C	.80	*55B2	1.10	67A	.80	*L99D	1.10
L36D	.30	L42DJ	.80	K49D	.80	K55B	.80	K67B	.80	100-37	.80
L36DJ	.80	L42DX	.80	K49E	.80	K55C	.80	K74B	.80	100-38	.80
L36E	.80	L42E	.80	L49B	.80	K55CP	.80	K74C	.80	*80S-4	1.10
M36C	.80	L42S1	.80	L49BJ	.80	K55D	.80	80A	.80	2UR224	.80
M36H	.80	L42S2	.80	L49BX	.80	K55H	.80	K80B	.80	3CR241	.80
42A	.80	L42S3	.80	L49C	.80	L55B	.80	K80C	.80	2VR215	.80
*42A1	1.10	M42B	.80	L49CJ	.80	L55C	.80	K80F	.80	3ER24S	.80
						L55CP	.80				

* Indicates Perforated Metal Shell

INTERCHANGEABLE AND EQUIVALENT INFORMATION

Champion Resistance Tubes are numbered in accordance with RMA standards for such devices, and all type numbers are figured on a basis of a 117.5 volt line, except special high voltage types. Champion types will be interchangeable with other manufacturers' types which have not been figured on the 117.5V basis. For example:

CHAMPION No.	OTHER MFGRS. No.	CHAMPION No.	OTHER MFGRS. No.
K23E	K22E	L42D	L40D
K42B	K40B	K74B	K72B

Champion types are also interchangeable with other manufacturers' types as follows:

M55B	BM55B	L42C	BL42C
K42C	BK42C	K49C	K49CB

The same rule will apply to all metal resistance tubes having a two letter prefix, the first of which is the letter "B."

METAL RESISTANCE TUBE NOMENCLATURE

PREFIX: K Denotes 6.3V — 150ma #40 pilot lamp
L Denotes 6.3V — 250ma #46 pilot lamp
M Denotes 6.8V — 200ma #50 & #51 pilot lamps
B Preceding either K, L or M denotes ballast effect

NUMBER: Represents overall voltage drop produced by the resistor when proper number and types of pilot lamps are properly connected.

SUFFIX: Denotes basing and wiring series.
No suffix—Denotes resistance contains no taps.
B—Denotes 1 tap for 1 lamp.
C—Denotes 1 tap for 2 lamps.
D—Denotes 2 taps for 1 lamp each.
E—Denotes 1 tap for 3 lamps.
E1—Denotes 3 taps for 1 lamp each.
F—Denotes 1 tap for 1 lamp — Tapped section isolated from Body.
H—Denotes 2 taps for 1 lamp each — Tapped section isolated from Body.

"G" or "MG" suffix to regular metal types indicates directly interchangeable type in Glass or Metal-Glass with Octal Base.

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Radio Tubes

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Type	List Price	Description
		GLASS TUBES
00A	$2.25	Detector
01A	.80	DC General Purpose Detector Amplifier
1V	1.10	Half-Wave Rectifier
10	2.75	Power Amplifier
12A	1.00	DC Amplifier
15	2.25	R. F. Pentode
19	1.35	Class "B" Twin Power Amplifier
20	2.25	DC Power Amplifier
22	2.00	DC Screen Grid Amplifier
24A	1.10	Screen Grid Amplifier
24S	1.50	Screen Grid Amplifier
26	.80	Amplifier Triode
27	.80	Detector Amplifier
27S	1.10	Detector Amplifier
30	1.00	DC Detector Amplifier
31	1.00	DC Power Amplifier
32	1.75	DC Screen Grid Amplifier
33	1.35	DC Power Pentode
34	1.75	DC Super-Control R. F. Pentode
35-51	1.10	Super-Control Screen Grid Amplifier
35S-51S	1.50	Super-Control Screen Grid Amplifier
36	1.10	Screen Grid R. F. Amplifier
37	1.00	Detector Amplifier
38	1.25	Power Pentode
39-44	1.25	Super-Control R. F. Pentode
40	1.00	Voltage Amplifier
41	1.10	Power Pentode
42	1.25	Power Pentode
43	1.50	Power Pentode
45	1.00	Power Amplifier
46	1.50	Double Grid Power Amplifier
47	1.50	Power Pentode
48	4.00	Power Tetrode
49	1.25	Double Grid Power Amplifier
50	2.50	Super-Power Amplifier
53	2.00	Class "B" Twin Power Amplifier
55	1.50	Duplex Diode Triode
55S	1.75	Duplex Diode Triode
56	.80	Detector Amplifier
56S	1.35	Detector Amplifier
56AS	1.35	Detector Amplifier
57	1.25	R. F. Amplifier Pentode
57S	1.75	R. F. Amplifier Pentode
57AS	1.75	R. F. Amplifier Pentode
58	1.25	Super-Control R. F. Pentode
58S	1.75	Super-Control R. F. Pentode
58AS	1.75	Super-Control R. F. Pentode
59	2.00	Triple Purpose Amplifier
71A	1.00	Power Amplifier
75	1.10	Duplex Diode Triode
75S	1.75	Duplex Diode Triode
76	.80	Detector Amplifier
77	1.35	R. F. Amplifier Pentode
78	1.25	Super-Control R. F. Pentode
79	1.50	Class "B" Twin Power Amplifier
80	.80	Full-Wave Rectifier
81	2.25	Half-Wave Rectifier
82	1.50	Full-Wave M. V. Rectifier

Type	List Price	Description
		GLASS TUBES
83	$ 1.60	Full-Wave M. V. Rectifier
83V	2.25	Full-Wave Rectifier
84	1.60	Full-Wave Automotive Rectifier
85	1.25	Duplex Diode Triode
85AS	1.75	Duplex Diode Triode
89	1.50	Triple Purpose Amplifier
99X	1.50	DC Detector Amplifier
99V	1.50	DC Detector Amplifier
182B	2.00	Power Amplifier
183	2.00	Power Amplifier
485	2.00	Detector Amplifier
950	2.25	Power Amplifier Pentode
1A4	1.75	Super-Control R. F. Pentode
1A6	1.75	Pentagrid Converter
1B4	2.25	R. F. Amplifier Tetrode
1B5-25S	1.25	DC Duplex Diode Triode
1C6	1.75	Pentagrid Converter
1F4	1.50	Power Amplifier Pentode
1F6	2.25	Duplex Diode Pentode
2A3	2.50	Power Amplifier Triode
2A5	1.25	Power Pentode
2A6	1.25	Duplex Diode Triode
2A7	1.50	Pentagrid Converter
2A7S	2.30	Pentagrid Converter
2B7	1.60	Duplex Diode Pentode
2B7S	2.30	Duplex Diode Pentode
2S-4S	2.75	Twin Diode
2Z2-G84	2.00	Half-Wave Rectifier
5Z3	1.10	Full-Wave Rectifier
6A3	2.00	Power Amplifier Triode
6A4	1.50	Power Pentode
6AB5	1.75	Electron Ray Indicator
6A6	1.60	Class "B" Twin Power Amplifier
6A7	1.50	Pentagrid Converter
6A7S	2.30	Pentagrid Converter
6B5	2.25	Duplex Triode Amplifier
6B7	1.50	Duplex Diode Pentode
6B7S	2.30	Duplex Diode Pentode
6C6	1.25	R. F. Amplifier Pentode
6C7	2.00	Duplex Diode Triode
6D6	1.25	Super-Control R. F. Pentode
6D7	2.00	R. F. Amplifier Pentode
6E5	1.50	Electron-Ray Indicator
6E6	2.00	Twin Triode Power Amplifier
6E7	2.00	Super-Control R. F. Pentode
6F7	2.00	Triode Pentode Converter
6F7S	2.00	Triode Pentode Converter
6G5	1.50	Electron-Ray Indicator
6N5	1.75	Electron-Ray Indicator
6T5	1.50	Electron-Ray Indicator
6U5	1.50	Electron-Ray Indicator
6Y5	2.00	Full-Wave Rectifier
6Z5	2.00	Full-Wave Rectifier
12A5	2.25	Power Pentode
12A7	2.25	Special Duplex Pentode Rectifier
12Z3	1.35	Half-Wave Rectifier
25Z5	1.25	Full-Wave Voltage Doubler and Rectifier

See other side for Metal and "G" Series Tubes

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Ken-Rad
Radio Tubes

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METAL TUBES

Type	List Price	Description
OZ4	$1.50	Gaseous Full-Wave Rectifier
5T4	2.50	Full-Wave Rectifier
5W4	1.00	Full-Wave Rectifier
5Z4	2.00	Full-Wave Rectifier
6A8	1.50	Pentagrid Converter
6B8	1.75	Duplex Diode Pentode
6C5	1.25	Detector Amplifier Triode
6F5	1.25	Hi-Mu Amplifier Triode
6F6	1.35	Power Amplifier Pentode
6H6	1.25	Twin Diode
6J5	1.35	Detector Amplifier Triode
6J7	1.50	Detector Amplifier Pentode
6K7	1.35	Super-Control R. F. Pentode
6L6	2.25	Beam Power Amplifier
6L7	1.75	Pentagrid Mixer Amplifier
6N7	1.75	Twin Triode Amplifier
6Q7	1.35	Duplex Diode Hi-Mu Triode
6R7	1.35	Duplex Diode Triode
6V6	1.75	Beam Power Amplifier
6X5	1.50	Full-Wave Rectifier
25A6	1.50	Power Amplifier Pentode
25L6	2.25	Beam Power Amplifier
25Z6	1.50	Rectifier Doubler

"G" SERIES

(Glass Tubes with Octal Bases)

Type	List Price	Description
0Z4G	$1.50	Gaseous Full-Wave Rectifier
1C7G	2.25	Pentagrid Converter
1D5G	2.25	Super-Control R. F. Pentode
1D7G	1.75	Pentagrid Converter
1E5G	2.25	R. F. Amplifier Pentode
1E7G	2.75	Twin Pentode Amplifier
1F5G	2.25	Power Amplifier Pentode
1F7G	2.25	Duplex Diode Pentode
1G5G	2.00	Power Amplifier Pentode
1H4G	1.00	Detector Amplifier Triode
1H6G	1.75	Duplex Diode Triode
1J5G	2.25	Power Amplifier Pentode
1J6G	1.35	Twin Triode Amplifier
5U4G	1.50	Full-Wave Rectifier

"G" SERIES

(Glass Tubes with Octal Bases) (Continued)

Type	List Price	Description
5V4G	$ 2.35	Full-Wave Rectifier
5W4G	1.00	Full-Wave Rectifier
5X4G	1.50	Full-Wave Rectifier
5Y3G	1.00	Full-Wave Rectifier
5Y4G	1.00	Full-Wave Rectifier
6A8G	1.50	Pentagrid Converter
6AC5G	1.10	Power Amplifier Triode
6B4G	2.00	Power Amplifier Triode
6B8G	1.75	Duplex Diode Pentode
6C5G	1.25	Detector Amplifier Triode
6C8G	1.50	Twin Triode Amplifier
6D8G	2.25	Pentagrid Converter
6F5G	1.25	Hi-Mu Amplifier Triode
6F6G	1.35	Power Amplifier Pentode
6F8G	1.50	Twin Triode Amplifier
6G6G	2.25	Power Amplifier Pentode
6H6G	1.25	Twin Diode
6J5G	1.35	Detector Amplifier Triode
6J7G	1.50	Detector Amplifier Pentode
6J8G	2.25	Pentagrid Mixer
6K5G	1.35	Hi-Mu Amplifier Triode
6K6G	1.35	Power Amplifier Pentode
6K7G	1.35	Super-Control R. F. Pentode
6L5G	2.25	Detector Amplifier Triode
6L6G	2.50	Beam Power Amplifier
6L7G	1.75	Pentagrid Mixer Amplifier
6N6G	2.25	Duplex Triode Amplifier
6N7G	1.75	Twin Triode Amplifier
6Q7G	1.35	Duplex Diode Hi-Mu Triode
6R7G	1.35	Duplex Diode Triode
6S7G	2.25	Super-Control R. F. Pentode
6T7G	2.25	Duplex Diode Hi-Mu Triode
6U7G	1.35	Super-Control R. F. Pentode
6V6G	1.75	Beam Power Amplifier
6V7G	1.35	Duplex Diode Triode
6W5G	1.50	Full-Wave Rectifier
6X5G	1.60	Full-Wave Rectifier
6Y6G	2.25	Beam Power Amplifier
6Y7G	1.50	Twin Triode Amplifier
6ZY5G	1.50	Full-Wave Rectifier
6Z7G	1.75	Twin Triode Amplifier
25A6G	1.50	Power Amplifier Pentode
25B6G	1.75	Power Amplifier Pentode
25L6G	2.25	Beam Power Amplifier
25Z6G	1.50	Rectifier Doubler

Ken-Rad Tubes — Glass, All Metal and "G" Series — are approved for standard equipment by a majority of receiving set manufacturers. This approval means that Ken-Rad Tubes meet the exacting requirements of the foremost radio receiving set engineers.

See other side for Glass Tubes

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World Radio History

OPERADIO MANUFACTURING COMPANY

14 WATT PORTABLE UNIT — Model 414

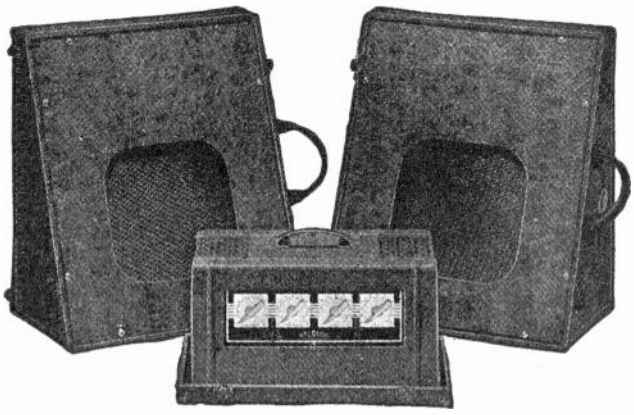
Provisions for Remote Controler, Paging Switch, and Headphone or Meter Monitoring. Three Channel Input . . . Electronically Mixes Two Microphones and One Phonograph. Fully Protected, Recessed, Illuminated Controls. Beam Power Tube. Cathode Degeneration. Three Piece Carrying Case Houses Model 1010 Amplifier, Two 12" Heavy Duty Permanent Magnet Speakers, New "No-Volt" Velotron Microphone, Speaker and Microphone Cords.
SPECIFICATIONS:—Number of Stages: 4. **Tube Complement:** 2—6J7; 1—6F5; 1—6F8G; 2—6V6G; 1—80. **Overall Gain:** Each Microphone, 131 db.; Phonograph, 72 db. **Rated Output:** 14 Watts. **Output Impedances:** 3, 6, 250, 500 ohms through three polarized output receptacles. Designed for use with permanent magnet dynamic speakers. Has a.c. Power Switch. Has High Frequency Tone Control. **Power Supply:** 105-125 volts, 60 cycle a.c. **Power Consumption:** 95 watts. **Overall Dimensions:** 19½" high x 15¼" wide x 12¾" deep. **Net weight:** 43 lbs. **Shipping Weight:** 48 lbs. **Finish:** Amplifier, Two-tone gray baked wrinkle; Case, Two-tone gray leatherette.

Model 414—Portable Public Address Unit, less tubes and microphone stand. List Price $125.00
Model 1010—Amplifier only, as used in Model 414, less tubes. List Price 55.00
Tubes for Models 414 and 1010. Per Set 10.05

30 WATT PORTABLE UNIT — Model 425-GGB

Provisions for Remote Mixtrolor, Paging Switch, Headphone, Meter, and Auxiliary Monitoring. Uses Beam Power Tube. Three Channel Input. Incorporates Individual Bass and Treble Tone Compensators. Adjustable Multi-Stage Degeneration. Split Speaker Case Incorporates two OPERADIO 12" Extra Heavy Duty Permanent Magnet Dynamic Speakers. Amplifier Case Carries Amplifier, Crystal Microphone, Microphone Stand and the necessary Cords.
SPECIFICATIONS:—Number of Stages: 4. **Tube Complement:** 2—6J7; 1—6F5; 1—6F8G; 2—6L6G; 1—5Z3. **Overall Gain:** Each Microphone, 135 db.; Phonograph, 82 db. **Rated Output:** 30 watts. **Output Impedances:** 4, 8, 250, 500 ohms through three polarized receptacles. Designed for use with permanent magnet speakers. **Controls:** Two separate electronic mixing controls for microphones; One mixing control for phonograph; One treble tone control; One bass compensator. **Power Supply:** 105-125 volt, 50-60 cycles a.c. **Power Consumption:** 110 watts. **Overall Dimensions:** Amplifier Case, 8¾" high x 16¼" long x 9" deep; Speaker Case, 22" high x 21¼" wide x 13½" deep. **Net Weight:** 62 lbs. **Shipping Weight:** 75 lbs.

Model 425-GGB—Portable Public Address Unit complete with crystal microphone, microphone floor stand, less tubes. List Price $225.00
Model 1025—Amplifier as used in Model 425-GGB, less tubes. List Price 90.00
Tubes for Models 1025 and 425-GGB. Per Set 12.00



PHONOGRAPH UNIT
Model A-3925-A

Deluxe Type Turntable Designed for High-Grade, Heavy Duty Service. Stream-line Carrying Case. Two Speed Motor permits the Playing of 33⅓ and 78 r.p.m. records of 10, 12, and 16" size. Incorporates Inbuilt Volume Control, a Tone Control, a Scratch Filter, and is equipped with Crystal Pickup.

List Price $75.00

PHONOGRAPH UNIT
Model A-4225

An inexpensive Type Turntable with Single Speed 78 r.p.m. Motor. Plays Records of 10 and 12" size. Incorporates Volume Control, Crystal Pickup, and "On-Off" Switch.

List Price $39.00

Model 950 PRE-AMPLIFIER

Portable Microphone Pre-Amplifier Designed to Operate on 115 volts 60 cycle a.c. Will Drive from One to Six Model 870 Booster Amplifiers or a Balanced or Single Output Line at Approximately Zero Level. Provisions for Mixing Two Microphones and Input for Phonograph Unit. Provisions for Remote Mixtrolor and Paging Switch Control.
SPECIFICATIONS: — Number of Stages: 3. **Tube Complement:** 2—6J7; 1—6F5; 1—6F8G; 1—80. **Overall Gain:** 115 db. **Output Impedances:** 500 and 1000 ohms. Zero level for 500 ohm line +20 db. level for driving Model 870 Booster Amplifier. (Balanced or single ended operation provided.) **Controls:** Two microphone mixer volume controls. One variable high frequency tone control. One Three-position low frequency tone control. **Power Supply:** 105-125 volts, 50-60 cycle a.c. **Power Consumption:** 75 watts. **Finish:** Baked gray wrinkle. **Overall Dimensions:** 13½" long x 8¾" high x 7½" deep. **Net Weight:** 15 lbs. **Shipping Weight:** 18 lbs.

Model 950—Pre-Amplifier, less tubes. List Price..... $65.00
Tubes for Model 950. Per Set 6.55

PAGING FOUNDATION KIT
Model 411

This kit consisting of a microphone, microphone stand, and foot switch, may be incorporated with any selected Operadio Amplifier and as many speakers and speaker housings as may be needed to provide the paging required for any establishment.
Microphone, Microphone Stand, and Foot Switch only. List Price $40.00

INTERCOMMUNICATION

Operadio Intercommunicating Systems are designed to meet every possible requirement regardless of what it may be. The Operadio Line of Intercommunicating Systems gives you more plus features than anything on the market today.
TYPE "A": Complete two-way system. Speech may originate in either position, one independent of the other. High quality reproduction.
TYPE "B": Return Speech System. Number of Outlying Stations unlimited . . . standard models up to 10 stations. Master Station may call and converse with any Outlying Station and up to three Master Stations possible. Outlying Stations may call Master Station by the addition of Call Switch but under no circumstances, may they call or converse with each other.
TYPE "C": The perfect Intercommunication network. Number of Stations unlimited . . . 3 to 11 stations standard. In full and complete intercommunication with each other. Any Station can talk to any other at any time. Two, three, or four Stations may converse with each other simultaneously.

All Units available in either wood cabinets finished in two-tone walnut, or metal cabinets finished in black baked wrinkle with chromium trim. Earphones available on Units in Type "A" or "C" where desired.

INTERCOMMU-PAGING SYSTEM TYPE "BH"

A combination paging and intercommunicating system with from 1 to 3 Master Stations and as many Outlying Stations as may be desired. Master Stations may call and converse with one Station or may page all Stations simultaneously. Outlying Stations may call Master Stations by the addition of a Call Switch.

OPERADIO also manufactures a complete line of Public Address Speakers, Radio Replacement Speakers, Speaker Cabinets and other Public Address Accessories. Complete catalog available on request.

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World Radio History

OPERADIO MANUFACTURING COMPANY

55 WATT BASE TYPE AMPLIFIER

MODEL 855-R

Uses Beam Power Tube in Latest and Most Efficient Type of Circuit . . . Developed by Operadio. Four Channel Input . . . Electrically Mixes Three Microphones with Phonograph or Auxiliary Input. Provisions for Remote Controlor. Has Volume Expansion and Volume Compression. Has Electronic Visual Overload Indicator Electronic Visual Output Indicator and New Non-Resonant Equalizer. Used as Tone Balancer for Both High and Low Frequencies. Master Gain Control.

SPECIFICATIONS:—Number of Stages: 6. **Tube Complement:** 4—6F5; 1—6L7; 1—6H6; 1—6C5; 1—6E5; 1—6F6; 2—6L6G; 1—83; 1—80. **Overall Gain:** Microphone, 145 db.; Phonograph, 90 db. **Output: Rated,** 55 watts; Maximum, 80 watts. **Output Impedances:** 2, 4, 8, 125, 250, 500 ohms. Designed for use with permanent magnet dynamic speakers or separately excited electro dynamic speakers. **Controls:** Three microphone mixer volume controls; One master gain control; One phonograph mixer volume control; One high and low frequency non-resonant equalizer; One expansion-compression control; power switch; pilot light. **Power Supply:** 105-125 volts, 50-60 cycle a.c. **Power Consumption:** 160 watts. **Finish:** Black baked wrinkle, chromium trim. **Overall Dimensions:** 23" long x 10⅞" x 9½" wide. **Net Weight:** 56 lbs. **Shipping Weight:** 70 lbs.

LIST PRICE

Model 855-R Amplifier, less tubes.....$185.00
Tubes for Model 855-R, per Set..... 19.50

35 WATT BASE TYPE AMPLIFIER

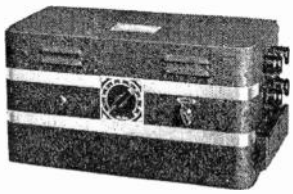
MODEL 835-UR

Underwriter's Listed. Provisions for Remote Mixtrolor. Beam Power Tube. Electronically Mixes Two Microphones or Two Microphones and Phonograph. Non-resonant Equalizer Used as Tone Balancer for Both High and Low Frequencies. Provisions for Operating Booster Amplifier to Obtain up to 420 Watts Additional.

SPECIFICIATIONS:—Number of Stages: 4. **Tube Complement:** 2—6J7; 1—6F5; 1—6N7; 2—6L6G; 1—83. **Overall Gain:** Microphone, 137 db.; Phonograph, 90 db. **Rated Output:** 35 watts. **Output Impedances:** 2, 4, 8, 125, 250, 500 ohms. Has a.c. "on-off" switch, pilot light, and fuse. **Power Supply:** 105-125 volts, 50-60 cycle a.c. **Power Consumption:** 190 watts. **Controls:** Two separate electronic mixing volume controls for microphones; One phono mixer volume control; One high and low frequency non-resonant equalizer control. **Finish:** Black baked wrinkle. **Overall Dimensions:** 16½" long x 8¾" wide x 8¾" deep. **Net Weight:** 35 lbs. **Shipping Weight:** 40 lbs.

LIST PRICE

Model 835-UR Base Type Amplifier (as illustrated), less tubes.....$120.00
Tubes for Model 835-UR, per Set..... 12.10



70 WATT BOOSTER AMPLIFIER

MODEL 870

Full 70 Watts Output. Designed for Base, Wall, or Rack Mounting. Has Dual Channel Output. Designed for Use as Booster with Model 835-UR Base Type Amplifier or Model 950 Pre-Amplifier.

SPECIFICATIONS:—Number of Stages: 2. **Tube Complement:** 1—6F6; 4—6L6G; 2—83. **Overall Gain:** 28 db. **Rated Output:** 70 watts. **Output Impedances:** Two sets of output impedances, 2, 4, 8, 125, 250, 500 ohms through impedance adapter. **Controls:** One Master Gain Control for both power output channels. **Power Supply:** 105-125 volts, 50-60 cycle a.c. **Power Consumption:** 300 watts. **Finish:** Black baked wrinkle. **Overall Dimensions:** 16½" long x 8¾" wide x 8¾" deep. **Net Weight:** 45 lbs. **Shipping Weight:** 55 lbs.

LIST PRICE

Model 870 Booster Amplifier, less tubes.....$123.00
Tubes for Model 870, per Set..... 14.55

25 WATT MOBILE PUBLIC ADDRESS SYSTEM

MODEL 172

Full 25 Watts Output. Uses Beam Power Tube. Provisions for Remote Controlor, Headphone and Meter Monitoring. Electronically Mixes One Microphone and One Phonograph. Includes Two 12" Heavy Duty Permanent Magnet Speakers and Hand Type Dynamic Microphone with Switch. Has Auxiliary Input and "Economizer Control" for Battery Supply.

SPECIFICATIONS:—Number of Stages: 4. **Tube Complement:** 1—6J7; 1—6C5; 1—6F8G; 2—6L6G; 1—5Z3. **Overall Gain:** Microphone, 131 db.; Phonograph, 76 db. **Rated Output:** 25 Watts. **Output Impedances:** 4, 8, 250, 500 ohms through polarized receptacles. Designed for use with permanent magnet dynamic speakers. **Controls:** Microphone mixing volume control; Phono mixing volume control; High frequency tone control; Combination a.c. power and "Economizer" switch; Filament switch; Phono motor switch; a.c.-d.c. adapter plug. Includes single speed 78 r.p.m. 12" turntable. **Power Supply:** 105-125 volt, 50-60 cycle a.c.—6 volts d.c. **Power Consumption:** a.c.—110 watts; d.c.—amplifier, 16 amperes; Phonograph, 2½ amperes. **Finish:** Baked gray wrinkle. **Overall Dimensions:** Amplifier, 10½" high x 16¾" wide x 16½" deep. **Net Weight:** (complete) 64 lbs. **Shipping Weight:** (complete) 74 lbs.

LIST PRICE

Model 172 Mobile Public Address System (as illustrated) less tubes $255.00

Tubes for Model 172, per Set..... 10.35

6 Volt D.C.—
110 olt A.C.
In One Case

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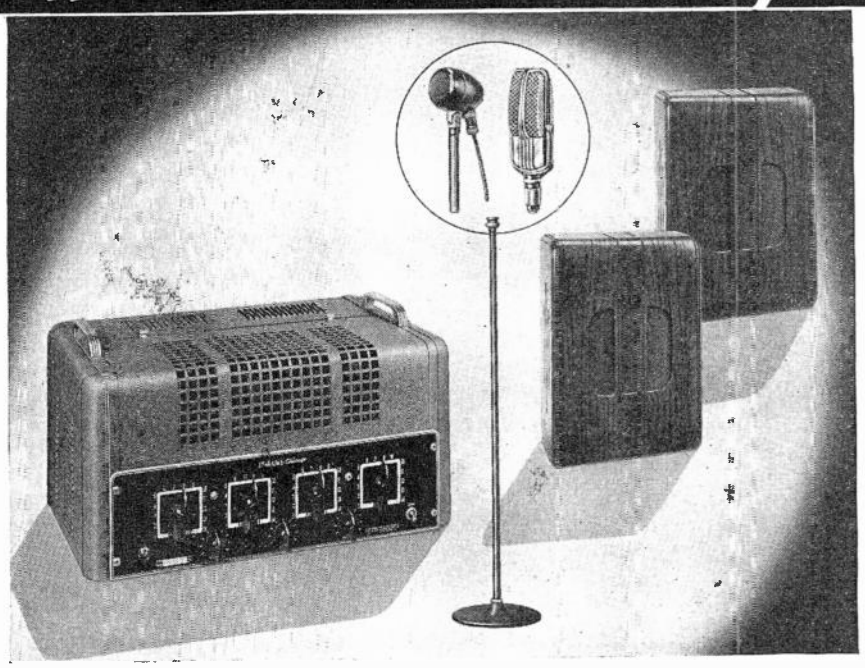
35 Watt PUBLIC ADDRESS Systems

- High Speed Expander
- Multi-Stage Degeneration
- 4-Input Mixing Circuits



- Dual Tone Compensation
- Underwriters' Laboratories Approved
- Remote Control

APPLICATION: WEBSTER-CHICAGO 4L35 systems are adapted to critical installations, those having a seating capacity of 7,000 to 9,000 persons. Control facilities permit the use of up to three microphones and phonograph. The tone compensating control can be utilized to obtain reproduction of an extraordinary degree. Volume expansion provides volume range heretofore impossible.

EQUIPMENT: WEBSTER-CHICAGO 35-watt systems use as a base unit the Model 4L35 12-tube, 35-watt amplifier, which due to unexcelled design and care in manufacture is capable of a reproduction that cannot be excelled. Dual tone compensation—a WEBSTER-CHICAGO development, permits altering of the frequency characteristic to suit auditorium requirements. Remote control and a smooth acting high speed volume expander, combined with exceptionally low distortion and inherent noise level, permits reproduction of the highest order. The remote control feature permits adjusting the volume of the program from any point in the audience. Output impedance can be varied by means of a taped switch in the rear of the amplifier. All input connections are made through a new type shielded polarized plug, which is standard on all WEBSTER-CHICAGO amplifiers. The amplifier is completely self-contained and is of attractive design.

SPECIFICATIONS

SPEAKERS: Two Model 3813 speakers having a total flux density of 90,000 lines per speaker, and an equalized characteristic power handling capacity of 18 watts per speaker. The speakers are mounted in two Type 2824 baffles complete with mounting hardware.

MICROPHONES: The two types of microphones offered as optional equipment with this system have characteristics that adapt them to a variety of operating conditions. For indoor work, the Model 1242 velocity microphone is recommended because of its highly directional characteristics. For out-of-door work, the Model 1244 dynamic type is recommended because of its freedom from wind and atmospheric effects. These microphones are equipped with a 25' RCS cord and plug.

MICROPHONE STANDS: The microphone is mounted on Model 1122 full length, chrome plated, cushion mounted floor stand, adjustable from 45" to 60".

AMPLIFIER SPECIFICATIONS: 5-stage, 12-tube, 35-watt output.
Tubes required (12) ..... 3—6J7, 3—6N7, 2—6L6, 2—6L7, 1—6C8, 1—5V4
Microphone gain ..... 130 DB
Microphone input impedance ..... 2 Megohms
Phonograph gain ..... 80 DB
Phonograph input impedance ..... 500,000 and 20,000 Ohms

CONTROLS: 3 high gain microphone controls, 1 low gain phonograph control, high and low end equalizer controls, volume expander control, on and off switch, impedance matching switch and long life pilot lamp.
Output impedance: ..... 3, 6, 250, and 500 Ohms
Power Consumption ..... 175 Watts

MODEL 4L35 amplifier is equipped with a fuse, 6' rubber covered cord and plug.
All transformers and chokes are varnish impregnated.
Finish is neutral grey with attractive escutcheon plate.

LISTING

MODEL FR-35: Includes Model 4L35 amplifier, remote control with 25' of flexible cable, 1242 velocity microphone with 25' of shielded rubber covered cable and plug, one No. 1122 microphone stand, 2 Model 3813 speakers, 2 Model 2824 wall baffles.
Price $243.50
Shipping Weight 130 lbs. ..... Code PERCH

MODEL FD-35: Includes Model 4L35 amplifier, remote control with 25' of flexible cable, 1244 dynamic microphone with 25' of shielded rubber covered cable and plug, one No. 1122 microphone stand, 2 Model 3813 speakers, 2 Model 2824 wall baffles.
Price $241.50
Shipping Weight 130 lbs. ..... Code PREEN

AMPLIFIER MODEL 4L35 with remote control and 25' of flexible cable for 120 volt, 50-60 cycle operation.
Price $112.50
Shipping Weight 65 lbs. ..... Code ARENA

ALL LISTINGS LESS TUBES

COMPLETE KIT OF MATCHED TUBES
Price $22.75
Shipping Weight 4 lbs. ..... Code TALPA

Webster-Chicago

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SOUND EQUIPMENT

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Mobile SOUND Equipment

- 6 VOLT DC OR POWER LINE OPERATION
- DYNAMIC HAND MICROPHONE
- MULTIPLE INPUT CIRCUIT

- INVERSE FEED BACK
- PERMANENT MAGNET SPEAKERS
- TONE CONTROL

APPLICATION: WEBSTER-CHICAGO Model M-928 is a combination system for 6-Volt battery or A.C. power line operation — both power packs being contained within the cabinet. The change from one power pack to the other is accomplished by changing power cords and by the operation of a selector switch. The convenience of this arrangement permits a degree of flexibility hitherto considered impractical.

This equipment has its chief utility in those applications where obtaining a source of power is a problem — such as sound cars, picnics, ball games and athletic events out of doors, in which case a 6-volt storage battery functions as the power unit.

EQUIPMENT: The basis of the M-928 system is a carefully designed 28-watt amplifier, mounted in a spot welded steel case, and a combination 6-volt DC or 115-volt AC power pack. The phonograph motor, which is of trouble-proof design, and the phonograph pickup are mounted on top of the case. The control panel is inclined, thus providing convenience of operation. All connections are polarized and located on the rear of the cabinet. The cabinet is well ventilated and the controls are mounted on an attractive etched plate.

Two type 3813 permanent magnet speakers are mounted in No. 2618 steel flares. These speakers have a power handling capacity of 18 watts each, a diameter of 12" and the total flux in the air gap is 65,000 lines per speaker. The horns are of spot welded steel and the flare is of exponential design assuring correct loading of the speaker. The mounting bracket is of cast semi-steel and is adjustable to meet different mounting conditions. The horns have a neutral gray finish, which is carefully applied and baked for durability. The speakers are equipped with 15 ft. of rubber covered cords and plugs.

The phonograph pickup is an improved magnetic type, having been chosen because of its ability to withstand the high temperatures encountered in enclosed sound trucks or wherever the equipment is exposed to the hot rays of the sun.

MICROPHONE: A Model 1244H dynamic microphone with handle completes the system equipment. This type exhibits a freedom from temperature and climatic conditions that makes its use desirable under variable conditions. The microphone is equipped with 25 feet rubber covered shielded cable and polarized plug. The microphone can be readily mounted on banquet or floor stand.

SPECIFICATIONS AND LISTINGS

Tubes required.....9, 2—6J7, 3—6N7, 2—6L6, 2—0Z4
Microphone gain.....126 DB and 76 DB
Microphone input impedance.....2 megohms and 20,000 ohms
Phonograph and auxiliary gain.....76 DB
Auxiliary gain input impedance.....20,000 ohms
Circuit .....Multi-stage feed back
Frequency characteristics..plus or minus 2 DB, 50-10,000 cycles
Inherent noise level.....60 DB below rated output
Current consumption for AC line.....150 watts
Current consumption for DC line.....120 watts
Dimensions.....16" x 16" x 9"
Controls: 4,.....2 high gain microphone, 1 phono and one auxiliary input

M-928 SYSTEM complete as described, less baffles.
Price $245.50
Shipping weight 80 lbs.....Code MEZZO

M-928-A SYSTEM complete as above, with two No. 2618 Flare baffles.
Price $285.50
Shipping weight 125 lbs.....Code MINOR

ALL LISTINGS LESS TUBES.

COMPLETE KIT OF MATCHED TUBES.....Price $16.65
Shipping weight 3 lbs.....Code SCROL

Webster-Chicago

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SOUND EQUIPMENT

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25 Watt PUBLIC ADDRESS Systems

- UNDERWRITERS' LABORATORIES APPROVAL
- PORTABLE AND PERMANENT SYSTEMS
- MULTI-STAGE INVERSE FEED-BACK CIRCUIT

- DUAL ELECTRONIC MIXER
- IMPROVED MICROPHONE AND SPEAKER PERFORMANCE
- TAPPED OUTPUT TRANSFORMER
- LOW PHASE SHIFT

APPLICATION: These 25-watt systems find wide application in providing realistic microphone or record reproduction for gatherings as large as 4,000 people. Ideal for auditoriums, schools, churches, etc.

EQUIPMENT: The Model PR-25 and PD-25 are complete portable public address units. Models FR-25 and FD-25 are for permanent installation. Tremendous strides have been made in the design of the Model 2L-25 amplifier used in these systems. WEBSTER-CHICAGO has engineered a multi-stage inverse feed-back circuit resulting in a greatly reduced noise level. Reductions in frequency, amplitude, and phase distortion have vastly increased the useful applications of these 25-watt systems.

Two types of microphones are offered. The Model 1242 velocity type is recommended in enclosures where acoustic feed-back is liable to become troublesome. Model 1244 dynamic type is recommended for outdoor installation and wherever wide-area pick-up is essential. The high fidelity reproduction of these systems is rounded out with the use of two scientifically designed 12" permanent magnet speakers.

SPECIFICATIONS

AMPLIFIER: Underwriters' Laboratory Approved. Four stage—25 Watts Output. Multi stage 8 d.b. degeneration.

Tubes required (7) .....2—6J7, 2—6N7, 2—6L6, 1—5V4G
Microphone Gain .....135.2 d.b.
Microphone Input Impedance.....20,000 ohms and 2 megohms
Phonograph Input Gain.....81 d.b.
Phonograph Input Impedance.....20,000 ohms and ½ megohm
Current Consumption.....125 watts @ 120 v.—50-60 cycles
Frequency Characteristic, plus or minus 1½ d.b. 50 to 10,000 cycles.
Output Impedance.....3, 6, 250, 500 ohms through polarized receptacles.
Controls: Two independent input volume controls for microphone or phonograph, tone control, master power switch and long life pilot light.
Amplifier provided with replaceable fuse.
Finish: Neutral gray, baked Japan, with attractive control panel.
Amplifier equipped with 6 foot approved rubber covered power cable and non-breakable plug.
Dimensions.....9" x 9" x 14¾" Weight.....28 lbs.
All transformers, chokes, etc., are varnish impregnated.

SPEAKERS: Two 12" Permanent Magnet Type with a power handling capacity of 18 watts each, and a total flux of 65,000 lines per speaker. The cone structure and magnetic circuit have been designed for public address applications to overcome the shortcomings of ordinary commercially available speakers. Voice coil impedance — 6 ohms. In the portable system each speaker is equipped with a 35' rubber covered cable and polarized plug.

MICROPHONE: The Microphones offered with these systems are of the high impedance type, and of such sensitivity that when used with this amplifier, assure pick-up over a wide area. Their response characteristics adapt them to high quality voice and musical reproduction. Microphones are complete with 25 feet of shielded rubber covered cable and polarized plugs. They are mounted on a three section full length demountable chrome-plated floor stand.

CARRYING CASES: Models PR-25 and PD-25 pack in two portable carrying cases. The speakers are mounted in two bias-cut acoustic vented cases, which clip together in one unit for portability. The amplifier, speaker cables, microphone stand and microphone pack into the amplifier case. Black embossed leatherette finish. Metal bound corners.

LISTING

MODEL PR-25—Complete Portable System as described with Model 1242 Velocity Microphone for 120 Volt 50-60 Cycle operation.
Price $211.25
Shipping Weight 91 lbs.....Code PLAZA

MODEL PD 25—Complete Portable System as described with Model 1244 Dynamic Microphone for 120 Volt 50-60 Cycle operation.
Price $210.25
Shipping Weight 91 lbs.....Code PLATY

MODEL FR-25—Complete Permanent System as described with Model 1242 Velocity Microphone, less carrying cases and Speaker Cables for 120 Volt 50-60 Cycle operation.
Price $168.50
Shipping Weight 65 lbs.....Code PLIER

MODEL FD-25—Complete Permanent System as described with Model 1244 Dynamic Microphone, less carrying cases and Speaker Cables for 120 Volt 50-60 Cycle operation.
Price $167.50
Shipping Weight 65 lbs.....Code PLUMY

AMPLIFIER MODEL 2L25 only for 120 Volt 50-60 Cycles.
Price $75.00
Shipping Weight 35 lbs.....Code ALATE

ALL LISTINGS LESS TUBES

COMPLETE KIT OF MATCHED TUBES.
Price $14.50
Shipping Weight 3 lbs.....Code STEEP

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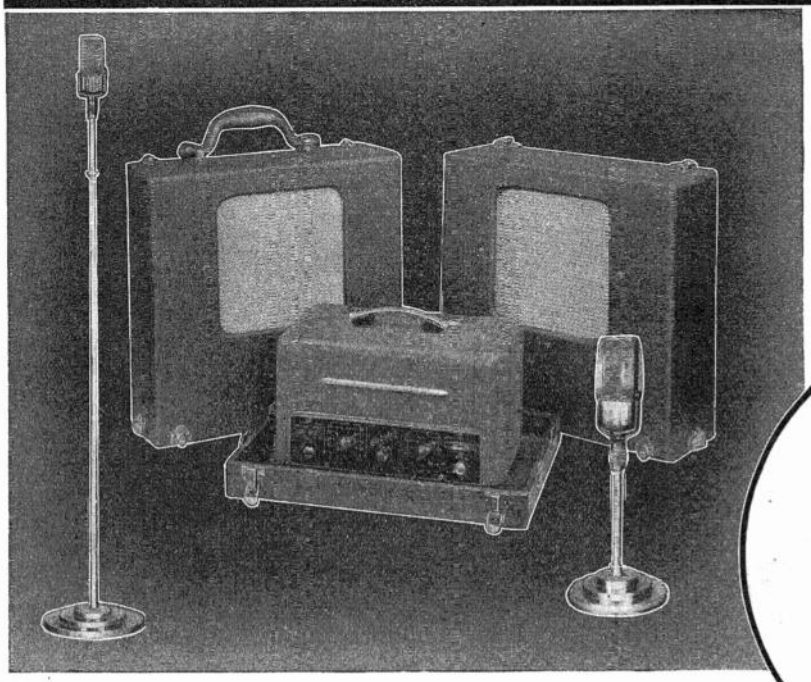
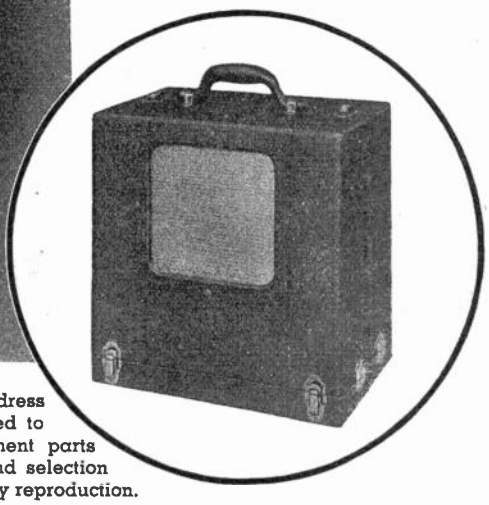
World Radio History

14 Watt PUBLIC ADDRESS Systems



- UNDERWRITERS' LABORATORIES APPROVED.
- HIGH GAIN (123 D.B. 14 WATT BEAM OUTPUT TYPE AMPLIFIER.)
- IMPROVED MULTI-STAGE INVERSE FEEDBACK CIRCUIT.
- TWO INDIVIDUAL ELECTRONIC INPUT CIRCUITS.
- VARIABLE OUTPUT CONNECTIONS FOR ADDITIONAL SPEAKERS.

Portable and Permanent Systems



EQUIPMENT The Model PV-714 System is a complete portable public address unit, built basically around a skillfully designed 14-watt amplifier adapted to high quality microphone or phonograph reproduction — with the component parts especially designed to give high fidelity results. This scientific design and selection of the speakers and microphone insures the full capability of highest quality reproduction.

The assembly includes one Model 1240A Microphone, mounted on a banquet stand, complete with 25 feet of rubber covered shielded cable and plug; one No. 714 Amplifier, two No. 3810 10" P.M. Speakers with 25 foot cables and polarized plugs. The above assembly is mounted for portability in a conveniently arranged carrying case.

SPECIFICATIONS

AMPLIFIER Underwriters' Laboratories Approved. Four Stages. 14 watts output at 6.5% distortion.

Tubes required.....2—6J7, 2—6N7, 2—6V6, 1—5V4
Microphone input gain.....123 d.b.
Input impedance.....20,000 ohms and 2 megohms
Phonograph input gain ..... 79 d.b.
Input impedance.....20,000 ohms and ½ megohm
Current consumption .....87 watts
Circuit, beam type output tubes with multi-stage 8 d.b. degeneration.
Frequency characteristics, plus or minus ¾ d.b., 40 to 10,000 cycles.
Inherent noise level.....30 d.b. below zero level
Output impedance.....3, 6, 250, 500 ohms through polarized receptacles.
Controls: Two independent input volume controls for microphone or phonograph, tone control, master power switch and pilot light.
Amplifier provided with replaceable fuse.
Finish: Neutral gray, baked Japan, with attractive control panel.
Amplifier equipped with 6 foot approved rubber covered power cable and non-breakable plug.
Dimensions .....7 x 7 x 12½"
Weight .....18 lbs.
All transformers, chokes, etc., are varnish impregnated.

SPEAKERS The 10" permanent magnet speakers have a power handling capacity of 12 watts each and a total magnetic flux of 40,000 lines. The cone is made of tough, long fibrous material, moisture proofed. Voice coil impedance is 6 ohms.

Realizing the shortcomings of ordinary radio loud speakers, great care has been exercised in the engineering of the cone structure to obtain smooth reproduction which neither adds to, nor detracts, from the tone picture of the amplifier. Each speaker is equipped with a 25 foot rubber covered cord and plug.

When not in use the cord can be wound in reel form around the periphery of the speaker.

MICROPHONE The MASTER VELOTRON microphone is a new development. It can be used with long lengths of cable. It is hum free — requires no polarizing potential; not affected by temperature or moisture; highly directional. Each Model 1240A is carefully tested for frequency response and output level.

Output .....minus 50 d.b.
Impedance .....high, directly to grid
Finish .....Gunmetal
Weight .....2 lbs.

Model 1240A is furnished with a banquet stand and 25 feet of shielded rubber covered cable.

CARRYING CASE The entire PV-714 Portable System packs in a substantial three piece carrying case. The two upper members of which function as efficient speaker baffles, the lower section carries the amplifier. When packed for transportation, the case has all necessary cleats for stowing cables, microphone, and microphone stand. A durable leather handle is provided, corners are metal bound, finish is black embossed leatherette, size 11½ x 16½ x 17½".

LISTING

PORTABLE SYSTEM Model PV-714, for 115 v. 60 cycle operation, complete as described, less tubes.
Price $125.00
Shipping Weight 44 lbs. .....Code, PARSI

FIXED SYSTEM Model FV-714, for 115 v. 60 cycle operation, as described, less carrying case and speaker cables, but with Floor Stand.
Price $112.50
Shipping Weight 40 lbs. .....Code, PAYEE

AMPLIFIER only, Model 714, less tubes.
Price $54.00
Shipping Weight 18 lbs. .....Code, ADAGE

KIT OF MATCHED TUBES
Price $13.05
Code .....STONE

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Institutional SOUND SYSTEM

for Medium Sized Schools, Clubs, Hotels, Camps, Hospitals

Has the following outstanding features—

- COMPACT AND SELF CONTAINED
- SELECTIVE OR GROUP PAGING
- TONE CONTROL
- RETURN SPEECH
- MASTER CALL
- P. M. SPEAKERS IN WALL MOUNTING BAFFLES

* Record Reproducing Attachments Optional.

HANDLES up to 20 ROOMS

DESCRIPTION AND APPLICATION

System S-20 has been especially designed to meet the requirements of an economical sound system for schools and institutions where the requirements will not exceed 20 rooms. Within its rated capacity, i. e., serving any number of rooms up to a total of twenty, its performance will satisfy the most critical.

The amplifier has a power output of 14 watts. Two separate units are used—one for talk-back, the other for program distribution. Monitor speaker and announcement microphone are mounted within cabinet. Provision has been made for the use of an external microphone if desired, that can be located several hundred feet from the amplifier. For each group of 10 rooms there is a Master Call Switch, and a volume indicator provides for adjusting volume to the desired level. Room designation strips provide for easily identifying the controlling switches. The radio set is self contained and can be used independently of the system. Manual or automatic phonograph mechanisms can be purchased separately and provision for their use has been made.

This system has regular talk-back features in that each room can talk back to the central station, and in this case the speakers in each room act as microphones.

Using permanent magnet speakers, installation of speakers in each room requires the running of only two wires, thus reducing installation expense considerably. Speakers are housed in attractive walnut finished wall baffles, and include matching transformer.

The Model S-20 System is easily operated, self contained and requires no more service than an ordinary radio set.

Case—neutral gray finish.

SPECIFICATIONS

Amplifier .....8 tube.....14 Watts
Radio Chassis.....5 tube..Tuning range 550 KC to 2500 KC
Room Switches..mounted in panels of 10, each with 3 positions —"On," "Off," and "Listening."
Master Call Switch—one on each panel.
Size of Master Unit..... 9 x 16½ x 19
Room Speaker.....6" P. M. Type, Wall Mounting Baffle with matching transformer.
Current Consumption.....150 Watts

CONTROL FACILITIES: Program Selector Switch for Phonograph, Microphone or Radio.
Talk Listen Control.
Master Gain Control Provided.
Volume Level Indicator.
A. C. Switch with Pilot Light.
Radio Controls Include Volume and Tuning Controls.

Monitor Speaker and General Announcement Microphone Contained in Case.

LISTING

MODEL S-20 System Complete as described — with 10-room switches, speakers and baffles.....Price, $395.00
Shipping Weight 150 lbs.....Code SATIA

MODEL SR-6J Additional Speakers Mounted in Wall Baffles, each $13.15
Code SOMNO

MODEL SP-10 Additional 10-room Switch Panel....Price, $35.00
Code SPARK

MODEL 1254 Phonograph Turntable.....Price, $40.00
Code PALAT

MODEL 1240A Remote Microphone with floor stand, 25' of cable and plug .....Price, $39.00
Code SPEAR

Two conductor shielded cable for installation, per 100 feet.$4.85

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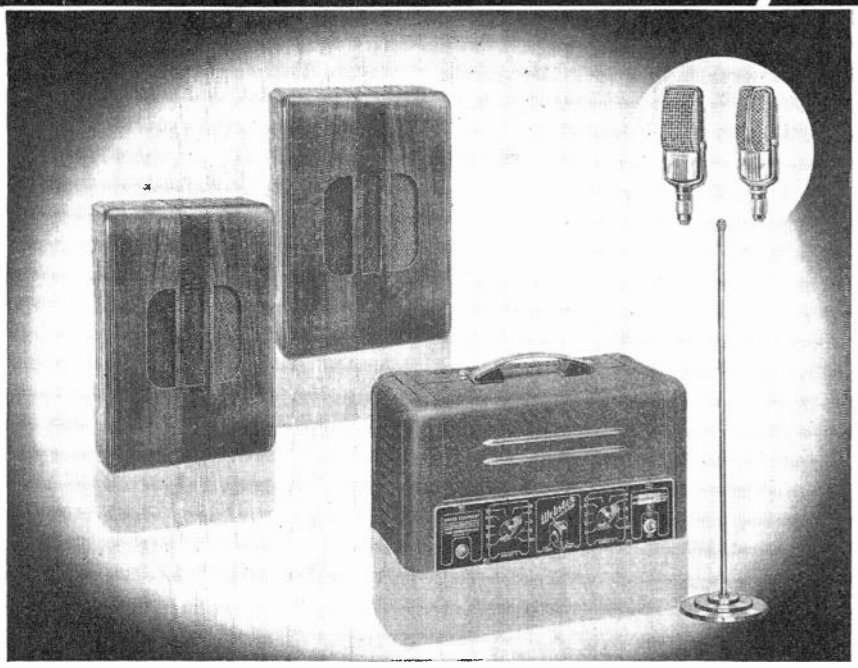
18 Watt PUBLIC ADDRESS Systems

- MULTI-STAGE INVERSE FEED BACK
- DUAL ELECTRONIC MIXER
- NEW HIGH EFFICIENCY MICROPHONES



- EQUALIZED SPEAKER PERFORMANCE
- LOW DISTORTION HIGH QUALITY REPRODUCTION

APPLICATION: Systems FR18 and FV18. These 18 Watt systems are particularly adaptable to churches, lodges, halls, school auditoriums, theatres, funeral establishments, and other locations where high quality microphone or phonograph reproduction is necessary. Using the speakers listed with these systems ample reproduction is obtainable for audiences up to 3000 or in halls with cubical content of 350,000 cu. ft.

EQUIPMENT: Includes 2L18 amplifier, Models 1240A or 1244 microphones, No. 1122 floor stand, two Model 3812 permanent magnet speakers, and two Model 2622 wall mounting baffles. The equipment has been carefully designed to meet the increasing demand for more natural reproduction in public address installations.

System FR18 utilizes the Model 1242 Velocity microphone and provides the best obtainable in microphone equipment; System FV18 utilizes the new no-voltage Velotron microphone with its excellent reproduction and economical price.

SPECIFICATIONS

AMPLIFIER: Four stage—seven tube 18 Watt Output. Multi-stage degeneration phase inversion type.

Tubes required (7) .....2—6J7, 2—6N7, 2—6L6, 1—5V4G
Microphone Gain .....125 DB
Microphone Input Impedance.....20,000 Ohms and 2 Megohms
Phonograph Input Gain.....81 DB
Phonograph Input Impedance.....20,000 Ohms and ½ Megohm
Current Consumption.....110 Watts
Frequency Characteristic.....¾ DB, 50 to 10,000 cycles
Output Impedance.....3, 6, 250, and 500 Ohms
Controls: Two input gain controls, tone control, pilot light, and power switch.

Model 2L18 amplifier is equipped with a 6′ approved power cord and rubber plug, replaceable fuse, all connections thru polarized plugs.

All transformers and chokes varnish impregnated.

Finish, neutral grey.

SPEAKERS: Two 12″ permanent magnet type, Model 3812, having a total flux of 55,400 lines per speaker, equalized frequency characteristic, power handling capacity of 14 Watts per speaker. The voice coil impedance is 6 Ohms; finish aluminum lacquer.

MICROPHONES: The Model 1242 Velocity microphone used in the FR18 system is of the high impedance type particularly adapted to public address or broadcast work, its highly directional behavior makes it most adaptable to in-door use. Is equipped with 25′ RCS cord and plug.

The Model 1240A Velotron microphone used in the FV18 system is of the residual potential type, requiring no operating voltage, and can be used on long cable lengths, up to 1000′ being practical. Microphone is swivel type and is equipped with 25′ RCS cord and plug.

MICROPHONE STAND: Model 1122 full length chrome plated cushion mounted noiseless type. Adjustable from 45″ to 60″. Shipping Weight 20 lbs.

BAFFLES: The two No. 2822 Walnut baffles measure 6¾x15x22″, are properly vented, and provided with grill cloth speaker opening. These baffles are well constructed and attractive. Mounting hardware is furnished.

LISTING

SYSTEM FV-18 includes 2L18 amplifier, 1240A microphone with No. 1122 stand, and 25′ cable and plug, two 3812 speakers mounted in 2622 wall baffles for 120v, 50-60 cycle operation.
Price $162.00
Shipping Weight 87 lbs.....Code STALK

SYSTEM FR-18 includes 2L18 amplifier, 1244 Velocity microphone with 25′ shielded cable and plug and No. 1122 microphone stand, two Model 3812 speakers mounted in No. 2622 wall baffles.
Price $170.50
Shipping Weight 87 lbs.....Code STAVE

AMPLIFIER MODEL 2L18 only for 120 Volt 50-60 cycle operation.
Price $64.00
Shipping Weight 25 lbs. .....Code ATLAS

ALL LISTINGS LESS TUBES

COMPLETE KIT OF MATCHED TUBES
Price $14.00
Shipping Weight 3 lbs.....Code SPURT

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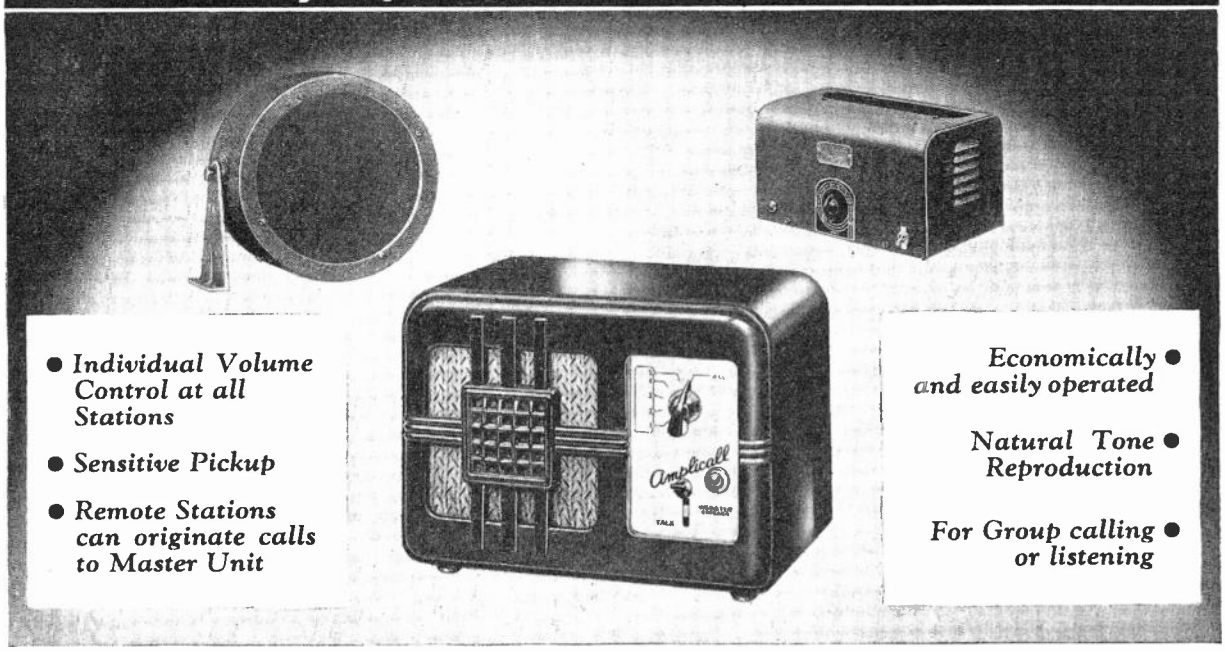
COMBINED *Paging* and *Inter-Communicating* SYSTEM



- *Individual Volume Control at all Stations*
- *Sensitive Pickup*
- *Remote Stations can originate calls to Master Unit*

- *Economically and easily operated*
- *Natural Tone Reproduction*
- *For Group calling or listening*

WEBSTER-CHICAGO MODEL 305 - 7 Paging Systems have been designed for economical paging and intercommunication in organizations where average manufacturing noise levels prevail in a floor area of 30,000 to 40,000 sq. ft. . . . ¶ This system provides for paging and intercommunication at a maximum of five locations, and is sufficiently versatile to meet all ordinary demands. Provision can be made, if desirable, permitting the outlying stations to call the master location. . . . ¶ An important advantage of this equipment is that information can be given to or received from various persons in the organization without the necessity of interrupting their work. The equipment is also arranged so that all stations can be called simultaneously.

EQUIPMENT

305-7 SYSTEMS consist of a desk or pickup unit enclosed in an attractive plastic case of brown walnut. The unit fulfills the function of microphone or speaker when return speech is desired.

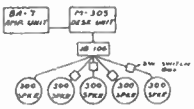
CONTROLS consist of a 6-position selector switch for calling any one or all five stations at one time; a talk-listen switch, and an off switch. A volume control is also provided. Operation is simple and easily understood.

AMPLIFIER is a 7-Watt three stage high-gain unit using a single beam tube in the output. The low hum level, and substantial design particularly adapt this amplifier to commercial application.

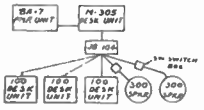
SPEAKERS are mounted in double end baffles which radiate from each end. Each speaker is provided with a volume control of the screw driver adjusting type. The baffle is mounted by means of a convenient swivel bracket to accommodate a variety of mounting conditions. The speaker impedance is 44 Ohms. Speakers are of the 8" permanent magnet type.

The TYPE S-W SWITCH BOX is optional equipment and its use permits calling the master station from the outlying stations. The arrangement is such, however, that the remote switch need not be operated to permit the person called to answer questions to the master station.

SCHEME A—PAGING SYSTEM—Call originates at Master Station—Person called can answer without operating control—outlying station cannot call Master.



SCHEME B—Calls can originate at Master or outlying stations. Person called does not have to operate switch to answer, but only when calling Master Station. Using this arrangement, the SW box is necessary only at those locations where it is desirable to originate calls.



SCHEME C—Combination of wall speakers and desk speakers—use of SW switch box, permitting outlying stations to originate calls, is optional.

Wiring is easily accomplished by means of two conductor shielded cable where the remote calling switch is not required. Where its use is advisable, three-conductor cable must be used.

A great convenience of this system lies in the fact that it is only necessary to use the remote switch in those locations where it is desirable.

Scheme "C" to the left illustrates a system where remote switches are used at two points.

Current Consumption.....68 Watts

LISTING

305-7—AMPLIFIER AND DESK UNIT..Price, $70.00
Shipping weight 19 lbs.....Code AMBLE

305-7—DESK UNIT .....Price, $15.00
Shipping Weight 7 lbs.....Code MAMON

305-7—7-WATT AMPLIFIER (incl. tubes)
.....Price, $55.00
Shipping Weight 12 lbs.....Code AMITY

TYPE 300 SPEAKER .....Price, $17.50
Shipping Weight 5 lbs.....Code STAID

S-W SWITCH BOX.....Price, $2.50
Shipping Weight 1 lb.....Code SMOKE

TYPE 100 DESK UNIT .....Price, $14.00
Shipping Weight 7 lbs.....Code SECTA

TYPE JB 104 JUNCTION BOX.....Price, $3.00
Shipping Weight 1 lb.....Code JINXS

2 conductor shielded cable for installation, per 100 feet.....$4.85
Code .....CALLS

3 conductor shielded cable for installation, per 100 feet.....$6.85
Code .....CAKES

Webster-Chicago

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SOUND EQUIPMENT

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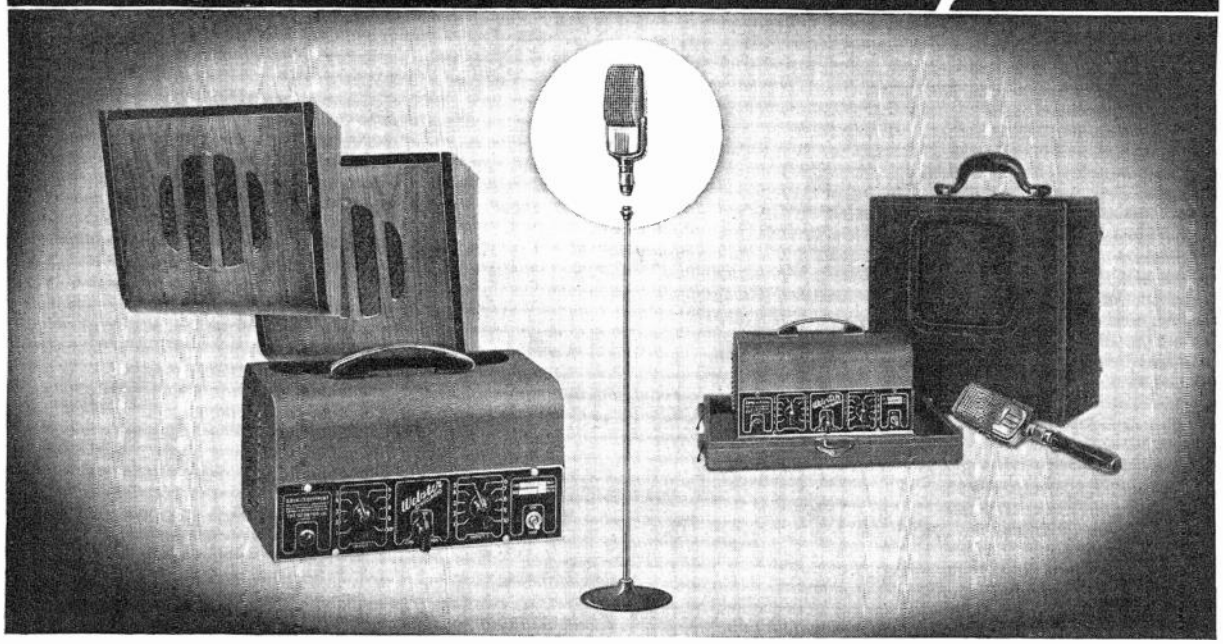
8 Watt PUBLIC ADDRESS Systems



- PORTABLE OR PERMANENT SYSTEMS
- MICROPHONE
- VARIABLE OUTPUT TRANSFORMER
- MICROPHONE AND PHONOGRAPH MIXING SYSTEM
- ALL CONNECTIONS THRU POLARIZED PLUGS

APPLICATION: The Fixed System is recommended for small churches, lodge halls, clubs, dining rooms, etc. The Portable System is particularly adapted to window advertising, store work, carnivals, fairs, etc.

EQUIPMENT: Model PV508—Portable System—comprises the Model 508 four-stage, high gain amplifier; Model 1240A microphone unit with handle; and Model 3808 eight inch permanent magnet speaker; complete in portable carrying case, of durable construction and attractive finish.

Model FV508—Fixed System—comprises the Model 508 four-stage, high gain, amplifier; two Model 3808 permanent magnet speakers mounted in No. 2906 baffles; one Model 1240A microphone mounted on Model 1122 floor stand.

SPECIFICATIONS

AMPLIFIER: Four stage—5 tubes—8 Watts output.
Tubes required (5).....1—6J7, 1—6N7, 1—6C5, 1—6L6, 1—5V4
Microphone Gain .....115 DB
Phonograph Gain .....78 DB
Microphone Input Impedance.....2 Megohms
Phonograph Input Impedance.....20000 Ohms
Current Consumption.....74 Watts
115 V. 50-60 Cycles.
Frequency Characteristic..plus or minus 2 DB, 60 to 10000 cycles
Output Impedance.....3, 6, 250 and 500 Ohms
Controls: One microphone, one phonograph, tone control, pilot light, and master AC switch and fuse.
Model 508 is equipped with a 6 ft. approved cord and plug.
All transformers varnish impregnated.
Finish, neutral gray.
Dimensions.....6"x6"x10½" Weight.....12 lbs.

SPEAKER: The permanent magnet speakers are of the type 3808 and are 8" in diameter, and have a total flux density of 44000 lines per speaker. Cone structure is particularly designed for sound reinforcing systems.

MICROPHONE: The Model 1240A Veletron microphone used in these systems is of the residual potential type and requires no operating potential and they can be used on long cable lengths—up to 1000 feet being practical. Microphone is swivel type and is equipped with a 25 foot RCS cord and plug.

BAFFLES OR PORTABLE CASE: The two Model 2906 baffles. are of the wall mounting type with inclined front, are substantially constructed and are reinforced walnut veneer. The baffle includes mounting hardware.

The portable case used in the PV508 system is of durable construction and is covered with black embossed leatherette, the necessary cleats and straps are provided for stowing equipment when not in use or when being transported.

LISTING

MODEL FV508—Complete Fixed System as described, including Model 508 amplifier, Model 1240A microphone, with 25' of cable and plug; Model 1122 floor stand, two model 3808 permanent magnet speakers mounted in 2906 baffles.
Price $107.50
Shipping Weight 40 lbs.....Code SCION

MODEL PV508—Complete Portable System as described, including Model 508 amplifier, Model 1240A microphone with 25' of cable and plug and handle, Model 3808 permanent magnet speaker with 25' of cable and plug, and portable carrying case.
Price $85.00
Shipping Weight 40 lbs.....Code SEALD

AMPLIFIER MODEL 508 for 115 Volt 50/60 cycle operation.
Price $38.50
Shipping Weight 14 lbs..... Code ALLOT

ALL LISTINGS LESS TUBES

COMPLETE KIT OF MATCHED TUBES
Price $9.55
Shipping Weight 1 lb.....Code SOIRE

Webster-Chicago

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Input AND *Pick-up* ACCESSORIES

The MICROPHONE, whose function is to act as the ear in a public address system, is a very important part thereof, and much depends upon its selection in the ultimate success of the system. While a number of types are illustrated and described, each type has characteristics that make its use most desirable in certain types of installations. While every effort has been made to obtain a high output level, the proper reproducing quality has not been sacrificed in these designs.

VELOCITY TYPE

The 1242 Series of Velocity Microphones has been designed to meet the rigid requirements of the present and future public address requirements, refinement in amplifier design and improved speaker performance has interposed more exacting requirements upon the microphone. The present series meet these demands, using high permeability transformer cores and magnetic structures employing recently developed materials. The dural ribbon is of the corrugated type and is suspended in an intense magnetic field. These microphones are contained in attractive cast cases which function as electro magnetic and electro static shields, tho interposing a minimum distortion effect on the sound wave.

MODEL 1242.....Impedance 5000 ohms—..output level 67 DB
Frequency range.....50-12,000 cycles
Price $32.00
Shipping weight 6 lbs.....Code, MAINS

MODEL 1242-A.....Same as above but 200 ohm impedance
Price $33.00
Shipping weight 6 lbs.....Code, MALIC

DYNAMIC MICROPHONES

Wide range of pick-up, excellent frequency characteristic, low internal noise level and freedom from atmospheric or climatic effects are characteristics which make the dynamic type of microphone most suitable for public address work.

Webster-Chicago--Model 1244 is a highly developed unit of this type, utilizing a moving coil mounted on a dural diaphragm. The moving coil is maintained in an intense magnetic field, the magnet itself being of a new material having high flux density per unit gap. The diaphragm is properly vented and damped to provide a remarkably flat frequency characteristic. Voice and musical reproduction of a superlative degree is attainable thru the use of this microphone and the proper associated equipment. The case is of cast streamlined design, providing proper protection for the element. Prices include 25' of R.C.S. cable.

MODEL 1244 High Impedance Dynamic Microphone..Price $32.50
Shipping weight 6 lbs.....Code, MAHOX

MODEL 1244-A Low Impedance, 200 ohm.....Price $32.50
Shipping weight 6 lbs.....Code, MAIDE

VELOTRON MICROPHONES

WEBSTER-CHICAGO MODEL 1240-A is a bi-directional high impedance capacity device and its actuation is similar to the typical velocity microphones. In construction a residual charge is built on the dielectric, thus eliminating the necessity for a polarizing potential. The output level of this microphone is relatively high and it can be used on cable lengths up to 1000 ft. The frequency characteristic is remarkably flat thus insuring natural reproduction.

MODEL 1240-A as described.....Price $22.50
Shipping weight 6 lbs.....Code, MALTE

MICROPHONE CABLES For trouble free operation, microphone cables should be selected with care, and the two types listed herewith are particularly adapated to the rough usage for which they are intended. The rubber covering is tough and durable, shielding is closely woven to minimize static and magnetic pick-up.

No. 1150 Single conductor for high impedance microphones. Price per foot.....$0.10
Code, CABAL

No. 1151 Double conductor for low impedance microphones. Price per foot.....$0.12
Code, CABEC

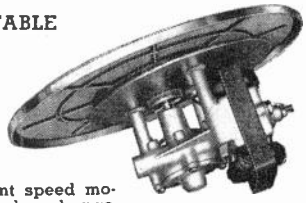
MODEL 1122 FLOOR STAND is of two piece construction and adjustable from 45" to 60" by means of a new friction clutch. Finish is chrome plated and stand is equipped with a 10" cast iron base, having rubber feet to absorb shock and floor vibration.
Price $14.00
Shipping weight 19 lbs.....Code, STOUP

MODEL 1121-A FLOOR STAND is of four section construction, being made up of three 15" screw connections and one adjustable section. Due to these features, it can be used either as a banquet stand, and as such is adjustable from 17" to 30", or as a floor stand, and is adjustable in the latter case from 47" to 60". Stand is equipped with a cast iron base and is finished in chrome.
Price $14.00
Shipping weight 17 lbs.....Code, STRIP

PHONOGRAPH PICKUP

WEBSTER-CHICAGO MODEL 5000 Phonograph Pickups are of the magnetic type—streamlined—with an offset head to assure perfect tracking.
The magnetic structure utilizes newly developed alloys for improved efficiency. This type of pickup is practically independent of temperature or climatic effects.
The swivel is of a design thct eliminates chattering but provides free lateral motion for the pickup arm on the record and is of the single hole mounting type.
Each pickup is equipped with a shielded cable 18" long and a rest is also included.
Output .....1.4 volts
Impedance .....5000 ohms
Record Pressure .....3 oz.
Length of tone arm.....9¼ in.
Price $6.00
Shipping weight 1 lb.....Code, PASTY

PHONOGRAPH TURNTABLE MOTORS



Webster - Chicago phonograph turnable motors are of the single speed type and are available for operation on various voltages and frequencies.
The elimination of the governor by the use of a constant speed motor with extremely small angular change has resulted in a motor that is extremely simple and reliable These motors are self-starting and are furnished with a mounting plate and cushion washers. Various turntable sizes are listed below:

No. 671-M-12, 60 cycle 78RPM, 115 volt motor with 12" turntable
Code, METRO .....Price $12.50

No. 671-M-10, 60 cycle, 78RPM, 115 volt motor with 10" turntable
Code, MINCE.....Price $12.25

No. 671-M-8, 60 cycle, 78RPM, 115 volt motor with 8" turntable
Code, MOHUR .....Price $12.10
Motors for other voltages and frequencies available on order.

PORTABLE PHONOGRAPHS

Webster-Chicago Portable Phonographs have been designed to permit the use of transcribed reproduction in connection with public address equipment.

This equipment is available in portable form for ready transportation and a record compartment to facilitate the handling of records.

The motor is a constant speed type with 10" turntable and the pick-up is of the magnetic type with tangential arm for proper tracking. Case size is 8" x 14" x 14". Finish: black walrus grain.

MODEL 1254-A Complete as described with power cord and 6' shielded cable.
Price $35.00
Code. .....PLAIT

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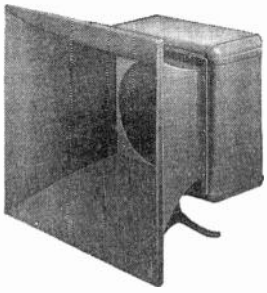
Reproducers AND Mountings

REPRODUCER MOUNTINGS

Reproducer mountings, or baffles, form an important acoustical link in the public address system. Their function is to provide, not only the proper mechanical mounting for protection to the speaker itself, but also to afford proper magnetic coupling between the speaker and the surrounding air.

HORN TYPE MOUNTINGS



The various models of horns listed herewith are of spot welded steel construction. The flare or expansion ratio has been accurately determined to provide the proper diaphragm loading on the cone speaker. They are finished in a durable baked-on non-tarnishing crystalline aluminum. Various models listed herewith are provided with adjustable mounting brackets to facilitate handling a variety of mounting conditions.

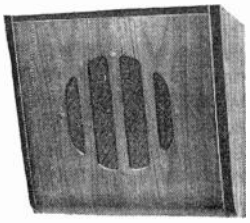
MODEL 2618 for 12" speakers.
Throat dimensions .....20" x 20"
Overall length .....18"
Complete with mounting bracket, grill and screen...Price $20.00
Shipping weight 25 lbs.....Code SELAH

MODEL 2501, Horn Type Speaker Baffle.
Dimensions of bell, 30" x 30", overall depth 31 inches, for use with all Webster-Chicago 12" speakers.....Price $30.00
Shipping weight 45 lbs.....Code SPARE

MODEL 2551, Horn Type Speaker Baffle.
Same as No. 2501, except it is waterproofed for continuous out of door service .....Price $38.00
Shipping weight 46 lbs.....Code SORTE

MODEL 2510, Horn Type Speaker Baffle.
The 2510 directional speaker baffle is very similar to the No. 2501, except that it has less depth front to back and is recommended for indoor use or where mounting depth is a factor.
Dimensions of bell, 30½" square, overall depth, 20½".....
..... Price $28.00
Shipping weight 40 lbs.....Code SPEAK

MODEL 2511, Horn Type Speaker Baffle.
Similar to No. 2510, except weatherproofed for continuous out of door service.....Price $36.00
Shipping weight 41 lbs.....Code STUFA



The baffles listed herewith have been designed primarily from an acoustical viewpoint. Their performance, however, has not been sacrificed despite the attractive appearance they afford. These mountings are well constructed and durable. Wall or stage mounting baffles, Models 2906, 2908 and 2912 inclusive, are of trapezoidal construction and are built of well seasoned walnut veneer for the front portion and well seasoned solid material for the sides. They are adequately braced with corner blocks and provided with a wire mesh and grill, as well as hardware for mounting on the wall. They can, however, be mounted directly on the stage floor if desired.

MODEL 2906 for 6" speakers, complete as described.
Dimensions, 7" x 10½" x 11¼".....Price $6.25
Shipping weight 12 lbs.....Code BEKKO

MODEL 2908, same as above, but designed for use with 8" speakers.
Dimensions, 7" x 10½" x 11¼".....Price $6.75
Shipping weight 12½ lbs.....Code BOWIE

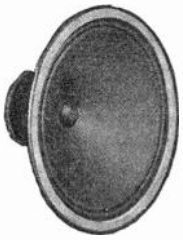
MODEL 2912, same as above, but designed for 12" speakers.
Dimensions, 9½" x 15" x 15¼".....Price $11.50
Shipping weight 20 lbs.....Code BEGEM

MODELS 2822 AND 2824 are for wall mounting. They are of substantial construction and are braced to provide the necessary mechanical strength for heavy 12" speakers.
Construction is of walnut veneer, handsomely finished, with two-tone grain effect. These baffles are provided with protective screen and grill cloth and the necessary mounting hardware.

MODEL 2822 for 12" speakers.
Dimensions.....7" x 15" x 22"
Shipping weight.....16 lbs.
Price $15.50
Code .....BAYOU

MODEL 2824, same as above but of heavier construction.
Dimensions, 8" x 16" x 24".....Price $18.25
Shipping weight 20 lbs.....Code BEACH

REPRODUCERS



- IMPROVED DYNAMIC PERFORMANCE
- INCREASED EFFICIENCY
- SPECIALIZED CONE STRUCTURE
- SMOOTH FREQUENCY CHARACTERISTIC
- DO NOT REQUIRE FIELD EXCITATION
- HIGH OVERLOAD CAPACITY

WEBSTER-CHICAGO, having pioneered the application of permanent magnet speakers in the public address field, offer herewith a new series of high efficiency units that have features which adapt them particularly to the rigid requirements imposed upon them by the great improvements made in associated equipment.

MODEL 3812—12" permanent magnet type. Total flux 55,400 lines. Power handling capacity 12 to 14 watts. Voice coil impedance 600 ohms at 400 cycles.....Price $14.25
Shipping weight 9 lbs.....Code SAUCE

MODEL 3812A—Same as 3812 but equipped with input transformer for 500, 1000, 1500 and 2000 ohms.....Price $16.75
Shipping weight 10 lbs.....Code SAULS

MODEL 3813—12" permanent magnet type. Total flux 90,000 lines. Power handling capacity 18 watts. Voice coil impedance 6 ohms.....Price $23.00
Shipping weight 15 lbs.....Code SAURI

MODEL 3813A—Same as 3813 but equipped with input transformer for 500, 1000, 1500 and 2000 ohms.....Price $25.50
Shipping weight 17 lbs.....Code SCADE

MODEL 3814—12" high power permanent magnet type. Power handling capacity 20 watts. Voice coil impedance 6 ohms. Total flux 160,000 lines.....Price $34.75
Shipping weight 18 lbs.....Code SANDO

MODEL 3814A—Same as 3814 but equipped with input transformer for 500, 1000, 1500 and 2000 ohms.....Price $37.25
Shipping weight 20 lbs.....Code SCURF

MODEL 3810—10" permanent magnet type. Total flux 55,400 lines. Power handling capacity 8 to 10 watts. Voice coil impedance 6 ohms.....Price $12.25
Shipping weight 6 lbs.....Code SAPPY

MODEL 3808—8" permanent magnet type. Power handling capacity 6 to 8 watts. Total flux density 54,000 lines. Voice coil impedance 6 ohms.....Price $11.25
Shipping weight 6½ lbs.....Code SAYYS

MODEL 3806—6" permanent magnet type. Power handling capacity 4 to 6 watts. Voice coil impedance 6 ohms.....
.....Price $8.00
Shipping weight 5¾ lbs.....Code SAPPO

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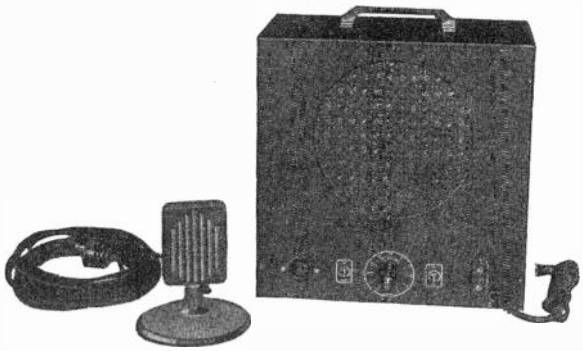
QUALITY —GIBBS— QUALITY
Amplifying Equipment



SIZE 12⅛ x 6⅞ x 13 INCHES.
Shipping Weight, 20 Lbs.

MODEL 511-U

A compact, highly efficient portable amplifying system. The most portable complete system available, consisting of new Gibbs Veravox microphone in desk stand, with full-length 25 ft. microphone cable and plug. Black crackle finished metal amplifier case houses 5 watt amplifier and 8" permanent magnet dynamic loud speaker of excellent tone quality. Amplifier has three stages, resistance and transformer coupled, using 6F5, 6F5, 6B5 and 80 tubes, in Class A circuit, giving full 5 watts of quality output, with 7 watts peak.

Input of the amplifier is high impedance, thru new "Universal" input, allowing use of Veravox, Velotron, Diaphragm Crystal or high impedance Velocity microphones, or high impedance phonograph pickup. Selective switch changes input from microphone to phonograph as desired, and volume is regulated by single gain control.

Complete With Tubes **$62.50**

SIZE 17¾ x 10⅜ x 25⅞ INCHES
Shipping Weight Less Pac., 38 Lbs.
Shipping Weight With Pac., 49 Lbs.

MODEL AB-99-U

A complete, universally adaptable four-stage Portable Amplifying System, of 9 to 12 watts output. Uses 6F5, 76, 76, 2-42's and 80 tubes.. When used with the two speakers furnished, has sufficient power to cover outdoor gathering of at least 500 people, or indoor gatherings of at least 1000.

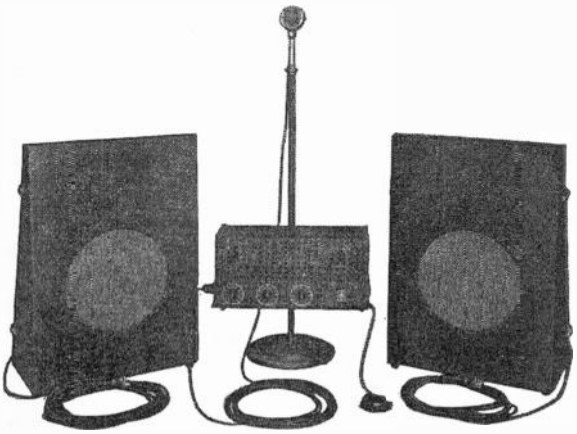
The 10" Permanent Magnet Dynamic Speakers, each with 35 ft. cables and plugs, amplifier and Veravox microphone in table stand with 25 ft. cable and plug, all contained in neat, black leatherette covered carrying case, diagonally divided. Amplifier has dual-channel input thru Universal input for microphone, and tip jacks for phonograph, individual volume controls and tone control; also socket for input of Jr. Pac. for operating amplifier from 6 volt storage battery, instead of normal 110 volts A. C. 60 cycles.

Complete With Tubes, Less Jr. Pack **$87.50**

JR. PAC.

An efficient power convertor, using Genemotor, for operating Model AB-99-U from 6 volt storage battery.

Complete With Battery Clips and Plug **$39.00**



SIZE 18 x 26 x 10½ INCHES.
Shipping Weight, 47 Lbs.

MODEL 159-U

A compact, four-stage Portable Amplifying System, of 15 watts normal output and 21 watts peak output. Uses 2-6J7, 2-76, 2-6B5 and 83-V tubes, in resistance and transformer coupled circuit, Class "A", of 115 db. gain. The two 12" dynamic loud speakers furnished with this system will cover outdoor gatherings of 800 people, or indoor gatherings up to 1500. Two 12" electrodynamic speakers, each with 35 ft. cables and plugs, amplifier and Dual Diaphragm Crystal microphone with 25 ft. cable and plug, all contained in diagonally divided carrying case, covered in durable black leatherette. This system also includes a full height, black crackle and nickel finished adjustable floor stand. Amplifier has two channel "Universal" input, for two microphones such as Veravox, Velotron, Diaphragm Crystal or High Impedance Velocity, and tip jacks for high impedance phonograph. Selective switch allows use of two microphones or one microphone and phonograph, with individual controls and tone control.

Complete With Tubes **$130.00**

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QUALITY -GIBBS- QUALITY

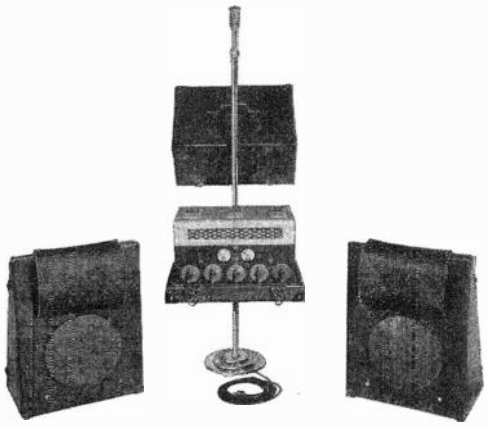
Amplifying Equipment

SIZE 19⅜ x 12⅜ x 23¾ INCHES.
Shipping Weight, 58 Lbs.

MODEL 359-U

A compact, four-stage Portable Amplifying System, having full 35 watts normal output and 40 watts peak output. Uses 2-6F5, 1-6F5, 1-6C5, 2-6L6G, and 1-5U4G tubes, having gain of 121 db. Resistance and transformer coupled circuit, Class A. Two 12" Permanent Magnet Dynamic Speakers, with 35 ft. cables and plugs, amplifier and Veravox microphone with 25 ft. cable are all contained in neat, leatherette covered carrying case, diagonally divided, making this system the most powerful portable system available. Full sized adjustable floor stand also furnished. Amplifier has two microphone sockets with individual controls, for Universal input of Veravox, Velotron, High Impedance Velocity or Diaphragm Crystal microphones, and tip jacks for high impedance phonograph pickup, with separate control; also tone control. Two output sockets for P. M. Speakers and 500 ohm line on terminal strip for using additional loud speakers

Complete With Tubes **$154.50**



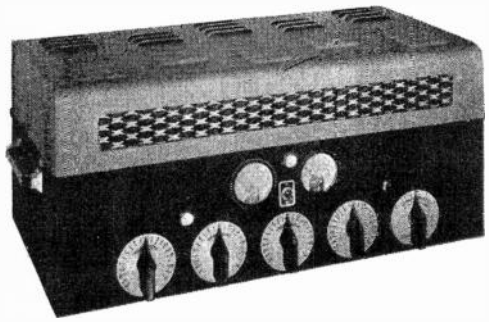
SIZE (speaker case) 18¼x13¾x23½ INCHES
SIZE (amplifier case) 20x14x13¾ INCHES
Shipping Weight, 124 Lbs.

MODEL 209-XXO

A complete Portable De Luxe Amplifying System, of the highest quality. Guaranteed absolutely straight line reproduction within ½ db. plus or minus from 40 to 10,000 cycles, with less than 5% harmonic distortion when operated at full volume. Input, sockets for two cell-type crystal or high impedance velocity microphones; tip jacks for high impedance phonograph; tone control, non-glare pilot lites. Phonograph input may be switched to high gain to provide input for dynamic microphone, thereby furnishing three channel input for microphones. Output, sockets for one or two Hi-fidelity Electro Dynamic Speakers, field furnished from amplifier, and 500 ohms on terminal strip. Output meter, line voltage meter with tapped transformer and switch. Furnished with Gibbs Sonasel cell-type crystal microphone in take-down adjustable floor stand with 25 ft. cable and plug, and two 12" Hi-fidelity speakers in diagonally divided carrying case. Separate leatherette covered carrying case for amplifier.

Five stage, resistance and transformer coupled Class AB, using 3-75, 1-6C6, 1-6C5, 1-2A5, 2-2A3, 1-83 and 1-80 tubes, giving gain of 132 db. and normal output of 28 watts with peak 45 watts.

Complete With Tubes **$297.50**



SIZE 22½ x 12¾ x 10 INCHES.
Shipping Weight, 58 Lbs.

SIZE 24 x 11 x 15½ INCHES
Shipping Weight, 112 Lbs.

MODEL 45-XXO

The very finest Power Amplifier of this size ever built. Guaranteed absolutely straight line reproduction within ½ db. plus or minus from 40 to 10,000 cycles, with less than 5% harmonic distortion when operated at full volume. Input, sockets for two cell-type crystal microphones and tip jacks for high impedance phonograph. Phonograph input may be switched to high gain to provide input for dynamic microphone, allowing use of three microphones at once. Complete with line voltage meter with tapped transformer and switch; also output meter calibrated directly in watts output. Output, 4, 8, 16 and 500 ohms on terminal strip.

Five stage, resistance and transformer coupled, Class AB, using 3-75, 1-6C6, 1-59, 4-2A3, 1-83, 1-80 and 1-6C5 tubes, giving a gain of 132 db.; normal output 45 watts, peak output 100 watts.

Complete With Tubes **$170.00**

MODEL 85-XXO

Same quality and features as above, but having 85 watt normal output and 150 watt peak. Has 500 ohm line output, with separate transformer supplying 1, 2, 4, 6, 8 and 16 ohms to speakers. Plate current meter. Five stage, resistance and transformer coupled, gain 137 db., using 2-75, 1-6C6, 1-53, 2-59, 6-2A3, 3-83 and 1-6C5 tubes.

Complete With Tubes **$250.00**

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World Radio History

THE new WR Wireless Remote Control represents another Bogen engineering achievement. It is an exclusive development which gives the operator perfect and absolute control, from a remote point, of any sound system, employing any Bogen amplifier. There are no cables or wires between the amplifier and remote control, thus eliminating the possibility of inductive noise pickup as occurs with many wired remote control units.

With the aid of the WR Remote Control the performer or orator can be in full view of the operator of the sound system, who may be seated anywhere in the audience. The operator can govern the level of volume dependent on needs of the performance and if the performance is interrupted for some reason, as, in case of intermission, the operator can shut the system off and put it on again instantly. At no time is it necessary for the operator to go to the main amplifier, which may be several hundred or several thousand feet away.

The Bogen Model WR Wireless Remote Control also permits the operator to control both channels of an amplifier. He can regulate the volume of two microphones or a microphone and phonograph. Each channel is individually controlled and both channels can be operated simultaneously, permitting the mixing of microphone and phonograph or a voice against a background of music wherever it is so desired.

In addition, the Model WR Wireless Control has a master switch. When this switch is turned off at the remote control, it automatically cuts the amplifier off, preventing any signal from coming through. When this switch is in the "off" position, therefore, it is impossible for anyone at the amplifier itself to turn on the volume or create any disturbing signal which may tend to interrupt or disrupt a given program.

The amazing simplicity of the Bogen Wireless Remote Control is one of its most outstanding features. The control unit is a small, completely self-contained, streamlined metal case equipped with two gain controls, a master switch and an indicating pilot light. The overall size is only 5 inches square by 1¾ inches in depth and can easily be carried in one hand. It is only necessary to plug the Remote Control into any A.C. or D.C. outlet conveniently located, and connect a ground.

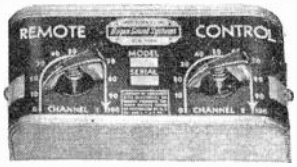
The simplicity of this device permits the widest degree of application. It is ideally suited for use in auditoriums, theatres, schools, industrial institutions, funeral chapels, hospitals, outdoor stadiums, playgrounds, and every other type of public address installation, either indoors or outdoors.

NOTE: Many Bogen amplifiers come equipped with built-in provision for Remote Control operation. Those models listed without this feature can be obtained with built-in provision for remote control, if specified, at an additional cost of $3.75. All Bogen amplifiers so equipped can be operated with either the Bogen Wireless or Wired types of Remote Control.

BOGEN MODEL WR WIRELESS REMOTE CONTROL
—Complete with remote control, controller and tubes. Price **$49.50**

BOGEN MODEL SR WIRED TYPE REMOTE CONTROL

The Model SR Remote Control is ideal for remote control operation of any Bogen amplifier, particularly in installations where the remote control can be installed permanently. The Model SR is completely self-contained and requires no external source of power.



The Remote Control unit is extremely compact and equipped with two gain controls. These controls permit the operator to control volume and mix any two channels of a Bogen amplifier, such as two microphone channels, or one microphone and one phono.

The Model SR Remote Control is not subject to inductive hum pickup in the cable or unit as are other types of wired Remote Controls. In addition, the SR Remote Control can be used with 1000 or 2000 feet of cable with negligible loss and long lengths of cable do not affect the tone quality of the amplifier.

Any Bogen amplifier with provision for remote control operation can be controlled by the SR Remote Control. Bogen amplifiers which do not incorporate the remote control feature can be so equipped, if specified, at an additional cost of $3.75.

Installation of the SR Remote Control is extremely simple. Merely plug in one end of the control cable to the socket provided on the amplifier and plug the other end of the cable into the remote control and your installation is complete.

MODEL SR REMOTE CONTROL—Complete—less cable. Price **$6.75**

MODEL RC50—50' cable and plugs for Model SR Remote Control. Price **$2.50**

No. 1103—Three Conductor Remote Control cable only for SR Remote Control. Price—per 100 feet **$3.40**

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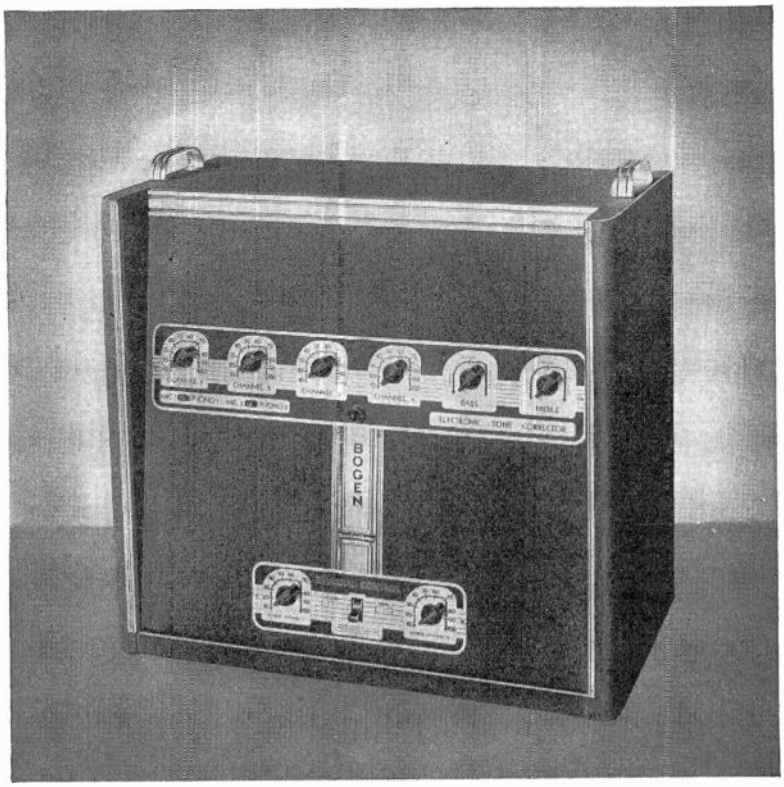
World Radio History

BOGEN MODEL DX70 Binaural Amplifier



70 Watts

- ★ Electronic tone correction
- ★ Provision for remote control
- ★ Two 35-watt output channels
- ★ Dual 6L6 Push Pull Outputs
- ★ Six input channels
- ★ Four microphone inputs
- ★ Two phono inputs
- ★ Harmonic content less than 4 per cent.
- ★ Low impedance inputs optional

THE new Model DX70 is a worthy successor of the famous Bogen Model CX70, which attained the reputation of "the finest high-powered amplifier on the market." Featuring every worth-while development of modern sound engineering and incorporating many exclusive Bogen developments, the new DX70 will meet the most exacting requirements of those purchasers who judge only by performance and demand the finest in sound equipment.

Among the many exclusive features of the DX70 is "Binaural" amplification. This new dual circuit creates what can be called "moving sound" or auditory perspective. When the DX70 is properly installed for Binaural reproduction with the suitable speaker setups, by means of the Binaural controls you can create the illusion of the sound emanating from the performer, or moving with the performer, across the stage.

Electronic tone correction, another exclusive Bogen development and feature of the DX70 also contributes enormously to the excellent tone quality of this deluxe unit. Electronic tone correction should not be confused with ordinary tone controls, bass compensators or frequency equalizers. It is an electronic mixing circuit of tonal amplitude creating, at the will of the operator, any desired tone range without loss or distortion. By means of individual treble and bass controls it is possible to accentuate or attentuate to any degree the high or low tones, thereby off-setting acoustic deficiencies of a given installation.

Another outstanding feature of the Bogen DX70 is the built-in provision for Remote Control. Any two input channels of the DX70 can be operated with either the Bogen Wireless Remote Control or the wired type described elsewhere in this catalog.

The Model DX70 also features two separate power output channels designed to operate as if the amplifier were in reality two amplifiers in one. Each output channel is a separate and complete output stage equipped with its own pair of 6L6 beam power tubes in push pull, each with separate driver tube. Each channel delivers 35 watts of power undistorted, and is controlled independently by an individual power control. Both channels can be operated simultaneously or combined to deliver the full power output of 70 watts. This offers many advantages and unique applications not possible with ordinary single channel amplifiers. For example, where an installation covers both indoor and outdoor areas, the indoor speakers can be connected as a group to one output channel and kept at a low volume level, while the outdoor speakers, connected to the other output channel, can be operated at a much higher volume level. An emergency feature of dual channel outputs is that in the event of breakdown or tube burnout in one channel, the other channel can still be used, thereby avoiding embarrassing failure of the sound system during a performance.

MODEL DX70—Amplifier, complete with tubes. Price **$189.50**

NOTE: The DX70 can be obtained with low impedance inputs to order. Each input channel can be equipped with special humless triple shielded, permalloy transformer, providing taps of 50, 125, 250 and 500 ohms at an additional cost of $27.50 per channel. Specify the number of low impedance channels desired when ordering.

DX70 AMPLIFIER SPECIFICATIONS

OUTPUT: 70 watts—2 separate 35-watt output channels of less than 4 per cent. harmonic content.

TUBE COMPLEMENT: 4—6G6G, 1—6F8G, 1—6C8G, 2—6F5G, 2—6F6G, 4—6L6G, 3—5X4G.

PROVISION FOR REMOTE CONTROL: Built in.

CONTROLS: 4 Master gain controls, 2 microphone-phono selectors, 1 bass, 1 treble electronic tone corrector, 2 Binaural power controls, Master A.C. switch.

INPUTS: 6—4 microphones, 2 phonos.

INPUT IMPEDANCES: Microphones, 500,000 ohms; phonos, 500,000 ohms.

GAIN: Microphones, 124.5 db.; phonos, 95 db.

FREQUENCY RESPONSE: 30 to 12,000 cycles—plus or minus 2 db.

OUTPUT IMPEDANCES: Each output channel equipped with separate output transformer tapped at 2, 4, 9, 15 and 500 ohms.

CURRENT DRAIN: 290 watts, 110 volts, 50-60 cycles.

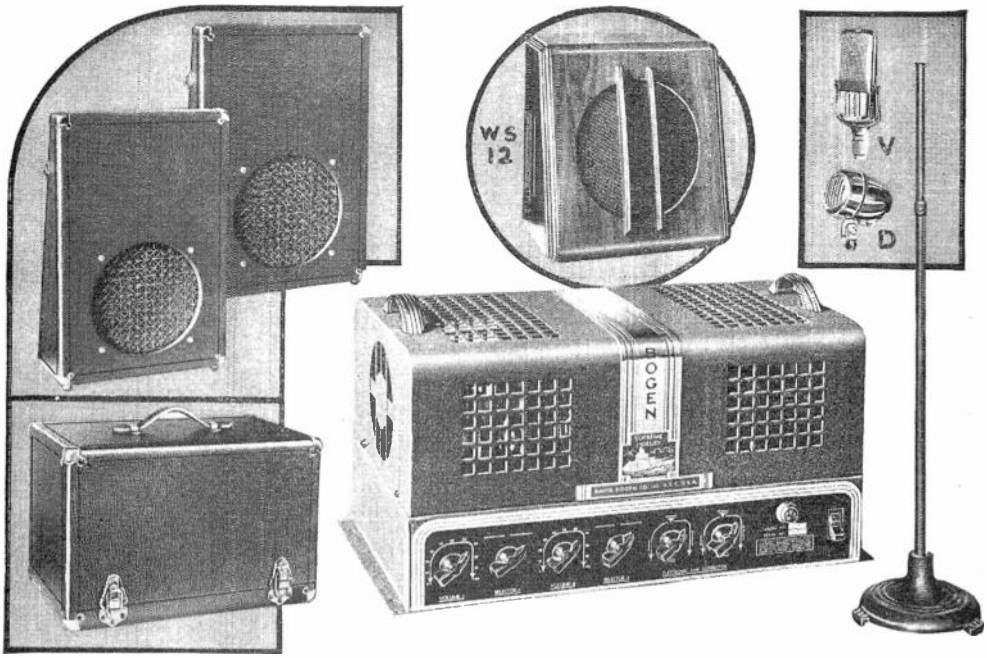
DIMENSIONS: 18⅝" high, 19⅜" wide, 11" deep.

World Radio History

Bogen DPX30 *De-Luxe* Systems

30 Watts

- ★ Electronic tone correction
- ★ Provision for Bogen wireless or wired remote controls
- ★ Humless Preamplification
- ★ New Duo Stage inverse feedback inputs
- ★ Four channel inputs
- ★ Duo Stage electron mixing



THE new DPX30 systems contain accessory components carefully chosen to assure deluxe performance in keeping with the many exclusive features of the DX30 amplifiers. This new amplifier is a worthy successor to the famous Bogen CX30 amplifier, which proved to be the finest and most popular 30-watt unit on the market.

The DX30 contains many new refinements and features of construction, chief among which is the new and improved Electronic Tone Corrector circuit. This exclusive Bogen development assures the operator complete control of the full tonal range of the amplifier.

The Electronic Tone Corrector should not be confused with tone controls, frequency equalizers or compensators. There are two controls, permitting the operator to mix and blend treble or bass at will, thereby creating any tonal range desired, regardless of the acoustic deficiencies of a given installation.

These controls are individual volume controls of separate electronic audio channels designed to increase or decrease the amplitude of the tone range which each control governs. With electronic tone correction there is no frequency discrimination, no loss and no distortion introduced in the circuit as with other types of tone adjusters.

The remarkable flexibility of the Electronic Tone Corrector eliminates many problems previously encountered in Public Address installations. Tone can be reproduced to meet the individual desires of the customer. The new DX30 incorporates many other new features, such as provisions for remote control.

A socket is provided for use with any Bogen remote control, either the exclusive wireless type or the wired models. Any two channels of the DX30 can be mixed and controlled from a distance, permitting the operator at the remote control to vary the volume level to any degree at will.

A new hum-free and stable input circuit insures absolutely quiet microphone operation, even at high volume levels.

The DPX30 systems include two new type 12" heavy-duty PM speakers and the purchaser has the optional selection of two deluxe microphones. The Bogen VR-HF Velocity Microphone or the D5T Dynamic Microphone.

DPX30V SYSTEM—For permanent installation contains one DX30 amplifier, one kit of tubes (matched), one Model VR-HF Microphone with 25' cable, plug; two PM12B heavy-duty 12" dynamic speakers, each with 25' cable and plug. Less microphone stand.

DPX30D SYSTEM—Complete as above, but with D5T Dynamic Microphone.

Price, either of above systems **$211.50**

All systems are priced less carrying cases or baffles. These are listed below for the selection of the purchaser to meet installation requirements.

FOR PORTABLE USE THE FOLLOWING CASES ARE RECOMMENDED:

MODEL No. 133—Portable case for DX30 amplifier **$14.00**

MODEL No. 134—Dual speaker cases for two 12" speakers **$15.00**

FOR PERMANENT INSTALLATIONS WALNUT SPEAKER BAFFLES ARE RECOMMENDED:

MODEL W12—Walnut speaker baffle for wall mounting —mounts at proper angle for best sound dispersion. Price **$9.50**

MODEL H10—Deluxe microphone floor stand, recommended for use with above DPX30 Systems. Price.... **$10.00**

MODEL DX30—Amplifier only with tubes. Price **$123.50**

NOTE: The DX30 can be obtained with low impedance inputs to order. Each input channel can be equipped with special humless triple-shielded, permalloy transformer, providing taps of 50, 125, 250 and 500 ohms at an additional cost of $27.50 per channel. Specify the number of low impedance channels desired when ordering.

DX30 AMPLIFIER SPECIFICATIONS

OUTPUT: 30 watts—less than 5 per cent. harmonic content.

TUBE COMPLEMENT: 2—6G6G, 4—6J7G, 1—6F8G, 2—6L6G, 1—5X4G.

PROVISION FOR REMOTE CONTROL: Built in.

CONTROLS: Two master gain controls; two microphone-phono selectors; one bass, one treble electronic tone corrector.

INPUTS: Four—two microphones, two phonos.

INPUT IMPEDANCES: Microphones, 500,000 ohms; phonos, 500,000 ohms.

GAIN: Microphones, 131 db.; phonos, 97 db.

FREQUENCY RESPONSE: 30 to 12,000 cycles—plus or minus 2 db.

OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.

CURRENT DRAIN: 175 watts, 110 volts, 50-60 cycles.

DIMENSIONS: 9¼" deep, 15" wide, 9¼" high.

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World Radio History

BOGEN DP28 "*Universal*" MOBILE SYSTEMS

28 Watts

For 6 Volts D.C. and 110 Volts A.C. Operation

- ★ Provision for remote control
- ★ No plug in power packs
- ★ Instantaneous switch-over from A.C. to D.C.
- ★ 28 watts undistorted
- ★ 3 channel input
- ★ Selection of microphones
- ★ Standby switch for economy of battery consumption
- ★ Phonograph assembly optional—can be removed

THE Bogen DP28 Universal Mobile Systems are particularly recommended for mobile or sound truck installations and are ideal as Public Address rental units because of their unusual flexibility.

NO EXTERNAL POWER PACKS NECESSARY

The D28 amplifier has both the 6-volt and 110-volt power supplies built in as an integral part. A special switch-over device instantly converts the unit for either battery or A.C. operation. No time lost changing power packs and no necessity to buy additional external packs.

THREE INPUT CHANNELS WITH UNIVERSAL MICROPHONE INPUT FOR TWO MICROPHONES

The D28 is equipped with three input channels for two microphones and phono.

Duo stage electron mixing permits mixing and fading between two microphones or microphone and phono, and simultaneous operation of any two inputs.

REMOTE CONTROL

An extremely desirable feature of the DP28 system is the provision for remote control operation of any two channels of the amplifier. The Bogen Model SR Remote Control unit is recommended for use with the DP28 systems and is described on Page 2 of this catalog. The Bogen WR Wireless Remote Control can be used with the DP28 system on 110 volts A.C., but is not suitable for 6-volt operation.

"STANDBY" SWITCH

The "standby" switch is an extremely important economy feature of the D28. During intermittent operation as a mobile unit the "standby" switch reduces the battery consumption by shutting off the genemotor. The tube filaments are kept heated, ready for instant use. When the system is again needed for reproduction merely throw on the "standby" switch and the unit is instantly operating, without waiting for the tubes to heat. This reduces the battery consumption almost two-thirds, thereby increasing the hours of service obtainable from a battery without recharging. The D28 also has a separate master power switch and a phono switch to control the phono turntable.

"GREEN FLYER" PHONO MOTOR AND CRYSTAL PICKUP

The specially designed Green Flyer Universal Phono Motor operates on both 6 volts D.C. and 110 volts A.C., and is equipped with a governor-controlled speed regulator, eliminating the "waver" and uneven speed common to cheaper phono motors. An Astatic Crystal pickup with a new shock-proof arm is also mounted on the phono assembly of the D28. The entire phono assembly is removable and the D28 can be obtained with or without the turntable assembly, which is listed as optional equipment. The phono assembly can be added at any time.

SELECTION OF MICROPHONES

A choice of two of the latest type microphones are available, permitting the purchaser to select whichever microphone is most suited for their purpose. For general Public Address work, the New Model VR-HF Velocity Microphone is recommended. This microphone is especially suited for music pickup, because of its unusually fine frequency response. For outdoor work and portable applications, the D5T Dynamic Microphone is suggested. This new streamline microphone is rugged, sensitive and is excellent for quality voice reproduction, as well as music.

The DP28D system, complete, consists of the D28 amplifier for 6-volt and 110-volt use, less phono assembly. Kit of matched tubes, Dynamic Microphone, with 25' shielded rubber-covered cable and lock type connector, two PM12H Dynamic Speakers each with 10' of rubber-covered cable and polarized plug.

DP28D SYSTEM—Complete as described above —less phono assembly **$209.50**

DP28V SYSTEM—Same as above but with VR-HF velocity microphone—less phono assembly **$209.50**

D28 AMPLIFIER ONLY—For 6-volt and 110-volt Universal operation—less phono assembly, but with tubes **$135.00**

MODEL UT28 TURNTABLE ASSEMBLY—For use with above system, complete with phono motor and crystal pickup **$48.50**

MODEL H10 DELUXE FLOOR STAND—Recommended for use with DP28 system, where system is to be installed permanently **$10.00**

D28 AMPLIFIER SPECIFICATIONS

OUTPUT: 28 watts—less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 2—6F5, 1—6C8G, 1—6F8G, 1—5X4G, 2—6L6G.
PROVISION FOR REMOTE CONTROL: Built in.
CONTROLS: 2 master gain controls, 1 microphone—phono selector, 1 tone control, 1 A.C.-D.C. switch, 1 standby switch, 1 phono switch, Master Power switch.
INPUTS: Three—2 microphone, 1 phono.
INPUT IMPEDANCES: Microphones, 500,000 ohms; phono, 500,000 ohms.
GAIN: Microphones, 118 db.; phono, 92 db.
FREQUENCY RESPONSE: 40 to 10,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.
CURRENT DRAIN: 165 watts, 110 volts, 50-60 cycles, 22.5 amps. 6 volts D.C.
DIMENSIONS: 13" deep, 15" wide, 7" high.

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World Radio History

Bogen DPX 18 *De-Luxe* Systems

18 Watts

- ★ Provision for wireless or wired remote control
- ★ Electronic tone corrector
- ★ Selection of Microphones
- ★ Four input channels
- ★ Duo Stage Electron Mixing
- ★ Humless Preamplification

THE DPX18 systems feature the new 18-watt DX18 Amplifier, which contains many new refinements of construction, such as Provision for Remote Control Operation and a new improved Electronic Tone Corrector Circuit.

The Electronic Tone Corrector should not be confused with tone controls, frequency equalizers or compensators. It is far more flexible than any of these devices and it overcomes many of the problems previously encountered in Public Address installations. Tone can be reproduced to meet the individual desires of the customer.

There are two controls, permitting the operator to mix and blend treble or bass at will, thereby creating any tonal range desired, regardless of the acoustic deficiencies of an installation. These controls govern the volume level of separate electronic audio channels and are designed to increase or decrease the amplitude of either channel at will. With electronic tone correction there is no frequency discrimination, no loss and no distortion introduced in the circuit as with other types of tone adjusters.

For operation of the DX18 Amplifier by remote control, a socket is provided on the chassis for use with any Bogen Remote Control; either the exclusive wireless type or the wired type. Any two channels of the DX18 can be mixed and controlled from a distance, permitting the operator at the remote control to vary the volume level to any degree at will.

Other features are a new hum-free and stable microphone input circuit, which insures absolutely quiet microphone operation, even at high volume levels.

The DPX18 systems include two new type 12" heavy-duty PM speakers and the purchaser has the optional selection of two deluxe microphones: The Bogen VR-HF Velocity Microphone, or the D5T Dynamic Microphone.

DPX18V SYSTEM—For permanent installation, contains one DX18 Amplifier, one kit of tubes (matched), one Model VR-HF Microphone with 25' cable and plug, two PM12B heavy-duty 12" Dynamic Speakers each with 25' cable and plug. Less Microphone Stand.

DPX18D SYSTEM—Complete as above, but with D5T Dynamic Microphone.

Price for either of above systems **$181.50**

MODEL DX18—Amplifier only with tubes **$93.50**

MODEL H10—Deluxe microphone floor stand recommended for use with above DPX18 systems **$10.00**

All systems are priced less carrying cases or baffles. These are listed below for the selection of the purchaser to meet installation requirements.

FOR PORTABLE USE THE FOLLOWING CASES ARE RECOMMENDED:

MODEL No. 133—Portable case for DX18 amplifier **$14.00**

MODEL No. 134—Dual speaker cases for two 12" speakers **$15.00**

FOR PERMANENT INSTALLATIONS WALNUT SPEAKER BAFFLES ARE RECOMMENDED:

MODEL W12—Walnut speaker baffle for wall mounting mounts at proper angle for best sound dispersion. Price **$9.50**

NOTE: The DX18 can be obtained with low impedance inputs to order. Each input channel can be equipped with special humless triple-shielded, permalloy transformer, providing taps of 50, 125, 250 and 500 ohms at an additional cost of $27.50 per channel. Specify the number of low impedance channels desired when ordering.

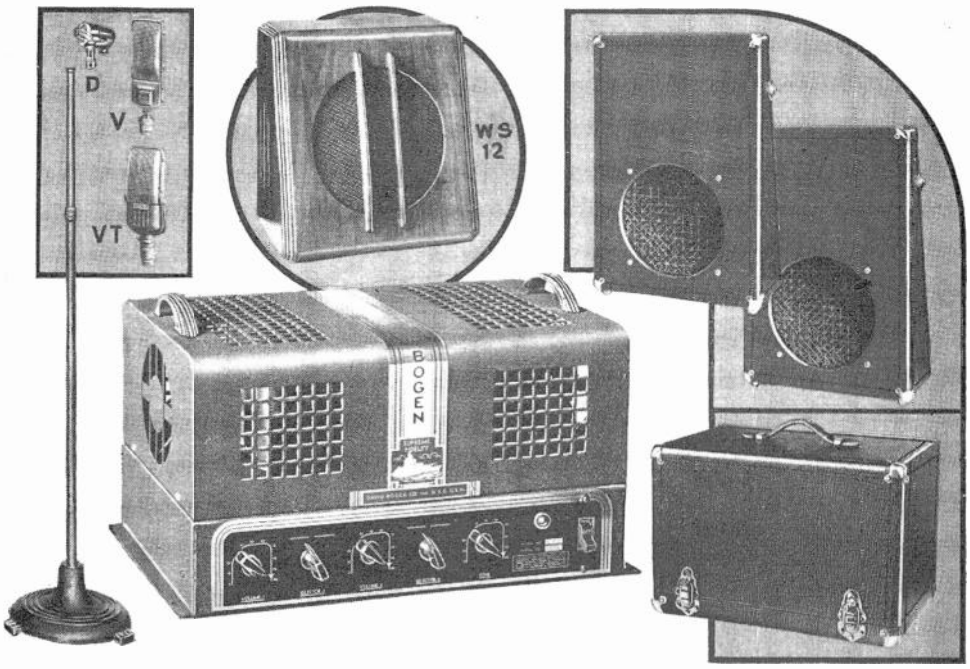
DX18 AMPLIFIER SPECIFICATIONS

OUTPUT: 18 watts—less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 2—6T7G, 4—6L5G, 1—6C8G, 2—6N6G, 1—5X4G.
PROVISION FOR REMOTE CONTROL: Built in.
CONTROLS: two master gain controls; two microphone-phono selectors; one bass, one treble electronic tone correctors.
INPUTS: Four—two microphone, two phono.
INPUT IMPEDANCES: Microphones, 500,000 ohms; phono, 500,000 ohms.
GAIN: Microphones, 125 db.; phono, 94 db.
FREQUENCY RESPONSE: 30 to 12,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.
CURRENT DRAIN: 128 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 9¼" deep, 15" wide, 8¼" high.

World Radio History

BOGEN DP30 AND DPE15 ECONOMY HEAVY DUTY SYSTEMS

15 and 30 WATTS



- ★ Four Input Channels
- ★ Provision for Remote Control — Optional
- ★ New Duo Stage Inverse Feed-back Inputs
- ★ Duo Stage Electron Mixing
- ★ Humless Preamplification

THE DP30 and DPE15 systems meet the demand for heavy duty systems at moderate prices. The D30 and DX15 amplifiers furnished with these systems contain all the de-luxe features incorporated in the DX30 and DX18 amplifiers, described elsewhere in this catalog with the exception of the Electronic Tone Corrector Circuits.

The accessory components of the systems have been selected with great care to assure the purchaser fine performance and lasting service. A selection of microphones is provided to meet the requirements of various installations and any of these systems can be obtained with provision for remote control operation at a slight additional cost.

All systems are listed for permanent installations. Portable carrying cases or walnut baffles are additional and are listed below.

Complete systems consist of either 1-D30 or 1-DX15 amplifier with kit of matched tubes—Two Heavy Duty 12" PM dynamic speakers, each with 25' of cable and plug and selection of the Model MB-HF No-Voltage Velotron microphone, the Bogen Model VD-HF Velocity Microphone or the D7T Dynamic Microphone, complete with 25' of microphone cable and plugs—Less Microphone Stand.

(DX15 Amplifier Specifications listed under DP15 Systems.)

D30 AMPLIFIER SPECIFICATIONS

OUTPUT: 30 watts—less than 5 per cent. Harmonic Content.
TUBE COMPLEMENT: 2—6F5; 1—6N7G; 1—6F6G; 2—6L6G; 2—5X4G.
PROVISION FOR REMOTE CONTROL: Optional to order.
CONTROLS: Two Master Gain Controls; 2 microphone-phono selectors—one tone control.
INPUTS: Four—2 microphones, 2 phonos.
INPUT IMPEDANCES: Microphones, 500,000 ohms; Phonos, 500,000 ohms.
GAIN: Microphones, 122.5 db.; Phonos, 92 db.
FREQUENCY RESPONSE: 40 to 10,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.
CURRENT DRAIN: 175 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 9¼" deep, 15" wide, 8¼" high.

BOGEN 30 WATT SYSTEMS

DP30V system, complete as above with Bogen VD-HF Velocity Microphone

DP30VT system, same as above but with MB-HF Velotron microphone

DP30D system, same as above but with D7T Dynamic microphone

PRICE ANY 30 WATT SYSTEM **$149.50**

D30 —Amplifier only, with tubes..... **$95.60**

BOGEN 15 WATT SYSTEMS

DPE15V system, complete as above with Bogen VD-HF Velocity Microphone

DPE15VT system, same as above but with MB-HF Velotron Microphone

DPE15D system, same as above but with D7T Dynamic Microphone

PRICE ANY 15 WATT SYSTEM..... **$129.50**

DX15 —Amplifier only, with tubes... ..... **$75.75**

PORTABLE CARRYING CASES RECOMMENDED FOR USE WITH ANY OF ABOVE SYSTEMS:

MODEL No. 133 amplifier case **$14.00**

MODEL No. 134 Dual speaker case..... **$15.00**

FOR PERMANENT INSTALLATIONS—WALNUT SPEAKER BAFFLES ARE RECOMMENDED FOR WALL MOUNTING.

MODEL WS—Walnut Speaker Baffles for 12" speakers. Each **$9.50**

MODEL H10—De-Luxe microphone stand—recommended for use with any of above systems—$10.00.

Any of the above systems can be obtained with remote control provision built in for use with any Bogen wired or wireless type remote control at an additional $3.75, if specified.

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World Radio History

Bogen DP10 DE-LUXE *Economy System*

10 Watts

The new DP-10 system meets the demand for a medium powered, two speaker sound system at an economical price, yet featuring the de-luxe trimmings of the larger and more costly systems.

The component accessories of the DP-10 systems assure excellent fidelity of reproduction and dependability for continuous operation. For portable use a handsome leatherette covered two section carrying case is available. This not only accommodates the 2—10" Permanent Magnet Dynamic speakers and cables but also houses the amplifier as well. Another feature of the DP-10 system is the new combination hand and desk mike of the no-voltage velotron type. This new mike comes with a chromium handle for hand mike operation. This handle can be fitted to a weighted base, instantly converting the mike for desk stand operation. For permanent installation the DP-10 system is furnished less portable carrying case. The complete DP-10VT system contains: 1—D-10 amplifier, 1—complete kit of matched tubes, 2—10" PM Dynamic speakers each with 25 feet rubber cable and plug, 1—combination Velotron hand and desk mike, no voltage type, complete with desk stand base and 25 feet shielded cable and plugs.

D10 AMPLIFIER SPECIFICATIONS

OUTPUT: 10 watts—less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 2—6C8G; 2—6V6G; 1—5Y4G.
PROVISION FOR REMOTE CONTROL: Optional to order.
CONTROLS: One microphone, one phono, one tone.
INPUTS: Two—One microphone, one phono.
INPUT IMPEDANCES: Microphone, 500,000 ohms; Phono, 500,000 ohms.
GAIN: Microphone, 125 db.; Phono, 95 db.
FREQUENCY RESPONSE: 65 to 9,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCE: 4 ohms.
CURRENT DRAIN: 88 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 7" deep x 11" wide x 7½" high.

BOGEN DP-10VT system — as described above — Complete price **$83.50**

MODEL D10—Amplifier only—with tubes. Price **$47.50**

MODEL 10A —Portable 2 section carrying case for DP-10VT system. Price **$12.50**

The DP-10 system or D10 amplifier can be obtained with provision for use with any Bogen wireless or wired remote control at additional cost of $3.75. Specify remote control provision when ordering.

Bogen DP15 *Systems* — 15 Watts

★ **Class A Push Pull**
★ **4 Channel Input**
★ **Remote Control Provision Optional**

THE DP15 Systems are available for either permanent or portable installations. Capable of ample power for the average indoor or outdoor gatherings of 5,000 to 8,000 people, these new systems are ideal for orchestras, dance halls, theatres, etc. Flexibility of operation and fidelity of tone are keynotes of these units and all component accessories of the systems have been carefully selected to insure excellent and consistent performance. The selection of microphones is left to the purchasers' option and systems are supplied complete for permanent installation less carrying cases. For portable use, a new 2 section leatherette covered case is available which houses both speakers, the amplifier and cables and a compartment is provided to carry a microphone and cable.

The DP15-V System consists of 1—D15 Amplifier, 1—Kit of matched tubes, 2—Electro Dynamic speakers, each with 25' cable and plugs, 1—Bogen VDHF Velocity Microphone with 25' cable and plug. Less microphone stand and carrying case.

DP15-VT Systems, same as above but with MBHF no voltage Velotron microphone.

DP15 D Systems, same as above but with D7T Dynamic Microphone.

Price—any of above systems **$124.50**

DX15 AMPLIFIER SPECIFICATIONS

OUTPUT: 15 watts, less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 2—6J7; 1—6F8G; 1—6C8G; 2—6N6G; 1—5X4G.
PROVISION FOR REMOTE CONTROL: Optional.
CONTROLS: 2 Master gain controls, 2 microphone-phono selectors, 1 tone.
INPUTS: Four—2 microphones, 2 phono.
INPUT IMPEDANCES: Microphones, 500,000 ohms; Phono, 500,000 ohms.
GAIN: Microphones, 128 db.; Phono, 96 db.
FREQUENCY RESPONSE: 50 to 10,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15 and 500 ohms.
CURRENT DRAIN: 125 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 7⅛" deep, 15" wide, 8½" high.

D15 Carrying Case for portable use of any above systems. Price **$14.50**

MODEL DX15 Amplifier only, with tubes. Price **$75.75**

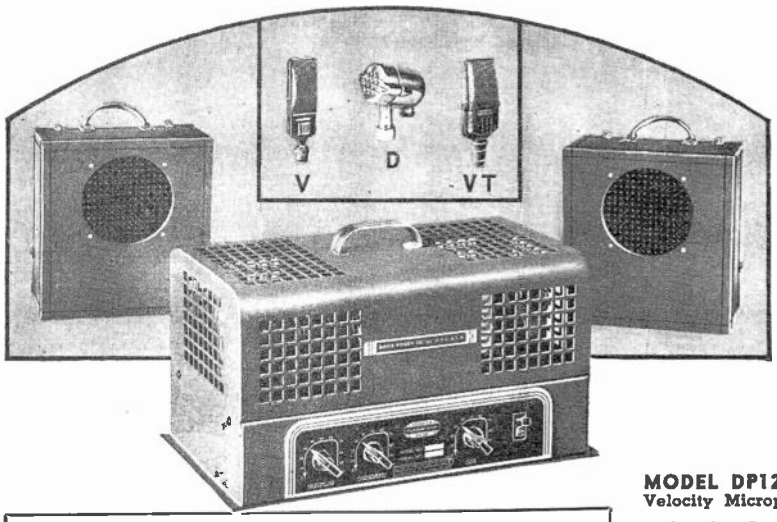
Any of the above systems can be obtained with remote control provision for use with any Bogen Wired or Wireless type remote control at an additional $3.75, if specified.

For those customers who prefer PM Dynamic speakers in place of the Electro-Dynamic Speakers, the DPE systems, described elsewhere in this catalogue under the heading "Bogen Heavy Duty Economy Systems," are available. The DPE system is equipped with the DX15 Amplifier which incorporates the additional choke and filter necessary for use with PM Speakers.

World Radio History

BOGEN DP12 *Standard Systems*

12 Watts



THE Bogen DP12 systems are especially suited for installations of moderate power. These systems are designed for either permanent or portable installations and incorporate the latest features of modern sound equipment construction.

For portable use, a 2 section leatherette covered carrying case is available with space for mounting of both speakers and cables. The amplifier fits in the lower half of one section. Space is also provided in the case for carrying microphone and cables. Each section of the case is equipped with individual leather handle to permit easy suspension of each speaker.

MODEL DP12VT—Complete system for permanent installation includes 1—D12 Amplifier, 1—kit of matched tubes, 2—10" Electro Dynamic speakers each with 25 feet of cable and plugs, 1—MB-HF No-Voltage Velotron Microphone with 25 feet shielded cable and plugs—less microphone stand and carrying case.
Price **$106.25**

MODEL DP12V—Complete system as above but with Bogen VD-HF Velocity Microphone.

MODEL DP12D—Complete system as above but with D7T Dynamic Microphone.
Price, any of above systems..... **$106.25**

MODEL D12—Amplifier only, with tubes. Price.... **$57.50**

MODEL 135A—Carrying case for portable use with any of above systems. Price..... **$14.50**

MODEL B10—Microphone floor stand recommended for any above systems. Price..... **$7.50**

The DP12 systems or D12 amplifier can be obtained with provision for use with any Bogen Wired or WIRELESS Remote Control at an additional cost of $3.75. Specify Remote Control Provision when ordering.

D12 AMPLIFIER SPECIFICATIONS

OUTPUT: 12 watts—less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 1—6F5, 2—6N7G, 2—6N6G, 1—5X4G.
PROVISION FOR REMOTE CONTROL: Optional to order.
CONTROLS: 1 Microphone, 1 phono, 1 tone control.
INPUT IMPEDANCES: Microphone, 500,000 ohms; Phono, 500,000 ohms.
GAIN: Microphone, 128 db.; Phono, 95 db.
FREQUENCY RESPONSE: 55 to 9,000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.
CURRENT DRAIN: 112 watts, 110 volts, 50-60 cycles.
FIELD SUPPLY: For two speakers—1-500 ohms, 1-10,000 ohms.
DIMENSIONS: 7" deep, 15" wide, 7½" high.

BOGEN DP615 *"Universal"* MOBILE SYSTEMS

15 Watts

THE new Bogen DP615 system, designed for Universal 6 volt and 110 volt operation, will prove ideal for permanent or mobile installations where economy and medium power is desired.

The D615 amplifier has no outside Power Packs of any kind. The change over from 6 volt to 110 AC operation, or vice versa, is accomplished instantly by means of a switch mounted on front control panel.

Provision for remote control is built in and the Bogen Model SR Remote Control is recommended for use with DP615 system. Both input channels of the D615 amplifier can be operated from any remote point. The remote control permits mixing and fading as well as complete control of volume. The Bogen Model WR Wireless Control can be used with the DP615 systems when operated on 110 volts AC but it is not designed for battery operation.

The D615 amplifier is furnished, less the Universal UT15 phono assembly, which can be added at any time at the option of the purchaser and merely replaces the regular cover. Systems are furnished complete with either the Model MB-HF No-Voltage Velotron or the D7T dynamic microphone, 25 feet cable and plug, and two 12" PM dynamic speakers with 10 feet cable and plug on each.

DP615D system—Complete as described above with D7T microphone—less phono assembly.
Price **$140.00**

DP615VT system—Complete as above but with Model MB-HF No-Voltage Velotron microphone—less phono assembly. Price **$140.00**

MODEL D615—Amplifier only, with tubes—less UT15 assembly. Price..... **$87.50**

MODEL UT15—Phono assembly, complete with Universal phono motor for 6 and 110 volt operation, and crystal pickup, mounted in streamline cover as illustrated on amplifier.
Price **$45.00**

D615 AMPLIFIER SPECIFICATIONS

OUTPUT: 15 watts—less than 5 per cent. Harmonic Content.
TUBE COMPLEMENT: 1—6T7G, 2—6C8G, 2—6V6G, 2—6X5G.
PROVISION FOR REMOTE CONTROL: Built-in.
CONTROLS: 1 Mike, 1 Phono, 1 Tone, 1 AC-DC Switch.
INPUTS: Two—One Microphone, One Phono.
INPUT IMPEDANCES: Microphone, 500,000 ohms; Phono, 500,000 ohms.
GAIN: Microphone, 124 db.; Phono, 94 db.
FREQUENCY RESPONSE: 55 to 9,000 cycles, plus or minus 2 db.
OUTPUT IMPEDANCES: 2, 4, 9, 15, 500 ohms.
CURRENT DRAIN: 80 watts, 110 volts, 50-60 cycles, 9 amps., 6 volts DC.
DIMENSIONS: 10" deep, 15" wide, 8" high.

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World Radio History

BOGEN "Dual Action Recorder" MODEL R12

- ★ Exclusive "Dual Action" Control
- ★ For 10" or 12" Recordings
- ★ Equipped for 78 R.P.M.
- ★ Optional Change-over for 33⅓ R.P.M.
- ★ Interchangeable Drive Screw for In or Out Recordings
- ★ Simplicity of Operation Assures Consistent Recording

In designing the BOGEN MODEL R12 recorder the main purpose was to produce a device so simple as to assure good results even when operated by a person of limited experience.

THE Bogen R12 recorder differs greatly in many mechanical details from any previous device. It incorporates exclusive design features throughout which render it completely foolproof and simpler in operation than any other recorder on the market. In addition, all adjustments have been either carefully set at the factory or designed so as to make it difficult for meddlers to alter them.

These unusual mechanical features of the Bogen R12 recorder, make it ideal for school and home use assuring consistently uniform and excellent results with a minimum of experience in the art of recording.

The most outstanding feature of this new recorder is the exclusive "Dual Action" control which automatically eliminates record spoilage and needle breakage, for it is impossible to drop the recording head on the record. This control also makes it possible to halt a recording and later continue the recording cut without any gap on the record. The "Dual Action" control eliminates the weight previously required on the record head. It lowers the recording head to the record surface at the same time automatically engaging the recording head with the spiral drive screw, all with the mere twist of the one control knob. All complicated adjustments are done away with by the "Dual Action" control.

The recorder Turntable has an internal rim drive powered by a 1/60 H.P., 110 Volt 60 cycle motor especially designed. This Turntable is dynamically balanced and made of cast aluminum carefully machined and furnished with a rubber record pad. The recorder is adjusted to run at 78 RPM but a drive stud for 33⅓ RPM is available at a slight additional cost, and the unit can be quickly changed for either speed. The rim drive roller has a friction release of the semi-permanent type but release is not necessary unless the recorder is to be unused for a period of months.

The Bogen Recorder features an overhead lead screw drive which is completely enclosed to protect it from dirt or damage. The standard screw provided is for 100 lines per inch, cutting inside out, but other threads are available at a slight additional cost. All drive screws are machined with the deepest thread available, insuring positive feed and long wear. In addition the driving nut consists of 5 threads as compared with the usual single thread, thereby minimizing error in the cutting spiral.

The cutting head is of the horizontal magnetic type to reduce the weight of the moveable mass, and is automatically compensated for over cutting on the low frequencies.

The cutter has a smooth response from 70 to 5,000 C.PC. and is free from objectionable peaks. Cutter impedance is 500 ohms, other impedances are available at a slight additional cost if specified.

To operate the recorder it is only necessary to turn the "Dual Action" control lever which automatically engages the drive screw while it lowers the cutting head. This unique feature precludes the possibility of damaging the cutting, thereby avoiding waste of needles and records so common in this field.

The recording head carriage automatically stops at the end of the 12" blank record, preventing the jamming of the lead screw and nut and also protecting the needle.

The play back pickup is also a new and recent development, the Bruno Symphonic pickup, utilizing a new inductive dynamic principle. This is a wide range pickup capable of a more linear frequency response than any similar device, assuring unusual fidelity of playback reproduction. Another desireable feature is the extreme lightness at the needle point minimizing needle wear so essential with acetate recordings.

The Bogen R12 recorder is housed in a heavily constructed leatherette carrying case for portability and equipped with a removeable cover.

MODEL R12P—Complete as described, with carrying case. Price..... **$149.50**

MODEL R12—Less carrying case. Price..... **$137.50**

ADDITIONAL ACCESSORIES FOR R12 RECORDER

No. R33—33⅓ RPM drive shaft pulley for converting model R12 Recorder for 33⅓ RPM recording. Price.... **$6.50**

No. RWG—Special worm and worm gear for changing R12 from inside out to outside in recording. Price..... **$8.00**

No. RLS—Spiral lead screws and nut for cutting—90, 110, 120 or 140 lines per inch. Supplied to order only. Specify which type desired when ordering. Price each..... **$15.00**

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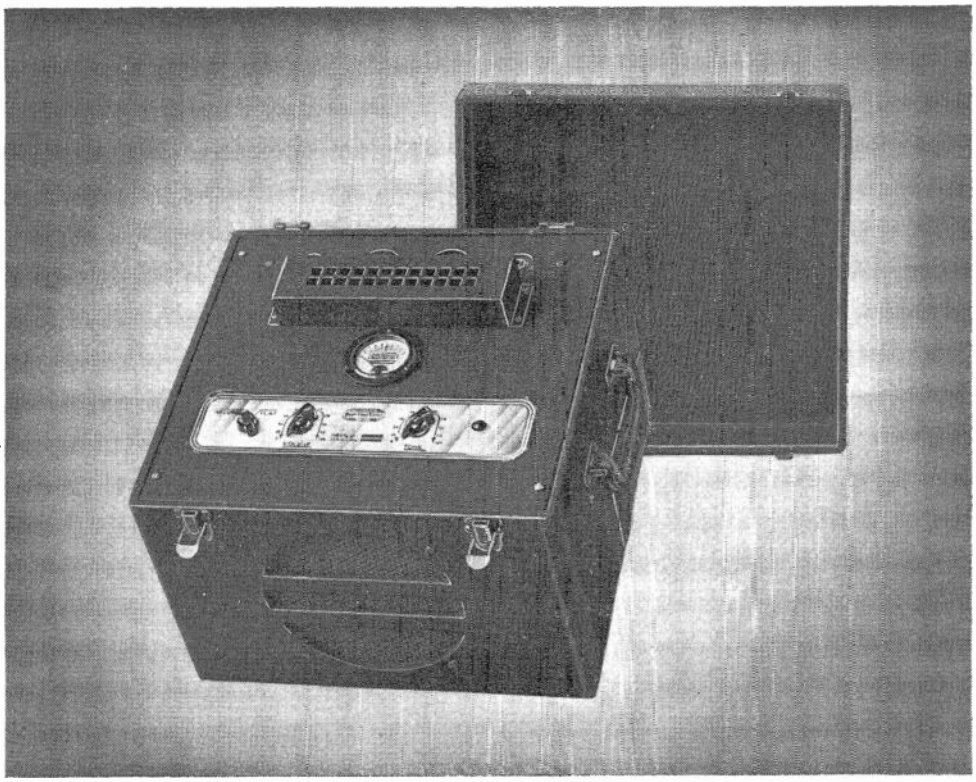
World Radio History

BOGEN *Recording Amplifier* MODEL RA6

FEATURES

- ★ **Instant Switch-over for Recording or Playback**
- ★ **Calibrated Recording Level Meter**
- ★ **Class A Amplifier**
- ★ **Beam Power Output**
- ★ **6 Watts Undistorted**



The Model RA6 Recording Amplifier has been designed with complete recording and playback facilities, to serve as a companion unit for the Bogen Model R12 Recorder.

Bogen engineers constructed the RA6 Amplifier with the thought in mind to simplify controls and operation, minimizing the necessity for careful adjustment of the controls and thereby assuring the layman of consistently good recording without need for critical adjustments.

The change-over from recording to playback is done simply and quickly by means of the record-play switch. A master volume control and a master tone control are operative in either the recording or playback position. To further insure consistent recordings, the RA6 Amplifier is equipped with a high-quality moving coil-type meter mounted prominently on the control panel to indicate the proper recording level. This meter has a calibrated scale with a red mark to denote the maximum recording limit, thereby minimizing the possibility of overcutting a recording and also acting as a constant visual guide to assist in maintaining an even recording level.

A full size electro dynamic loud speaker is mounted in the lower section of the carrying case of the RA6 Amplifier. This speaker is adequately baffled to insure excellent tone quality on playback reproduction. The speaker is only operated when the amplifier is in the playback position. When the recording switch is set to the recording position, this speaker is automatically cut off.

To facilitate monitoring of the recording, a jack is provided on the panel to permit the use of earphones. When the amplifier is set for playback operation, the recording level meter is automatically cut out and the loud speaker is then connected into the circuit for reproduction.

The amplifier is fitted with a shielded lock-type microphone connector to facilitate easy connection of any high impedance microphone. For further convenience, an A.C. receptacle is provided on the panel to permit the recorder to be plugged in. This enables the recorder and the recording amplifier to be turned on and off by means of the master power switch on the recording amplifier controlling the power.

Connections for the recorder cutting head and the playback pickup are made through a five-prong socket, also mounted on the front panel of the amplifier. To further simplify the operation of the RA6 Amplifier, all controls and plugs are localized on the panel. An easily removable ventilated screen gives quick access to the tubes without removing the panel or the amplifier chassis. A compartment for carrying microphones, cables and recording needles has been provided, built into the side of the carrying case and equipped with a door to permit easy access.

The entire unit is assembled in a compact portable carrying case covered with a fine leatherette and reinforced throughout to withstand abuse and insure lasting service.

MODEL RA6—Recording Amplifier. Price complete with tubes and portable carrying case.
Price **$72.50**

SPECIFICATIONS — MODEL RA6 RECORDING AMPLIFIER

POWER CONSUMPTION: 73 watts, 110 volts, 60 cycles.
TUBES USED: 1—6J7G, 1—6K5G, 1—6L6, 1—5Y4G.
FREQUENCY RESPONSE: 50-10,000 cycles, plus or minus 2 db.
INPUT IMPEDANCE: 500,000 ohms for high impedance microphone or low level phono pickup.
OUTPUT: For 500-ohm cutter.
POWER OUTPUT: 6 watts at 5 per cent. distortion.
SPEAKER: 8" Electro-dynamic.
CONTROLS: Volume control and switch, tone control, record-play switch.
DIMENSIONS: 14" wide, 13¼" deep, 11¾" high.
FINISH: Brown leatherette.

World Radio History

BOGEN DP6VT *Ultra-Compact* System

6 Watts

★ Two input channels
★ Duo Stage electron mixing
★ 6L6 Beam power output

THIS new low-priced system designed for small Public Address installations, provides excellent coverage for halls with a capacity up to 500 persons. It is compact, powerful and capable of true fidelity reproduction. For portability the amplifier is mounted in the attractive leatherette covered case, which also serves as baffle for a heavy-duty 8" electro-dynamic speaker. The entire unit assembled for portable use measures only 12½"x5¼"x14" and weighs only 15½ lbs. The new no-voltage Velotron combination microphone is featured with the DP6 system. The mike comes equipped with a chromium-plated handle to permit use as a compact light-weight hand mike. The handle, however, fits into a weighted base, thereby permitting the mike to be quickly converted for desk-stand operation. The complete DP6VT system consists of: D6 6-watt amplifier, one complete kit of matched tubes, one 8" electro-dynamic speaker, one combination no-voltage Velotron mike and stand, 25 feet of microphone cable and plugs, and entire system mounted in leatherette-covered portable case.

DP6VT SYSTEM—Complete, as described above. Price **$65.25**

D6—Amplifier only with tubes. Price **$31.00**

Where it is desired to operate the speaker in the case, at a distance from the amplifier, an extension cable equipped with matching plugs is available.

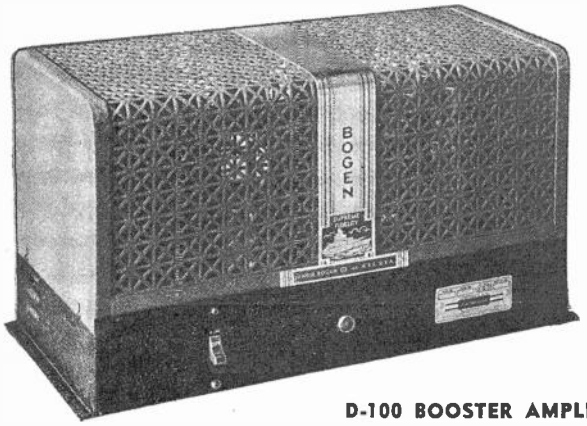
No. 25—25 feet speaker extension cable. Price **$2.50**

D6 AMPLIFIER SPECIFICATIONS

OUTPUT: 6 watts—less than 5 per cent. harmonic content.
TUBE COMPLEMENT: 2—6C6G, 1—6L6G, 1—5X4G.
CONTROLS: One microphone, one phono, one tone.
INPUTS: Two—one microphone, one phono.
INPUT IMPEDANCES: Microphone, 500,000 ohms; phono, 500,000 ohms.
GAIN: Microphone, 123 db.; phono, 94 db.
FREQUENCY RESPONSE: 70 to 8000 cycles—plus or minus 2 db.
OUTPUT IMPEDANCE: Plate, 2500 ohms.
CURRENT DRAIN: 73 watts, 110 volts, 50-60 cycles.
FIELD SUPPLY: 1000 ohms.
DIMENSIONS: 4½" deep, 11" wide, 7½" high.

BOGEN D100 BOOSTER AMPLIFIER

100 WATTS



THE new Bogen 100 Watt Booster lends itself ideally to large installations such as stadiums, memorial parks, auditoriums, ball parks, etc.

This booster embodies the latest tube development—the beam power tube. Four 6L6 tubes arranged in push-pull parallel are used to deliver 100 watts of undistorted power output. All transformers are generously designed to give the excellent regulation so necessary in this type of circuit.

Despite the enormous power output, surprisingly little driving power is necessary—only 2 watts. Thus any existing small system may easily be converted into a high powered installation of the largest type.

Input 15, 50, 250 and 500 ohms; output 500, 250, 166, 125, 100, 84 and 72 ohms. Separate secondary for voice coil with taps at 15, 9, 4 and 2 ohms to enable the matching of any combination of speakers or lines. Connections on terminal strips.

Tube Complement: 4—6L6 beam power tubes, 3—5X4G rectifier tubes.

MODEL D-100—Complete, with tubes **$126.00**

D-100 BOOSTER AMPLIFIER SPECIFICATIONS

OUTPUT: 100 watts—less than 5 per cent. Harmonic Content.
TUBE COMPLEMENT: 4—6L6G, 3—5X4G.
CONTROLS: 1 Master Power Switch.
INPUTS: 1—Tapped for variable matching.
INPUT IMPEDANCES: 15, 50, 250 and 500 ohms.
GAIN: Overall 17 db.
FREQUENCY RESPONSE: 30 to 12,000 cycles.
OUTPUT IMPEDANCES: 72, 84, 100, 125, 166, 250 and 500 ohms —also 2, 4, 9, 15 ohms.
CURRENT DRAIN: 300 watts, 110 volts, 50-60 cycles.
DIMENSIONS: 9" deep, 16½" wide, 9½" high.

BOGEN MODEL SM6 GENERAL PURPOSE AMPLIFIER

THE Bogen Model SM6 has been designed to meet the demand for a low powered amplifier with general purpose applications. The SM6 can be used in many types of installations for hard of hearing aids, small paging systems, etc. This unit is ideal also as a speech modulator and driver for low and medium power transmitters. It will plate modulate 12 watts input to an oscillator or class "C" amplifier and can be used to grid modulate an RF output stage up to 100 watts with an extremely low distortion content.

An overall gain of 110 db. and a Universal microphone input for Velocity, Crystal, Velotron, Sound Cell, dynamic or other high impedance microphones assures maximum efficiency of microphone operation. A separate phono input is built in to permit music reproduction for test purposes. Both microphone and phono inputs are equipped with individual gain controls and calibrated plates. Duo stage electron mixing permits simultaneous operation of both input circuits and mixing and fading between microphone and phono. A full range tone control and master power switch complete the controls of the SM6 Modulator.

Especial care has been given to the filter circuits of these units to insure hum free operation and all component parts are oversize and of the finest materials made assuring ample safety factor necessary for continuous operation. A built-in output transformer with a terminal strip tapped at 500, 15, 9, 4 and 2 ohms facilitates matching the SM6 either to an RF output stage or directly to a loud speaker. The entire unit is assembled on a heavy gauge steel chassis and finished in a durable black shrivel. It is extremely compact in size, dimensions are only 11" long, 4½" deep and 7½" high.

Tubes used are 2—6C8G, 1—6L6G and 1—5Y4G.

PRICE—With Tubes **$44.00**

World Radio History

Bogen PHONO Assemblies

PORTABLE PHONOGRAPHS

THE models listed below are available with Green Flyer phono motors, either single or dual speed types. Single speed motors play 78 R.P.M. records. Dual speed motors play both 33-1/3 and 78 R.P.M. Each unit is entirely complete and self-contained and is available with crystal pickups. Carrying cases are well constructed, reinforced and covered with a durable black leatherette.

MODEL 8006—Complete with Green Flyer single speed motor and 10" turntable equipped with crystal pickup for 110 volts, 60 cycles. List price **$30.00**

MODEL 8006A—Same as 8006, but equipped in larger case with 12" turntable, for 110 volts, 60 cycles. Price **$32.25**

MODEL 8007—Complete with Dual speed Green Flyer motor, 12" turntable and crystal pickup for 110 volts, 60 cycles. Price **$35.75**

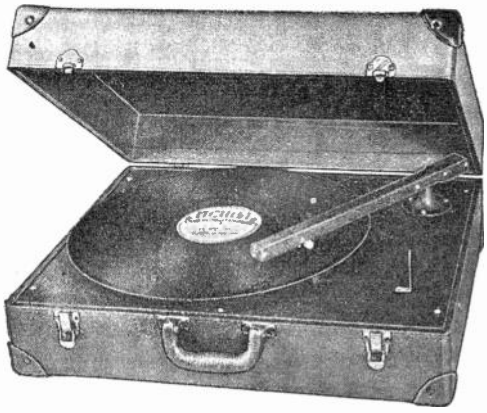
MODEL 8009—Complete with 6-volt single speed Green Flyer motor, 12" turntable and crystal pickup. Price **$41.25**

De-Luxe

PORTABLE PHONOGRAPH FOR 16" RECORDINGS

The De-Luxe Model 8016 Portable Phonograph supplies the demand for a unit capable of playing 16" professional transcription recordings as well as the standard 10" and 12" records. The No. 8016 contains a heavy duty Green Flyer motor, dual speed for 78 and 33-1/3 RPM Recordings. It is equipped with a crystal pickup and special 12" arm and comes complete with 12" turntable. The entire unit is mounted in a fine leatherette carrying case strongly reinforced and finished with leather corners and gunmetal hardware. For 110 volts, 60 cycles.

MODEL No. 8016—Price **$55.75**



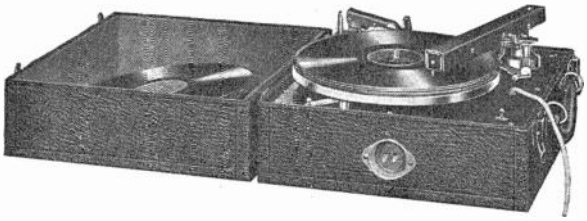
CABINET TYPE PHONO FOR HOMES OR SCHOOLS

The Model 8004 contains a special constant speed self-starting motor and 9" turntable. It is equipped with a high quality pickup of the latest design which assures more perfect record reproduction. The entire unit is housed in a beautiful two-tone walnut finished cabinet which will harmonize with any home furnishings.

MODEL No. 8004—Price **$26.00**

MODEL No. 8004A—Same as above but assembled in portable leatherette carrying case. Price **$26.00**

PACKARD AUTOMATIC RECORD CHANGERS IN PORTABLE CASES



These highly efficient record changers are compact and extremely simple in operation and construction. They are available in two models—Model K playing eight 10" records automatically and one 12" record manually. Model L plays seven 12" records or eight 10" records automatically. Both types are single speed for 78 RPM recordings. They will also repeat or reject any record. Each unit is constructed on a heavy steel plate finished in a handsome statuary Bronze and equipped with crystal pickup. They are mounted in a cleverly designed leatherette covered carrying case, which, when open, also serves as a record receiving compartment as shown.

MODEL K Record Changer—Plays 8-10" records for 110 volts AC—complete in carrying case **$63.00**

MODEL L Record Changer—Plays eight 10" or seven 12" records—110 volts AC—Complete in carrying case **$68.50**

DAVID BOGEN CO. INC.
Bogen Sound Systems
NEW YORK

LICENSED BY AGREEMENT WITH ELECTRICAL RESEARCH PRODUCTS, INC., UNDER PATENTS OWNED OR CONTROLLED BY WESTERN ELECTRIC CO. AND AMERICAN TELEPHONE & TELEGRAPH CO.

World Radio History

Webster Electric

SOUND EQUIPMENT

Webster Electric
5-WATT AMPLIFIER

● In this new 5-watt chassis amplifier, Webster Electric offers a high quality, low priced sound unit which enables the sound man to obtain those jobs which require perfect reproduction at lowest possible cost. This amplifier is designed with high impedance inputs to accommodate velocity, crystal or dynamic microphones. Other features are: tapped output terminal strip on output transformer, practically flat frequency response, light weight, small power consumption and very low distortion . . . All chassis furnished with well ventilated protective hood with handle. Finished in French grey, black base with red and black escutcheon trimmings. Makes very attractive merchandise for shelf, counter and window display.

SPECIFICATIONS

Tubes Used: 1-6J7, 1-6C5, 1-6F6, 1-5Z4 (Metal Tubes)
Power Output: 5 watts
Inputs: 1 high imp. for crystal mike, 1 for phono, pickup high or low impedance. (Crystal or magnetic.) Can be mixed if desired.
Gain: 110 D.B.
Frequency Characteristics: Within 2 D.B. from 90 to 15,000 cycles.
Output Impedances: 1-1.5-2-4-8 ohms on terminal strip. 8 ohms on speaker receptacles.
Chassis Size: 12" L. x 4½" W. x 6⅜" H.
Weight: 12 lbs.
Power Consumption: 53 watts, 110 volts, 60 cycles.
Model 10B5 Amplifier Chassis only with protective metal hood for replacement in or extension of licensed system.
Less Tubes.....CODE: BEGNE.....List Price: $46.50

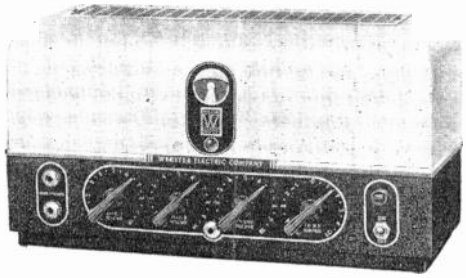
10-WATT AMPLIFIER

● This small, light, compact, 10-watt portable amplifier is of the same general appearance as the 5-watt amplifier with the exception that the power output is increased considerably. This unit is ideal for use with orchestras, lecturers, bands, ballyhoo men, etc., and the rental dealer will find it advantageous to have several of these in his stock . . . Low hum level, high gain, high impedance inputs are only a few of the many features of this chassis.

SPECIFICATIONS

Tubes Used: 1-6J7, 1-6N7, 2-6F6, 1-5Z4 (Metal Tubes)
Power Output: 10 watts Class "A".
Inputs: 1 high imp. for crystal mike, 1 for phono, pickup high or low imp. (Crystal or magnetic.) Can be mixed if desired.
Gain: 110 D.B.
Frequency Characteristics: Within 2 D.B. from 90 to 15,000 cycles.
Output Impedances: 1-1.5-2-4-8 ohms on terminal strip. Two receptacles for 8 ohm speakers.
Chassis Size: 12" L. x 4½" W. x 6⅜" H.
Weight: 13 lbs.
Power Consumption: 65 watts, 110 volts, 60 cycles.
Model 15A10 Amplifier Chassis only with protective metal hood for replacement in or extension of licensed system.
Less Tubes.....CODE: BEGRI.....List Price: $52.00

Webster Electric
20-WATT SOUND SYSTEM

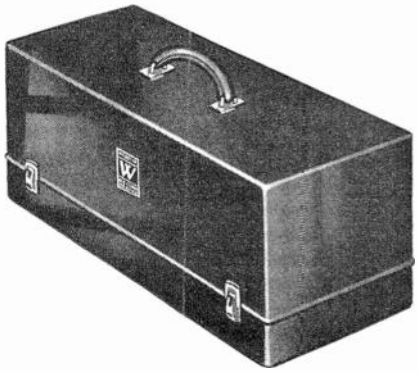


● The 20-watt Webster Electric Portable Sound System is furnished in two carrying cases which permit the speakers to be mounted in split type portable baffles for quick installation.

This unit is especially designed for lecturers, orchestras, and those desiring a unit which can be quickly set up, fully portable, and yet have sufficient power to cover audiences up to 5,000 people indoors. Many advanced engineering principles are incorporated in the circuit employed, using Cathode Ray Tube as over-load indicator, inverse stabilized feedback which improves frequency range and balanced 6L6 output circuit with dual tone control which permits attenuating either high or low frequencies without cutting.

SPECIFICATIONS

Tubes Used: 2-6J7, 2-6N7, 2-6L6, 1-6E5, 1-83V
Power Output: 20 watts at 5% distortion.
Inputs and Mixing: 2 mikes and high impedance pickup (magnetic or crystal).
Voltage Gain: 112 D. B.
Power Gain: 130 D.B.
Frequency Response: Within 1 D.B. from 40 to 10,000 cycles.
Output Connections: 2-4-8-250 and 500 ohms available at terminal strip. 4 Speaker receptacles provided.
Cathode Ray Tube—used as overload indicator.
Dual Acting Tone Control—attenuates either high or low frequencies.
Power Consumption: 125 watts.
Field Supply: None.
Chassis Size: 7" W. x 16" L. x 9" H.
Model 20TN Portable Sound System complete with crystal microphone, adjustable floor stand, two 12" heavy duty P.M. speakers with 50' cords, carrying cases, and set of matched tubes.
CODE: BEGSJ.....List Price: $244.50
Model 20BN Sound System for fixed installation, less portable carrying cases, including Webster Electric Crystal Microphone with 20' shielded cord and plug, high grade adjustable floor stand, two heavy duty 12" P.M. Dynamic Speakers and set of factory matched tubes.
CODE: BEGVM.....List Price: $190.50
Model C16-20 Amplifier Chassis only in portable leatherette carrying case for replacement or extension of licensed systems.
Less Tubes..... CODE: BEGYP.....List Price: $118.00
Model 16A-20 Hooded Amplifier Chassis only for replacement or extension of licensed systems.
Less Tubes.....CODE: BEGWH.....List Price: $97.50



This is the attractive carrying case which is supplied with the 20 and 50 watt systems and is described thereunder.

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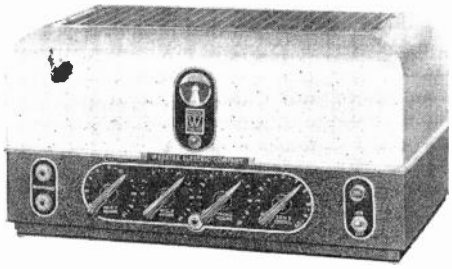
World Radio History

Webster Electric
SOUND EQUIPMENT

Webster Electric
50-WATT SOUND SYSTEM



● The 50-watt Hi-Powered Webster Electric Sound System is designed for excellent coverage in those places which require large sound volume at very low distortion. The high output enables this system to be used in large auditoriums, halls, parks, airports, and anywhere crowds of ten thousand and twenty thousand people are to be provided with proper sound hearing.

The circuit employs those elements described in the 20-watt system and the output stage uses dual balanced 6L6 power tubes to provide sound which is unequaled in any other circuit yet designed for this type of tube. With properly applied input and supply voltages, this system is capable of 80 watts output which may be desirable where distortion is not of primary importance.

SPECIFICATIONS

Tubes: 2-6J7, 1-6N7, 1-6C5, 4-6L6, 2-83V, 1-6H6, 1-6E5.

Inputs: High impedance for two crystal or ribbon mikes and one crystal or magnetic phonograph pickup. Can be mixed as desired.

Power Output: 50 watts Class "A" at 5% distortion in sec. of output transformer.

Output Impedance: 2-4-83-125-166-250-500 ohms.

Field Supply: None.

Overall Dimensions: 18½" L. x 9" W. x 9" H.

Controls: Two mike gain controls, one phono gain control, high-low tone control, "off-on" switch.

Gain at 1000 Cycles: 125 D.B. for each microphone. 82 D.B. for phonographs.

Frequency Characteristics: Plus or minus 2 D.B. 30 to 10,000 cycles.

Number of Stages: Four.

Output Level Indicator: Consists of 6E5 Cathode Ray Tube built in and shadow adjusted to close at maximum power output.

Input Signal Volts for Full Output: Mike—.004 Volts RMS. Phono—.17 Volts RMS.

Power Consumption: 225 watts at 60 cycles, 115 volts.

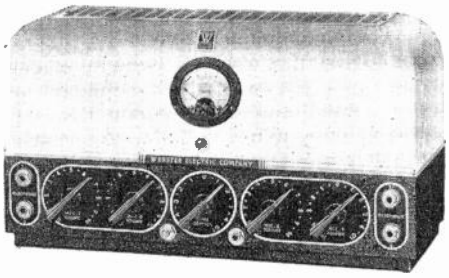
Model 50TN Semi-Portable System in carrying cases complete with crystal microphone, highest grade adjustable floor stand, two extra heavy duty 12" P.M. speakers mounted in sturdy carrying cases and set of factory matched tubes.
CODE: BEHLD.....List Price: $359.75

Model 50BN for fixed installation, complete with amplifier chassis only, crystal microphone, floor stand, two extra heavy duty P.M. speaker chassis and set of matched tubes.
CODE: BEHME.....List Price: $301.25

Model C18-50 Hooded Amplifier Chassis only in portable carrying case. Less Tubes..... CODE: BEHNF.....List Price: $190.00

Model 18-50 Hooded Amplifier Chassis only, less case, less tubes:
CODE: BEHOG.....List Price: $165.00

Webster Electric
4-POSITION MIXER



● This expertly designed preamplifier and electronic mixer incorporates time tested engineering principles. Can be used with any ordinary power amplifier or booster power stage to increase overall gain and amplification.

Has four high and low impedance inputs for crystal, velocity, dynamic, cell type and all other microphones with the exception of polarized condenser type. Separate phono input permits either magnetic or crystal pickup to be used.

Extreme care was exercised in producing a unit which would have absolutely no hum in which either batteries or commercial alternating current could supply the power. The power supply is separate and contained in a small portable case and is connected to the main chassis by means of a flexible 6 ft. cable.

Particular attention was given to the method of mounting the tubes to eliminate all microphonic disturbances which affect the quality of the reproduction. Special mounting arrangement cradles the tubes and prevents any mechanical shock or vibration affecting the operation of the equipment. By the use of live gum rubber and bronze leaf springs to support the tubes, this unit will assure stable performance under rough usage.

A high quality output meter graduated in D.B. is incorporated to show the operator the level at which the preamplifier-mixer is being operated.

Two models are available: The 20-O incorporates a master dual type tone control which attenuates either high or low frequencies without cutting.

Model 20A-O incorporates a master gain control which replaces the tone control. In this way the unit is particularly adapted to long line pickup work and for use in conjunction with other amplifiers and for general broadcast purposes.

Chassis is finished in black crackle enamel with red and black escutcheon trimmings, and the hood is the French Grey color which characterizes all of the new Webster Electric line.

SPECIFICATIONS

Tubes Used in Preamplifier and Mixer: 5-6C6, 1-76.

Tubes Used in Separate Power Supply: 1-80.

Pilot Light and on-off switch on mixer, 6 feet connecting cable with plug furnished with power supply.

Gain: 68 D.B. voltage gain to plate circuit of output tube.

Power Gain: 82 D.B.

Inputs: 4 high or low impedance.

Tone Control: Balanced type, attenuates either high or low frequency as desired.

Frequency Response: Flat within 1 D.B., 40 to 10,000 cycles.

Output: Zero level (.006 watts) or 1.73 volts on 500 ohm line at 1% total harmonic distortion.

Output Impedance: 200, 500 or high impedance (over 100,000 ohms).

Hum Level: Minus 93 D.B.

Mountings: All tubes mounted on special floating base section to eliminate microphonic vibrations.

Output Level Indicator: Equipped with high quality output meter graduated in D.B.

Size: 16" L. x 7" W. x 8½" H.

Model 20-O Four Position Mixer complete with power supply and set of tubes. CODE: BEHXP.....List Price: $150.00

Model 20A-O Four Position Mixer with power supply and set of tubes and master gain control.
CODE: BEIAT.....List Price: $150.00

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World Radio History

Webster Electric

SOUND EQUIPMENT

Webster Electric
MOBILE AMPLIFIER

● This portable Mobile System is designed to operate both indoors and out off of either a 6 volt storage battery or 110 volts AC Commercial Lighting Current.

By means of special circuits, 6L6G tubes are used to provide 20 to 30 watts output at very low distortion. All of the features found in Webster Electric Amplifiers are incorporated in this Mobile System. Four speaker receptacles are provided with changeover switch for matching impedance. In addition, a tapped output transformer is provided to properly connect any speaker load usually found in the field.

The increased power output and improved speakers incorporated in this system increases the usability of this equipment greatly over all previous designs. Permanent Magnet Speakers decreases battery drain and simplifies speaker wiring. A separate current saving switch is provided to permit keeping filaments hot for instantaneous use. The well known, high quality Webster Electric Crystal Pickup is used with this system which gives tone quality unobtainable in any other like equipment.

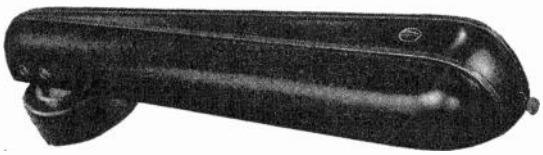
SPECIFICATIONS

Number of Stages: 4.
Tubes Used: 1-6J7, 1-6N7, 1-6C5, 2-6L6G.
Input Impedances: 1. Microphone—1 megohm; 2. Phono-pickup—½ megohm.
Gain: 137 D.B. for microphone, 91 for phono.
Frequency Characteristics: Within 2 D.B. from 40 to 9,000 cycles.
Output Impedances: 2-4-8-250 and 500.
Power Consumption: 110 watts at 6 volts for complete system with phono-motor in operation. 110 watts on 115 V. AC.
Power Output: 20 watts at 5% total harmonic distortion.
Overall Dimensions: 11" H. x 14¾" D. x 17⅜" W.

Model MB-7: Complete Mobile Sound System including hand type crystal microphone with shielded cord and plug; two P. M. dynamic speakers with cords and plugs; turntable; pickup; set of matched tubes and power packs for operation off 110 AC and 6 volts DC.
CODE: BEING..... List Price: $270.00

Model MB-8: Mobile Sound System, same as MB-7 but for operation off 6 volts DC only. CODE: BEIOH.....List Price: $247.75

Webster Electric
STREAMLINED PICKUP



● In this new line of streamlined pickups Webster Electric offer modern appearance, performance and improved frequency range of all models. Three streamlined pickups are available finished in satin black enamel.

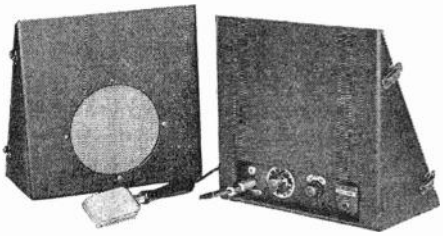
Type 40A-S Magnetic Pickup has one volt output and an impedance of 18,000 ohms. CODE: BCEUL.....List Price: $8.00

Model 41A-S Magnetic Pickup in same type arm has an impedance of 36,500 ohms and one and a half volts output.
CODE: BCEVM.....List Price: $9.00

Model X75A-3 Crystal Pickup in same type arm but with crystal placed at an angle so as to improve tracking, decrease record wear and improve frequency response. Output impedance 80,000 ohms.
CODE: BEIJC.....List Price: $10.00

Overall dimensions of all pickups are 9¼" and will accommodate 10" and 12" records.

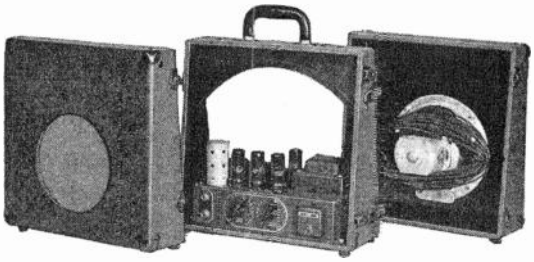
Webster Electric
5-Watt Portable System in Case



● The 5-watt Webster Electric Sound System incorporates metal tubes, high impedance input and phono input to accommodate either high or low impedance type phonograph pickups. This system can be operated without the necessity of removing speaker from case which is advantageous to salesmen, window displays, advertisers, ballyhoo men, etc. Up to one thousand people indoors can be covered with this light and compact, portable sound system. For specifications see 5-watt 10B5 Amplifier Chassis. Model 5SN Webster Electric licensed 5-watt Class "A" Sound System complete with hand-type Crystal Microphone, P.M. Dynamic Speaker, Portable Carrying Case and set of factory matched tubes CODE: BEGLC.....List Price: $96.00

Model 5BN: Complete chassis system less carrying case with speaker and amplifier chassis only and set of matched tubes.
CODE: BEGMD.....List Price: $89.75

10-Watt Dual Speaker Portable System

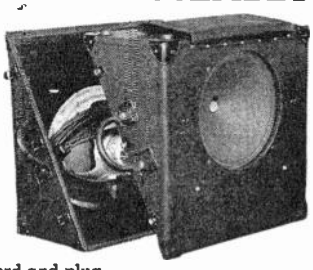


● Model 10TN, 10-watt Webster Electric Sound System is complete with crystal microphone, banquet stand, two 8" P.M. Dynamic speakers, 35' cords and plugs and split type portable carrying case which makes this a very handy unit for sound men for rental purposes, etc.

Chassis incorporates many advanced features; such as, flexible connections from output transformer to any desired speaker impedance load. CODE: BEGPG.....List Price: $130.00

Model 10BN: Complete chassis system less carrying case with one eight-inch P.M. speaker chassis and amplifier chassis only and set of matched tubes. CODE: BEGQH.....List Price: $101.50

DUAL SPEAKER CASE ASSEMBLY



● Where extra speaker for extension of a sound system is required and where audibility is an essential requirement, this improved dual speaker case assembly will fill practically every requirement. Furnished in extra heavy split type carrying case, leatherette covered, and equipped with finest P.M. dynamic heavy duty speaker chassis obtainable. Case measures 20¾" by 18¾" by 10" and weighs thirty pounds net.

Model DS-12-50-N with two 12" heavy duty P.M. speakers each with 50' rubber covered cord and plug.
CODE: BEGZQ.....List Price: $66.50

Model DS-12-50-HN Webster Electric speaker case units are somewhat larger than the DS-12-50-N and incorporate extra heavy duty 12" P.M. dynamic speakers which will handle up to 18 watts per speaker. Furnished with 50' of speaker cable and plug with each speaker.
CODE: BEHIA.....List Price: $103.00

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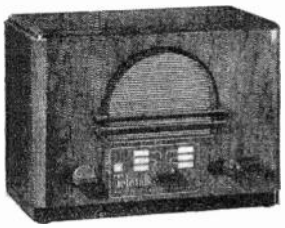
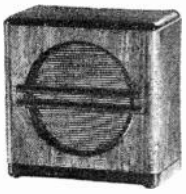
World Radio History

Webster Electric
SOUND EQUIPMENT

Webster Electric
MODEL 105 MASTER TELETALK





● Model 105 Master Station type TELETALK unit has the same superlative tone quality and workmanship as all Webster Electric products. The cabinet is of solid walnut, hand rubbed.

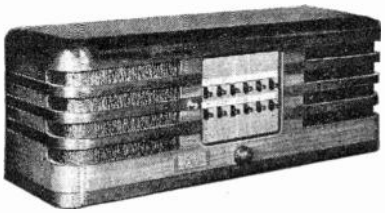
The unit has a capacity of five outlying speaker stations and each station can be communicated with individually or all can be called simultaneously. Stations can be as much as 3,000 feet from master unit.

Three-way talk-listen lever provides most economical current consumption which prolongs life of all component parts including tubes, resistors, and condensers, etc. Third position of talk-listen switch permits silencing outlying stations. Volume control and combined off-on switch permits adjusting volume to suit the individual.

Model 105 Master Station TELETALK unit:
CODE: BEIKD.....List Price: $39.50

Attractive speaker microphone stations to be used with the above master unit finished in solid walnut, hand-rubbed cabinet.
Model 5A-45 Speaker.....CODE: BEILE.....List Price: $9.50 Each

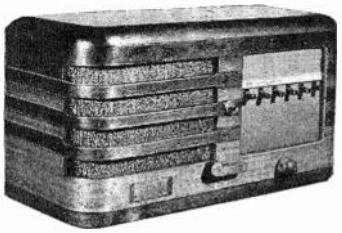
Webster Electric
DE LUXE MODELS



● Webster Electric now offers the most superlative intercommunicator yet manufactured. The dual speaker Teletalk especially designed for busy executives and individuals who require two-way conversation without the necessity of operating any levers, knobs, etc.

Conversation can be carried on between one person and twenty-three individually or twelve different conversations can be had simultaneously. Each circuit is secretive and no outside station can listen in. Features in this instrument were never before obtainable in any other intercommunicating system. Feedback is entirely eliminated, yet volume is sufficient to insure room coverage. "Off-on" switch and volume control permits adjusting volume to suit individual requirements. Prices upon application

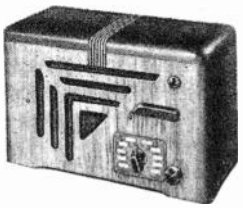
Webster Electric
ANNUNCIATOR TYPE MASTER STATION TELETALK



● This flexible master station type Teletalk unit incorporates features which are highly desirable. Key type switches provide easy access for convenient operation to call outlying speaker stations. The speaker microphone stations are equipped with call buttons which actuate annunciators at the master station. If the person at the master station happens to be out of the room, the annunciator will inform him upon return which station has been calling.

Prices upon application

Webster Electric
MODEL "HMS" TELETALK UNIT



● The HMS Teletalk is a High Power Master Station type Intercommunicator of the industrial type designed for use in noisy locations. Unit controls nine outlying speaker-mike stations. All conversation is controlled by the master alone and no communication is possible between speaker-stations.

The talk-listen switch is provided with three positions which permit cutting off outlying speaker-stations. Tube filaments are kept hot for instantaneous use; however, heavy current used only when talking.

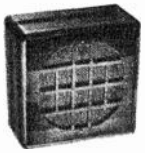
Provides group calling of all stations, either separately or collectively. Off-on switch and volume control permits adjusting volume to suit individual requirements. Pilot lamp designates when unit is on.

CODE: BCFEW.....List Price: $57.50

Webster Electric
SPEAKER MICROPHONE UNITS

● Model 6WB unit is for use with the master station Teletalk. It employs a 6" P. M. dynamic speaker in an attractive, hand-rubbed, mahogany cabinet. Speaker is especially designed for voice frequency characteristics which insure desirable response.

CODE: BECWN....List Price: $13.50 Each



● Model 10WB speaker unit is a 10" P. M. dynamic speaker mounted in an attractive, mahogany, hand-rubbed cabinet. These large P. M. speakers provide more sensitivity and are for use where a greater coverage is desired.

CODE: BCFGY....List Price: $21.00 Each

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Discounts on application

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World Radio History

VOCAGRAPH SOUND SYSTEMS New 1939 Models

TWIN TORNADOES of SOUND!

New Super-Power Units

40 and 75-100 Watts

Four Microphone Channels

Monitor Speaker

Floodlight Panel

Forty Watts—MODEL 40-40C

Forty Watts Output—A new, low priced amplifier just added to the VOCAGRAPH Line. Conservatively rated to assure user satisfaction.

Five Stage—Eleven Tube—Has five channel input with independent control for each, using four 6F5 tubes, two 6F8G electronic mixers, 6C8 tone control booster, 6N7 driver and push-pull 6L6G output, with type 83 rectifier.

Independent High and Low Tone Controls—the exclusive COLORGRAPH principle allows either end of the frequency range to be raised or dropped from zero level without affecting the other. Thus both highs and lows can be raised simultaneously when desired to secure the highly advantageous "saddle-back" reproduction curve.

Built-In Monitor Speaker—A necessity for handling remote microphone set-ups, or layouts where speakers are at a distance from the amplifier. Concealed beneath the speaker grille are two flood-lights, illuminating the amplifier controls.

Output Impedances—Unique selector plug allows instant adjustment of the amplifier impedance to match speaker systems of 2, 4, 8, 166, 250, and 500 ohms. Three speaker sockets are provided.

New Low Price—Model 40-40C, with five inputs, is now offered at a new low price, complete as described and illustrated above, in unit-type case, list only **$95.00**

Kit of Tubes, Only $16.25

One Hundred Watts—MODEL 40-75C

Seventy-Five to One Hundred Watts Output—Proven to be the most powerful stock amplifier ever offered. Features push-pull parallel 6L6G output with three separate rectifier tubes to provide constant plate, screen and grid voltages under peaks as high as 150 watts. Rated at 75 watts with zero distortion, 100 watts at 8% distortion and useable output up to 150 watts. This great amplifier has been used to drive as many as 150 speakers and to cover audiences of 100,000.

Five Stages—Seventeen Tubes—Four 6F5 input tubes for five independently controlled channels, two 6C8 electronic mixers, one 6C8 and one 6C5 dual tone booster, push-pull 6N7 drivers, four 6L6G push-pull parallel output tubes, two 83 rectifiers and one 80 rectifier.

Independent High and Low Tone Controls—Offers COLORGRAPH dual tone compensation, an exclusive and unequalled feature of VOCAGRAPH SUPER-POWER Amplifiers.

Built-in Monitor Speaker—With volume control on front panel. Also concealed in grille are floodlights for control panel illumination.

Output Impedances—Fifteen pound output transformer offers variable impedances for exact match to 500 ohm speakers, from one to six in number.

New Low Price—More performance, more features, more value, yet VOCAGRAPH engineering makes possible this important reduction in price. Now, list price only **$140.00**

Kit of Tubes, Only $30.00

See Fourth VOCAGRAPH Page for Microphone, Speakers, etc., accessories

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World Radio History

VOCAGRAPH SOUND SYSTEMS "Hushed-Power"

"Package-Sound" Service to Meet Every Need!

VOCAGRAPH engineers have carefully planned these complete sound assemblies to provide matched performance, assuring the very utmost in sound coverage for every dollar spent. In addition to the accessories listed, on page four will be found separate listing of many optional units.

Twelve Watt Amplifier and Portable System

No longer must low price justify limited performance! This high-gain, push-pull beam power output, 12-watt amplifier costs no more than ordinary 5 to 8 watt amplifiers and offers performance to match any amplifier regardless of price.

MODEL 30-12C—Twelve watt amplifier operates with crystal, velocity, dynamic or velotron (no voltage type) microphones. Crystal or magnetic phono pick-up input may also be used. Has full-range tone control for acoustic compensation or feed-back control.

Gain is 120 db., using type 6J7G high gain input, 79 electronic mixer, push-pull 6V6G output and 83 rectifier. Frequency response is flat within 2 db. from 50 to 10,000 cycles. 4 and 8 ohm output impedances are provided for operation with one or two standard 6-8 ohm p.m. speakers. Full rated output of 12 watts is secured at less than 8% total distortion.

MODEL 30-12C—Twelve watt chassis only, less shield and tubes. List Price..... **$27.50**

Shield for above amplifier, finished in blue baked crystallac, with chromium trim and handle. List Price....$3.00

Set of tubes for above amplifier..... 8.10

PORTABLE SYSTEMS

MODEL 30-12PX—Single Speaker Twelve Watt System complete in blue leatherette case with X-1 Crystal Microphone and 25 ft. cable, FT-1 Table Stand, CM-8 PM speaker with 25 ft. cable—ready for operation but less tubes. List Price **$69.00**

MODEL 30-12DPX—Dual Speaker Twelve Watt System, identical to the above, but supplied with PC-2 case and two CM-8 PM speakers. Complete but less tubes. List Price $87.00

Set of tubes for above. List Price..... 8.10

Dynamic microphone for above, Type D-1, add to system price. List Price.... 2.50

Floor Stand for above, Type FF-1, add List Price..... 5.00

Twenty Watt Amplifier and Portable System

Today's Outstanding Amplifier Value

MODEL 30-20C—Twenty Watt Dual Microphone Input Amplifier, is the world's fastest selling sound unit—and only because of this can so great a value be offered.

COMPARE! Two 6F5 high gain input stages, 6F8G electronic mixer, 6N7 power driver, push-pull 6L6G beam-power output and 83 rectifier. Independent control for each microphone, phono input control and inversion type tone control to eliminate distortion at extreme high and low compensation. Controlled feedback assures maximum output with minimum distortion.

Offers instant selection of 2, 4, 8, 166, 250 and 500 ohm impedances. Output is down only 2 db. at 50 cycles and less than db. variation from 60 to 12,000 cycles.

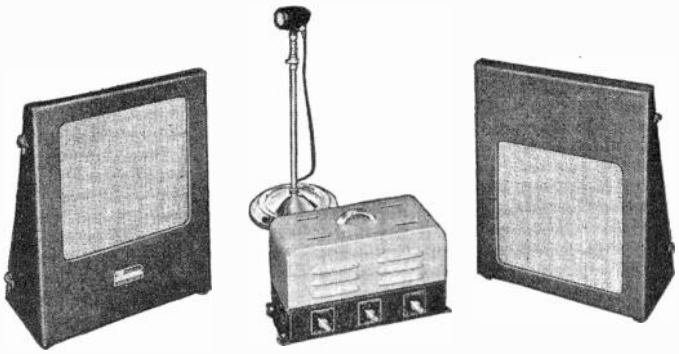
Rated output twenty watts with not more than 3% total distortion, and not more than 8% distortion at 25 watts. Here is ample evidence of VOCAGRAPH plus values.

Separate "off-on" power switch and jewelled pilot light are other features never before offered at comparable prices.

MODEL 30-20C—Twenty Watt Chassis, complete as described, but less tubes and shield. List Price **$43.50**

Shield for above amplifier, finished in baked blue irridescent enamel, with chrome trim and handles. List Price $4.00

Set of tubes for above chassis. List Price.....12.40



FULLY PORTABLE SYSTEM

MODEL 30-20PX—Fully Portable, Dual Speaker, Twenty Watt System, housed in three piece case. Amplifier bolted to bottom tray. Each half of case forms separate speaker baffle. Modern streamline design with decorative rectangular speaker openings. Complete system includes Model 30-20C Chassis, blue shield, Type X-1 Crystal Microphone and 25 ft. cable, FT-1 Table Stand, two CM-10 PM Speakers, each with 35' cables, all mounted in carrying case. Ready for operation, but less tubes. List Price **$112.00**

Dynamic microphone, Type D-1, if desired, add.....$2.50

Demountable Floor Stand, packs in carrying case, if desired, add.....10.00

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"Hushed-Power" VOCAGRAPH SOUND SYSTEMS

Thirty Watt Amplifier and Portable System

Dual Electronic Tone Control

Two Microphones and Phono Input

Inverse Feedback

High Power at Record Low Cost

MODEL 30-30C—High Gain Dual Microphone Input Amplifier with new COLORGRAPH dual electronic tone compensation that allows high and low notes to be boosted or lowered simultaneously, singly, or in opposition—an engineering feat offered solely in VOCAGRAPH Sound Equipment.

Input is provided for separate operation of two crystal, dynamic, velocity or sound cell microphones, (138 db. gain) and magnetic or crystal phono pick-up.

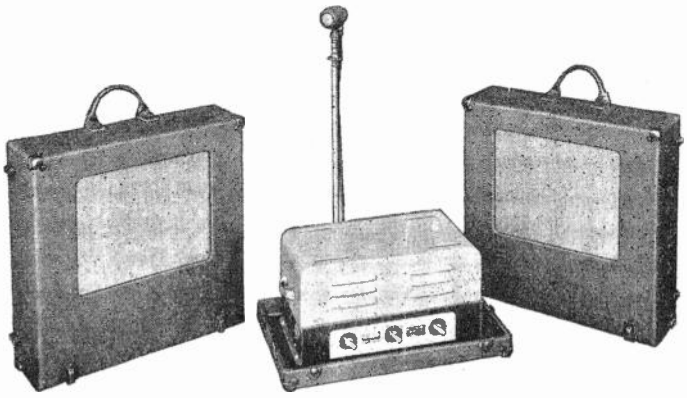
Controls are provided for each microphone, phono, separate high and low note compensation, power "on-off" switch, and jewelled pilot light. Output impedances of 2, 4, 8, 166, 250, and 500 are available at the three output sockets. Instant selection of output is accomplished by means of a rotating plug.

Two 6F5 high gain input, a 6F8G electronic mixer, a 6C8G electronic tone compensator, 6N7G power driver, push-pull 6L6G beam power output, and an 83 rectifier tubes are used.

MODEL 30-30C—Chassis only, less tubes and shield. List Price..... **$66.50**

Set of tubes for above chassis. List Price.....$14.00

Shield for above chassis, chrome trim and handles.... 4.00



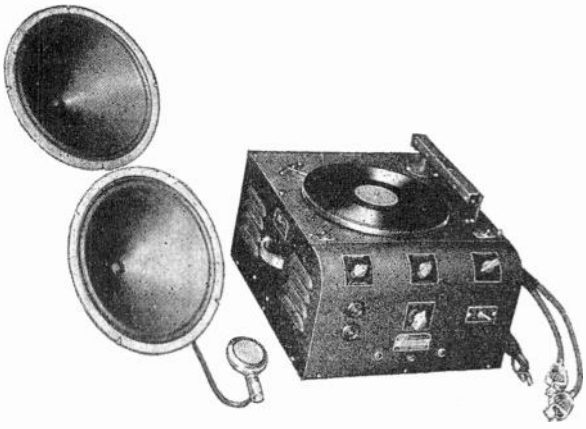
FULLY PORTABLE SYSTEM

MODEL 30-PX—Fully Portable Thirty Watt System, includes the above amplifier with shield, mounted in the PC-3 three piece case illustrated. Complete with Type X-1 Crystal Microphone and 25 ft. cable, Type FD-1 Demountable Floor Stand, two CM-12 heavy duty pm speakers with 50 ft. cables. List Price **$150.00**

Set of tubes for above system, List Price.....$14.00

Dynamic Microphone, Type D-L, if desired, add..... 2.50

6 v Battery—110 v AC Mobile Amplifiers and Systems



20 and 30 Watt Models
No Extra Power Pack to Buy
Everything Built-in
Phonograph Top Plate Optional

MODEL 30-M30—THIRTY WATT Mobile Amplifier offers high power output with quality and dependability to equal any straight AC unit. Throw a single switch and changeover instantaneously from 6 v. battery to 110 v. line operation. No power packs or plug-in connections. Dual high gain input allows simultaneous operation and independent control of two crystal, velocity or dynamic microphones. Offers output impedances of 2, 4, 8, 166, 250 and 500 ohms with polarized connections. 135 db. gain. Uses two 6F5 high gain input, one 79 mixer, one 76 driver, two push-pull 61.6G output and one 83 rectifier tubes.

MODEL 30-M30—Mobile Amplifier Chassis complete for 6 v. and 100 v. operation, but less phono top and tubes. List Price **$110.00**

Set of tubes for above amplifier. List Price.....$11.50

MODEL 30-MP30—Mobile Amplifier with Phono Player top, for 6 v. and 110 v. operation, less tubes and accessories. List Price....$150.00

MODEL 30-MP30SX—Complete Mobile System, with Phono Player, for 6 v. and 110 v. operation, and Type X-1 Crystal Microphone and 10 ft. cable, two CM-12 PM speakers and 15 ft. cables, but less tubes. List Price $195.00

MODEL 30-M20—TWENTY WATT Mobile Amplifier offers every advantage of combination 6 v. battery and 110 v. line operation at a new low price! No power packs or plug-in connections. Just flip a switch for instant changeover. Optional phono plate may be added later if not desired at time of original purchase. High gain input for crystal, velocity or dynamic microphone. Output impedances of 4 and 8 ohms. Uses 6F5 high gain input, 79 electronic mixer, 76 driver and push-pull 6V6G beam power output, 83 rectifier.

MODEL 30-M20—Mobile Amplifier Chassis, complete for 6 v. and 110 v. operation, but less phono top and tubes. List Price **$80.00**

Set of tubes for above amplifier. List Price.....$8.65

MODEL 30-MP20—Mobile Amplifier with Phono Player, for 6 v. and 110 v. operation, but less tubes and accessories. List Price ...$105.00

MODEL 30-MP20SX—Complete Mobile System, with Phono Player, for 6 v. and 110 v. operation, and Type X-1 Crystal Microphone with 10 ft. cable, two CM-10 PM speakers, two 15 ft. speaker cables, but less tubes. List Price.....$145.00

Aluminum Baffle Horns

Improved acoustic design, bullet type aluminum baffles for use with mobile systems or on other temporary installations where the projection power of VOCAGRAPH Type FB-1 or FB-2 Flare Baffles is not needed.

Spun aluminum of heavy guage stock from steel tools to assure smooth finish and durability. Fits 10 and 12 inch pm speakers.

Type BB-1—Aluminum Baffle. List Price.....$10.00

(See next page for additional accessories.)

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VOCAGRAPH SOUND SYSTEMS

MATCHED SOUND ACCESSORIES

Bass-Expansion Speaker Baffles

Type IC-1—Infinate Baffle Case with bass expansion acoustic design. For 8" speakers. List Price $10.00

Type IC-2—Infinate Baffle Case similar to above but for 10" speakers. List Price 12.50

Type IC-3—Infinate Baffle Case similar to above types, but for 12" speakers. List Price 15.00

Flare Type Speaker Baffles

Type FB-1—Rifle Type concentrated beam sound projector. For 8, 10 or 12" speakers. Horn opening 22 x 24" 25" long. Heavy plywood construction. Shipped knock-down. Waterproof housing for speaker included. List Price 15.00

Type FB-2—Wide-Angle sound projector. For 8, 10, 12" speakers. Horn opening 30 x 20". Bell 14". Plywood construction, shipped knock-down. Waterproof housing for speaker included. List Price 18.00

POWERGRAPH Public Address Speakers

Specially designed for rigors of public address work. Have best grade water resistant cones and heavy magnets.

Type CM-8—8" pm speaker. Handles ten to twelve watts on continuous duty. High efficiency. List Price 6.00

Type CM-10—10" pm speaker. Twelve watt continuous rating. List Price 10.00

Type CM-12—12" pm speaker specially designed for p.a. work. Handles fifteen watts continuous power. List Price 12.00

Type CM-14—12" pm speaker. Has forty oz. magnet and voice coil construction for twenty watt steady power. High flux assures best efficiency. List Price 15.00

Above speakers have 6-8 ohm voice coils. Add list for 500 ohm line transformer 2.50

Microphones

Type X-1—Crystal Microphone with 25' cable. Licensed under Brush patents. List Price 22.50

Type D-1—Dynamic Microphone with 25' cable and plug. High output and flat response. List Price 25.00

Type V-1—Velocity Microphone with 25' cable. High impedance type. List Price 30.00

Microphone Stands

Type FT-1—Table type for any above microphones. Heavy base with 10" chrome tube. list Price 5.00

Type FF-1—Adjustable height floor type. All chrome with heavy 11" base. List Price 10.00

Type FD-1—Sectional floor stand to pack into portable carrying case. List Price 15.00

Phonograph Record Players

Model 30-RA—Record Player in leatherette carrying case, with crystal pick-up, volume control and needle cup. List Price 27.50

SPECIAL BULLETIN

Just Arrived!

JOHN MECK INSTRUMENTS

TWO YEAR UNCONDITIONAL GUARANTEE — Every instrument is guaranteed as to accuracy, performance and serviceability for two years from date of purchase. This is an unequalled protection for your investment. Tubes and parts subject to operational wear replaced at cost—no other expense to you.

LOW COST—Designed to give you the maximum utility for your instrument dollar. Every feature of construction and accuracy found in the most expensive instruments—yet priced at new low levels.

The BRIDGEMASTER

Tests
Condensers
Resistors
Inductances

An instrument that is more important to your shop than the tube checker, analyzer or oscillator! Checks every condenser under RATED VOLTAGE. Measures leakage on calibrated scale up to 1000 megohms, not by inaccurate neon lamp. Also measures condenser power factor, 0 to 50%, and capacity from .00001 to 50 mfd. Resistance from ½ ohm to 1000 megohms. Inductance and turns ratio, 10 to 4000 mh. Dealer net, with tubes..... $29.50

The TUBEMASTER

TWO YEAR GUARANTEE against OBSOLESCENCE

Backed by five years research into tube checking problems. Direct reading dynamic conductance test circuit that makes nearest approach to actual operating load conditions. Manufacturer guarantees to make available full data on testing all new tube types without cost and supply change-overs if needed at cost of materials only. New tube data will be mailed to owners monthly.

Features giant roll chart for test data and four control operation that "makes push-buttons obsolete." Control panel of translucent material, indirectly illuminated. Tests all rectifiers, ballast tubes, and pilot light bulbs.

Dealer net as illustrated $29.50

The SOUNDMASTER

Measures actual sound levels for planning and testing public address installations. Fully portable, operated from self-contained batteries.

No longer need the sound man guess at power needed or adequacy of coverage secured on indoor and outdoor installations.

Direct reading in decibels (acoustic), to meet all standards prescribed by Bureau of Standards. Pattern 15 SOUNDMASTER, net price, complete with batteries and calibrated microphone.

$60.00

WRITE FOR COMPLETE BULLETINS

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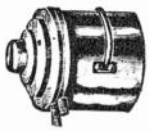
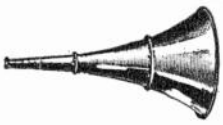
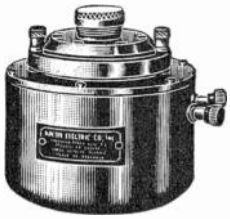


UNITS RACON TRUMPETS



SUPER POWER Dynamic Unit

110 Volts D.C.



30-watts consumption. 15 ohm voice-coil impedance at 1000 cycles. Continuous operating capacity 35 watts. Peak load capacity 90 watts. Unexcelled for use where concentrated high power output is required for long-range projection, as in aeroplanes, airports, traffic control, etc. Quality of reproduction is exceptionally clear. Newly-designed horns can be supplied or standard Racon Horns can be converted for use with it. Wt. 35 lbs.

Code: RUGBY.....**List Price $90.00**

MASTER Horn Unit

6-8 volt field excitation. 1.1 ampere consumption at 6 volts. 15-ohm voice-coil impedance at 1000 cycles. Continuous operating capacity 20 watts. Peak load capacity 50 watts. Lightweight hi-powered unit especially suitable for portable systems and permanent installations where heavier units are not required. The perfect reproducer. Wt. 13½ lbs.

Code: RINSE.....**List Price $44.00**

SUPER - GIANT Dynamic Horn Unit

6-8 volt field excitation. 1.0 ampere consumption at 6 volts. 15-ohm voice-coil impedance at 1000 cycles. Continuous operating capacity 25 watts. Peak load capacity 50 watts. Particularly adapted for theatre and auditorium use where the finest quality reproduction is required. Wt. 20 lbs.

Code: RHEUM.....**List Price $66.00**

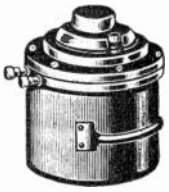
P. M. Unit

Permanent Magnet Horn Unit

An efficient permanent magnet horn unit requiring no outside excitation. 36 per cent cobalt steel magnets are used to supply maximum flux density in the air gap. Cast bronze case, completely enclosed, making Unit water-tight. 15-ohm impedance at 1000 cycles. Continuous operating capacity 10 watts. Peak load capacity 30 watts.

Code: REVUE.....**List Price $44.00**

GIANT Dynamic Horn Unit



6-8 volt field excitation. 1.1 ampere consumption at 6 volts. 15-ohm voice-coil impedance at 1000 cycles. Continuous operating capacity 22 watts. Peak 50 watts, with perfect reproduction; can be used for all general sound purposes. Special heavy duty construction for aeroplane and hi-power public address work, where a heavier unit is desired. Wt. 19 lbs.

Code: RANGE.....**List Price $55.00**

BABY Electrodynamic Horn Unit

6-volt excitation. 1¼ ampere consumption at 6 volts. 15-ohm voice-coil impedance at 1000 cycles. Continuous operating capacity 5 watts Type A. 10 to 15 watts Type B. Peak load capacity 18 watts Type A. 50 watts Type B. Wt. 6¼ lbs.

Type A—Code: RAVEL....**List Price $24.75**
Type B—Code: RASSE....**List Price 27.50**

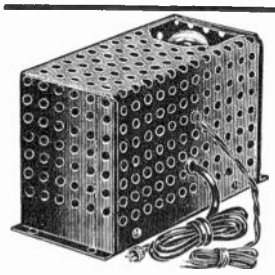
NOTE.—Racon Units obtainable in any field ohmage at slight additional cost.

JUNIOR Electrodynamic Horn Unit

6-8 volt field excitation. 1.1 ampere consumption at 6 volts. 15-ohms voice impedance at 1000 cycles. Continuous operating capacity, 6 watts Type A. 15 watts Type B. Peak load capacity, 20 watts Type A. 40 watts Type B. Wt. 11 lbs.

Type A—Code: RATAN....**List Price $33.00**
Type B—Code: REBUS....**List Price 35.75**

Field Exciters



Tube-Type Rectifier

Supplies 300 Volts D.C. at 100 Mills

Type R46	List Price
One-Unit Supply (Code: ROWAN)	$25.00
Two-Unit Supply (Code: ROWDY)	32.50
Four-Unit Supply (Code: ROXEY)	40.00

Dry Rectifier

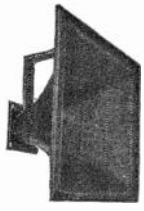
Supplies 6-9 Volts from 110 Volts A.C.

One-Unit Supply—Code: ROCKY	$22.00
Two-Unit Supply—Code: REPLY	38.50
Four-Unit Supply—Code: RODEO	66.00

Diaphragm Replacements

		Net Price
Code: RUTEX	Type A Diaphragms only	$2.60
Code: RUVEX	Type B Diaphragms only	3.60
Code: RUZEN	Type A Head Assembly (including diaphragm)	4.25
Code: RUZUR	Type B Head Assembly (including diaphragm)	5.25
Code: RUCHE	Type C Head Assembly (including heavy-duty diaphragm)	6.00

Flared Baffle Projectors



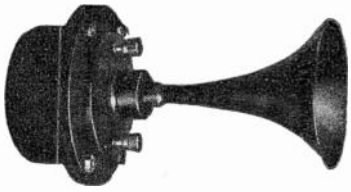
Equipped with mounting block for the cone speaker and patented self-supporting frame. The use of a baffle projector of this type increases the efficiency of the sound distribution. It also extends the frequency response of the speaker.

Code	Bell, Inches	Depth, Inches	List Price
RAVEN	18x30	10	$13.20
RAZOR	27x27	24	33.00
REACH	36x36	24	44.00
REBEL	41x41	15	44.00

Also available with acoustically-damped box for housing dynamic speaker. When ordering, specify size and type speaker.

RODIN	27x27	24	$42.50
RONDO	36x36	24	53.50
ROOTY	41x41	15	53.50

Electrodynamic High-Frequency Loudspeaker



Designed to meet the latest requirements for wide-range reproduction. Will cover a frequency range from 3000 to 8000 cycles. Supplied with horn as illustrated. To be used in conjunction with a suitable low-frequency speaker. Field rating—D.C. 6 volts or 110 volts, as specified. Voice-coil impedance 15-ohms. Overall height 6¾". Horn bell 3".

Either Type { Code: RABAT **6 Volts**..... / Code: RABEX **110 Volts**..... } **List Price $20.00**

Multiple Horn Combinations

Combinations of two or three trumpet horns driven by one unit through properly designed connectors, will be found very efficient and flexible for public address service. Wider coverage can be obtained from the same power level, and frequency response is improved since the low-frequency cut-off is a product of the total bell area of all the horns.

Code: RADIX **Double**.....**List Price $14.85**
Code: RACER **Triple**.....**List Price 19.25**

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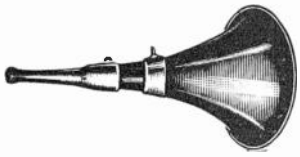
ACOUSTIC TRUMPETS



Trumpets are made of Racon patented acoustic non-vibratory material. **Stormproof models** are guaranteed for life as waterproof in outdoor use in all climates and weathers, including immersion in water.

3½-Foot Regular Model

Equipped with rolled-metal beaded edge, metal ferrule and suspension ring. Adapted for ⅞-18" or 1⅜-18" threaded unit. Wt. 6½ lbs. 22" diam.

Code: RELAY.....**List Price $22.00**

De Luxe Model

Equipped with rolled-metal beaded edge, reinforced cast-aluminum tone-arm, and suspension ring. For indoor use. Wt. 10 lbs.

Code: REMIT.....**List Price $27.50**

Stormproof Model

Equipped same as De Luxe. Waterproof. Wt. 12 lbs.

Code: RENEW.....**List Price $44.00**

4½-Foot Trumpets

Equipped with rolled-metal beaded edge and 25" cast-aluminum throat. Demountable into two sections, which can be quickly assembled or disassembled.

De Luxe Type—Wt. 16 lbs.
Code: RANCH.....**List Price $44.00**

Stormproof Type—Wt. 18 lbs.
Code: RACEY.....**List Price $60.50**

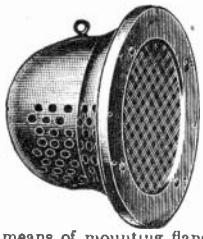
6-Foot Trumpets

Equipped with rolled-metal beaded edge, 34" cast-aluminum throat, and suspension eyelets. Bell 30" diam.

De Luxe Type—Wt. 18 lbs.
Code: RHYME.....**List Price $58.50**

Stormproof Type—Wt. 23 lbs.
Code: RIDER.....**List Price $75.00**

BULLET PROJECTOR



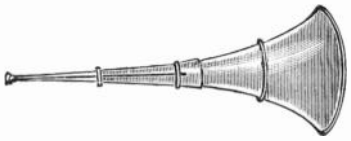
An all-steel Bullet Projector, acoustically padded and having the proper air release for wide response. Used in local area service, either indoor or outdoor. The driving units mount on a front flange that permits quick inspection and simple connection. Can be mounted in any position by means of mounting flange holes and mounting hook. Cone opening protected by durable screening and gauze. Specify whether for use with 8", 10" or 12" speaker.

With 8" Broad-Band Speaker
Code: REPEX.....**List Price $25.00**

With 12" Broad-Band Speaker
Code: RUTAN.....**List Price $35.00**

Bullet Projector Only....**List Price $16.00**

ALL ALUMINUM TRUMPETS



All trumpets made of 12-gauge aluminum with cast-aluminum throat sections and cast-aluminum clamping edges, with reinforced bell and loose couplings.

6-Foot Trumpet

Bell 30" diam. Demountable into three sections

New Single-Unit Type—34" cast throat.
Code: RHINO.....**List Price $65.00**

New Two Single-Unit Type
Code: RHOMB.....**List Price $70.00**

4½-Foot Trumpet

Demountable into 2 sections. 25" cast throat.

Single-Unit Type
Code: RIANT.....**List Price $50.00**

Two-Unit Type
Code: RIBES.....**List Price $57.50**

3½-Foot Trumpet

Demountable into 2 sections. 16" cast throat.
Code: RAPIX.....**List Price $25.00**

UNBREAKABLE REINFORCED TRUMPETS

Made of Racon acoustic stormproof material, reinforced throughout. Guaranteed unbreakable. The last word in trumpet design and particularly adaptable where high quality and high efficiency is required, with the ability to withstand the roughest handling without breakage.

6-Foot Trumpet

Demountable into three sections. Equipped with 34 inches of aluminum throat casting.

Single-Type Unit
Code: REGON.....**List Price $92.50**

Two Single-Unit Type
Code: REGAY.....**List Price $97.50**

4½-Foot Trumpets

Demountable into two sections. Equipped with 25" cast-aluminum throat.

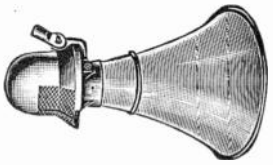
Code: REFIX.....**List Price $72.50**

3½-Foot Trumpet

Demountable into two sections. Equipped with 16" cast-aluminum throat.

Code: RAPOX.....**List Price $50.00**

TURRET PROJECTOR

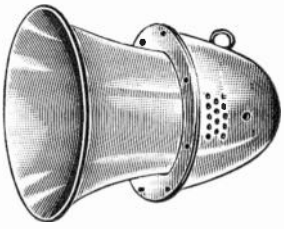


Rigidly mounted on a mechanical-acoustic impedance-matching throat element, with an all-steel, acoustically-damped, bullet back. Made with either unbreakable bell section or heavy-gauge aluminum, with rolled-metal beaded edge and cast-aluminum coupling. Bronze mounting bracket with pipe socket fitting for general mounting or hanging requirements. Weatherproof. For general use, where excellent quality and projective power is required. The R30 BROAD-BAND Speaker used. 8-ohm voice-coil impedance, 10-watt capacity, 60-degree distribution, 18-watt field, 110-volts D.C. Overall length 34½". Bell diameter 24". Finish: Battleship gray.

Aluminum Bell—Wt. 33 lbs. Complete with speaker.
Code: ROUSE.....**List Price $90.00**

Unbreakable Bell—Wt. 38 lbs. Complete with speaker.
Code: RUBEO.....**List Price $110.00**

ARMORED CONE PROJECTOR



An efficient heavy-gauge steel and aluminum projector for dynamic cone speakers. Steel back enclosure with proper release holes for excellent response, and 16-gauge aluminum bell. Provided with mounting hook and mounting holes. Simple to install and assemble. Overall length 20", Bell diameter 17". For use with 12" or 10" cone speakers.

Code: RUMID.....**List Price $10.00**

Above with steel back, acoustically damped with 1" material, and cone opening protected by durable screening and silk gauze.

Code: ROBOT.....**List Price $15.00**

Same as above, for use with 6" or 8" speakers. Overall length 15". Bell diameter 15".

Code: RUMIX.....**List Price $8.00**

Above with steel back, acoustically damped with 1" material, and cone opening protected by durable screening and silk gauze.

Code: RIFLE.....**List Price $12.50**

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World Radio History

CARRON Cones

Our No.	O.D.	List
ARISTON		
★1322—Model A	5	$1.25
★1383—Model B, D	6½	1.50
ATWATER KENT		
1000—Pt. No. 15142, for Models 43, 46, 55, 60, 64, 66, 67 Speaker F4	10¾	2.25
1001—Pt. No. 14374 for Models 43, 46, 55, 60, 64, 66, 67 Speaker F2	10¾	2.25
1002—Pt. No. 19465, for Models 80, 82, 84, 82D, 84D, 82Q, 83, 85, 85Q, 90, 90F, 469Q, 558D, 558Q, 627, 246, 266, 525, 427, 467, 287, 425, 465, 206, 376, 735, 356, 184, 225, 337, 545, 856, 435, 135Z, 376 (1st Type)	8½	2.00
1367—Pt. 26243, for Models 711, 112, 511, 810	10¾	2.25
BALDWIN		
★1178—Cavalier	6	1.50
BELMONT		
★1415—Model 666	5⅛	1.50
BOSCH		
★1009—Models 5A, 39A	7	1.75
★1325—Models 505, 501, 634A, 640, used in WR500, WR26	6½	1.75
BRUNSWICK "BREMER-TULLY"		
1012—Model D, 11, 12	9	2.50
1013—Models 16, 18, 33, 17, 24, 25	12	2.90
1016—Models 881, 882, 81, 82, 21, 31, 821, 831	12	3.10
CLARION		
1020—Models 220, 260, 25-260, 470	6½	2.25
CROSLEY		
1027—M45, Models 262, 425, 625, 40S, 30S, Dynacoil	8¾	2.50
★1211—Model 159	6¼	1.75
★1212—Models 167, 103, 5A1	6½	1.50
★1373—Model 516	5¼	1.50
FADA		
1133—Model KU45, 65, 41, 412, 42, 422, 44, 46, 47, 12A-12B	10½	2.90
***GENERAL ELECTRIC**		
*1378—Models A64, A65, A55	8	1.25
*1379—Models A52, A53	6¾	1.00
*1380—Models A82	10¼	1.50
*1409—Models E-61	8	1.25
GRUNOW		
1253—Model 500, 504, Speaker 6B used in Airline 61-166, 6U	6½	2.00
1254—Model 650, 651, 750, 661, 670, Speaker 8A3, 8A4, used in Chevrolet	8⅛	2.50
1255—Model 450, 660, 662, Speaker 8B1, 8B2	7¾	2.25
1183—Model 801, 701, 752, 751, 753, 671, 1152, 1162, Speaker 10A1, 10A2, 10A3, 10A4	10	2.75
1256—Model 901, 902, 1101, Speaker 12A1, 12A2	12	3.10
JENSEN		
1035—D7, D8—Used in: Dayton Navigator; Sparton 737, 921; Silver Marshall "C," etc.; Air Line 29-55; Howard "Green Diamond"; Gulbransen 727; Grebe AH1, SK4; Edison R7; Kennedy 22, etc.; Sentinel 104	11¼	3.10
1037—D9 Inside Spider—used in: Zenith AH, RH, CH, 090, 90, 91, 92, V8; Crosley 124, 127; Kennedy 50, etc.; Silver Marshall A, B, C; Airline 89, 24	11¼	2.90
1038—D10, D11, used in: Airline 83; Kennedy 42	8½	2.50
1137—D12, D14, used in: Silver Marshall 782; Lyric "J" Jr.; Air Line 11,000, 33-35	8½	2.50
1039—D15, used in: Sparton 600 Series; Airline 24; Kennedy 52, 56; Lyric S6, S7; Zenith LP	8½	2.25
1040—D16, used in: Majestic 311; Kennedy 52A	8	2.25
★1218—K3, K4, used in: Zenith 705, 706, 707, 711, 750, 712; Crosley 173	6½	1.75
★1286—Series "R," used in: Belmont 580; Emerson 250W	5	1.50
★1285—Series "R," used in: Motorola 75; Kadette 85	6	1.75
1331—X12—1½ in. V.C.	12	3.10
1366—A12	12	3.10
1333—X12—1 in. VC	12	3.10
★1138—T1, T2, used in Freshman 275	5	1.40
★1043—T3, used in Crosley 175, 343	5	1.40
1371—C12R, used in Zenith 6V62	12	3.10
1384—PM12C	12	3.10
★1400—G6R, used in Motorola 60	6	1.75
1411—G8R	8	2.25
MAGNAVOX		
1408—D7, D8, D6, D80, D90, 100, used in: Sparton 737, 931; Newcomb Hawley NH9; Everready 30, 40; Bosch 29A; Kellogg 523	8⅝	2.75
1049—130, 136, used in: Airline 360; Crosley 269, Buddy Boy; Zenith A, B, C, D	8½	2.50
1050—130, 136, 138, used in: Crosley 249; Audiola 31; Columbia 110; Sparton 600; Jackson Bell 68, 88, 89, 89A, 99	8½	2.50
1053—140, 144, 287, used in Crosley 124, 6R2, 7H3; Sparton 487A	7¼	2.25
★1054—150, 156, 176, 250 P.M., 2 pt., used in Sparton 333	6½	$1.75
1200—154D, 158, 168, 254 P.M., 2 pt., used in: Motorola Twin 8; Crosley 325-4, 7H2	8	2.50
1056—101, 105, 107, 109, 201, 401, 403, 405 (shallow type)	11½	3.10
1221—152X, 252PM, 160, 170, used in Crosley 170	10	2.75
★1185—158, 165, M44, used in Motorola 44	5	1.50
★1242—195, used in SW R133	5	1.50
★1369—Used in Crosley 515	5¼	1.50
MAJESTIC		
1058—G1 for Models 71, 72	9	2.25
1059—G2 for Models 71, 72, 91, 92, 181	9	2.25
1060—G3 for Models 90, 91, 93, 101, 102, 103	10	2.25
1062—G5 for Models 131, 132, 233, 61, 62, 163	12	2.90
1064—G7 for Model 21	9¾	2.50
1067—G10B, G10C, G10D, G10E for Models 151, 153, 154, 155, 156	7½	2.00
1068—G11B, G11C for Models 251, 253, 254, 201, 203, 204, 211, 214	10	2.40
1069—G13B, G13C for Models 353, 215	12	2.50
1070—G14, G14B, G14C, G14D, G14E, G14F for Models 351, 353, 223, 221, 407	12	2.50
1071—G19A, G19B, G19C, G19F, G19G for Models 291, 293, 294, 303, 304, 324, 314	10	2.25
1072—G22A, G22B, G22C, G22D, G22E, G22K for Models 336, 344, 363, 393	12	2.50
★1156—G24 for Models 116—Ford Auto	6	1.50
★1158—G26A, G26C for Models 371, 373, 411, 413, 411A, 413A	5	1.45
★1159—"Best D65" for Models 331	5	1.50
1284—G28A for Model 460A	8	2.50
OPERADIO		
★1172—Model 06Z, used in: Sentinel 500; Truetone; Airline 96, 98, 104; Arvin 10; Wells Gardner 05Z	5	1.40
1222—Used in Mills Novelty	10	2.75
1268—Inside Spider	8	2.00
1340—2 pt. Spider, used in Air Line 35	8	2.25
1341—2 pt. Spider, used in: Air Line 62-190; Zenith 4T51	8	2.25
★1204—2 pt. Long Spider, used in: Sentinel 600; Arvin 20A; Zenith 808, 809, 805, 845, S29, S29A, Air Line 62-177, 62-173	6½	1.75
★1342—Model 6B1, used in: Oldsmobile 405045; Delco, Chevrolet 601586	6½	1.75
1287	12	3.10
1410—Model 8B8 used in Delco	8	2.25
★1417—Model M5	5	1.50
OXFORD		
1076—Models 23, 31, 59, 24, used in: Wells Gardner No. 9; Gulbransen 62; Airline AE10; Erla 22A	9¾	2.50
OXFORD RADIO CO., Chicago		
★1288—Model 6A used in Detrola 5D	6	1.40
1303—Model 11MB	10½	2.25
1308—Model 12MB	11½	2.50
★1353—Model 5A, 2 pt. Spider	5	1.25
★1359—Model PA Stub, 4 ohm VC	6	1.75
***PHILCO**		
*1078—*Pt. 36-3170, Models 40, 41, 42, 65, 76, 77, 87, 90, 95, 96, 111, 112	10⅞	1.40
*1079—*Pt. 02996, Models 3, 20, 21, 46, 70, 90, 470, 490	8⅝	1.25
*1203—*Pt. 02861, Models 5, 43, 50, 80, 81, 52	5¾	1.00
*1243—*Pt. 36-3000, Model 53	5⅝	1.00
*1244—*Pt. 36-3029, Models 54, 57	5¼	1.00
*1245—*Pt. 36-3159, Models 6, 7, 8, 9, 10, 12, 14, 15, 19, 43, 47, 71, 89, 91	7½	1.00
*1246—*Pt. 36-3014, Models 38, 60, 620	7½	1.00
*1247—*Pt. 2898A, Model 86	9	1.50
*1248—*Pt. 02625 Model 14, 15, 44, 91	10⅞	1.40
*1249—*Pt. 36-3061, Models 16, 17	10⅞	1.40
*1269—*Pt. 02887, Models 35, 37, 50, 51	8⅝	1.25
*1343—*Model C32 Ford Philco	5	1.00
*1345—*Model 805	6½	1.00
*1377—*Model 817 (Ford), 1937	6½	1.00
*1389—*Model "G" 86	10¾	1.50
PREMIER		
★1309—2 pt. Spider	5	1.40
QUAM-NICHOLS		
★1198—Used in: Motorola 34; Emerson A; Sparton 62; Tiffanytone 66; Detrola 6R	5	1.50
★1267—Used in: Sentinel 510; Sparton 616	6	1.75
★1387—Oval Spider	5	1.50
★1388—Oval Spider	6	1.75
***RCA-VICTOR**		
*1164—Pts. 7442, 7236, 8921, 8829, 8962, Model R4, R25DC, R5, R5DC, R5X, R24, R71, M30, P31, M32	7½	1.25
*1089—Pt. 8601, Model R6, R7, R7A, R7DC, R9DC, R7LW, R8, R8DC, R9, R10, D10DC, R11, R12, RE16, RE16A, RE18, RE19, R21, RO23, RAE26, R43, R48	10¼	1.50
*1236—Pt. 8987, Models R22S, R22W, R28, R28P, RE40, RE40P, R100, R101, R110, R111, 114, 115, M116, 300, 301	5	$1.00
*1088—Pt. 8558, Models RE20, Victor R35, R39, RE57, RE73, 46, R50, R55, RAE59, 62, 64, 66, 67, RAE68, RAE79, 80, 82, 86	10½	2.00
*1091—Pt. 9023, Model 34, M105	5	1.00
*1225—Pt. 9428, Pt. 9492, R37, R37P, R38, R38P, 112, 121, 122, 124, 126B, 310, 320, 241B, M107, 118, M123, ACR136	6½	1.00
*1087—Nos. 104, 105	8	2.00
*1382—Pt. T-8-14	8	1.50
*1385—Pt. 11258, Models RL70, 8U	12	2.00
*1393—Pt. 12667, Models 6K2, 9U, 9U2, 7U2, 6K3, 7K1, 88K	12	2.00
ROLA		
★1167—F4, used in: Crosley 167; De Wald; Emerson U4B; Wells Gardner; Belmont	5	1.40
1083—F6, F8, used in: Sparton 10, 14, 15, 56, 72; Air Line 33, 35; Kolster K60	7½	2.00
1084—D90, D110, Old Model "J," used in: Silver Marshall 850; Day Fan; General Motors 120	9½	2.75
1188—K7	9½	2.75
★1227—F5B, used in: United Motors 4037; Chevrolet 4037, 980455	6½	1.50
★1282—DP4, used in: Emerson U5A, J; Coronada; Belmont 670	5	1.50
1347—K8, used in Chevrolet 985301	8	2.25
1349—K12	12	3.10
★1281—Rola DP5, used in: Crosley 166; Emerson UV4; Delco 631; Delco 3205; G. M. 405063	6	1.75
STEWART WARNER		
1094—200A, 445A, 565A, 440, 201, 900, 950 Series, 2 Pt. Spider	9	2.75
1095—445A, 200A, 565A, 440, 900, 950 Series, 3 Pt. Spider	9	2.75
1096—R206, R207, R204A, R110, 102A, 104A, R218A, 209, 210, 208, 223A	8	2.50
1097—R202A	8	2.50
★1283—R123, R224, R118, R116, R220, R223, Models 1231 to 1239, 1181, 1182, 1183	6	1.75
★1294—R231	5	1.50
1398—Pt. 85119, R232, R131	6½	2.00
STROMBERG-CARLSON		
1229—Models 10, 11, 12, 14, 19, 20, 25, 26, 27, 641, 642, 846	12	2.90
SYMINGTON		
1099—LL18, used in: Colonial 33, 38; Sonora 30; Silvertone 109, 111, 1124; Zenith 52, 53, 54, 57, 60, 61, 62, 64, 67, 71, 72, 73, 77, 712, 722, 732, 742	12¼	2.90
TEMPLE		
1102—Auditorium Speaker	14	4.00
UTAH		
★1114—Cub, 6C, 2 pt. Spider, used in: Airline 1420; Zenith 705	6	1.50
★1115—Cub, 3 pt. Spider, used in: Airline 45, 47, 70, 72, 81; Crosley 148	6	1.50
1117—Large Cub No. 2, 2 pt. Spider, used in: Crosley 124; Airline 52, 45, 47, 70, 72, 84, 94, 79, 49, 76	7¾	2.25
1118—Large Cub No. 3, 3 pt. Spider, used in: Crosley 125; Airline 52, 45, 47, 70, 72, 84, 94, 79, 49, 76; Zenith 210, 220, 250, 260, 272, 215, 216, 230, 475, 760, 970, 975; Apex 7D, 12B	7¾	2.25
1119—Little Giant No. 1, inside Spider, used in: Isodyne 700, 749; Zenith LH, WH, 2022, BH; Airline 33-25, 62,000, 11,000; Kennedy 50, 63, 64	7¾	2.00
1121—Little Giant No. 3, 3 pt. Spider used in Air Line 62-60	7¾	2.25
1123—Stadium 66A, 66B, used in Airline 29-55, 3065	11¼	2.90
1230—12B, 3 pt. Spider, 16 ohm VC	12	3.10
1296—12A, 3 pt. Spider	11	3.10
★1201—5D, used in: Motorola 44; Emerson KS38, 678; Atwater Kent 155; Grunow 501, 550; United Motors 4048; U. S. Model 3218; Airline 62-660	5	1.50
★1205—62E, used in Zenith 462, 650, 80S	6½	1.75
★1271—6L, used in: Atwater Kent 666; Motorola Super 6	6½	1.75
★1319—219B, used in: Grunow 520; Crosley 515	5	1.50
U. S. APEX GLORITONE		
1104—Model 26, Speaker 2286	8½	2.25
1105—Model 26A, Speaker 2467	7¾	2.00
1110—Model 8A, Speaker 2801	7¾	2.25
1111—Model 10B, Speaker 2802	10	2.50
***VICTOR**		
*1124—R32, R35, E35, RE45, R52, R75, E135, E152, RE154, RE156	9	1.75
WRIGHT DECOSTER		
★1125—Model 155, used in Motorola 6, 61, 88	6¼	1.75
1126—Model 107	12	2.90
1127—Model 207	12	2.90
1128—Model 345, used in Motorola 88, 61	8	2.50

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World Radio History

CARRON *Field Coils*

APEX GLORITONE

Our No.	Mod.	Spkr.	I.D.	O.D.	L.		List
3001	26	2286	1¼"	2⅝"	1½"	11,500T	$2.75
3002	26A	2467	1"	2¼"	1¾"	11,500T	2.75
3004	26P	2925	⅞"	2¼"	1"	11,500T	2.75
3006	27	1936	1¼"	2¼"	1½"	11,000	2.75
3008	8A	2801	⅞"	2¼"	1"	6,600T	2.75
3009	10B	2802	1⅛"	2¾"	1⅜"	6,600T	2.75
3011	24	.....	13/16"	2⅜"	1"	2,500	2.75

AIRLINE (Montgomery-Ward)

3181	61-72	12,500T	4.00

ATWATER-KENT

3017	Models 46, 53, 47 (Speaker F2) Early, Late 55K	1,700	6.00
3018	(Speaker F4) Early and Late, 55, 60	1,100	6.00

BOSCH

3021	Model 48	2,000	6.00
3023	Model 5A	2,000	4.00

BRUNSWICK

3024	Model D11, 12, 16, 18, 33	2,400	4.20

CROSLEY

3041	Model M45	1,500	4.40
3042	Model M45	2,500	4.80
3043	Model 269	10,000	4.00
3246	Model 167 Type 335-3	1,200	2.25
3249	Model 167 (Magnavox)	1,100	2.80

GRUNOW

3198	5A, Model 500, 504	1,850	4.00

JENSEN

3058	Models D7-D8	1,500	4.40
3059	Models D7-D8	2,500	5.00

KENNEDY

3072	Model 52A	2,500	3.50

LYRIC

Our No.	Mod.	Spkr.	List
3073	Model No. 9	5,000	$7.00
3074	Model 70, 73, 85	10,000	4.50

MAGNAVOX

3075	9 in. (Medium) D7, D8	2,500	6.50

MAJESTIC

3084	Model G1	3,100	8.00
3085	Model G2	2,730	8.00
3086	Model G3	2,730	7.50
3088	Model G5	7,650	8.00
3093	Model G10B	1,750	4.00
3110	Model G19F	710	2.80
3111	Model G19G	710	2.80

PHILCO

3129	Model 20	3,100	2.00
3130	Models 86, 87, 65, 95, 76, 96, 77	3,200	4.80
3195	Model 70	3,600	2.00

RCA-VICTOR

3132	Model 66	7,000	4.75
3134	Model 106	6,000	5.00

ROLA

3137	Model F4	3,000	2.75
3140	Model K	4,700	4.00
3274A	Model G12	2,500	6.00

SILVERTONE (Sears-Roebuck & Co.)

3143	Model 117	800	4.00
3144	Model 1408	1,650	4.50

STEWART-WARNER

3149	Model 950	10,000	8.00
3150	Model R202	10,000	4.00

TEMPLE

3163	(All Models)	2,250	7.00

VICTOR

3167	Model R32, 45, 75	2,950	5.80

CARRON SPEAKER CONE CEMENT

Made Particularly for Speaker Work. Fast Drying, Quick Adhesion

This cement is of the all-purpose type, and can be used in many of your repair jobs.

List Price 42c

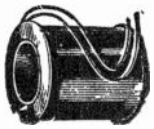
CARRON RADIO REPAIR CEMENT KIT

Carron Radio Repair Cement Kit manufactured expressly for speaker repair work. Kit consists of one two-ounce metal can of cement, one two-ounce metal can of thinner, together with brush. Used for cementing leads, voice coil, R.F. coils, chokes, etc. The thinner is used for loosening wires, breaking down cemented parts, etc. If cement hardens mix thinner with it, and the cement will become as efficient as ever.

This cement and thinner is the same as that used by many of the leading speaker manufacturers in the country. For efficiency in your speaker repair work, use Carron Cement Thinner, and avoid the difficulties which accompany all experimentation.

List Price.....$0.62½ per Kit

UNIVERSAL AC-DC FIELD COIL



Made to fit most every type of Midget Speaker Field Pot. Furnished with extra gaskets and additional cores.

U300	1000 ohm	List $1.50
U301	1500 ohm	List 1.50
U302	2000 ohm	List 1.50
U303	2500 ohm	List 1.50
U304	3000 ohm	List 1.50

CARRON MIDGET SOLDERITE KIT

Smallest Electric Soldering Iron on the Market

Length 7 inches overall. Weight 5½ ounces including cord and plug. Operates on either AC or DC Current. Handy. Compact. Practical. Heats instantly. Stays hot. Full 20 watt rating—with special patented design for concentrated heat that permits work of bigger soldering irons.

No. 105—110 Volt AC or DC.....List $1.25

No. 106—For 6 Volt Battery, Especially For Farm Use .....List 1.50

CARRON SPEAKER CENTERING SHIMS

In order to properly hold the speaker diaphragm in place while it is being glued or screwed into the speaker, it is absolutely necessary to have the proper thickness shim, to guard the voice coil from moving around during this operation.

Carron Speaker Centering Shims are made of very flexible celluloid, in four different thicknesses and four distinct colors. Each size and thickness has its own compartment in a specially constructed leather case, and is so marked on the case.

No serviceman, doing speaker work, can possibly get along without one of these inexpensive and convenient cases. List Price $0.60

CARRON TUNING WAND

With Genuine Cat-Gut Shaft

For checking alignment in all wave receivers without disturbing the trimmer adjustments. . . . An extremely flexible rod, made of genuine cat-gut, with a brass cylinder colored yellow on one end, and a special powdered iron core, colored grey, on the other end. . . . By inserting the brass cylinder, colored yellow, into a coil, the inductance is lowered. Inserting the iron core, colored grey, inductance is increased. . . . Because of the genuine cat-gut shaft in this wand, it is possible to make adjustments in coils mounted on side, or in other positions inaccessible to a less flexible wand, as this can be bent practically in half without damage. . . . Packed in specially designed tubular container, wand can be carried in vest pocket, ready for use while out on a service call.....List $1.00

MAGNETIC COILS

RCA 100, Western Electric 540-AW, RCA Model 30. Per pair.....List $0.75

RCA 100A, 100B, 103, used in RCA receivers 30A, 50 and 51. Per pair.....List $0.75

UTAH ORTHOVOX COILS For High Impedance Tubes

Types 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 46, 47, 79, 59, 89, 2A5, 6A4, LA, 6A6 in push-pull and single types 38, 49, 12A7. For any type of Output tubes in single or push-pull having a total primary load impedance of 12,000 to 18,000 ohms.....List $0.75

For Medium Impedance Tubes

Types 43, 45, 71A in push-pull and single types. 10, 12A, 18, 19, 20, 31, 33, 38, 41, 42, 43, 46, 47, 49, 59, 89, 2A5, 6A4, 6A6, 12A5, LA, GA, PZ. For any type of output tube in single or push-pull having a total primary load impedance of 7000 to 12,000 ohms.....List $0.75

For Low Impedance Tubes

Types 48, 2A3 in push-pull and single types 43, 45, 59, 71A, 12A5. For any type of tube in single or push-pull having a total primary load impedance of 3000 to 6000 ohms .....List $0.75

FOR UTAH ORTHOVOX SPEAKERS Used with P. A. Amplifier

500 ohm impedance coil. 1000 ohm impedance coil .....List $0.75

BEST KINEMATIC COILS

For High impedance tubes.....List $0.75

For Medium impedance tubes.....List 0.75

For Low impedance tubes.....List 0.75

Classification of Output Tubes Above—We can furnish any other magnetic coil made to exact physical and electrical dimensions if we have the original to rewind.

CARRON DIALUMINATOR

A dial Lite Coloring Kit, consisting of five ¼ oz. jar type bottles, having large opening for easy dipping. Four colors: red, green, blue and brown. One bottle of solvent.....List $0.50

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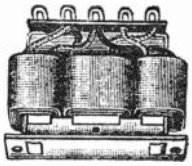
CARRON *Coils*

EXACT DUPLICATE REPLACEMENT COILS

Our Part No.	Mfrs. Part No.	Model	List Price
AIRLINE, TRUETONE, ARCADIA, WELLS GARDNER etc.			
D4389	.....	02A, 07A, 62-106, 62-107, 62-121, Antenna less shield	$1.25
D4470	.....	02A, 07A, 62-106, 62-107, 62-121, Int. R.F. less shield	1.50
D4033	.....	02A, 62-89, 3rd IF, less shield	1.50
D4434	.....	OC, 7D, 62-152, 158, 165, 167, 173, Antenna, less shield	1.50
D4034	.....	OC, 7D, 62-152, 158, 165, 167, 173, Int. RF, less shield	1.50
D4514	.....	07A, 1st IF & Osc. less shield	2.25
D4391	.....	62-179, 194, 195, 206, 216, 218, 3rd IF complete (improved model)	2.50
D4390	.....	53, 62-25, 26, 2nd IF Complete (Improved model)	2.50
APEX, etc.			
D4014	.....	5A, 25, 25A, 1st IF & Osc. (Replaces all circuits)	2.50
D4151	.....	9, 19, 7A, 99, 1st IF & Osc.	2.50
D4512	.....	7A, 99, 2nd IF Complete	1.50
D4161	.....	24 (Chassis 400), 1st IF & Osc. Complete	3.00
ATWATER KENT			
D4182	.....	40, 42, 44, 45, 46, 52, RF Coupling Trans.	$0.40
D4066	.....	55, 55C, 55F, 60, (60 Early) Antenna	1.25
D4413	.....	55, 55C, 55F, 60, (60C Early) 2nd RF	1.25
D4559	.....	55, 55C, 55F, 60, (60C Early) 3rd RF	1.25
D4589	.....	165, 165Q, 185, 525, Antenna	1.25
BELMONT			
D4003	.....	50B, 50C, 50D, 51, 52, 53, 54C, 1st IF & Osc. Complete	2.50
D4004	.....	50B, 50C, 50D, 51, 52, 53, 54C, 2nd IF & Osc. Complete	1.50
CLARION			
D4398	.....	100, 220, 1st IF & Osc.	$2.50
D4074	.....	100, 220, 2nd IF Coil	1.00
D4128	.....	320, 1st IF & Osc.	2.50
Complete line of paper section and complete IF Transformerers available.			
CROSLEY			
D4081	.....	53, 54, 57 R.F., less shield	$1.00
D4082	.....	53, 54, 57 R.F., Ant. less shield	1.00
D4084	.....	58, Antenna less shield	1.00
D4083	.....	58, R.F. less shield	1.30
D4087	.....	124, double tuned shielded 1st IF trans. 2½ x 2⅝" shield can and trimmer assembly	1.75
D4169	.....	Unshielded bi-filiar output IF used in Model 124 and others, improved duplicate incorporates trimmer, single hole mount	1.00
D4400	.....	1st and 2nd IF (175 Kc.), wood bobbin wound, two section bobbin. Mounts in 1" x 1¾" shield	1.00
D4599	.....	Bi-filiar output IF (175 Kc.) single section bobbin, mounts in 1" x 1¼" shield	1.00

Our Part No.	Mfrs. Part No.	Model	List Price
MAJESTIC			
D4035	.....	15, 15B, 1st IF & Osc. Complete	$2.50
D4089	.....	15, 15B 2nd IF Complete	1.50
D4090	.....	15, 15B 1st RF	1.00
D4091	.....	15, 15B 2nd RF	.75
D4172	.....	55 1st IF. & Osc. Complete	2.75
D4051	.....	440, 2nd IF coil only	.75
D4111	.....	460, 520 1st IF Complete	1.50
D4112	.....	460-800 2nd IF	.85
D4176	.....	210 3rd IF	.70
D4102	.....	300, 300A, 2nd IF	2.00
D4104	.....	330 2nd IF	.80
D4121	.....	20, 21, 23, 1st IF	2.50
D4122	.....	20, 21, 23, 2nd IF	3.00
D4094	.....	60 1st IF	3.00
D4095	.....	60 2nd IF (tapped)	3.00
D4212	.....	520, 460, 800 RF	.80
D4213	.....	520, 460, 800 Ant.	.80

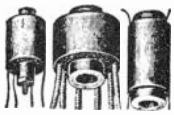
MAJESTIC REACTANCE DIMMER ASSEMBLY



S561 7785

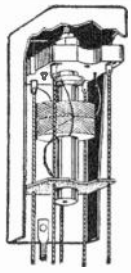
Used in Majestic Models 300, 300A, 320, 360 and other models using pilot light dimmer circuit. Complete ready to install. Uses heavier built primary than original. Will outlast original ..... List $1.50

MAJESTIC PAPER SECTION COILS



All models using paper section coils carried in stock.

Our Part No.	Mfrs. Part No.	Model	List Price
PHILCO			
D4227	32-1261	14 Ant. coil	$0.90
D4238	04981	15 1st RF Ant.	.70
D4258	32-1255	18 Ant. Coil	.70
D4261	0622	19, 89 Ant. Coil	.70
D4282	32-1208	38, 38A Ant. Coil	.70
D4405	32-1251	38, 38A 1st IF	.70
D4445	32-1252	38, 38A, 2nd IF	.70
R.C.A.			
D4054	.....	80, 82, 86, RAE68, 1st IF coil only	.90
D4055	8566	80, 82, 86, RAE68, 2nd IF coil only	.90
D4056	8565	80, 82, 86, RAE68, 3rd IF coil only	.90
D4057	3636	M34, M105, 1st IF coil only	.90
STEWART WARNER			
D4068	.....	R116 Ant. Coil	$1.00
D4154	.....	R123, 1231, 32, 33, 34, 35, 36, 39, 2nd IF Coil only	1.00



STANDARD I.F.-R.F. - ANT. - OSCILLATORS

Carron standard broadcast frequency antenna, R.F., preselector and oscillator coils are constructed to conform with the latest approved practices. With the knowledge gained from our wide experience in the replacement field, we submit the following list for general replacement and constructional use.

Two general ranges are covered—1715-550 K.C. and 1500-540 K.C. In each case, some overlap is obtainable. The coils for 1715-550 K.C. range (coded red dot) are usually tuned with a 410 mmfd. gang condenser, while the latter (coded green dot) are tuned with a 365 mmfd. condenser.

Since the ranges covered are standard, the values of inductance encountered are standard and may be matched with existing coils having the same dimensions and descriptions. In all cases, "exact" replacements should be used where listed, as they are carefully matched to the original.

The coils in the following list are so grouped that a selection may easily be made. Coils of the same group may be tracked together, and where used in a superheterodyne, choice of an oscillator coil having the same color code dot will result in proper tracking over the desired range.

1⅞" x 2¾" ROUND CAN

SHIELDED LITZ WOUND SOLENOIDS (Green dot)

S523	.....	Ant. High Impedance Pri.	$0.75
S531	.....	Ant. Low Impedance Pri.	.60
S519	.....	R.F. High Impedance Pri.	.80
S530	.....	R.F. Low Impedance Pri.	.60

UNSHIELDED LITZ WOUND SOLENOIDS (Green Dot)

S524	.....	Ant. High Impedance Pri.	.70
S521	.....	R.F. High Impedance Pri.	.70

SHIELDED PLAIN ENAMEL SOLENOIDS (Green Dot)

S525	.....	Ant. High Impedance Pri.	.75
S506	.....	Ant. Low Impedance Pri.	.75
S520	.....	R.F. High Impedance Pri.	.75
S518	.....	R.F. Low Impedance Pri.	.60

UNSHIELDED PLAIN ENAMEL SOLENOIDS (Red Dot)

S526	.....	Ant. High Impedance Pri.	.60
S522	.....	R.F. High Impedance Pri.	.60

UNSHIELDED PLAIN ENAMEL SOLENOIDS (Green Dot)

S698	.....	Low Impedance Ant. & R.F. (per pair)	.60

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CARRON *Coils*

PRE-SELECTOR COILS

		List Price
S-517	Shielded (Green Dot)	$1.25
S609	Shielded (Red Dot)	1.25
S563	Unshielded (Green Dot)	1.00
S610	Unshielded (Red Dot)	1.00

SHIELDED MIDGET — 1⅜" x 1¾"

DOWEL AND IRON CORE ANT. & R.F. COILS (Green Dot)

S536	Iron Core High Impedance Ant.	$1.50
S608	Iron Core Special Auto Radio Ant.	1.25
S586	Std. High Impedance Ant.	1.00
S535	Iron Core High Impedance R.F.	1.50
S576	Std. High Impedance R.F.	1.00

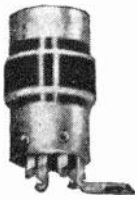
UNSHIELDED MIDGET TWO PI HIGH IMPEDANCE

PRIMARY ANT. & R.F. COILS (Red Dot)

S696	Antenna	$0.75
S697	R.F.	.75

OSCILLATOR COILS

Furnished in solenoid and dowel types



		I.F. Freq.	Code	Range	List Price
S539	Solenoid	456 K.C.	Green	1500-540	$0.60
S613	Solenoid	456 K.C.	Red	1715-550	.60
S529	Dowel	456 K.C.	Green	1500-540	.85
S614	Dowel	456 K.C.	Red	1715-550	.85
S615	Solenoid	262 K.C.	Green	1500-540	.60
S616	Dowel	262 K.C.	Green	1500-540	.85
S538	Solenoid	175 K.C.	Green	1500-540	.60
S617	Solenoid	175 K.C.	Red	1715-550	.60
S528	Dowel	175 K.C.	Green	1500-540	.85
S618	Dowel	175 K.C.	Red	1715-540	.85

STANDARD I.F. TRANSFORMERS

1⅜" x 1⅜" x 3½" shield cans

Single Stage Combinations

S321	456 K.C.	Input	$1.50
S322	456 K.C.	Output	1.50
S325	262 K.C.	Input	1.50
S326	262 K.C.	Output	1.50
S329	175 K.C.	Input	1.50
S330	175 K.C.	Output	1.50

Two Stage Combinations

S604	456 K.C.	Input	$1.50
S324	456 K.C.	Int. Stage	1.50
S603	456 K.C.	Output	1.50
S602	456 K.C.	C.T. Output	1.75
S582	262 K.C.	Input	1.50
S327	262 K.C.	Int. Stage	1.50
S601	262 K.C.	Output	1.50
S597	175 K.C.	Input	1.50
S331	175 K.C.	Int. Stage	1.50
S596	175 K.C.	Output	1.50

1⅜" x ⅜" x 3½" SHIELD CANS

IRON CORE I.F. TRANSFORMERS

Single Stage Combinations

S332	456 K.C.	Input	$2.00
S333	456 K.C.	Output	2.00
S337	262 K.C.	Input	2.00
S338	262 K.C.	Output	2.00
S340	175 K.C.	Input	2.00
S341	175 K.C.	Output	2.00

PERMEABILITY TUNED I.F. TRANSFORMERS

1⅜" x 1⅜" x 3½" SHIELD CAN

Top and Bottom Tuned.

S632	456 K.C.	Input	$2.50
S633	456 K.C.	Output	2.50
S637	262 K.C.	Input	2.50
S638	262 K.C.	Output	2.50

HIGH GAIN SIDE TUNED — TWO PI WINDING

1⅜" x 1⅞" x 3⅞" SHIELD CAN

S642	456 K.C.	Input	$3.00
S643	456 K.C.	Output	3.00

BAND EXPANDING I.F. TRANSFORMERS

IRON CORE

Two and three position. Units 1⅜" x 1⅜" x 3½" shield cans. Allow variation of band width for high-fidelity or distant reception.

S647	2 Position Input	$3.00
S651	3 Position Input and Interstage	3.00
S633	Standard Output	2.00

PERMEABILITY TUNED BAND EXPANDING I.F. TRANSFORMERS

Deluxe High Gain type. 1⅜" x 1⅞" x 2⅞" shield can, side trimmed. 3 position—Sharp—Normal—Hi-fidelity.

S653	Band Expanding Input	$4.50
S654	Standard. Iron Core Output	3.00

SPECIAL 1⅜" x 1⅜" x 3" I.F. TRANSFORMERS

S510	456 K.C.	Input I.F.	$1.25
S509	456 K.C.	Single Output I.F.	1.20

1⅜" x 1⅜" x 3½" SHIELD CANS

S599	370 K.C.	Input I.F.	$1.50
S598	370 K.C.	Output I.F.	1.50
S507	175 K.C.	Input I.F.	1.25
S508	175 K.C.	Single Tuned Output I.F.	1.20
S514	115-130 K.C.	1st & 2nd Stage 2 1/16" x 3¾" Round Can	1.50

WAVE TRAPS

1⅜" x 1¾" ROUND CANS, FLEXIBLE LEADS, EAR LUGS

Mica Tuned.

S627	1750	K.C.	$1.00
S628	450	K.C.	1.00
S629	260	K.C.	1.00
S630	175	K.C.	1.00

Permeability tuned, added stability and attenuation.

S631	1750	K.C.	$1.50
S568	450	K.C.	1.50
S570	260	K.C.	1.50
S569	175	K.C.	1.50

AMATEUR SPECIALTIES

BEAT FREQUENCY OSCILLATOR COILS

Electron Coupled Type (Tapped Winding)

Mica Tuned.

S540	456	K.C.	$1.75

Permeability Tuned.

S661	456	K.C.	$2.00

Other Frequencies Available.

QST—LAMB NOISE SILENCER

I.F. TRANSFORMERS

456 K.C.	Single Tuned C.T. Secondary	$1.50

TRANSMITTING CHOKES

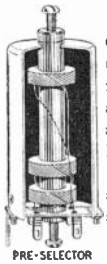
5 PI, CERAMIC DOWEL STANDOFF MOUNTING

Part No.	Inductance	Rating	List Price
S567	1.2 MH	1000 MA	$1.50
S619	1.2 MH	500 MA	1.50
S566	2.1 MH	500 MA	1.50
S620	5.0 MH	400 MA	1.50
S621	5.0 MH	200 MA Grid Choke	1.50

STANDARD R.F. AND I.F. CHOKES

S544	2.5 MH	$0.40
S545	3.5 MH	.40
S546	5.5 MH	.40
S547	10.0 MH	.40
S548	30.0 MH	.60
S549	60.0 MH	.60
S550	80.0 MH	.60
S623	4 pi 2.5 MH low power transmitting grid choke and H.F. receiver plate chokes. Low dist. capacity, pigtail leads, ceramic form	.60

ADJUSTABLE UNIVERSAL COILS



PRE-SELECTOR

Carron adjustable universal coils have variable inductance permitting adjustment to match circuit requirements. They may be used for replacement between 1750 and 540 kc. with gang condensers of 360 to 410 mmfd. and I. F. frequencies between 150 and 470 kc. Ant. and R. F. Primaries adjustable, iron core for adjustment of inductance, low loss construction. Universal mounting, single hole, in old shield can, chassis mounting with shield furnished, no drilling necessary. Each coil color coded and furnished with complete instructions for installation and adjustment.

		List Price
S571	Ant. High Imp. Pri.	$2.00
S580	R. F. High Imp. Pri.	2.00
S578	Preselector	2.25
S579	Oscillator	2.00
S343	Special Auto Radio Antenna	1.80

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WRIGHT-DECOSTER

NOKOIL *LIFETIME MAGNET* SPEAKERS

The quality of the Nokoil Reproducer has become universally accepted. **All the genuine Wright-DeCoster Permanent Magnet Dynamic Speakers carry the copyrighted name "NOKOIL".**

Even though brass is more expensive than other types of shielding for magnets, it is unquestionably the best and therefore used entirely in the manufacture of the Nokoil Reproducers.

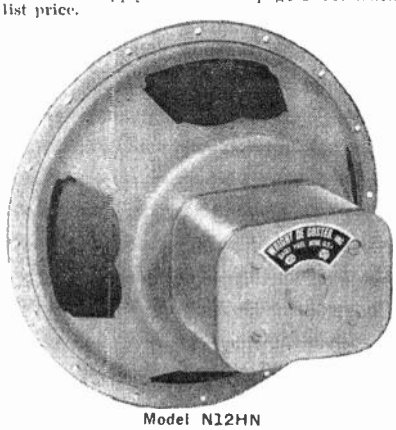
POWER HANDLING CAPACITY—All input power ratings are based on the ability of the voice coil to dissipate the heat generated during continuous operation. They do not take into consideration transformer or line losses but only the energy delivered directly to the voice coil. **All Wright-DeCoster Speakers will handle double their normal input rating** for short periods without damage or undue amplitude distortion if the diaphragms are properly loaded.

VOICE COIL—The sizes of the voice coils are designated in the model numbers by the following capital letters: G—2¼ inch, H—1 5/16 inch, J—1½ inch, K—1 inch, L—¾ inch, and M—⅝ inch. **Bakelite Coil Forms increase the power handling capacity** and decrease the possibility of the voice coil becoming egg-shaped. All voice coils over 1 inch in diameter have bakelite forms.

DIAPHRAGM—The diaphragms in all sizes of Wright-DeCoster Speakers are one piece, molded directly from raw pulp. This construction contributes towards the greatest possible uniformity and the smallest distortion. It also permits the use of "Paracurve diaphragms" where an extremely full range is necessary.

FIELD COILS—The universal field coils furnish the following resistances: 2500 ohms, 2200 ohms, 1800 and 1800 tapped at 300, 1500, 1000 and 700 ohms. The dual field coil permits the use of either of two different field resistances, 1600 ohms and 2500 ohms, utilizing the full amount of wire in both instances. The 1600 ohm resistance is especially for use with the Model FS2 Field Supply as shown on page D-11. When a special field is ordered in place of the standard field listed with the speaker, add 10% to the list price.

TRANSFORMERS—The Wright-DeCoster Speakers are furnished with universal or line transformers as standard equipment. The universal transformers match practically all the push-pull or single output tubes. The line transformer provides 500, 1000 and 1500 ohm impedances. All leads and connections are soldered to prevent trouble caused by high resistance of poor, unsoldered joints. The last letter in the speaker model number gives the transformer information. U stands for universal, L for line transformer, N for no transformer and S for special transformer. When a special transformer is ordered in place of the standard transformer shown with the speaker, 5% should be added to the list price.



Model N12HN

HEAVY DUTY PUBLIC ADDRESS MODELS

The H and J Nokoil Reproducers are manufactured especially for high power work where a great deal of volume may be required. Uses: Stadiums, Auditoriums, Organs, Record Players, etc.

20 WATT

The Model N12HN is used almost entirely for public address work where it will have some suitable housing such as a metalex horn. Therefore, any extra money spent in making it especially attractive in appearance would be wasted. However, no cost has been spared in the engineering and construction to develop a unit having the maximum efficiency, greatest power handling capacity, and best frequency characteristics.

- Power handling capacity, 20 watts.
- Bakelite voice coil form.
- 1 5/16" diameter voice coil (Type H).
- Voice coil imp., 7 ohms at 400 cycles.
- 116 ounce magnet.
- Fully rust-proofed, fully dust-proofed.

The Model N12HN is furnished in three different types. STANDARD—range from 60 to 5000 C. P. S. FULL-RANGE—more extended high frequency end. LOW-RANGE—more extended low frequency end and diminished high response.

STANDARD speakers will be furnished unless it is otherwise specified on the order.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
N12HL	12	500, 1000, 1500 Ohms	7 3/8	12 1/8	18½ lbs.	4	WPONI	$31.00
N12HN	12	Less Transformer	7 3/8	12 1/8	17¼ lbs.	4	WOBBA	29.00

15 WATT

The J Models have been very popular from the time they were introduced a few years ago. They furnish a range of heavy duty public address speakers from 6" to 12" in diameter.

- Power handling capacity, 15 watts.
- 1½" diameter voice coil (Type J).
- Voice coil imp. 5.3 ohms at 400 cycles.
- Voice coil form bakelite.
- Line matching transformer.
- 40 ounce magnet.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
N6JU	6	Universal	4 15/32	6 3/8	7¼ lbs.	8	WFIXT	$18.10
N6JL	6	500, 1000, 1500 ohms	4 15/32	6 3/8	7¼ lbs.	8	WRPST	18.10
N6JN	6	Less Transformer	4 15/32	6 3/8	6¼ lbs.	8	WOINT	16.60
N8JU	8	Universal	4 7/8	8 3/8	7¾ lbs.	8	WOXMN	19.20
N8JL	8	500, 1000, 1500 ohms	4 7/8	8 3/8	7¾ lbs.	8	WLTNE	19.20
N8JN	8	Less Transformer	4 7/8	8 3/8	6¾ lbs.	8	WBREE	17.70
N10JU	10	Universal	5 19/32	10 3/16	8¼ lbs.	6	WLBWX	20.30
N10JL	10	500, 1000, 1500 ohms	5 19/32	10 3/16	8¼ lbs.	6	WCTOX	20.30
N10JN	10	Less Transformer	5 19/32	10 3/16	7¼ lbs.	6	WCCOL	18.80
N12JU	12	Universal	6 5/8	12 3/16	9½ lbs.	6	WILOT	22.10
N12JL	12	500, 1000, 1500 ohms	6 5/8	12 3/16	9½ lbs.	6	WILOZ	22.10
N12JN	12	Less Transformer	6 5/8	12 3/16	8½ lbs.	6	WILOY	20.60

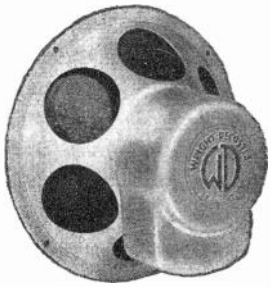
Model N10JN

8 WATT LIGHT DUTY PUBLIC ADDRESS MODELS

The K speakers are perfectly suited for installations in schools, hotel lobbies, dining rooms, and in fact any place where a speaker has to operate with medium power and give good quality reproduction with ample volume.

- Power handling capacity, 8 watts.
- 1" diameter voice coil (Type K).
- Voice coil impedance, 5.3 ohms at 400 cycles.
- Universal or line matching transformer.
- Fully dust-proofed. Fully rust-proofed.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
N6KU	6	Universal	4 15/32	6 3/8	5½ lbs.	8	WELOT	$9.40
N6KL	6	500, 1000, 1500 ohms	4 15/32	6 3/8	5½ lbs.	8	WELOZ	9.40
N6KN	6	See Note	4 15/32	6 3/8	4¾ lbs.	8	WELOY	7.90
N8KU	8	Universal	4 7/8	8 3/8	6¼ lbs.	8	WEMBR	11.25
N8KL	8	500, 1000, 1500 ohms	4 7/8	8 3/8	6¼ lbs.	8	WEMBZ	11.25
N8KN	8	See Note	4 7/8	8 3/8	5½ lbs.	8	WEMBY	8.75
N10KU	10	Universal	5 19/32	10 3/16	6¾ lbs.	6	WEPRO	11.50
N10KL	10	500, 1000, 1500 ohms	5 19/32	10 3/16	6¾ lbs.	6	WEPRZ	11.50
N10KN	10	See Note	5 19/32	10 3/16	5¾ lbs.	6	WEPRY	10.00
N12KU	12	Universal	6 5/8	12 3/16	8¼ lbs.	6	WATKI	13.90
N12KL	12	500, 1000, 1500 ohms	6 5/8	12 3/16	8¼ lbs.	6	WATKZ	13.90
N12KN	12	See Note	6 5/8	12 3/16	7 lbs.	6	WATKY	12.40



Model N8KL

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WRIGHT-DE COSTER

NOKOIL *LIFETIME MAGNET* SPEAKERS

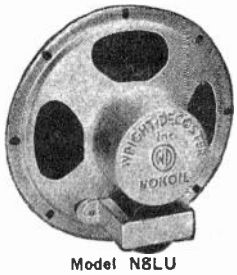
3½ WATT RADIO AND LIGHT P. A. MODELS

The L models are good for all around performance where truthful reproduction of voice and music is essential. They are satisfactory for radio receivers, extension speakers, and, in fact, any type of sound system where light power and medium volume is required.

- Power handling capacity, 3½ watts.
- ¾" diameter voice coil (Type L).
- Voice coil impedance, 5.3 ohms at 400 cycles.
- Universal transformer, except 5" model (see note).
- Fully dust-proofed—fully rust-proofed.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
N5LU	5	See Note	2 5/8	5	2 lbs.	24	WORLF	$5.20
N5LL	5	500, 1000, 1500 ohms	2 5/8	5	2 lbs.	24	WORLZ	5.20
N5LN	5	Less Output Transf.	2 5/8	5	1½ lbs.	24	WORLY	4.45
N6LU	6	Universal	2 13/16	6½	2½ lbs.	12	WADLE	6.05
N6LL	6	500, 1000, 1500 ohms	2 13/16	6½	2½ lbs.	12	WADLZ	6.05
N6LN	6	Less Output Transf.	2 13/16	6½	2⅛ lbs.	12	WADLY	5.05
N8LU	8	Universal	3¼	8⅛	3 lbs.	12	WAYER	6.65
N8LL	8	500, 1000, 1500 ohms	3¼	8⅛	3 lbs.	12	WAYEZ	6.65
N8LN	8	Less Output Transf.	3¼	8⅛	2½ lbs.	12	WAYEY	5.65
N10LU	10	Universal	5 19/32	10 3/16	4½ lbs.	6	WHOPS	8.00
N10LL	10	500, 1000, 1500 ohms	5 19/32	10 3/16	4½ lbs.	6	WHOPZ	8.00
N10LN	10	Less Output Transf.	5 19/32	10 3/16	3¾ lbs.	6	WHOPY	7.00
N12LU	12	Universal	6¾	12 3/16	5¾ lbs.	6	WANDS	9.65
N12LL	12	500, 1000, 1500 ohms	6¾	12 3/16	5¾ lbs.	6	WANDZ	9.65
N12LN	12	Less Output Transf.	6¾	12 3/16	5⅛ lbs.	6	WANDY	8.65

NOTE: Transformer Model N5LU furnished standard with 4000 and 7000 ohm input transformer.



Model N8LU

Model N5LU

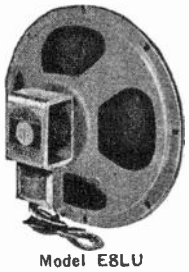
RADIO SERVICE SPEAKERS

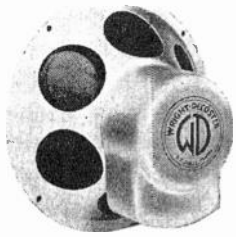
2½ WATT MODELS

These speakers are manufactured especially for the radio servicemen wanting low priced units that will give good reproduction. A trial will convince you that these Radio Service Speakers are ideal for replacement work.

- Power handling capacity, 2½ watts.
- ¾" diameter voice coil (Type L).
- Voice coil impedance, 5.3 at 400 cycles.
- Universal transformer covers 1250 to 11,500 ohms for single operation and 3750 to 11,500 ohms for push-pull operation.
- Universal field coil—2500, 2200 and 1500 ohms, 1800 and 1800 tapped at 300 ohms. Also 6 volt field furnished at no additional cost.
- Fully rust-proofed.
- Fully dust-proofed.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
E5LU	5	Universal	2½	5	1¾ lbs.	24	WAAAB	$3.10
E6LU	6	Universal	2⅞	6¾	2 lbs.	18	WAAAC	3.50
E8LU	8	Universal	3⅛	8⅛	2¼ lbs.	12	WAAAD	4.35


Model E8LU


Model E8KL

3½ WATT RADIO AND LIGHT P. A. MODELS

The universal fields and transformers in these Electro Dynamic Speakers eliminate the necessity of carrying a large stock of units with special fields and transformers.

- Power handling capacity, 3½ watts.
- 1 inch diameter voice coils (Type K).
- Voice coil impedance, 5.3 ohms at 400 cycles.
- Universal or line matching transformers.
- Universal field coil furnishes following fields: 2500, 2200, 1800, 1800 tapped at 300, 1500, 1000, and 700 ohms.
- Fully dust-proofed—fully rust-proofed.

Model Number	Size Ins.	Transformer	Depth Ins.	Cone Bracket O.D.	Ship. Wgt.	Std. Pkg.	Code Word	List Price
E8KU	8	Universal	4 7/8	8 3/8	5 7/8 lbs.	8	WHALE	7.00
E8KL	8	500, 1000, 1500 ohms	4 7/8	8 3/8	5 7/8 lbs.	8	WHALZ	7.00
E8KN	8	Less Transformer	4 7/8	8 3/8	5⅛ lbs.	8	WHALY	5.50
E10KU	10	Universal	5 19/32	10 3/16	6 5/8 lbs.	6	WRITE	8.00
E10KL	10	500, 1000, 1500 ohms	5 19/32	10 3/16	6 5/8 lbs.	6	WRITZ	8.00
E10KN	10	Less Transformer	5 19/32	10 3/16	5¾ lbs.	6	WRITY	6.50
E12KU	12	Universal	6 11/16	12 3/16	7⅞ lbs.	6	WARES	9.65
E12KL	12	500, 1000, 1500 ohms	6 11/16	12 3/16	7⅞ lbs.	6	WAREZ	9.65
E12KN	12	Less Transformer	6 11/16	12 3/16	7 lbs.	6	WAREY	8.15

Model E12KU

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WRIGHT-DeCOSTER

RECORD PLAYER MODEL

An ideal speaker for any powerful radio receiver and record player. Also excellent for medium power public address work. The slightly accentuated Paracurve Diaphragm gives the Model E12J wider response than the other standard models.

● Power handling capacity, 8 watts. ● Voice coil form bakelite. ● 1½" diameter voice coil (Type J.) ● Voice coil impedance, 5.3 ohms at 400 cycles. ● Universal or line matching transformer. ● Field resistance, 2500 ohms. ● Field dissipation, 9 watts minimum, 16 watts maximum. ● Fully dust-proofed. ● Fully rust-proofed.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12JU	Universal	12	6 1/16	12 3/16	13¾	6	WINNE	$13.90
E12JL	Line Matching	12	6 1/16	12 3/16	13¾	6	WINNZ	13.90
E12JN	Less Transformer	12	6 1/16	12 3/16	12½	6	WINNY	11.90

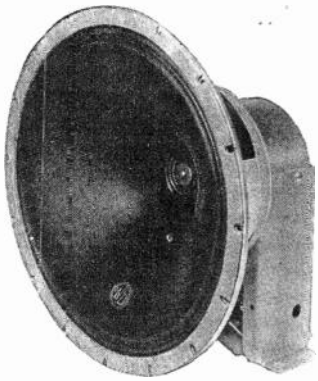
E12JU

STADIUM JUNIOR MODEL

This speaker has a good substantial field which gives it an excellent degree of efficiency. It has a dual field having a 1600 ohm resistance to operate with the FS3 Field Supply as shown below and a 2500 ohm field to accommodate most of the amplifier field supplies. The entire field strength is utilized with either resistance.

● Power handling capacity, 15 watts. ● Bakelite voice coil form. ● 2¼" diameter voice coil (Type G). ● Voice coil impedance, 10 ohms at 400 cycles. ● Universal or line matching transformer. ● Field resistance, 1600 and 2500 ohms. ● Field dissipation, 15 watts minimum, 22 watts maximum.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12GBU	Universal	12	8 3/16	12 3/16	24	3	WROTH	$21.40
E12GBL	Line Matching	12	8 3/16	12 3/16	24	3	WROTZ	21.40
E12GBN	Less Transformer	12	8 3/16	12 3/16	22½	3	WROTY	19.40


E12GBL

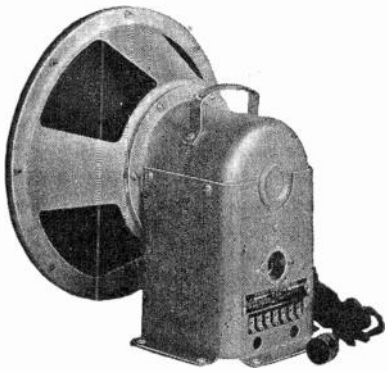
STADIUM SENIOR MODEL

Our finest electro dynamic P. A. Speaker. In manufacturing the Model E12GAL unit we endeavored to give the sound engineer the very best 12" speaker we possibly could manufacture regardless of cost. A trial of this reproducer will convince you it has many points of merit.

The easily accessible screw terminal strip located in the back of the base has five input impedances: 10 ohms (direct to voice coil), 500, 1000, 1500, and 4000 ohms.

● Power handling capacity, 15 watts. ● Bakelite voice coil form. ● 2¼" diameter voice coil (Type G). ● Voice coil impedance, 10 ohms at 400 cycles. ● Special line matching transformer: 10 ohms (directly to voice coil), 500, 1000, 1400, and 4000 ohms. ● Field resistance, 1800 ohms to operate on 220 to 275 volts D. C. at current of 125 to 150 milliamperes. ● Field dissipation, 18 to 40 watts.
Note: If speakers are to be used in Metalex Horns be sure to specify when ordering.

Model No.	Transformer	Size Inches	Depth Inches	Cone Brac. O.D.	Shipping Wt. Lbs.	Std. Pkg.	Code Word	List Price
E12GAL	Line Matching	12	10½	12 3/16	33½	2	WATEZ	$36.40
E12GAN	Less Transformer	12	10½	12 3/16	31	2	WATEY	33.40


E12GAL

WRIGHT-DeCOSTER A.C. FIELD SUPPLIES

Exposed Tube Type A.C. Field Supplies

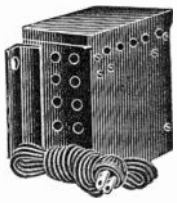
FS1

Model FS1 is designed so that any model 6-8-10-12 inch D.C. Universal Series Electro Dynamic Speaker may be converted to A.C. operation. Delivers 9 watts to 2500 ohm field.
Model FS2 designed to furnish A.C. field excitation for Models E12JU, E12GCU and E12GBU. Delivers 100 m. a. at 170 volts.

Model No.	Volts A.C.	Cycles	Dimensions	Code Word	List Price
FS1	110	25-50-60	8¾"x2½"x1"	WAITS	$4.90
FS2	110	25-50-60	8¾"x2½"x1"	WHISK	5.70

Standard Package: 3. Shipping Weight: 2 lbs.

Enclosed Tube Type A.C. Field Supplies


FS3

Single Tube Field Supplies

No.	Volts A.C.	Cycles	Output Volts	Output Amps.	Dimensions, Ins. Lgth.	Wdth.	Hght.	Code Word	List Price
FS3	110	50-60	200	.250	7	3½	6½	WOODY	$16.50
FS4	110	50-60	110	.250	7	3½	6½	WRIST	17.50

Single 5Z3 tube field supplies (minimum load resistance 750 ohms).
Standard Package: 2. Shipping Weight: 10 lbs.

All above Enclosed Power Supply available 110 volts, 220 volts, 25 cycles, also 220 volt, 50-60 cycles, at additional cost.
Prices do not include tubes, and tubes are not furnished with Field Supplies.

NOTE: It is imperative to specify proper field resistance when ordering speakers for use with above field supplies.

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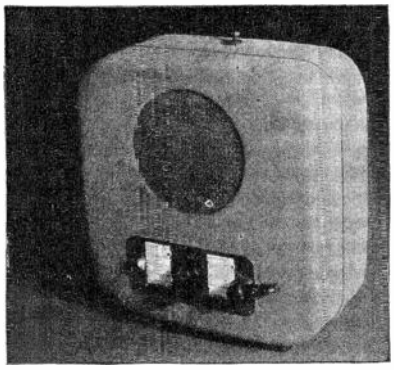
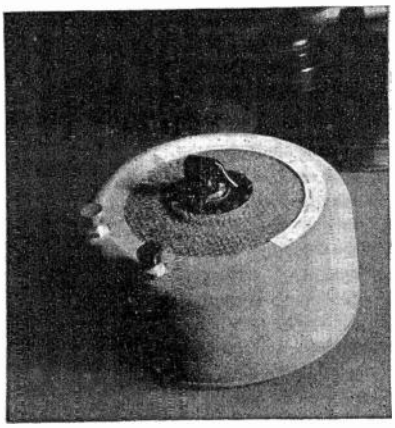
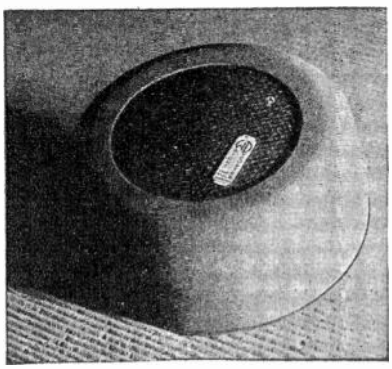
WRIGHT-DeCOSTER



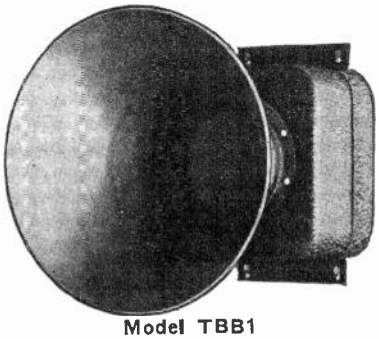
Model TBUA



Model TBUR3



Model TBUR1



Model TBB1

If It's a "TALK-BAK" It's Wright-De-Coster

"Talk-Bak" Speakers, unlike standard Nokoil units, are especially engineered and designed for inter-communication systems. Tests of "Talk-Bak" Speakers prove their greater sensitivity and tone quality. In installations where both voice and music are to be rendered, the regular standard Nokoil Speaker should be used as the "Talk-Bak" will not give good musical reproduction.

SENIOR WIRED UNIT

The Model TBUA comes complete with an amplifier and is capable of operating up to 10 stations. The amplifier, which is especially designed for inter-communication systems, is furnished complete with all tubes, switches, etc., ready to connect to the complete system. Instructions on how to connect the "Talk-Bak" Senior are packed with each unit. When it is desirable to have all TBUR3 units as shown below, the Model TBA1 amplifier is used. This amplifier is exactly the same as the amplifier in the TBUA, except that it comes in a simple metal case with no switches, etc.

Model Number	Size, Ins. Width	Height	Depth	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUA	9	10	5½	50 ohms	13½	2	WORLO	$43.50
TBA1	9	9½	4¾	50 ohms	13	2	WEGBT	34.00

JUNIOR WIRED UNIT

The TBUR3 is a very compact, appealing desk type of unit. It is 6½ inches in diameter and 4 inches high. The speaker used is the Model TN5LT. The cabinet is equipped with a red busy indicator button and a black talk-listen button. The switch for selecting the station is mounted directly in the center. The Junior Wired Unit is furnished complete with switches all wired ready to attach to the complete system. Complete instructions on how to connect the units to the system is packed with each unit. TBUR3V is the same as TBUR3, only having a volume control.

Model Number	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUR3	50 ohms	3¾	12	WORLK	$14.00
TBUR3V	50 ohms	4	12	WERLK	16.20

JUNIOR CABINET SPEAKERS

The Model TBUR1 is composed of a good looking round cabinet with a Model TN5LT "Talk-Bak" unit mounted in it. This unit is a perfect match for the wired unit Model TBUR3. The Junior Cabinet Speaker is used in systems such as System No. 1 or No. 2. It has no switches or internal wiring. A base plate is furnished to cover the opening in the bottom of the cabinet to provide means for hanging the unit on the wall if desired.

Model Number	Voice Coil Impd.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TBUR1	50 ohms	3¾	12	WORLJ	$8.30
TBURS	Same as TBURI, plus Talk-Listen Switch		12	WERLJ	9.65
TBURC	Round Cabinet Only		12	WCRLJ	3.10

DIRECTIONAL PAGER

The Model TBB1 coms complete with a N6KN Nokoil Speaker and amplifier. This is a very effective unit for distant paging.

Model Number	Depth Ins.	Diameter Bell Ins.	Voice Coil Impd.	Weight Lbs. Shipping	Code Word	List Price
TBB1	15	14	50 ohms	18	WITOP	$60.00

The unit listed below is the same as the TBB1 only there is no horn and therefore the sound is diffused in a much wider area.

Model Number	Width Ins.	Height Ins.	Depth Ins.	Voice Coil Impd.	Shipping Weight Lbs.	Code Word	List Price
TBB2	9	9⅛	6	50 ohms	15	WOALP	$44.00

The TBB3 is a booster amplifier which is used in installations like Systems No. 1, 2 and 5.

Model Number	Dimensions, Ins. Width	Height	Depth Ins.	Shipping Weight Lbs.	Code Word	List Price
Booster TBB3	9	9½	4¾	13	WRGBT	$33.00

"TALK-BAK" SPEAKER CHASSIS

Model Number	Size Ins.	Voice Coil Imp.	Shipping Weight Lbs.	Standard Package	Code Word	List Price
TN5LT	5	50 ohms	2	24	WORLT	$5.20
TN6LT	6	50 ohms	2¾	12	WADLT	6.05
TN8LT	8	50 ohms	3¼	12	WAYET	6.65

TBC7 — 7 wire cable, 1 wire shielded, per foot.....$0.16
TBC12—12 wire cable, 1 wire shielded, per foot..... .23

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WRIGHT-DeCOSTER

METALEX (truly exponential) HORNS

These horns are very efficient exponential types and should not be confused in any way with the so-called parabolic type horns. It was recognized that a metal horn would be the ideal unit to give long life under the most severe use. The difficulty, however, was that it was almost impossible to make a metal horn that did not have very objectionable resonances which made it impossible to have good reproduction on certain notes. In our new exponential horns we have overcome this difficulty. All of our metal horns are spun from steel and have an especially prepared material called "ex" used for coating the outside which damps the walls to a point where resonances are negligible. You will find these new horns give exceptional performance and a lasting service which can never be secured in other types of horns. There is a screen on the back of the speaker housing which eliminates compression and a screen in front of the weather proof cone to protect it against mechanical injury.

METALEX MULTI-PURPOSE MODEL

The Model MX6A Multi-Purpose Metalex Horn houses a 6" speaker and has a cut-off frequency of 250 cycles. This horn is especially recommended for voice reproduction but due to its exponential design and the "ex" material on the walls, it will give better musical reproduction than the metal parabolic horns of far larger size. The Model MX6A horn when used with a N6KL unit makes an excellent tweeter and when wanted for this purpose, it must be so noted on the order, as a different type diaphragm is used.

Model No.	Diameter Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX6A	14"	13"	11 lbs.	WECHP	4	$12.80

Priced without stand. For stand add $4.50 list.

METALEX STADIUM JUNIOR MODEL

The Model MX12B Stadium Junior houses a 12" speaker and has a cut-off frequency of 180 cycles It will give excellent output down to 150 cycles. This horn is to be used where voice reproduction is the prime requisite and where the absence of the extreme low notes in music is not objectionable.

Model No.	Diameter Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX12B	20"	15"	20 lbs.	WTJKL	3	$21.80

Priced without stand. For stand add $4.50 list.

METALEX STADIUM SENIOR MODEL

The Model MX12A Stadium Senior houses a 12" speaker and has a cut-off frequency of 100 cycles. When used with a suitable 12" Model Wright-DeCoster Speaker it will give exceptionally high outputs down to 75 cycles. This horn should be used where not only voice but music also must be reproduced with good quality. The actual output at 100 cycles is nearly ten times as great as the same speaker mounted on an ordinary baffle.

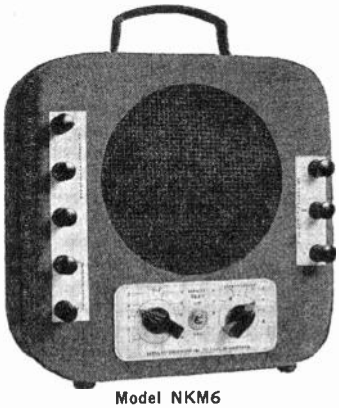
Model No.	Diameter Bell Opening	Length	Shpg. Wt.	Code Word	Std. Pkg.	List Price
MX12A	35"	34"	46 lbs.	WBMNP	2	$42.00

Priced without stand. For stand add $4.50 list.

NOTE: The upright part of the stands are one-inch standard pipe threaded at both ends. The large, heavy base has four holes so it may be securely screwed to the platform. The swivel, which allows the directing of the horn at any angle, is placed between the top of the upright and the bottom of the horn.

If the speakers are wanted in the horns, state so on the order and we will install them at no extra charge.

When ordering 12" speakers for Metalex Horns, be sure and specify it on the order as these speakers come without bases.



Model NKM6

"NOKOIL MULTI-TEST" SPEAKERS

ALL A.C. RADIOS AND ALL D.C. RADIOS can now be tested with this new versatile, compact test speaker. The Nokoil speaker used in this new Multi-Test requires no field excitation and allows easy checking of auto and battery radio receivers. There are slotted holes in the back so it may be hung on the test panel when used in the laboratory. All leads are brought out to the selector switches so that any desired setting may be had instantly. A slotted recess is provided on the back of the cabinet to hold the instruction card. The universal output transformer for matching all tubes is worked out so carefully as to give the minimum amount of distortion. There is also a universal voice coil transformer which has taps that coincide with the values of all common voice coil impedances. This permits the easy checking of those radio sets and amplifiers that have the output transformer built into the chassis. It also permits checking output transformers under actual operating conditions. The universal artificial field is designed with taps at practically all resistance values used in standard practice. This test speaker can also be used to check the filter circuit.
Built into a handsome steel carrying case with a soft suede finish that gives protection to the finest furniture, the Nokoil Multi-Test Speaker is indeed an instrument any engineer or service man can be proud of.

Model No.	Size Width	Height	Depth	Shipping Wt.	Std. Pkg.	Code Word	List Price
NKM6	9 1/8"	11"	5 1/2"	11 lbs. 7 ozs.	3	WICKL	$28.00

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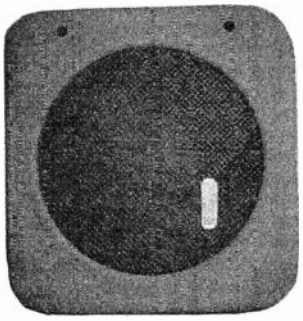
WRIGHT-DeCOSTER

SUEDE *LIFETIME MAGNET* CABINETS



Model WN8L

The smartest, most attractive speaker cabinet, providing unusual eye appeal with exceptional sound reproduction qualities. Modern in design and appearance. The soft suede finish, unlike wood, shows no dust . . . it does not crack . . . nor can it become loose or split from heat or cold. Truly the perfect cabinet.

SUEDE WALL CABINET

Colors: Taupe and light brown. The light brown grille blends perfectly with taupe cabinet. No metal trim is used on wall cabinets.
Uses: Ideal for schools, hotels, apartment houses, hospitals, public buildings and manufacturing plants; in fact wherever an external speaker is required.
Styles: Three types are available: first—wall mounting cabinet with back open; second—wall mounting with back closed (back half same finish as front half); third—wall mounting with two fronts (instead of front and back) so speaker cabinet can be mounted on edge and speaker heard in two directions.

SUEDE VEHICLE CABINET

Colors: Taupe and black. The black grille contrasts with the taupe cabinet in a most striking manner which is enhanced by the chrome plated metal ornaments at top and bottom.
Uses: Perfect for separate speaker for automobiles, trailers, buses, etc. Across the back of the cabinet is a heavy 4" metal strip with a single stud for mounting. Thus the cabinet carries the weight of the speaker eliminating the possibility of the pole piece shifting off center making the unit inoperative which often happens when the stud is screwed into the back of the speaker. The cabinet also has holes on the bottom for base mounting.

SUEDE CABINETS ONLY

Model No.		Width Inches	Height Inches	Depth Inches	Shipping Wgt. Lbs.	Std. Pkg.	Code Word	List Price
V8	Vehicle Cabinet	9 3/8	9 3/8	5	4 1/4	8	WAKKI	$ 4.25
W8	Wall Mounting Cabinet	9	9 1/4	4 1/8	2 1/4	8	WAJET	3.75
W8F	Wall Mounting Cabinet with feet	9	9 5/8	4 3/4	2 1/4	8	WHDGO	4.00
W8B	Wall Mounting Cabinet with Back	9 1/8	9 3/8	4 3/4	4 1/4	8	WAHO	4.25
W8BF	Wall Mounting Cabinet with Back & feet	9 1/8	9 5/8	4 3/4	4 1/4	8	WFITS	4.50
W8F2	Wall Mtg. with 2 Fronts (One in Place of the Back)	9 1/8	9 3/8	4 3/4	4 1/2	8	WAZAT	5.25
W10	Wall Mounting Cabinet	11 1/8	11 1/8	5	3	6	WEJKE	4.75
V10	Vehicle Cabinet	11 3/8	11 1/8	5 7/8	5 3/4	6	WELLO	5.25

SUEDE VEHICLE CABINET NOKOIL EQUIPPED

Model No.	Speaker Model No.	Speaker Size	Shpg. Wt. Lbs.	Standard Package	Code Word	List Price
VN8L	N8LU	8	6 1/2	8	WENIT	$ 9.85
VN8K	N8KU	8	7	8	WABAL	13.45
VN10L	N10LU	10	9 3/4	6	WAKIL	12.00
VN10K	N10KU	10	10 1/4	6	WETTO	15.50

SUEDE WALL MOUNTING CABINET NOKOIL EQUIPPED

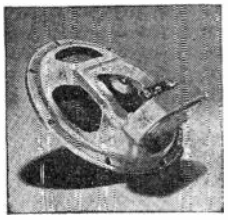
WN8L	.....	N8LU	8	4 1/2	8	WOOHO	$ 9.35
WN8K	.....	N8KU	8	5	8	WEZPO	12.95
WN8LF	With Feet	N8LU	8	4 1/2	8	WNHF	9.60
WN8KF	With Feet	N8KU	8	5	8	WNSHF	13.20
WN8LB	With Back	N8LU	8	6 1/2	8	WNHB	9.85
WN8KB	With Back & Feet	N8KU	8	7	8	WNSHB	13.45
WN8LBF	With Back & Feet	N8LU	8	6 1/2	8	WNHBF	10.10
WN8KBF	With Back & Feet	N8KU	8	7	8	WHKBF	13.70
WN8KF2	With 2 Fronts	N8KU	8	7	8	WHKFB	14.45
WN10L	.....	N10LU	10	6 3/4	6	WYZOL	11.50
WN10K	.....	N10KU	10	7 1/4	6	WABZI	15.00

These cabinets have the new suede Izarine Finish which gives them the feel and appearance of suede. Special finish at a small additional cost.

NOTE: All above items packed 1 to individual carton. Universal transformers supplied as standard. Models may be had furnished with line matching transformer at no extra cost. Also furnished without transformer. Above suede cabinets may be equipped with electro-dynamic units.

HYFLUX MAGNETIC SPEAKERS

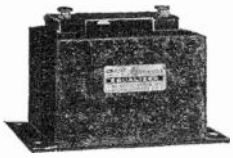
BAKELITE COIL FORM—METAL DUST PROOFING



The letters after model numbers: "A" indicate 7000 ohms no center tap for single output tubes . . . Letter "B" 10,000 ohms center tapped for pushpull and class B output tubes . . . Letter "C" 500-1000 ohms for public address use.

Model No.	Size Inches	Impedances	Depth Inches	Dia. Cone Brac. Ins.	Shipping Weight	Code Word	List Price
H6A	6	7,000 ohms	2 5/8	6 1/2	1 5/8 lbs.	WESEL	$4.00
H6B	6	10,000 ohms	2 5/8	6 1/2	1 5/8 lbs.	WESEU	4.00
H6C	6	500-1000 ohms	2 5/8	6 1/2	1 5/8 lbs.	WESEV	4.00
H8A	8	7,000 ohms	2 7/8	8 1/8	2 1/4 lbs.	WEARD	4.50
H8B	8	10,000 ohms	2 7/8	8 1/8	2 1/4 lbs.	WEARU	4.50
H8C	8	500-1000 ohms	2 7/8	8 1/8	2 1/4 lbs.	WEARV	4.50

Standard Package: 12.



NOKOIL EQUALIZER

Where regular Nokoil Speakers (not special "Talk-Bak" Series) are used as microphones, and good voice reproduction is as essential as high quality music reproduction, such as for radio program or centralized sound systems, a Nokoil Equalizer is required. . . . The standard equalizer is designed for 500 ohm lines. . . . Special impedance values available at slightly higher cost.

Model No.	Dimensions	Shpg. Wt.	Std. Pkge.	Code Word	List Price
EQ5	3 5/8" Long, 3 5/8" High, 2" Wide	2 1/4 lbs.	1	WESTI	$6.90

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World Radio History

LEOTONE

CONE AND VOICE COIL ASSEMBLY

REPLACEMENT SPEAKER CONES

LEOTONE RADIO COMPANY manufactures a most complete line of PRESSED CORRUGATED and FREE EDGE CONE ASSEMBLIES, and BAKELITE BOBBIN FIELD COILS. Our vast assortment includes both types of single turn copper voice coil cone assemblies for Peerless and Colonial speakers. All products are in accord with LATEST ACCOUSTICAL improvements. Because of limited space, it is impossible to list our complete line. However, upon request we will be very glad to send you our COMPLETE CATALOG.

Part No.		O.D. Ins.	List Price
ATWATER KENT			
AX01	43, 46, 55, 60, 64, 66, 67, 71	10¾	$2.00
AX02	77, 87, 88, 89, 94, 96, 206, 469, late 83 and 85	10¾	2.00
AX03	80, 82, 84, 84, 87, 90, 92, 280, 558, 627, 667, early 83 and 85	8⅜	1.75
AX05	F. H. P.	10¾	2.00
BEST			
BX03	Center Spider	6⅜	2.00
BOSCH			
BX07	5, 5A, 7, 7A, R9, 39A, 200, Host, Hostess	7	2.00
BX08	19, 20L, 31, 36, 37, 38, 73	9⅝	2.75
BX09	48158	9⅞	2.75
BRUNSWICK			
BX11	B-1¾" V. C., center spider	12¼	2.90
BX12	D-1½" V. C., center spider	8⅞	2.50
BX13	E-1½" V. C., center spider	12	2.90
BX14	S-2" V. C., 3 pt. spider	12¼	2.90
COLONIAL			
CX06	33, 38, LL18	12¼	2.90
CX08	36, LL19	9⅝	2.50
CROSLEY			
CX17	305, 405, 428, M45, 628, 262, 391	9	2.50
CX25	124, 125, 269	8	2.25
EDISON			
EJ08	R4, 5, 7, 8	11¼	2.90
FADA			
FF03	No. 1755x, 15, 15B, 15C, 20, 32, early 25	8½	2.75
FF08	No. 1882x, 11A, 12A, 12B, 45, 48, 49, 65, 66, KU, KW	10½	2.90
GENERAL ELECTRIC			
*GR03	B40, K40, K40A, K43, K48, K50R, K51P, B52, K52, K53, L53, K54P	5	1.00
JENSEN			
JX06	D3, D4, D5, D6	9½	2.90
JX08	D7, D8, D8C	11¼	2.90
JX24	T1, T2	5	1.50
JX28	T3	5	1.50
MAGNAVOX			
MX13	6, 7, 8, 9, 80, 90, 100, 104, 106, 108, 200, 400, 402, 404	8⅝	2.75
MX15	116, 118, 290, 410, 412, 414, 416, 418, 9900	8¾	2.75
MAJESTIC			
MX17	G1-70, 71, 72	9	1.95
MX18	G2-70B, 72, 91, 92, 181	9	1.95
MX21	G5, G8, G9-22, 23, 61, 62, 131, 132, 163, 233	12	2.90
MX22	G6, G7, G20-20, 21, 30, 32, 50, 51, 52, 53	10	2.50
MX26	G10B-151, 154, 155, 156, G10, G10A	7½	2.00
MX28	G11-201, 203, 204, 251, 253, 254, G11B, etc.	10	2.40
MX30	G13-211, 214, 215, 254, 254, 353, G13B, G13C	12	2.25
MX32	G14-221, 223, 307, 351, 353, G14B, G14C, etc.	12	2.00
MX36	G19-291, 293, 294, 314, 324, 393, 394, G19A, etc.	10	2.00
MX48	G24-55, 59, 66, 75, 116A, 195, 460, 461, 463, 500, 560, 566, G24A, G24C, G24M	6	1.50
MX41	G26A-370, 371, 373	5	1.40
MX42	G26C-55, 59, 75, 116, 195, 400, 400A, 411, 411A, 413, 413A, 500, 560, 566, G26B, G26D, etc.	5	1.45
OXFORD			
OX13	3 pt. Triangle spider	10½	2.50
OX14	3 pt. Triangle spider—4½" deep	12¼	2.90
PEERLESS			
PX02	Copper Coil	8½	2.75
PX03	Copper Coil	10¾	2.90
PX04	Copper Coil	12	3.70
PX05	Copper Coil	14½	4.50
PX06	Wire wound	8½	2.25
PX07	Wire wound	10¾	2.50
PX08	Wire wound	14½	3.65
PHILCO (Leotone Free-Edge)			
*PX15	40, 41, 42, 65, 76, 77, 87, 90, 95, 96, 111, 112	10¾	1.40
*PX18	3, 20, 21, 46, 70, 86, 90, 470, 490	8¾	1.25
R. C. A.			
*RX03	38, R18W, R27, R28, R28P, R28BW, M34, auto	4¾	1.00
*RX34	R37, R37P, R38, R38P, 12, 120, 121, 122, 142B, 241B, 310	6½	1.00
RX05	47, R6, R7, R7A, R7DC, R9, R10, R12, R14, R15, RE16, RE16A, RE17, RE18, RE18A, RE19, R21, RO23, RAE29, CE29, RE34, R42, R48, RE73, R74, R76, R77, RE81, R70, R75, 210, P. M. Superhet	10¼	2.25
RX08	104, 60, 66, 80, 105	8	2.00
RX11	106, RE20, R34, R35, R41AC, R41DC, R46, R47, R39, R50, R55, RE57, RAE79, R62, R64, R66, R67, RA79, R80, R82, R86, 105, R106	10½	2.50
ROLA			
RX21	F4	5	1.50
RX22	F5, F5A	6¼	1.75
RX28	F5B—¾" voice coil	6¼	1.75
RX23	F6, F6A	8	2.00
RX32	F6B—¾" voice coil	8	2.00
RX33	K9—Center spider	10½	2.75
RX26	C, J, L—4 pt. spider	10½	2.90
STEWART-WARNER			
SX05	R200a, 400, 440, 445, 565, 575, 900, 950 (3 pt. spider)	9	2.75
SX07	2 pt. spider	9	2.75
STROMBERG-CARLSON			
SX11	10, 11, 12, 14, 19, 20, 25, 26, 27, 641, 642, 846	11⅞	2.90
U. S. APEX GLORIATONE			
UX02	8A—Speaker 2801	8	2.25
UX03	26—Speaker 2286	8½	2.00
UX35	26A—Speaker 2467	8	2.00
UX05	27—Speaker 1936	8½	2.00
UTAH			
UX09	2 pt. spider	5	1.50
UK31	Cub—3 pt. spider	6	2.00
UX11	Cub—center spider	8	2.00
UX25	Large Cub—2 pt. spider	8	2.25
UX32	3 pt. spider—¾" V. C.	8	2.25
VICTOR			
*VX01	RE32, 45, 52, 57, 75	8⅞	1.50
WRIGHT DeCOSTER			
WX02	345, 355	8½	2.50
WX03	108, 208	10	2.75
WX04	107, 207, 307	12	2.90
ZENITH			
ZC06	50, 52, 72, LL18	12¼	2.90
ZB14	61, 62, 89	12¼	2.90

AUTO SPEAKER CONES

Part No.		O.D. Ins.	List Price
ARVIN			
1A01	10 (Operadio)	5	1.50
ATWATER KENT			
1A02	666	6¼	1.75
BUICK B-O-P			
1B01	980455	6¼	2.00
1B02	980459	8	2.50
CHEVROLET			
1C01	364441, 600153, 600566	6½	2.00
1C02	600249, 600565	8	2.50
CLARION			
1C04	AR100	5	1.50
COLONIAL			
1C05	106B, 182	8	2.75
1C06	150	5	1.65
1C07	164	6	2.25
CROSLEY ROAMIO			
1C08	95, 98, 99	6	2.00
1C09	103	6	2.00
DODGE			
1C01	DR, DS	6	1.95
EMERSON			
1E01	Auto set	5	1.50
FORD			
1F01	118 (Majestic 118)	6¼	1.50
GENERAL ELECTRIC			
*1G01	B40 (RCA M34)	5	1.00
HUPMOBILE			
1H01	G, H, R	6	1.95
MAJESTIC			
1M01	66, 116A, 118	6¼	1.50
1M02	110 (Magnavox)	5	1.50
1M03	110 (Utah)	5	1.50
1M04	116	5	1.65
MOTOROLA			
1M05	D6, 61 (Wright DeCoster)	6¼	2.00
1M06	34 (Quam-Nichols)	5	1.50
1M07	44 (Magnavox)	5	1.50
1M08	44 (Utah)	5	1.50
1M09	77 (Magnavox)	6¼	2.00
1M10	77A (Rola)	8	2.50
1M11	88 (Wright De Coster)	8	2.50
1M12	Super Six (Jensen)	6½	1.75
1M13	Twin Eight (Magnavox)	8	2.50
PHILCO TRANSITONE			
*1P02	3	8½	1.25
*1P03	5	5¾	1.00
*1P04	6, 7, 8, 9	7¾	1.00
*1P05	10	7¾	1.00
*1P06	11	5¾	1.00
*1P07	12	7¾	1.00
*1P08	700	7¾	1.00
*1P09	800	7¾	1.00
R. C. A.			
*1R01	M34	5	1.00
STROMBERG-CARLSON			
1S03		8	2.50
1S04		6¼	2.00
UNITED MOTORS			
1U01	2035—⅝" voice coil	6	2.00
1U02	2035—1" voice coil	6	2.00
1U03	4036, 4038	8	2.50
1U04	4037	6½	2.00
ZENITH			
1Z01	650	6½	2.00

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World Radio History

LEOTONE

CONE AND VOICE COIL ASSEMBLY

REPLACEMENT FIELD COILS

Part No.	Name	Ohms	List Price
APEX GLORIATONE			
AY07	26, 26A, 26P, T11500		$4.00
AY08	26P, T11500		4.00
AY09	27, T11500		4.00
ATWATER KENT			
AY18	46, 53, 55, 65	1000	6.00
AY19	46, 53, 55, 65	1700	6.00
BOSCH			
BY12	48	2250	6.00
BY13	58	2000	6.00
BRUNSWICK			
BY18	14, 21, 33	5000	8.00
BY20	15	1500	7.50
BY21	15	2500	8.00
BY22	16	2250	4.20
COLONIAL			
CY03	33AC, LL18	2500	5.50
CY03	33AC, LL18	6000	6.50
CY09	36, 38, LL19	2500	6.00
CY10	36, 38, LL19	8000	8.00
CROSLEY			
*CY30	M45	2500	4.80
CY31	57, 58, 59	10000	4.00

Part No.	Name	Ohms	List Price
EDISON			
*EJ05	All Models (Jensen JY05)	4500	$6.00
JENSEN			
*JY03	D7, D8, D8G	1400	4.40
*JY04	D7, D8, D8G	2500	5.00
*JY05	D7, D8, D8G	4500	6.00
MAGNAVOX			
MY01	9" (medium), 12", 6, 7, 8, 9, 80, 90, 402, 405	2500	6.50
MY10	9" id	5000	7.00
MY02	9" id	7500	7.50
MAJESTIC			
MY24	G1	3100	8.00
MY26	G2	2730	8.00
MY26	G3	2730	7.50
MY27	G4	7650	7.50
MY28	G5	7650	7.50
MY34	G10B	1750	4.00

Part No.	Name	Ohms	List Price
PHILCO			
*PY30	20, 21, 70, 470, 790	3300	$2.00
*PY33	65, 76, 77, 86, 87, 95, 96	2000	3.00
*PY32	65, 76, 77, 86, 87, 95, 96, 111	3100	4.50
R. C. A.			
RY10	106	550	4.20
RY11	106	6000	6.00
ROLA			
RY17	F6, K7, K9	1250	3.50
RY18	F6, K7, K9	1500	3.50
RY20	F6, K7, K9	T1800	4.00
RY21	F6, K7, K9	2500	3.50
RY22	F6, K7, K9	4700	4.00
RY27	F5, F5A	3000	3.28
STEWART-WARNER			
SY20	102, 104, 202, 204, 206, 6", Midget	10000	4.00
SY21	R200A, 400, 445A, 550, 565A, 900, 950	10000	8.00
STROMBERG-CARLSON			
SY27	10", 12", Regular type	2500	6.00
SY28	10", 12", Regular type	7300	6.50
TEMPLE			
TYP5	All models	2250	7.00
VICTOR			
VY07	RE32, 45, 52, 75	3000	5.50
ZENITH			
ZY03	50-52, LL18	2500	6.50

REPLACEMENT PICKUP COILS

LEOTONE replacement pick-up coils for most sets. Proper replacements for ATWATER-KENT, BRUNSWICK, GENERAL ELECTRIC, MAJESTIC, PHILCO, RCA, STROMBERG-CARLSON, VICTOR, WEBSTER (Small), and many others.

The coils are attractively mounted in 12's, on a folded card such as illustrated. Small, handy, and easy to replace.

Type		List Price
WRP01	—Low Impedance	$4.75 doz.
WRP02	—High Impedance	9.00 doz.
WRP03	—5000-ohm Impedance	10.50 doz.

GIANT A-KU-STIK REPAIR KIT

The GIANT A-KU-STIK repair kit contains one metal can (about 4 oz.) of A-KU-STIK C ment, one metal can (also about 4 oz.) of A-KU-STIK Thinner, one metal handle brush, and complete direction sheet for use.

The Cement is ideal for cementing speaker leads, voice coils, leathers, and rings, and radio coils, chokes, and loose wires. It will also insulate and impregnate. The Thinner can be used for loosening cemented parts and to cut cement.

This GIANT kit is the most popular seller of its type on the market. Remember that A-KU-STIK STIKS TO ANYTHING.

***List Price** **$0.62½**

SURE-SET SPEAKER SHIMS

LEOTONE recommends the SURE-SET SPEAKER SHIMS—16 celluloid shims—4 of each size of .005", .0075", .010", and .0125" in a handy little leather holder. Each size is of a distinctive color so that a set is easily selected.

These are the same shims as those used in our expert repair department for the past year. You have the benefit of our experience.

List Price **$0.55**

CAST REPLACEMENTS

LEOTONE Radio Co. has instituted a new and complete department entirely devoted to **"hard-to-get," rare and obsolete cast replacements.** The following are a few of our numerous cast replacements. Complete data may be yours for the asking.

FADA No. 871MP

Fada Cast Replacements

Part No.	Name	List Price
858MP	Tuning Bracket Cast	$1.50
872MP	Tuning Bracket Cast	1.50
869MP	Dial Cast with Numerals	2.15
871MP	Dial Cast with Numerals	2.15
878MP	Two Leg Speaker Bracket	1.50
888MP	Three Leg Speaker Bracket	2.75
901MP	Three Leg Speaker Bracket	2.75
1716x	Solid Tuning Drum—4½"x½"	1.75
1724r	Tuning Shaft and Washers—2½"	1.00
1724b	Tuning Shaft and Washers—2¾"	1.00

FADA No. 1716x

Fried-Eisemann Cast Replacements

14–25	Dial Tuning Cast	1.88
24–26	Volume Control Cast	1.88

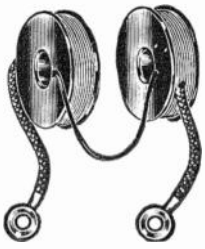
Crosley Cast Replacements

4899	Tuning Pinion for Set Numbers 26, 53, 57, 608, 706, Gembox and Showbox	.55

Miscellaneous Cast Replacements

R.C.A., G.E., and At. Kent Dial Rubber Grumit.. **$0.75**
Above Grumit in lots of 100 ..... **5.00**

MAGNETIC COILS



LEOTONE Radio Co. stocks and supplies a great quantity of magnetic coils. Coils that are not in stock can be wound upon order.

Write or call for complete listing.

Model	List Each
Atwater Kent	$0.86
B. B. L.	.86
Fada	.86
Farrand	.52
Freshmen	.52
Utah	.86

CELOTEX

Our Celotex Cutting Department, which we have been maintaining ever since our entry into Speaker business, is now releasing its services to the trade. All standard sizes in all standard thicknesses are in stock at all times; such as 12"x12", 18"x18", 24"x24, 36"x36" in ½", 1", or 1½" thickness. These sizes can be obtained with any size hole. Special sizes will be quoted on upon request. **For information regarding prices consult your Jobber.**

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World Radio History

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

The New Jensen 18-inch Speakers

. . . The Largest . . . Most Powerful . . . and Most Capable Speakers ever offered . . . Completely Dust and Dirt Proofed . . .

The size and unusual performance ability of these speakers might classify them as special purpose speakers but certainly only in the sense that their use will be demanded where the absolute in performance is the essential requirement. In all models amplitude distortion has been reduced to a minimum never before reached; middle frequency response has been improved, and power handling and efficiency factors increased beyond any point previously available in loud speakers. The High Fidelity Models (HF) provide remarkable extended range performance out to 9000 cycles. The Standard Fidelity Models (M) do not have the extended range performance and are particularly recommended for more general applications, the high frequency range extending to approximately 5500 cycles. V Models are especially recommended where the reproduction of voice is the principal requirement, since they have rising efficiency in the middle and upper frequency range. L Models are specifically for use in wide range systems and provide greatly improved low frequency response with sharp attenuation above 3000 cycles.

GENERAL DESIGN DATA

Frequency Response . . . Frequency response varies in accordance with the discussion above. For more specific information write to our Engineering Department. **Power-Handling Capacity . . .** From 25 to 40 watts. Distortion products at the minimum value are exceptionally low and even at the maximum value less distortion is introduced than that generally present in so-called "high power" loud speakers. **Efficiency . . .** The highest degree of conversion efficiency ever attained in electro-dynamic cone speakers is incorporated in these new 18-inch models. The actual efficiency of course depends on the frequency selected for the measurement, but in all cases these speakers are several hundred percent more efficient than 12-inch speakers of conventional design. **Voice Coil Impedance . . .** All voice coils have a nominal impedance of 8 ohms at 400 cycles. **Field Coil Wattage . . .** Maximum 33; normal 26; minimum 20. **A.C. and D.C. Designs . . . Weight Packed . . .** A.C. models 78 lbs.; D.C. models 68 lbs.

MODEL		Less Input with 8 ohm voice coil Type	With 500 ohm input Type	With 4400 ohm center tapped input Type	LIST PRICE With Input	LIST PRICE Less Input
		FOR A.C. OPERATION				
L-18A.C.	110v.-60 Cy.	5701	5704	5707	$89.50	$86.50
	110v.-25 Cy.	5702	5705	5708	96.50	93.50
M-18A.C.	110v.-60 Cy.	5801	5804	5807	89.50	86.50
	110v.-25 Cy.	5802	5805	5808	96.50	93.50
V-18A.C.	110v.-60 Cy.	5901	5904	5907	89.50	86.50
	110v.-25 Cy.	5902	5905	5908	96.50	93.50
HF-18A.C.	110v.-60 Cy.	6001	6004	6007	92.50	89.50
	110v.-25 Cy.	6002	6005	6008	99.50	96.50
		FOR D.C. OPERATION				
L-18D.C.	110v. Field	5710	5713	5716	$64.50	$61.50
	220v. Field	5711	5714	5717	64.50	61.50
	Field for FS-1	5712	5715	5718	64.50	61.50
M-18D.C.	110v. Field	5810	5813	5816	64.50	61.50
	220v. Field	5811	5814	5817	64.50	61.50
	Field for FS-1	5812	5815	5818	64.50	61.50
V-18D.C.	110v. Field	5910	5913	5916	64.50	61.50
	220v. Field	5911	5914	5917	64.50	61.50
	Field for FS-1	5912	5915	5918	64.50	61.50
HF-18D.C.	110v. Field	6010	6013	6016	67.50	64.50
	220v. Field	6011	6014	6017	67.50	64.50
	Field for FS-1	6012	6015	6018	67.50	64.50

Auditorium Speakers

. . . Undeniably the Best Known and Respected High Quality Loud Speakers available . . . Second only to the New Jensen 18-inch Speakers in Performance, Efficiency, and Power-Handling Ability . . . Recommended for every use where Efficiency and Accuracy of Reproduction are Prime Requirements . . .

In efficiency, response characteristics, and a high degree of all-around excellence, Jensen Auditorium Speakers have consistently set the highest standards. Three types of response characteristics are offered. Series M Speakers are generally used where good overall performance is required, such as for the reproduction of both voice and music. Series V Speakers provide predominant efficiency in the middle high frequency range and are to be preferred where voice reproduction is the chief requirement. Series L Speakers provide predominant efficiency in the low frequency range and are not used except as a part of Jensen Full Range Installations in conjunction with suitable filters and high frequency reproducers. HF Models provide extended range performance with uniform response out to 8000 cycles.

MODEL		With Regular Input Type	With 500-ohm Input Type	Less Input with 8-ohm V.C. Type	LIST PRICE With Input	LIST PRICE Less Input
M-10A.C.	110v.-60 Cy.	3001	3009	3005	$76.50	$73.50
	110v -25 Cy.	3002	3010	3006	83.50	80.50
M-20D.C.	110v.-D.C.	3051	3057	3054	51.50	48.50
	220v.-D.C.	3052	3058	3055	51.50	48.50
M-20D.C.	Field for FS-1 or FS-2	3060	3062	3063	51.50	48.50
V-10A.C.	110v.-60 Cy.	3101	3109	3105	76.50	73.50
	110v.-25 Cy.	3102	3110	3106	83.50	80.50
V-20D.C.	110v.-D.C.	3151	3157	3154	51.50	48.50
	220v.-D.C.	3152	3158	3155	51.50	48.50
V-20D.C.	Field for FS-1 or FS-2	3160	3161	3162	51.50	48.50
L-10A.C.	110v.-60 Cy.	3901	3904	3907	76.50	73.50
	110v.-25 Cy.	3902	3905	3908	83.50	80.50
L-20D.C.	110v.-D.C.	3951	3955	3959	51.50	48.50
	220v.-D.C.	3952	3956	3960	51.50	48.50
L-20D.C.	Field for FS-1 or FS-2	3954	3958	3962	51.50	48.50

GENERAL DESIGN DATA

Frequency Response . . . In accordance with the description above. Write to our Engineering Department for further information about response characteristics. **Power-Handling Capacity . . .** 18 watts continuously; peaks of 25 watts and very little objectionable distortion is introduced by the speaker at even higher levels of input power. Physically the moving structure will handle up to 40 watts except at sustained low frequencies. **Efficiency . . .** About 400 percent more efficient than conventional speakers having equivalent cone area. **Voice Coil Impedance . . .** 8 ohms at 400 cycles.

A.C. AND D.C. DESIGNS

All models available for A.C. or D.C. operation in accordance with the following description: Any D.C. operating value may be specified with some delay in delivery. A.C. models for special voltage values are available at an increase in price. **Field Coil Wattage . . .** Maximum 33; normal 26; minimum 20. **Baffle . . .** Minimum, flat baffle recommended 4 ft. x 4 ft. Maximum necessary, 10 ft. x 10 ft. **Dimensions . . .** Cone housing diameter 13⅜ inches. **Weight Packed . . .** A.C. models 56 lbs. D.C. models 46 lbs.

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World Radio History

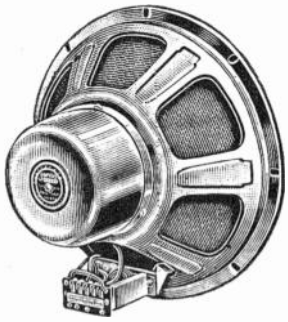
Jensen

FULL RANGE SOUND EQUIPMENT

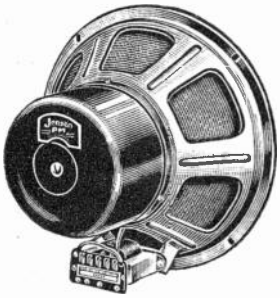
Known all over the world for predominating high quality

TWELVE AND FIFTEEN INCH SPEAKERS

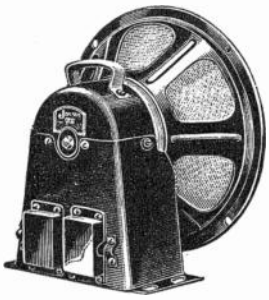
Orthodynamic, Concert and Standard Models • Field Coil and Permanent Magnet Designs



Models A-15 and A-15PM



Models A-12PM and A-12



Model B12-X with Support

FIFTEEN INCH SPEAKERS

Newly announced to meet specific requirements of the industry; to fill the gap between the acknowledged peer of all loud speakers, JENSEN Auditorium and 18-Inch Speakers and Model A-12. Considering performance ability, prices are unusually low. All models are stocked less transformers but with facilities for convenient attachment of transformers (see below),—and all are in either field coil or permanent magnet design.

MODEL A-15 and A-15PM—Orthodynamic models, the most efficient and capable of all the 15" speakers. All models fully dustproof, with 1½" 8 ohm voice coil. Recommended for every application where the ultimate performance ability of JENSEN Auditorium and 18-inch speakers is not essential. Normal power handling capacity 16 watts.

MODEL B-15 and PM15-B—Concert models, slightly less efficient than orthodynamic models. Excellent speakers for public address uses, marvelous for use with good quality radio receivers. Voice coil diameter 1½", all 8 ohm impedance. Normal power handling ability 15 watts.

MODEL C-15R—Standard models in field coil design—no PM models available. An excellent quality 15" speaker for general use; substantially better than usual 12" speaker. Voice coil diameter 1¼"; power handling ability 12 watts.

TWELVE INCH SPEAKERS

The well known Concert Model A-12 and Standard Model B-12X. Recognized for years as outstanding loud speaker value; steadily improved in performance ability—representing the typical JENSEN tradition of high quality standards. Available in field coil or PM design, all with fixed or adjustable impedance transformer, or less transformer.

MODEL A-12 and A-12PM—Concert Speakers, used as standard equipment in some of the highest priced acoustic devices in the world. Both field coil and PM speakers are completely dust-proofed. Voice coil diameter 1½"; impedance 8 ohms; normal power handling ability 15 watts.

MODEL B12-X and PM12-B—Standard Models, slightly less sensitivity and lower-priced as compared to A-12 Models; same voice coil impedance, diameter 1½".

FIFTEEN INCH SPEAKERS

Model	High Fidelity Type	Standard Fidelity Type	Field Coil	V.C. Imp.	List Price
SPEAKERS WITH FIELD COILS					
A15	ST310	ST311	860	8 ohms	$26.75
A15	ST306	ST307	2500	8 ohms	26.75
A15	ST488	ST487	5400	8 ohms	26.75
B15X	ST486	ST485	650	8 ohms	19.00
B15X	ST318	ST319	1250	8 ohms	19.00
B15X	ST314	ST315	2500	8 ohms	19.00
C15R	ST482	ST481	650	8 ohms	13.50
C15R	ST483	ST324	1250	8 ohms	13.50
C15R	ST484	ST322	2500	8 ohms	13.50
PERMANENT MAGNET SPEAKERS					
A15PM	ST298	ST300		8 ohms	41.25
PM15B	ST302	ST304		8 ohms	30.00

TWELVE INCH SPEAKERS

Model	High Fidelity Type	Standard Fidelity Type	Field Coil	V.C. Imp.	List Price
SPEAKERS WITH FIELD COILS					
A-12*	ST337	ST331	860	8 ohms	$17.25
A-12*	ST339	ST333	2500	8 ohms	17.25
A-12*	ST341	ST335	5400	8 ohms	17.25
B12X*	ST478	ST477	650	8 ohms	12.60
B12X*	ST479	ST345	1250	8 ohms	12.60
B12X*	ST480	ST343	2500	8 ohms	12.60
PERMANENT MAGNETIC SPEAKERS					
A12PM	ST260	ST257		8 ohms	34.75
PM12B	ST282	ST254		8 ohms	25.00

*These speakers supplied less support: If supports are required add $2.50 to list price.

SEPARATE TRANSFORMERS

FOR MODELS A-15 AND A-15PM

Stock Number	Input Impedance	V.C. Impedance	Size	List Price
Z1888	500	8	1 x 1	$3.00
Z2386	3000 c.t.	8	1 x 1	3.00
Z2387	5000 c.t.	8	1 x 1	3.00
Z1890	6600 c.t.	8	1 x 1	3.00
Z2388	7000	8	1 x 1	3.00
Z1891	10000 c.t.	8	1 x 1	3.00
Z2241	14000 c.t.	8	1 x 1	3.00
ZX1007	Plate Type Adjustable	8	1 x 1	3.75
ZY2005	Line Type Adjustable	8	1 x 1	3.75

FOR MODELS A-12, B12X, B15X, C15R, A12PM, PM12B and PM15B

Stock Number	Input Impedance	V.C. Impedance	Size	List Price
Z1882	500	8	⅞ x ⅞	$1.75
Z1971	3000 c.t.	8	⅞ x ⅞	1.75
Z2385	5000 c.t.	8	⅞ x ⅞	1.75
Z1884	6600 c.t.	8	⅞ x ⅞	1.75
Z1885	7000	8	⅞ x ⅞	1.75
Z1886	10000 c.t.	8	⅞ x ⅞	1.75
Z1887	14000 c.t.	8	⅞ x ⅞	1.75
ZX1005	Plate Type Adjustable	8	⅞ x ⅞	2.75
ZX2003	Line Type Adjustable	8	⅞ x ⅞	2.75

Model "X" (Plate Type) Adjustable transformer gives these values: 4500, 7000, 10,000 and 14,000 ohms all with or without center tap.
Model "Y" (Line Type) Adjustable transformer gives these values: 500, 1,000, 1,500 and 2,000 ohms.
Fixed Impedance Transformers are available with any value of input impedance at no increase in price. Specify impedance desired.

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World Radio History

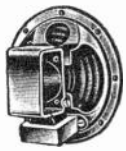
Jensen

FULL RANGE SOUND EQUIPMENT

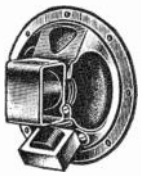
Known all over the world for predominating high quality

FIVE, SIX and EIGHT INCH SPEAKERS

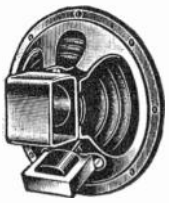
Field Coil and Permanent Magnet Designs



H5S and PM5FS



H6S and PM6ES



F8RS and PM8DS

Exceptionally good small speakers for use in radio receivers, low power public address and the like. Not to be confused with many cheaply made inefficient speakers. These speakers substantially out perform older 5", 6" and 8" Models and are therefore excellent for replacement use. All speakers (except 8" Field Coil models) are completely dust-proofed and all are supplied less transformer but with facilities permiting easy attachment of the transformers listed to right. Mounting dimensions standard R.M.A. The permanent magnet models employ highly efficient permanent magnets which insures unlimited life. The sensitivity of these permanent magnet speakers is fully the equivalent of the field coil type speakers.

FIVE INCH SPEAKERS

Model	Stock No.	Impedance	Field Coil	List Price
SPEAKERS WITH FIELD COILS				
H5S	ST426	4500 ohms	3000	$2.90
H5S	ST427	4 ohms	2750	2.30
H5S	ST449	4 ohms	1000	2.30
H5S	ST450	4 ohms	450	2.30
H5S	ST428	4 ohms	6 volt	2.30
PERMANENT MAGNET SPEAKERS				
PM5FS	ST443	4 ohms		2.70
PM5DS	ST522	4 ohms		4.00

SIX INCH SPEAKERS

SPEAKERS WITH FIELD COILS				
H6S	ST429	4 ohms	2750	$2.70
H6S	ST430	4 ohms	1800*	2.70
H6S	ST431	4 ohms	1000	2.70
H6S	ST451	4 ohms	450	2.70
H6S	ST432	4 ohms	6 volt	2.70
D6RS	ST452	4 ohms	2500	4.00
D6RS	ST453	4 ohms	1800*	4.00
D6RS	ST454	4 ohms	1000	4.00
PERMANENT MAGNET SPEAKERS				
PM6ES	ST445	4 ohms		3.30
PM6DS	ST455	4 ohms		4.25
PM6C	ST238	6 ohms		8.00

EIGHT INCH SPEAKERS

SPEAKERS WITH FIELD COILS				
F8RS	ST433	4 ohms	2500	$3.90
F8RS	ST434	4 ohms	1800*	3.90
F8RS	ST435	4 ohms	1000	3.90
F8RS	ST436	4 ohms	6 volt	3.90
D8RS	ST437	4 ohms	2500	4.80
D8RS	ST438	4 ohms	1800*	4.80
D8RS	ST439	4 ohms	1000	4.80
C8RS	ST457	8 ohms	2500	7.25
C8RS	ST458	8 ohms	1800*	7.25
C8RS	ST459	8 ohms	1000	7.25
C8RS	ST460	8 ohms	650	7.25
PERMANENT MAGNET SPEAKERS				
PM8DS	ST461	4 ohms		4.65
PM8C	ST230	6 ohms		8.50

*Tapped at 300 ohms.

SEPARATE TRANSFORMERS FOR SPEAKERS LISTED OPPOSITE

Stock Number	Primary Impedance	Size	List Price
For H5S, PM5FS, H6S, PM6ES, F8RS. (4 ohm V.C.)			
Z2359	500	½ x ½	$0.60
Z2360	1500	½ x ½	.60
Z2253	2500	½ x ½	.60
Z2361	4500 c.t.	½ x ½	.60
Z2255	7000	½ x ½	.60
Z2362	10000 c.t.	½ x ½	.60
Z2363	25000	½ x ½	.60
ZP1020	Plate Adjustable	½ x ½	.85
ZL2020	Line Adjustable	½ x ½	.85
For D6RS, PM5DS, PM6DS, D8RS, PM8DS. (4 ohm V.C.)			
Z2364	500	⅝ x ¾	.95
Z2365	1500	⅝ x ¾	.95
Z2366	2500	⅝ x ¾	.95
Z2368	4500 c.t.	⅝ x ¾	.95
Z2369	7000	⅝ x ¾	.95
Z2371	10000 c.t.	⅝ x ¾	.95
Z2372	25000	⅝ x ¾	.95
ZX1010	Plate Adjustable	⅝ x ¾	1.50
ZY2007	Line Adjustable	⅝ x ¾	1.50
For PM6C and PM8C. (6 ohm V.C.)			
Z1520	500	¾ x ¾	1.25
Z2009	3000 c.t.	¾ x ¾	1.25
Z1643	4500 c.t.	¾ x ¾	1.25
Z1642	7000	¾ x ¾	1.25
Z1680	10000 c.t.	¾ x ¾	1.25
Z1582	14000 c.t.	¾ x ¾	1.25
ZX1004	Plate Adjustable	¾ x ¾	2.25
ZY2001	Line Adjustable	¾ x ¾	2.25
For C8RS. (8 ohm V.C.)			
Z1630	500	¾ x ¾	1.25
Z2383	3000 c.t.	¾ x ¾	1.25
Z1879	4500 c.t.	¾ x ¾	1.25
Z1880	7000	¾ x ¾	1.25
Z2384	10000 c.t.	¾ x ¾	1.25
Z1881	14000 c.t.	¾ x ¾	1.25
ZX1002	Plate Adjustable	¾ x ¾	2.25
ZY2002	Line Adjustable	¾ x ¾	2.25

• **Model "X" Transformers** . . . Model "X" Adjustable Impedance Transformers are designed to match conventional "Plate" Impedance Values, and the following values have been selected: 4500 ohms, 7000 ohms, 10,000 ohms and 14,000 ohms. A center tap is provided at all these values for use with tubes connected in pushpull.

• **Model "Y" Transformers** . . . Input Transformers designed to match conventional "Line" Impedance Values, the values selected being 500 ohms, 1000 ohms, 1500 ohms and 2000 ohms. with no center tap.

Model ZP and ZL transformers are similar to types ZX and ZY respectively but are supplied with solder terminals only.

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World Radio History

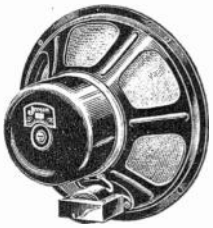
Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

TEN AND TWELVE INCH SPEAKERS

Field Coil and Permanent Magnet Designs



Illustrates appearance of 10" and 12" speakers.

TEN INCH MODELS

There are nine types of 10 Inch Speakers offered here. G10RS and PM10GS are exceptional speakers at moderate prices while Models C10RS and PM10C are heavy duty highly efficient speakers widely used in public address applications. Model PM10H is a new 10 Inch Model to meet the demand of PA people for a 10 Inch PM Speaker of exceptional sensitivity and power handling capacity. All cone housings are 10 inches in diameter. Models C10RS, PM10C and PM10H have covers for magnetic structure; other models do not have covers.

TWELVE INCH MODELS

See Page D-22 for other 12 Inch Speakers. The description here offers 5 models in 11 Types. Models G12RS and PM12GS are quality speakers at unusually low cost—the result of Jensen manufacturing efficiency and volume of production. Models C12R and PM12C are widely used high quality speakers at moderate cost. All models except PM12GS and G12RS are equipped with covers for magnetic structures. Cone housing diameter all models is 12 Inches.

TWELVE INCH SPEAKERS

Model	Stock No.	Impedance	Field Coil	List Price
SPEAKERS WITH FIELD COILS				
C12R	ST172	8 ohms	2500	$10.75
C12R	ST176	8 ohms	1250	10.75
C12R	ST473	8 ohms	650	10.75
C12R	ST474	8 ohms	6 volt	10.75
G12RS*	ST469	6 ohms	2500	8.75
G12RS*	ST470	6 ohms	1250	8.75
G12RS*	ST471	6 ohms	650	8.75
G12RS*	ST472	6 ohms	6 volt	8.75
PERMANENT MAGNET SPEAKERS				
PM12H	ST476	8 ohms		19.50
PM12C	ST250	6 ohms		13.25
PM12GS*	ST475	6 ohms		9.85

TEN INCH SPEAKERS

SPEAKERS WITH FIELD COILS				
C10RS	ST463	8 ohms	2500	9.00
C10RS	ST464	8 ohms	1250	9.00
C10RS	ST465	8 ohms	650	9.00
G10RS*	ST440	6 ohms	2500	7.00
G10RS*	ST441	6 ohms	1250	7.00
G10RS*	ST442	6 ohms	650	7.00
PERMANENT MAGNET SPEAKERS				
PM10H	ST468	8 ohms		16.00
PM10C	ST246	6 ohms		10.50
PM10GS*	ST466	6 ohms		7.50

*Field Coil Covers not supplied or included in price.

SEPARATE TRANSFORMERS

Stock Number	Input Impedance	Size	List Price
FOR MODELS PM12H AND PM10H			
Z1882	500	⅞ x ⅞	$1.75
Z2385	5000 c.t.	⅞ x ⅞	1.75
Z1884	6600 c.t.	⅞ x ⅞	1.75
Z1886	10000 c.t.	⅞ x ⅞	1.75
Z1887	14000 c.t.	⅞ x ⅞	1.75
ZX1005	Plate Adjustable	⅞ x ⅞	2.75
ZY2003	Line Adjustable	⅞ x ⅞	2.75
FOR MODELS PM12C, PM12GS, PM10C AND G12RS			
Z1520	500	¾ x ¾	1.25
Z1643	4500 c.t.	¾ x ¾	1.25
Z1642	7000	¾ x ¾	1.25
Z1680	10000 c.t.	¾ x ¾	1.25
Z1582	14000 c.t.	¾ x ¾	1.25
ZX1004	Plate Adjustable	¾ x ¾	2.25
ZY2001	Line Adjustable	¾ x ¾	2.25
FOR MODELS C10RS AND C12R			
Z2383	3000 c.t.	¾ x ¾	1.25
Z1879	4500 c.t.	¾ x ¾	1.25
Z1880	7000	¾ x ¾	1.25
Z2384	10000 c.t.	¾ x ¾	1.25
Z1881	14000 c.t.	¾ x ¾	1.25
ZX1002	Plate Adjustable	¾ x ¾	2.25
ZY2002	Line Adjustable	¾ x ¾	2.25
FOR MODELS PM10GS AND G10RS			
Z2373	500	⅝ x ¾	.95
Z2375	2500	⅝ x ¾	.95
Z2377	4500 c.t.	⅝ x ¾	.95
Z2378	7000	⅝ x ¾	.95
Z2380	10000 c.t.	⅝ x ¾	.95
ZX1011	Plate Adjustable	⅝ x ¾	1.50
ZY2008	Line Adjustable	⅝ x ¾	1.50

• **Model "X" Transformers** . . . Model "X" Adjustable Impedance Transformers are designed to match conventional "Plate" Impedance Values, and the following values have been selected: 4500 ohms, 7000 ohms, 10,000 ohms and 14,000 ohms. A center tap is provided at all these values for use with tubes connected in pushpull.

• **Model "Y" Transformers** . . . Model "Y" Adjustable Transformers are designed to match conventional "Line" Impedance Values, the values selected being 500 ohms, 1000 ohms, 1500 ohms and 2000 ohms, with no center tap.

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World Radio History

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

MODEL KM and KV REPRODUCERS

The Complete Loud Speaker—No Baffles Required

All Model KM and KV Reproducers consist of a specially designed Jensen Speaker and a cabinet for totally enclosing the speaker. This cabinet is shipped knock-down in a kit—easy to handle, assemble and install and low in cost.

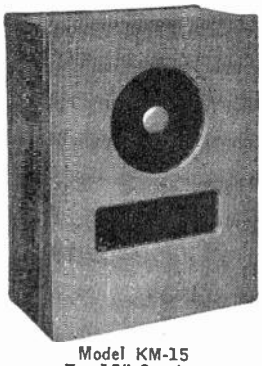
The job of designing and building baffles is taken away from the local dealer and placed with Jensen engineers whose application of new scientific principles present to the trade the first complete loud speaker—no baffles necessary. And altogether new standards of loud speaker performance ability, low cost and convenience are established.

Whole octaves added to music, speech crisp and intelligible, objectionable resonance and boom eliminated, performance independent of acoustic environment. . . . They mark a new era as definite as that created by the electro dynamic speaker . . . the loud speaker with a nondescript baffle or box is as obsolete as an automobile with a hand crank.

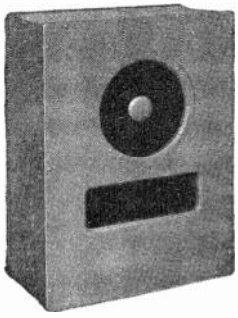
These results are due to the discovery and the development of the entirely new and exclusive Jensen Peri-dynamic and Bass Reflex Principles . . . dominating, basically new discoveries in the acoustic art.

MODEL KM with BASS REFLEX

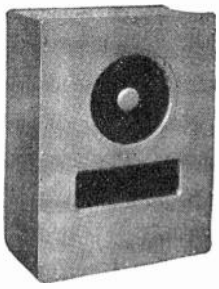
where reproduction of music is the predominant requirement. Four sizes—all with Bass Reflex and Peri-dynamic Principles.



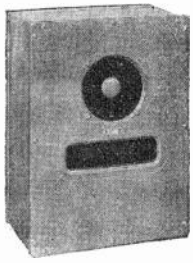
Model KM-15
For 15" Speaker
Models KM-14 and KM-18 similar but larger



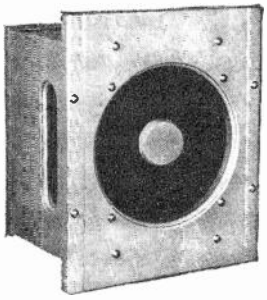
Model KM-12
For 12" Speaker



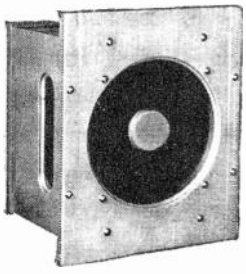
Model KM-10
For 10" Speaker



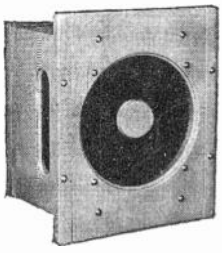
Model KM-8
For 8" Speaker



Model KV-12
For 12" Speaker



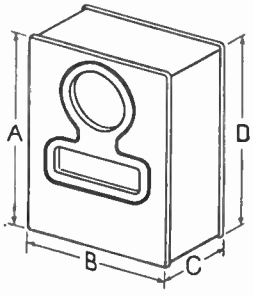
Model KV-10
For 10" Speaker



Model KV-8
For 8" Speaker

MODEL KV

where reinforcement of speech is the predominate requirement. Three sizes, all with Peri-dynamic Principle.



APPEARANCE and DIMENSIONS . . . The principles involved which account for the new and outstanding performance ability of these Reproducers require among other things that the enclosure be rigidly built of heavy plywood panels. Cabinets or boxes which are commonly used with loud speakers and which have "flabby" walls or sides are totally inadequate as equivalents of Model BR and VO enclosures, even if they were properly designed as to size, shape and equipped with the proper loud speaker unit.
Enclosures in all cases are cut to size, drilled and all necessary parts for assembling are enclosed. Outside surfaces are finished with two coats of French gray, sanded and smoothed, suitable for painting over if any other color is desired.

SPEAKER UNIT DESIGN . . . For convenience in stocking, etc., speakers are not regularly offered with input transformers. Every speaker is however equipped with a bracket on which transformer can be easily mounted. See following page for list of suitable transformers. Voice coil impedance data in accordance with data on following page. Speakers are special for the enclosure. . . . No other design is suitable, but same speaker can be used on a flat baffle, although not to its best advantage.

KIT in convenient package ready for shipment. The kit consists of speaker and knock-down enclosure, each packed in separate corrugated box containers, shipped together. All necessary screws, bolts, grilles, brackets, etc., included for assembly. Brackets furnished are vertical wall mounting type (see note for special brackets). Assembly instructions are complete. No tools necessary except ordinary screw driver.

ENCLOSURE SIZES

Model	For Speaker	A	B	C	D
BR- 8	8"	24"	17¾"	11⅛"	24"
BR-10	10"	23"	21½"	12⅛"	28"
BR-12	12"	30¾"	23¾"	12⅝"	30¾"
BR-14	14"	33¾"	25½"	13⅝"	33¾"
BR-15	15"	33¾"	25½"	13⅝"	33¾"
BR-18	18"	38⅞"	28⅝"	17⅝"	38⅞"
VO- 8	8"	11⅞"	9¾"	6½"	9¾"
VO-10	10"	14 5/16"	11¾"	7½"	11¾"
VO-12	12"	16¾"	13¾"	9⅝"	13¾"

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(See list prices on next page.)

World Radio History

Jensen

FULL RANGE SOUND EQUIPMENT

Known all over the world for predominating high quality

MODEL KM and KV Peri-Dynamic REPRODUCERS IN KITS

MODEL KM REPRODUCERS incorporating Jensen 8, 10, 12, 15 or 18" speakers and Jensen Auditorium Speakers consist of specially designed Jensen Speakers contained in rigidly built, specially designed enclosures incorporating both Peri-dynamic and Bass Reflex principles. Thus, in KM Models extra octaves of low frequency performance are made available to an extent not possible even with an infinite baffle. Middle and high frequency response is improved and the speaker becomes a complete reproducer designed and built by Jensen. The use of haphazardly designed and built baffles is entirely eliminated at an extremely moderate cost and maximum performance ability is assured. Model KM Reproducers are recommended for every known application of the loudspeaker where the requirement is for general high quality performance—with emphasis on the quality and extent of low frequency response.

MODEL KV REPRODUCERS incorporate 8, 10 or 12" specially designed Jensen Speakers incorporated in a rigid enclosure of unique design. Bass Reflex principle is not used in these reproducers since they are intended for the best possible quality of "understandability" in the reproduction of speech. Low Frequency response is undesirable in such an objective and has, therefore, been sharply attenuated below a point determined by Jensen engineers. Model KV Reproducers are therefore, recommended for such uses as paging and calling, public speeches, stage and floor shows, schools and hospitals, announcing or any application where a high quality of understandable voice reproduction is required.

SEPARATE ENCLOSURES

To insure maximum performance advantage from Jensen Peri-dynamic and Bass Reflex principles, the loudspeaker design must be accurately matched to the enclosure with which it is associated; therefore, the purchase and use of the complete reproducer is always preferred. However, the performance of any speaker will be improved by use in one of these enclosures and in response to insistent demand the enclosures are now offered for sale separately. In the case of the BR-14 Enclosure for Auditorium speakers particular attention was paid to designing the enclosure to match the characteristics of Auditorium speakers already in use. Therefore, the use of Model BR-14 in connection with Auditorium speakers in the field is recommended without any reservation.

MODEL KM REPRODUCERS—

Model	Stock No.	With Speaker	V.C.	List Price*	Power‡ Handling Capacity	Average Low Freq. Cut-off	Relative Loudness Efficiency†
KM- 8	ST-348	8" PM8C	6	$24.50	8	58	X†
KM-10	ST-350	10" PM10C	6	30.30	9	43	1.4X
KM-10	ST-506	10" PM10H	8	35.80	10	43	2.3X
KM-12	ST-507	12" PM12GS	6	32.70	8	39	.5X
KM-12	ST-379	12" PM12C	6	36.10	10	39	1.6X
KM-12	ST-508	12" PM12H	8	42.35	12	39	2.5X
KM-12	ST-380	12" PM12B	8	47.85	14	39	4.0X
KM-12	ST-381	12" A12PM	8	57.60	15	39	6.3X
KM-14	ST-418	Aud. M-20DC**	8	★78.35	20	35	8.0X
KM-14	ST-419	Aud. V-20DC**	8	★78.35	20	35	8.0X
KM-14	ST-420	Aud. HF-20DC**	8	★78.35	20	35	7.5X
KM-14	ST-425	Aud. L-20DC**	8	★78.35	20	35	7.0X
KM-15	ST-384	15" PM15B	8	56.60	15	35	4.5X
KM-15	ST-385	15" A15PM	8	67.85	16	35	7.0X
KM-18	ST-421	18" M-18DC**	8	★96.50	25	30	9.5X
KM-18	ST-422	18" V-18DC**	8	★96.50	25	30	9.5X
KM-18	ST-423	18" HF-18DC**	8	★99.50	25	30	8.0X
KM-18	ST-424	18" L-18DC**	8	★96.50	25	30	7.5X

MODEL KV REPRODUCERS—

KV- 8	ST-387	8" PM8C	6	15.40	8	....	X
KV-10	ST-389	10" PM10C	6	18.90	9	....	1.2X
KV-10	ST-511	10" PM10H	8	24.40	10	....	2.2X
KV-12	ST-393	12" PM12C	6	23.60	10	....	1.8X
KV-12	ST-394	12" PM12B	8	35.35	14	....	4.0X
KV-12	ST-395	12" A12PM	8	45.10	15	....	6.3X

* Less Input Transformers

** Field Coil for use with Jensen FS-1 Field Supply (3600 ohms)

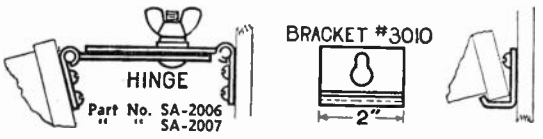
MODEL BR—(Enclosures Only)

Model	For Speaker	List Price
BR- 8	8"	$16.00
BR-10	10"	19.80
BR-12	12"	22.85
BR-14	Aud.	★29.85
BR-15	15"	26.60
BR-18	18"	★35.00

MODELS VO—(Enclosures Only)

VO- 8	8"	6.90
VO-10	10"	8.40
VO-12	12"	10.35

SPECIAL BRACKETS . . . If operating or other circumstances require that reproducers be tilted downward, then the special brackets and fixtures shown here are recommended. See drawing below.



For Model KV Reproducer order 1-Part No. SA-2006 and 2-Part No. 3010.
For Model KM Reproducer order 1-Part No. SA-2007 for KM-8 and 2-Part No. SA-2007 for all other "KM" Models. Order 2-Part No. 3010 for all KM Models.
List Price—Part No. SA-2006, 70c; SA-2007, 80c; 3010, 10c.

INPUT TRANSFORMERS for Models KM and KV Reproducers—

For Reproducers	Type No.	Impedance	List Price
ST-348, 350, 507, 379, 387, 389 and 393	Z-1520	500 ohms	$1.25
	ZX-1004	Plate Type Adj.	2.25
	ZY-2001	Line Type Adj.	2.25
ST-506, 508, 380, 381, 384, 511, 394 and 395	Z-1882	500 ohms	1.75
	ZX-1005	Plate Type Adj.	2.75
	ZY-2003	Line Type Adj.	2.75
ST-385	Z-1888	500 ohms	3.00
	ZX-1007	Plate Type Adj.	3.75
	ZX-2005	Line Type Adj.	3.75
Aud. & 18" Models	Z-1892	500 ohms	★ 4.00
	ZX-3000***	Plate Type Adj.	★10.00
	ZY-4000***	Line Type Adj.	★10.00

*** These transformers cannot be mounted on speaker.

† "X" is an index value and the other figures in the column show how much greater loundness expressed in db. is obtained when electrical input remains constant and speaker efficiency increases. Thus Model A-15PM is seven db. louder than Model PM8C.

‡ Speaker power handling capacity as we use the term is accurate according to our standards for continuous and normal operation. It does not refer to physical ability of the speaker. We recognize that claims of 12 or 14 watts are made by some for an eight inch speaker no better than one for which we claim six watts but we rely on the reader to differentiate between conservative statements of fact and exaggerated claims.

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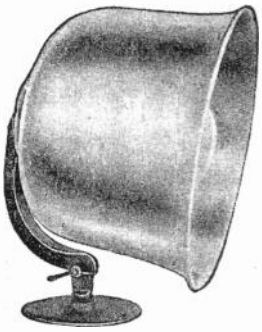
World Radio History

ATLAS *Sound*

"HEARD 'ROUND THE WORLD"

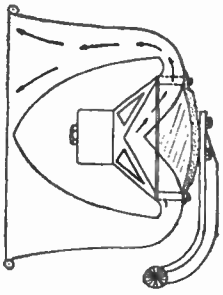


New "Storm-Proof" Marine Horn

For 8" and 12" Cone Speakers

- STADIUMS
- SOUND TRUCKS
- POLICE, FIRE CARS
- AIRPORTS
- SHIPBOARD
- FACTORIES
- FOR ALL INDOOR AND UNSHELTERED OUTDOOR APPLICATION

TRUE EXPONENTIAL DESIGN ALLOWS FOR EXCELLENT LOW FREQUENCY REPRODUCTION



Cross Sectional View of Model WX-8

Atlas Engineers, Who Originated the Popular Parabolic Deflector Baffles, Have Again Developed a Radically New Design in Cone Speaker Baffles—This weatherproof speaker will withstand a direct driving rain without damage to the cone speaker. Physical damage is also impossible as the cone speaker is mounted in a novel inverted position, facing the inside of the horn. The housing is acoustically treated with heavy hair felt to absorb back pressure and prevent resonance conditions. The bell is spun of heavy gauge aluminum. The housing and all other parts are spun from steel. All parts are finished in a weatherproof gray enamel. Speaker mounting hardware supplied.

Two Models, 8" and 12"—The WX-8 Model (illustrated) for 8" speakers has a bell opening of 18" and a depth of 12" (less bracket). The Model WX-12 for 12" cones has a bell opening of 24" depth of 16".

Mounting Fixture and Base—(as illustrated) Easy, convenient mounting for sound truck, wall, or portable purposes. Large bronze wing nut locks bracket in any position. Heavy cast parts finished in a durable black crackle.

Speaker Units—The speaker units supplied with these horns are especially designed to perform with the highest efficiency in connection with the marine horns. All speakers include a line matching transformer having 500, 1000, 1500, and 2000 ohm tapped primary. Voil coil impedance 6 ohms.

Model		Speaker Size	Shipping Weight, Lbs.	List Price	Code
WX-8	Horn Only	8"	10	17.50	YPYOZ
WX-8HP	Horn and Unit	8" (16 watt)	20	31.50	YPYPL
WX-8LP	Horn and Unit	8" (8 watt)	16	25.50	YPYRB
WX-12	Horn Only	12"	14	30.00	YPYSD
WX-12SP	Horn and Unit	12" (16 watt)	24	44.00	YPYTE
WX-B	Fixture and Base (for WX-8)		12	7.00	YPYUG
WX-C	Fixture and Base (for WX-12)		13	7.00	YPYVY

ORIGINAL ATLAS ALUMINUM PARABOLIC BAFFLES

Five Models for 6" — 8" — 10" — 12" Speakers

Heavy Duty Atlas Parabolics—Spun from 16 gauge sheets of fine grade aluminum and are finished in a weatherproof brilliant aluminum lacquer. All models have the new improved inter-locking flanges to resist weather conditions. All baffles have rear housing sufficiently large to accommodate speakers with input transformers.

No Drilling Necessary—The baffles all have speaker mounting holes drilled conveniently so that no further drilling is necessary. Mounting bolts for speakers, and for joining the two sections are supplied with all models. Two mounting loops fastened in place, are supplied with each baffle for ceiling or wall bracket suspension. All mounting bolts and hardware are cadmium plated to eliminate the possibility of rust and corrosion from staining the finish.

Steel Housings Available—The Models MB-10, AM-10, and P-16 can be supplied with heavy steel housings at no extra cost. Please specify on order if steel housings are desired. Steel housings are more suitable for sound truck and mobile application.

Giant Model P-16 Baffle

Model	Speaker Size	Bell Opening	Bell Length	Overall Length	Shipping Weight	List Price	Code
AM-6	6"	15"	10"	15"	4 lbs.	7.50	YNIHF
B-810	8" or 10"	15"	10"	16"	4 "	8.25	YNIIG
AM-10	12"	17"	10½"	20"	5 "	9.00	YNDOK
MB-10*	12"	17"	10½"	20"	7½ "	15.00	YNDAB
P-16	12"	22"	16"	26"	6½ "	14.50	YNIFO

* Model MB-10 De Luxe Model is spun from extra heavy 14 gauge aluminum. The housing is acoustically damped with heavy hair felt, and the horn is supplied with a metal and screen grill, and snap-on weather proof cover.

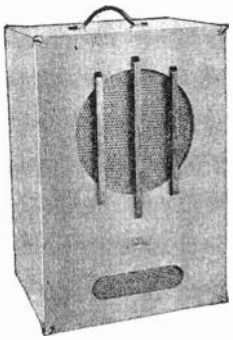
World Radio History

ATLAS Sound

"HEARD 'ROUND THE WORLD"

NEW "DYNAMIC REFLEX" ENCLOSURE

For 12" Cone Speakers



Model DE-12
Shipped completely assembled

● Maximum Speaker Efficiency at Minimum Cost

Acoustically Designed—A scientifically designed enclosure for utilizing the front and back pressure of a standard 12" dynamic cone reproducer. This enclosure is carefully treated internally with half inch acoustic felt material to eliminate objectionable resonance conditions. The enclosure is constructed of heavy plywood and finished with three coats of high gloss enamel.

This substantial scientifically designed enclosure will do much to aid the speaker in reproducing both low and high frequencies.

Plated Corner Pieces—Plated corner hardware protects the enclosure from damage while in use.

Model DE-12 Speaker Enclosure
List Price $12.50—Code YPYWY

● Stylish Cabinet Shipped Completely Assembled

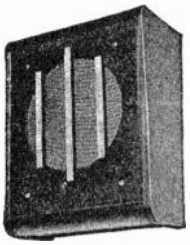
All mounting screws and speaker hardware supplied. Speaker openoing is protected by a special metal cloth screen, and with three attractive fluted bars finished in a contrasting black and silver. Overall height is 24", 16" wide, and 13" deep. Shipping weight, enclosure only, 15 lbs.

Versatile Cabinet—The enclosure may be used as a convenient speaker carrying case, and a standard luggage carrying handle is supplied for ease in handling. The enclosure is also suitable for permanent hanging from any wall surface. A section of the back of the enclosure is removable to permit speaker mounting.

Model DE-12SP (with PM-12 Speaker)
List Price $26.50—Code YPZUM

Acoustic Wall Enclosure

For 8" and 12" Speakers



Model WH-8

Distinctive Cabinet—The distinctive wall enclosures are finished in a dull black enamel with fluted silver protective bars across the speaker opening. The front panel is directed at an 18 degree angle from the vertical, which has been found to be desirable for the most effective sound coverage. The modernistic finish and design harmonizes with most interior decorations. A beautiful woven "Acousti-Cloth" grill is used to protect the cone opening and adds greatly to the appearance of the cabinet.

Convenient Mounting—A special key hole slot mounting fixture is provided permitting the enclosure to be easily and safely suspended from a single nail or screw placed in the wall.

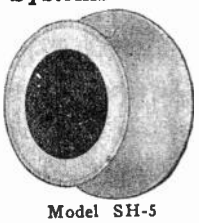
Two Sizes Available—Two sizes are available. The WH-8 is designed for 8" or 10" cone speakers, and the Model WH-12 is for 12" speakers. The WH-8 Model has an overall size of 12" x 15" x 7". The WH-12 size is 15" x 17" x 9". Shipping weights are 5 and 8 lbs. respectively.

Model WH-8 Enclosure—List Price $7.50—Code YWTAS

Model WH-12 Enclosure—List Price $8.50—Code YPZAH

Metal Wall Surface Housings

● Excellent for Call Systems



Model SH-5

For schoolroom, hospitals, inter-communication systems, shipboard P. A. and call systems, and other indoor speaker work. Spun from heavy gauge aluminum and finished in a weather-resistant aluminum lacquer. Opening is protected with a strong metal screen and grill cloth covering.

Modern Styling—The housing is attractively designed so that it will not be conspicuous. It is also possible to repaint the housing with a darker enamel to make it appear still less conspicuous.

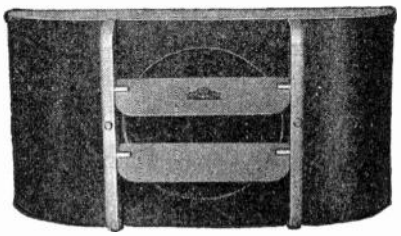
Mounting—Housing supplied with small metal mounting key hole slot bracket, to provide easy, convenient mounting. Decorative speaker mounting bolts supplied at no extra cost.

6" Speaker Size: Dimensions, cone opening 5¼", inside depth 4½", smallest inside diameter 8", shipping weight 1½ lbs.

Model SH-5—List Price $4.00—Code YNFLU

8" Speaker Size: Dimensions, cone opening 7", inside depth 5¼", smallest inside diameter 10", shipping weight 2 lbs.

Model LH-7—List Price $5.00—Code YNFNE

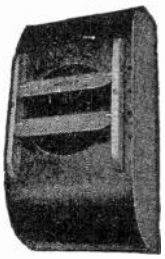


Model VD-12 "Van-Deflector" Enclosure
Mounted Horizontally

ATLAS "VARI-DEFLECTOR" SPEAKER ENCLOSURE

- For All Indoor Applications
- Efficient in Performance
- Covenient Installation
- Modernistic Design

With New Atlas "Acousti-Chamber"



VD-12 Mounted Vertically

The adjustable louvres can be tilted in any position to aid in directing the sound evenly towards the floor area to be covered. They also aid in dispersing the disagreeable high frequency beam effects The internal structure is arranged with a celotex sound absorbent material that increases the baffle area of the enclosure and eliminates resonance and natural vibration.

"Acousti-Chamber"—The inside construction is of a special design and the spacing is determined accurately to allow the cone speaker to perform at its best.

Vertical Mounting—The louvre fin assembly can easily be removed and remounted in a crosswise position if the enclosure is to be mounted in a vertical manner.

Modernistic Design—The cabinet is designed in modernistic lines and is finished in a combination of attractive black and silver that harmonizes with the decoration of any room.

Mounting Easy—Iron mounting brackets are supplied for conveniently hanging the enclosure from wall surfaces. All speaker mounting hardware is also supplied. The enclosure will accommodate all field coil and Permanent Magnet cone speakers not exceeding 13" diameter, and a depth of 9". The overall size is 28" long, 14" high, and 12" deep. Shipping weight 15 lbs.

Model VD-12 "Vari-Deflector" Enclosure
List Price $12.50—Code YWSYU

Model VD-12SP Enclosure with Atlas PM-12 Speaker
List Price $26.50—Code YPZVE

World Radio History

ATLAS Sound

"HEARD 'ROUND THE WORLD"

"Velvet Action" Microphone Stands

Model MS-9

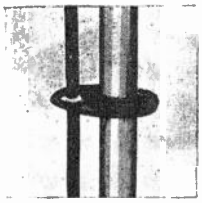
Models MS-11, MS-18

Model MS-8

NO—SCRATCHING

NO—SLIPPING

NO—NOISE



Closeup of cable clamp supplied with all stands

Velvet Action—All models of Atlas Microphone Floor Stands use the identical self-adjusting, automatic, "Velvet Action" friction clutch mechanism. The clutch mechanism can be permanently locked if so desired. "Velvet Action" will not permit the running tube to drop suddenly and damage the microphone. "Velvet Action" clutch can also be adjusted for the weight of the microphone and the height varied by merely raising or lowering the running tube without again touching or adjusting the clutch mechanism.

Construction—All tubes are of new brass tubing. No iron pipe or steel tubing is used on any model, and all threads or adjustments can be depended upon not to rust or corrode. The absence of any metal-to-metal bearing in the telescoping movement eliminates the danger of scratching noises when varying height adjustment. The improved new telescoping pump action seal eliminates highly objectionable rattle between tubes.

Specifications—All bases are 10" in diameter and mounted on rubber base pads to absorb any floor vibrations, and to prevent the marring of any highly polished floors. All models have a 7/8" diameter outside tube, and a 5/8" inner tube, which combined reach a minimum height of 36" to a maximum height of 66".

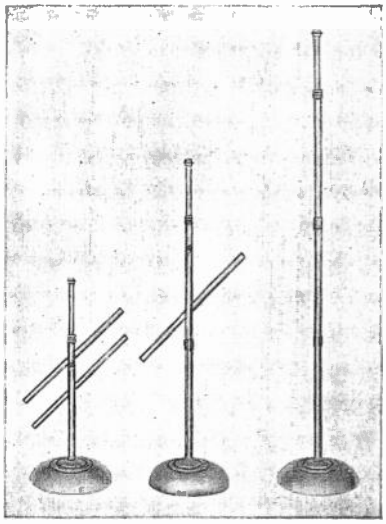
The microphone thread is 5/8" 27, male thread. The plating is a highly lustrous triple plated chrome, which is identical in quality on all models.

Cable Clamp—All floor type stands, including MS-31 opposite, include new cable clamp at no extra cost. This device holds the microphone cable close to the tube and prevents accidental tripping over the cable. The clamp also acts as a strain insulator and protects the delicate connections at the microphone.

Model	Base Finish	Tube Finish	Weight	List Price	Code
BS-8	Black crackle	Black Enamel	8	6.75	YNKRU
MS-8	Black crackle	Chromium	8	6.75	YNGEZ
MS-9*	Tu-tone crackle	Chromium	9	7.50	YPZEY
MS-11	Chromium	Chromium	10	9.50	YNGHU
MS-18	Chromium	Chromium	18	11.50	YNGIF

All models have 10" bases—Atlas "Velvet Action" clutch standard on all models—Add 75c to list if ball swivel is desired on any model.

* This new modernistic stand has a base finished in a beautiful grey shrivel finish trimmed with circular red striping recessed in the base casting.



"THREE-IN-ONE"

- **BANQUET STAND**
- **CHAIR STAND**
- **FLOOR STAND**

WITH "VELVET-ACTION"

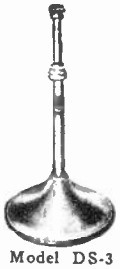
This general utility stand uses the famous original "Velvet Action" self adjusting clutch mechanism. The base may be screwed on to any of the sections, thereby determining its application. The base is an iron casting beautifully finished in Atlas grey crackle trimmed with a contrasting color. The tubes are heavy brass with lathe turned threads that can easily be fastened together or taken down for carrying in an amplifier case.

Three Stands in One—One section and the base can be used as a banquet stand; two sections for seated soloists, piano or for children; and the complete three sections and adjustable running tube as a conventional floor stand of regulation height. Base diameter 10" with four rubber shock absorbing pads, which also prevent marring of floor. Net weight 9 lbs.

Model MS-31 Microphone Stand
List Price $9.00—Code Word YPYXJ

"Velvet Action" Desk Stands

Desk Stands can be supplied either in adjustable or fixed types. Adjustable DS-3 Stand has same smooth "Velvet Action" as floor type models. Models DS-2 and DS-3 supplied with chrome base. DS-1 Model supplied with black durable crackle base. All tubes are made of chrome plated brass tubing.



Model DS-3

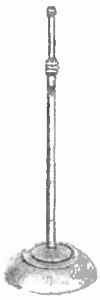
Model DS-3 Adjustable, Height 10 to 15"—List Price $4.00—Code WYSAI

Model DS-2 Non-Adjustable, Height 10"—List Price $3.00—Code YWSET

Model DS-1 Non-Adjustable, Height 10"—List Price $1.75—Code WYSIE

NEW BANQUET STAND

This modern stand incorporates the standard "Velvet Action" clutch mechanism. The tubing of brass, triple chromium plated. The diameter of the telescoping tube is 5/8", and the outer tube 7/8" in diameter. The base is a heavy iron casting having four rubber base pads to absorb shock and eliminate any possibility of scratching smooth table tops or furniture. The base is finished in a new shade of gray crackle and trimmed with contrasting colored circles recessed in the casting. New Atlas cable clamp and strain insulator is supplied as standard. Add 75c to the list price is swivel is desired. Height adjustable to 30". Shipping weight 6 lbs.



Model TS-5 Stand
List Price $6.00—Code YPZKO

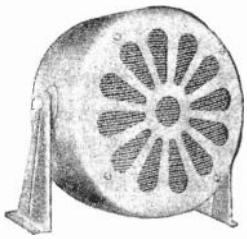
World Radio History

ATLAS Sound

"HEARD 'ROUND THE WORLD"

"Two Way" Speaker Enclosure

For 8" Speakers



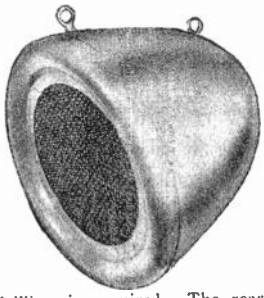
This enclosure is ideal for call systems in offices, factories, hospitals, schoolrooms, and any other P. A. installation. The case is of pressed steel, beautifully finished in Atlas gray enamel. The front and back wave of the speaker diaphragm is utilized to assist in good sound coverage in long corridors and central locations. The adjustable mounting bracket permits either wall or ceiling mounting. Metal cloth protective screens for both sides of the enclosure, and decorative speaker mounting bolts are supplied at no extra cost. Diameter 10", depth 5". Shipping weight 4 lbs.

With 8" Speaker—This enclosure with the efficient 8" Permanent Magnet Speaker is excellent for "talk-back" systems as used in inter-communication installations. Volume controls or press-to-talk switches can easily be mounted on the enclosure if desired. Model TW-8SP includes an Atlas PM-8 permanent magnet dynamic speaker mounted in the enclosure. A built in universal line matching transformer having primary tapped at 500, 1000, 1500, and 2000 ohms is supplied as standard. Voice coil impedance is 6 ohms. Shipping weight, with speaker, 10 lbs.

Model TW-8 Enclosure Only—List Price $6.00—Code YPYYM
Model TW-8SP with Speaker—List Price $14.00—Code YPYZP

"BULLET SPEAKER" HOUSINGS

For 8" and 12" Speakers



This new streamlined enclosure is ideal for many types of call systems as well as for general voice and sound reinforcement. It can be suspended from a wall bracket or hung from the ceiling in the manner of a lighting fixture.

Expert Construction — The housings are constructed of aluminum and steel spinnings, smoothly shaped and finished in a high lustre gray enamel. The opening is covered by a combination metal-acousti-cloth screen of a contrasting black and silver color. All speaker mounting hardware and suspension loops are supplied. All speaker mounting holes are accurately punched, and no further drilling is required. The rear inside section is lined with one inch hair felt to aid in eliminating resonance and absorb back pressure.

Two Sizes Available—Two models are available for 8" and 12" cone speakers. The Model BU-8 for 8" speakers has an outside diameter of 11" and an overall length of 10". Model BU-12 for 12" speakers has a diameter of 14" and an overall length of 12". BU-8 Shipping Weight 4 lbs. Shipping weight of BU-12 6 lbs.

Model BU-8 Enclosure—List Price $6.00—Code YPZFI
Model BU-12 Enclosure—List Price $8.00—Code YPZIC

GIANT CONE SPEAKER PROJECTOR HORN

Accommodates 12 to 15" Cone Speakers

● For High Power Installations

● Sturdy Big Size

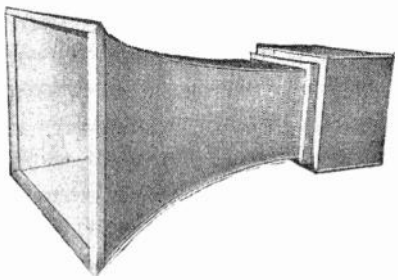
This giant flared exponential horn can be used effectively in any large high quality installation using large power cones driven with high powered amplifiers. The large size of the horn offers sufficient air loading to permit the speaker to reproduce extremely low frequencies. Its directional characteristics permit the projection of sound over long distances.

Construction—The horn is constructed of smooth Presdwood material which is guaranteed to be 100% weatherproof. This horn is shipped "knocked down" and can be easily assembled without the need of any special tools. A pair of pliers is sufficient equipment to assemble the entire horn. No drilling, painting or glueing is required. The horn is completely painted with a durable weatherproof aluminum Bell opening 24" x 36". Total length of horn as shown is 4 feet. Shipping size demounted, 37" x 25" x 3½". Shipping weight 24 lbs.

Speaker Housing—The speaker housing may be easily attached to the horn and is constructed of the same high grade material. Inside dimensions of Housing 15¾" x 15¾" x 11" deep. Shipping weight 8 lbs.

Model UP (less Cone Housing)
List Price $14.50—Code YNGLE

Model UPB (with UB Housing as illustrated)
List Price $19.50—Code YNGMI



UP shown with UB Housing

PARABOLIC BAFFLE FLOOR STANDS

●Heavy Iron Base
Model MF-10

●Portable Lightweight
Model AS-10

Model MF-10

Heavy Iron Base Model—Model MF-10 weighs 36 lbs. and is extremely stable on uneven floor surfaces. The special three point base will automatically adjust itself to set evenly. The outside pipe on this model is of heavy iron with an O. D. of 1½". The stand is finished throughout in a durable and attractive black crackle finish. All locking collars and adjustments are made of heavy malleable iron castings. The height is adjustable from 5 to 9 feet. The mounting saddle is included as part of the stand.

Model MF-10 Floor Stand
List Price $15.00—Code YNHUE

Portable Model—The AS-10 offers maximum portability and distinctive appearance in a handy 10 lb. floor stand. The telescoping seamless steel tubing allows the stand to be raised to a height of 8 feet. The rubber tipped substantial folding legs offer stability and prevent wobbling. The fittings are finished in silver, in contrast to the dull gloss black enamel finish of the stand. The tubing is electro-chemically treated to allow perfect paint adhesion and to prevent rust. Mounting saddle is also included as standard.

Model AS-10 Floor Stand
List Price $12.50—Code YWSRD

*These stands can be used for Models AM-10, MB-10, P-16, B-810, and Marine Type Horns.

Model AS-10

Parabolic Baffle Fixtures

● Wall Baffle Mounting
● Sound Truck Fixture

These fixtures offer easy, convenient mounting for parabolics on sound trucks, walls, or any other surface mounting. The brackets are built for rugged use, and include a large bronze wing nut which securely tightens the fixture in any position desired. Finished in durable black shrivel.

Model ST-8—Complete fixture as illustrated has a heavy iron pipe and sturdy base casting which is designed for rough usage. Height overall 12", base 8". Shipping weight 8 lbs.

Model ST-8 Fixture
List Price $5.00—Code YWSOA

Saddle Fixture Only — The Model SA-10 includes the saddle bracket and wing nut arrangement. The end of the lower casting is threaded with a ½" male pipe thread, making it adaptable for any type of specialized mounting. Shipping weight 4 lbs.

Model SA-10 Saddle Fixture
List Price $3.50—Code YNHOS

World Radio History

ATLAS Sound

"HEARD 'ROUND THE WORLD"

PERMANENT MAGNET DYNAMIC UNITS

- 20 Watts Continuous
- 64 oz. ALNICO Magnet
- Non-Corrosive Diaphragm

- Precision Built
- No Field Excitation
- Guaranteed Weatherproof

"Alnico" Magnet—The Atlas Permanent Magnet unit incorporates the new Alnico (nickel-aluminum cobalt magnet) alloy for supplying the magnetic flux. The magnet alone weighs 64 oz. offering a flux density equal to the Atlas Giant GU-2 field coil exciter type unit.

20 Watts Continuous—This unit is capable of handling a full 20 watts of audio power. Its high degree of sensitivity produces high output sound pressure at low input audio levels. A special ultra high fidelity model incorporating the Atlas "HI-FI" Sound Chamber is also available. The "HI-FI" model is desirable where the utmost in wide range response is required.

Precision Built—A high degree of precision is maintained in machining and assembling the unit, resulting in a uniformity of quality . . . high percentage of efficiency . . . and the utmost in dependability. All parts and surfaces are carefully machined. The sound chamber, plates, and all threads are machine turned, and no soft die cast metal threads are used in the unit's construction.

Treated Diaphragm—The diaphragm is constructed of heat treated, tempered duralumin. A special electro-chemical process is also applied to the formed diaphragm making it impervious to corrosion when operated in humid atmospheres. The voice coil is wound of aluminum wire on a pre-formed voice coil form. The impedance is 15 ohms. If the necessity should arise, the diaphragm may be replaced without the need of returning the entire unit to the factory, and without the need of any additional expensive head assemblies or special tools and fixtures.

Model PM-25 P. M. Unit

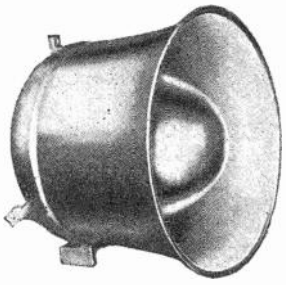
List Price $45.00—Code YNKAE

Model PM-26 (with "HI-FI" Sound Chamber)

List Price $55.00—Code YNKEO

Individual technical description sheet available upon request.

★★★★ 100% STORMPROOF EXPONENTIAL MARINE TRUMPET AND DRIVER UNIT



- Highly Directional
- 100% Shockproof
- Uses P. M. Unit
- Highly Efficient
- Compact Size

This reproducer was primarily designed for governmental and industrial application. No expense was spared in material, design or construction of the completed speaker.

Every conceivable operating condition has been taken into consideration. Special anti-corrosive finishing paints, electro-chemical treatments, tempering, and many other intricate operations are all concealed in the final watertight assembly.

P. M. Driver Unit—The driver unit incorporated in the Model WSH-101 is an adaptation of the standard P. M. unit described above. The driver unit is easily removable for inspection. No threads are used for connecting the unit to the trumpet, eliminating any electrolytic action and resultant "freezing" together.

Construction—The bell section and unit chamber spinning are spun from extra heavy gauge aluminum sheets. The back section of the horn is a heavy aluminum casting, and the casting for the first section of the tone arm is accurately machined and designed according to the precise exponential formula. Mounting facilities are provided as part of the rear main casting. This heavy casting has three mounting appendages for use in attaching the speaker to a wall or stanchion. An adjustable mounting bracket can be supplied if desired.

A heavy watertight cast aluminum connection box is a part of the mounting casting and offers facilities for BX or pipe conduit permanent connections. All screws and steel parts are cadmium plated to resist corrosion.

Bell opening 15½", total depth 12". Final finish, heavy gray enamel.

Model WSH-101 Exponential Horn and Unit

List Price $115.00—Code YNKIT

Individual technical descriptive sheet available upon request.

PERMANENT MAGNET DYNAMIC SPEAKERS

All Atlas cone speakers are equipped with a universal line matching transformer for matching 500, 1000, 1500, and 2000 ohm lines. Voice coil terminals are also easily accessible for direct to voice coil 6 ohm circuits. All mounting holes are of standard size and placement and will line up with mounting facilities in all Atlas baffles and enclosures. Positive provisions are made in the design of these speakers to prevent foreign materials from lodging in the magnetic gap. All power handling ratings are conservative.

Models PM-8HP and PM-12 speakers have the magnetic structure enclosed in a spun aluminum shield finished in a distinctive red lacquer. Every possible provision has been taken in the design of these speakers to make them most suitable for the varied conditions experienced in P. A. application.

Model	Cone Size	Transformer	Watt Rating	Shipping Wt.	List Price	Code
PM-8	8"	Universal Line	8 Watts	6 lbs.	8.00	YPZOV
PM-8HP	8"	Universal Line	16 Watts	10 lbs.	14.00	YPZRU
PM-12	12"	Universal Line	16 Watts	10 lbs.	14.00	YPZSA

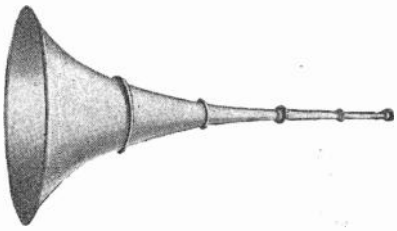
World Radio History

ATLAS Sound

"HEARD 'ROUND THE WORLD"

ATLAS ALL-ALUMINUM BELL TRUMPETS

- All Aluminum
- Non-Resonant
- Guaranteed Storm-Proof
- Truly Exponential
- Sturdy Construction
- Heavy Cast Tone Arms



Atlas all-aluminum trumpets are designed mechanically so that resonance conditions are completely eliminated. There is no chance of rattle in an Atlas all-metal constructed trumpet, for all connecting sections are protected fully by heavy gaskets.

Bell Section—The bell section of the trumpet is spun from the finest sheets of heavy gauge aluminum. The spinning is smooth, and the horn is free from unsightly spinning lines or grooves. The bell edge has a heavy beading which adds to the sturdiness in the construction of the horn.

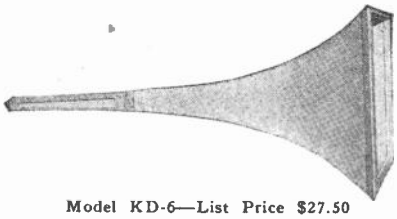
Aluminum Cast Tone Arm—An essential feature of the Atlas Trumpets is the length of the tone arm castings. Aside from mentioning the heavy weight and thickness of the castings, it is important to note that the six foot model RA-72 has a cast tone arm which is more than half the total length of the entire horn or 42" in length. The two piece tone arm is supplied with a special loose coupling for attaching driver units having a 1⅜"—18 thread. The cast throat is accurately designed and precisely constructed so that the trumpet will perform uniformly and efficiently over a wide range of frequencies. The rate of expansion of Atlas trumpets is acoustically correct, and the exponential formula is carried from the castings directly into the design of the connecting bell section.

Finish—The horns are finished in a natural aluminum finish which assures absolute protection against weather in the most humid areas. The lacquer which is carefully sprayed on the horn is selected for its excellent non-tarnishing qualities.

Model RA-72 Trumpet—Length 72". Bell Opening 32". Shipping Weight 21 lbs. **List Price $55.00—Code YNIEK.**

Model RA-42—Same construction as RA-72, and demountable into two sections. Length 42". Ball Opening 23". Shipping Weight 10 lbs. **List Price $30.00—Code YNICH.**

ATLAS 6 FT. PROJECTOR TRUMPET



Model KD-6—List Price $27.50

Guaranteed Weather Proof in All Climates

These trumpets are the last word in a high quality low priced trumpet. They are shipped partly assembled permitting great ease in handling. To completely assemble this trumpet requires only the use of a small spintite wrench or pliers. The finish is a lustrous and durable aluminum. The horn material is a non-resonant, all-weather material guaranteed 100% weather proof in all climates. Will not rattle or resonate when driven with high power. The 2½ foot tone arm is removable to facilitate installation and handling. Shipping weight 25 lbs. Shipping size 53x28x5 inches. CODE YVOKS

ATLAS FIELD COIL DYNAMIC UNITS

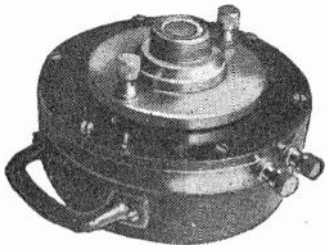
The nucleus of any unit is the voice coil diaphragm assembly. Atlas engineers developed a diaphragm spun from Duralumin which is heat treated and tempered so that the diaphragm will withstand motion at its flex point, and offer rigidity at its dome. Other features of the high grade Atlas units include six point diaphragm mounting, aluminum voice coil winding, accurately machined sound chambers, heavy cast iron pots, except for the GU-3 which has a heavy steel pressed pot.

Model GU-2 22 Watts Continuous
Shipping Weight 20 lbs.
List Price $60.00—Code YNALJ

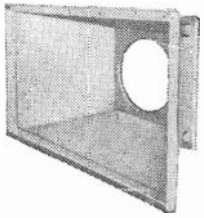
Model SU-2 20 Watts Power
Shipping Weight 12 lbs.
List Price $40.00—Code YNAMZ

Model GU-3 Economy Unit 20 Watts Continuous
Shipping Weight 12 lbs.
List Price $27.50—Code YVOIR

*All units supplied with 6-8 or 110 volt field coils. 15 Ohms Voice Coils on all units.



Atlas "Demountable" Flare and Directional Baffles



IMPROVE THE FREQUENCY RESPONSE INCREASE THE EFFICIENCY AND CONTROL THE SOUND DISTRIBUTION OF YOUR CONE SPEAKER

MODEL "UF"
Overall dimensions, Bell opening 30x18 depth 14 in. Shpg. Wght., 10 lbs. Shpg. Size 30x16x2½ inches.
Type "A" for 10, 11, and 12-in. cones. CODE WORD YNAJI
Type "B" for 7, 8 and 9-in. cones. CODE WORD YNAIF
Model "UF".....List Price $7.00

MODEL "UD"
Overall dimensions, Bell opening 22x23, depth 25 in. Shpg. Wght., 15 lbs. Shpg. Size 27x25x3 inches.
Type "A" for 10, 11 and 12-in. cones. CODE WORD YNAHR
Type "B" for 7, 8 and 9-in. cones. CODE WORD YNAFE
Model "UD".....List Price $8.50

WEATHERPROOF "DEMOUNTABLE" SPEAKER HOUSING
This speaker housing may be easily attached to either of the above horn baffles. Inside dimensions of housing 15¾x15¾x11 in. deep. Shpg. Wt., 8 lbs. Shpg. Sizes 17x17x2 in. CODE WORD YNAEB
Model "UB" Speaker Housing.....List Price $5.00

ATLAS HORN ADAPTORS

The adaptor illustrated bears a standard unit thread and is a carefully machined bronze casting. It enables the use of two horns with a single unit.

Model U-2H
List Price $10.00—Code YNARM

Same as above, but for three horns with a single unit.

Model U-3H
List Price $13.50—Code YNAST

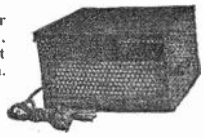
This adaptor is for coupling a Western Electric unit to a horn bearing a standard size thread.

Model WEB—List Price $3.50—Code YNATY

This adaptor is for the purpose of connecting two units to one horn.

Model H-2U—List Price $10.00—Code YNAVX

ATLAS FIELD EXCITER



Supplies proper field excitation for one or two Atlas units. This is a special all-dry, humless exciter and will not overheat. Built for 110-120 volts, 50-60 cycle operation. Shipping weight 8 lbs.

Model FE-2
List Price $22.50—Code YNAOL

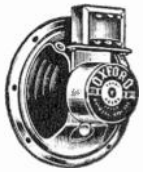
World Radio History

OXFORD TARTAK

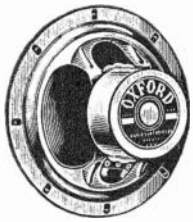
SPEAKERS BY OXFORD

"PERMAG" Permanent Magnet SPEAKERS

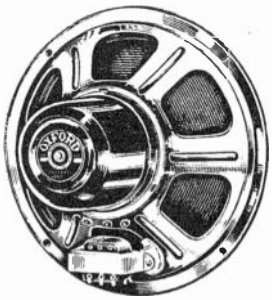
Oxford "PERMAG" permanent-magnet speakers all have full size magnets, assuring a high flux density across the voice coil. Each model matches in sensitivity a comparable electro-dynamic speaker.



5XMP-T



6XMP



12DMP-T

Model	Size	Mag. Wt.	Voice Coil Size	Voice Coil Imp.	Power Cap. Watts	Trans.	Ship. Wt.	List Price
*3YMP	3½"	4 Oz.	⅝"	5	1½	None*	1¼ Lbs.	$ 2.65
5YMP	5"	4 Oz.	⅝"	5	2½	None	1½ Lbs.	2.70
5YMP-T	5"	4 Oz.	⅝"	5	2½	Univ.	2 Lbs.	3.55
5XMP	5"	8 Oz.	¾"	6-8	3	None	2 Lbs.	3.65
5XMP-T	5"	8 Oz.	¾"	6-8	3	Univ.	2½ Lbs.	4.50
6YMP	6½"	4 Oz.	⅝"	5	3½	None	1¾ Lbs.	3.20
6YMP-T	6½"	4 Oz.	⅝"	5	3½	Univ.	2¼ Lbs.	4.05
6XMP	6½"	8 Oz.	¾"	6-8	4	None	2¼ Lbs.	4.15
6XMP-T	6½"	8 Oz.	¾"	6-8	4	Univ.	2¾ Lbs.	5.00
8XMP	8"	8 Oz.	¾"	6-8	5	None	3½ Lbs.	4.65
8XMP-T	8"	8 Oz.	¾"	6-8	5	Univ.	4¼ Lbs.	5.65
8WMP	8"	18 Oz.	1"	8	7	None	4½ Lbs.	7.50
8WMP-T	8"	18 Oz.	1"	8	7	Univ.	5½ Lbs.	8.75
11WMP	11"	18 Oz.	1"	8	8	None	5½ Lbs.	8.50
11WMP-T	11"	18 Oz.	1"	8	8	Univ.	6½ Lbs.	9.75
12WMP	12"	18 Oz.	1"	8	9	None	7½ Lbs.	9.50
12WMP-T	12"	18 Oz.	1"	8	9	Univ.	8½ Lbs.	10.75
12DMP	12"	35 Oz.	1¼"	8	12	None	9½ Lbs.	13.50
12DMP-T	12"	35 Oz.	1¼"	8	12	Univ.	11½ Lbs.	14.75
14DMP	14"	35 Oz.	1¼"	8	14	None	10¼ Lbs.	15.00
14DMP-T	14"	35 Oz.	1¼"	8	14	Univ.	12½ Lbs.	16.25
6DMP	6"	56 Oz.	1¼"	8	12	None	7½ Lbs.	20.00

Line transformer 500 ohm optional —Specify "LL" after model.
Line transformer 1000 ohm T 500 optional—Specify "L" after model.

* Due to small size of speaker, transformer cannot be mounted on speaker.

Separate Universal transformer No. 1302 ..... List $0.85
Voice coil to grid transformer No. 1280 for 3"-5" and 6" speaker ..... List 1.00
Voice coil to grid transformer No. 5868 for 8" speakers and up ..... List 1.40

Permag Speaker in Cabinets

"PERMAG" speakers in attractive cabinets are ideally suited for extension speakers for home radio sets, or call systems. Furnished with, or without, transformer, volume control and "On-Off" switch.

Model	Speaker Size	Cabinet Size	Trans.	Vol. Cont.	Ship. Wt.	List Price
6XMC	6½"	7x7x4	None	None	4¼ Lbs.	$ 8.50
6XMC-T	6½"	7x7x4	With	None	4½ Lbs.	9.35
6XMC-V.T.	6½"	7x7x4	With	With	4¾ Lbs.	11.85
8XMC	8"	9x9x5	None	None	4¾ Lbs.	10.00
8XMC-T	8"	9x9x5	With	None	5¼ Lbs.	11.00
8XMC-V.T.	8"	9x9x5	With	With	6 Lbs.	13.50
8WMC	8"	9x9x5	None	None	6 Lbs.	12.50
8WMC-T	8"	9x9x5	With	None	7 Lbs.	13.75
8WMC-V.T.	8"	9x9x5	With	With	7¼ Lbs.	16.25

Where Transformer is designated, a High Impedance Transformer is furnished.

8WMC

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World Radio History

OXFORD TARTAK

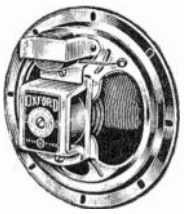
SPEAKERS BY OXFORD

Custom Built Replacement Speakers

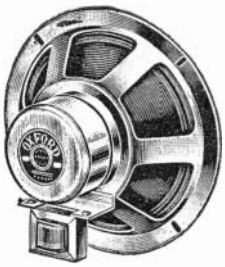
Manufactured according to exacting standards of quality, these speakers may be used for replacement purposes with full confidence that they will meet every requirement of the original set manufacturer —in many cases surpassing the original speaker in performance because of the improvement in modern speaker design and construction.

The speakers listed on this page have heavy field structures, are fully dust-proof and have full Universal transformers to match most output tubes, for single, pushpull or parallel operation. Voice coil impedance is 5 ohms DC at 400 cycles.

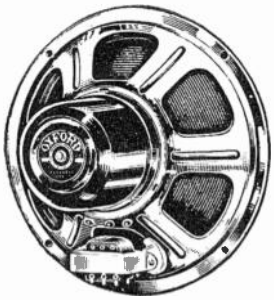
Speakers are attractively boxed in colored display cartons. Each speaker is separately packed in additional corrugated inside containers to assure adequate protection in re-shipping.



6UO



11UC



12UC

Stock No.	Voice Coil Size	Field Ohms	Power Cap. Watts	Ship. Wt.	List Price
MODEL 3UO—3½" ELECTRO-DYNAMIC SPEAKER					
U 31	⅝"	3000	2	1½ Lbs.	$ 2.60
U 32	⅝"	2500	2	1½ Lbs.	2.60
U 33	⅝"	450	2	1½ Lbs.	2.60
U 34	⅝"	6 Volt	2	1½ Lbs.	2.60
MODEL 5UO—5" ELECTRO-DYNAMIC SPEAKER					
U 51	11/16"	3000	3	2 Lbs.	3.00
U 52	11/16"	2500	3	2 Lbs.	3.00
U 53	11/16"	1800T300	3	2 Lbs.	3.00
U 54	11/16"	1000	3	2 Lbs.	3.00
U 55	11/16"	450	3	2 Lbs.	3.00
U 56	11/16"	6 Volt	3	2 Lbs.	3.00
MODEL 6UO—6½" ELECTRO-DYNAMIC SPEAKER					
U 61	11/16"	2500	4	3¼ Lbs.	3.75
U 62	11/16"	1800T300	4	3¼ Lbs.	3.75
U 63	11/16"	1000	4	3¼ Lbs.	3.75
U 64	11/16"	6 Volt	4	3¼ Lbs.	3.75
MODEL 8UA—8" ELECTRO-DYNAMIC SPEAKER					
U 81	⅞"	2500	6	4¾ Lbs.	5.15
U 82	⅞"	1800T300	6	4¾ Lbs.	5.15
U 83	⅞"	1000	6	4¾ Lbs.	5.15
U 84	⅞"	6 Volt	6	4¾ Lbs.	5.15
MODEL 11UC—11" ELECTRO-DYNAMIC SPEAKER					
U 111	1"	2500	8	6¾ Lbs.	7.25
U 112	1"	1800T300	8	6¾ Lbs.	7.25
U 113	1"	1000	8	6¾ Lbs.	7.25
MODEL 12UC—12" ELECTRO-DYNAMIC SPEAKER					
U 121	1"	2500	10	8 Lbs.	8.25
U 122	1"	1800T300	10	8 Lbs.	8.25
U 123	1"	1000	10	8 Lbs.	8.25
U 124	1"	6 Volt	10	8 Lbs.	8.25

The above speakers are carried in stock with listed fields and transformers as standard. Special fields other than listed are subject to additional charges of $.50 list on 3", 5" and 6" speakers; $.75 on 8", 11" and 12" speakers.

Indicate (L) after model number for 500 ohm line transformers optional on all speakers at no additional charge.

Indicate (LL) after model number for 1000 ohm line tap at 500 transformer available in 8", 11" and 12" speakers only.

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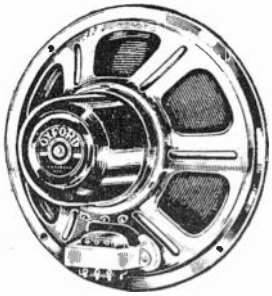
World Radio History

OXFORD TARTAK

SPEAKERS BY OXFORD

Public Address Reproducers

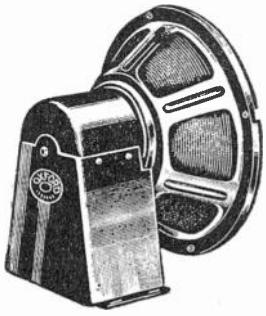


12DT

Oxford Public Address Speakers have for years been used by discriminating sound engineers. They are recognized for fine, dependable performance.

The speakers listed below have 1¼" voice coils of 8 ohm impedance at 400 cycles. Standard fields are 6-volts, 1000 ohms or 2500 ohms. Other field resistances can be furnished at additional cost. Universal output transformers, 500 ohm line transformers, or 1000 ohms tapped at 500 ohms, are optional. AC speakers as listed are furnished with transformer for 110 volts, 60 cycles and use an 80 tube as a rectifier. Transformers for 25 cycles or 220 volts at additional cost. AC speakers furnished less rectifier tube.

Note:
Indicate 500 ohm line transformer by letter (L) after model number.
Indicate 1000 ohm tap 500 line transformer by letters (LL) after model number.
Indicate desired field when ordering.



12DS

Model	Size	Trans.	Power Cap. Watts	Field	Shpg. Wt.	List
12D	12"	None	12	Standard	13 Lbs.	$9.25
12D-T	12"	Univ.	12	Standard	14 Lbs.	10.50
12DS	12"	None	15	Standard	16 Lbs.	13.50
12DS-T	12"	Univ.	15	Standard	17 Lbs.	15.00
12DS-AC	12"	None	15	AC	20 Lbs.	21.50
12DS-TAC	12"	Univ.	15	AC	21 Lbs.	23.00
14DS	14"	None	18	Standard	17½ Lbs.	16.50
14DS-T	14"	Univ.	18	Standard	18½ Lbs.	18.00
14DS-AC	14"	None	18	AC	22 Lbs.	25.25
14DS-TAC	14"	Univ.	18	AC	23 Lbs.	26.50

EXPONENTIAL HORN—XA22

For all applications where volume, directional effect and appearance are of great importance.
Horn is made of heavy gauge spun aluminum and may be mounted for indoor, outdoor, or mobile use. It is especially designed for use with Oxford 6-DMP Permag trumpet or 6-T Electro-Dynamic trumpet.

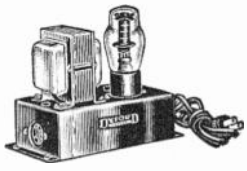
- Size of horn—length overall, 28"—Bell diameter 20". Net weight 6 lbs. Shipping weight 12 lbs.
- Output rating of trumpets 6-DMP or 6-T; 12 watts—normal, 18 watts peak when used with XA-22 horn.
- Standard fields 6-T—1000 ohms, 2500 ohms or 6 volts.
- Voice coil impedance 6-DMP or 6-T—8 ohms at 400 cycles.
- Shipping weight 6-DMP or 6-T—7½ lbs.

XA22

Model	List Price
XA22	$25.00
XA22-6T (combination)	36.00
XA22-6DMP (combination)	40.50
6T—(only) (Indicate Field)	15.00
6DMP—(only)	20.00
RC1—Rubberized protective flare cover for XA22	3.50

FIELD EXCITER UNITS

DC FOR FIELD FROM 110V-60 CY. AC



Model E17

Model E9: 9 Watts DC—uses 25Z5 tube. Size 3⅝ x 3$\frac{13}{16}$ x 7. Shpg. wt. 3½ Lbs.
List price less tube $4.25

Model E17: 17 Watts DC—uses 80 tube. Size 3⅝ x 5$\frac{7}{16}$ x 7. Shpg wt. 5 Lbs.
List price less tube $6.00

Model E30: 30 Watts DC—uses 5Z3 tube. Size with protective metal cover—4 x 7$\frac{1}{16}$ x 9. Shpg. wt. 8 Lbs.
List price less tube $12.00

Model E6: 6 to 9 volt—self contained rectifier uses no tube. Size with protective metal cover—4 x 7$\frac{1}{16}$ x 9. Shpg. wt. 10 Lbs.
List price $22.00

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World Radio History

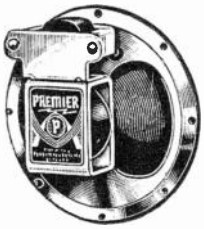
OXFORD TARTAK

SPEAKERS BY OXFORD

Premier Series

ELECTRO-DYNAMIC
MAGNETIC
UNIVERSAL DYNAMIC

The Premier series is designed to meet the need of servicemen for quality replacement speakers at low cost. It is usually more economical to use a new, improved replacement speaker than to repair the original. Manufactured by OXFORD insures a high quality product.



P6

MODEL P5 (5") ELECTRO-DYNAMIC SPEAKER — Shipping weight 1½ lbs.

Stock No.	Field Ohms	Output Tube	Trans. Imp. Ohms	List Price	Stock No.	Field Ohms	Output Tube	Trans. Imp. Ohms	List Price
P51	3000	S43	4500	$2.45	P54	1000	S42	7000	$2.45
P52	2500	S42	7000	2.45	P55	450	S25L6	2000	2.45
P53	1800T300	S42	7000	2.45	P56	6 Volt	S41	9000	2.45

MODEL P6 (6½") ELECTRO-DYNAMIC SPEAKER — Shipping weight 2 lbs.

P61	3000	S43	4500	$2.90	P64	1000	S42	7000	$2.90
P62	2500	S42	7000	2.90	P65	450	S25L6	2000	2.90
P63	1800T300	S42	7000	2.90	P66	6 Volt	S41	9000	2. 0

MODEL P8 (8") ELECTRO-DYNAMIC SPEAKER — Shipping weight 4 lbs.

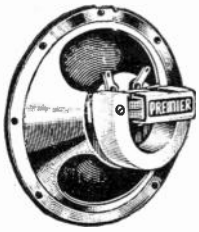
P81	2500	S42	7000	$3.90	P83	1000	S42	7000	$3.90
P82	1800T300	S42	7000	3.90	P84	6 Volt	S41	9000	3.90

MODELS UP 6 (6") AND UP 8 (8") UNIVERSAL SPEAKERS

Stock No.	Field-Ohms.	Trans. Output	Shipping Weight	List Price
UP6	3000–2500–1800T300	UNIVERSAL: Any value 2000 Ohms to 10,000 Ohms. Single, Pushpull or Parallel	2¾ lbs.	$4.15
UP8	3000–2500–1800T300	UNIVERSAL: Any value 2000 Ohms to 10,000 Ohms. Single, Pushpull or Parallel	4¾ lbs.	4.85

Above speakers carried in stock as listed. Special fields can be furnished at 50c. additional list. Pushpull output transformers can be furnished at 50c. additional list.

INDICATE PUSHPULL OUTPUT (PP) AFTER MODEL NUMBER.



M50

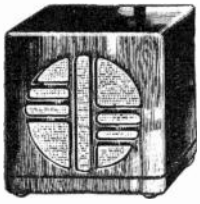
Magnetic Speakers

Sturdily built and having good tone quality, these speakers are recommended for replacements to improve performance in battery sets and small AC-DC receivers.

MAGNETIC SPEAKERS AND MAGNETIC SPEAKERS IN CABINETS

Model No.		Speaker Size	Cabinet Size	Vol. Cont. and Switch	Shipping Weight	List Price
M30	Speaker Only	3"	None	None	¾ lb.	$1.75
M50	Speaker Only	5"	None	None	¾ lb.	1.85
M60	Speaker Only	6½"	None	None	1 lb.	2.25
M80	Speaker Only	8"	None	None	1½ lb.	2.90
PC60	Speaker in Cabinet	6½"	7" x 7" x 4"	None	2½ lbs.	6.50
PCV60	Speaker in Cabinet	6½"	7" x 7" x 4"	With	2¾ lbs.	9.00
PC80	Speaker in Cabinet	8"	9" x 9" x 5"	None	4 lbs.	7.75
PCV80	Speaker in Cabinet	8"	9" x 9" x 5"	With	4¼ lbs.	10.25

Above speakers can be furnished with center tap for push-pull tube at additional charge of 25c. list. Indicate (CT) for center tap after model number.



PC60

Outstanding, new, and beautifully designed modern cabinets house the "Premier Serv-A-Speakers." These magnetic speakers in cabinets fill a real need for moderately priced extension speakers; for homes, club rooms, hotels, offices etc. They are available with or without on-off switch and volume control.

Bulletin 384

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World Radio History

UTAH HIGH FIDELITY SPEAKERS

NOTE—Universal Transformers Match Speakers to Any Tubes

6½ Inch Speakers

Exceptionally rugged and true toned speakers for all ordinary applications. Nominal power input 6 watts, peak 9 watts. Voice coil impedance at 400 cycles 6 ohms, recommended field watts 6.5.

8 Inch Speakers

An unusually good 8 inch speaker. Normal input rating, 8 watts, peak 12 watts. Voice coil impedance at 400 cycles 6-8 ohms. Recommended field watts 9. Consult our replacement list for other 8 inch speakers

8 Inch Heavy Duty Speakers

For high efficiency and more rigid performance requirements. Recommended normal input 10 watts, peak 15 watts. Voice coil 8 ohms at 400 cycles, recommended field watts 12.

10 Inch Speakers

Normal input 9 watts, peak 12 watts. Voice coil 6-8 ohms at 400 cycles, recommended field watts, 9.

10 Inch Heavy Duty Speakers

Recommended normal input 11 watts, peak 17 watts. Voice coil 8 ohms, recommended field watts, 12.

12 Inch Speakers

Normal recommended input watts, 10, peak watts 15. Voice coil 6-8 ohms, Field Watts, 9.

12 Inch Heavy Duty Speakers

Our best selling 12 inch speaker. A real heavy duty job, with true high fidelity reproduction. Without a doubt one of the best "buys" on the market today. Will handle a normal input of 12 watts without distortion, and will handle peaks of 18 watts easily. Voice coil 8 ohms at 400 cycles. You will make no mistake if you build your installation around this speaker. Recommended field current 12 watts.

12 Inch Auditorium Speakers

A truly great value, and a truly great speaker. Amazingly faithful response for the entire audible range. 1¼ inch pole piece. This speaker will handle 18 watts without any trace of distortion and will easily take peaks of 25 watts. Recommended field current 18 watts, voice coil 8 ohms at 400 cycles.

12 Inch Stadium Speakers

One of the finest speakers money can buy. A real brute for work and the finest reproduction you ever heard. Normal operating input 20 watts, peak 30 watts, recommended field current 25 watts. Surpassed only by our 15 inch Stadium speakers. Voice coil 8 ohms.

Type	Field Resistance	Output Transf.	Ship. Wt.	Price	Code
C6U25	2500 Ohms	Universal	4½ Lb.	$6.00	CAB
C6U6	6 Ohms	Universal	4½ Lb.	6.00	CAD
C6U18	1800 Ohms Tapped 300	Universal	4½ Lb.	6.00	CAL
C6-25	2500 Ohms	None	4 Lb.	5.25	CEA
C6-6	6 Ohms	None	4 Lb.	5.25	CEB
C6-18	1800 Tapped 300	None	4 Lb.	5.25	CEC
E8L10	1000 Ohms	Line	6 Lb.	$7.25	CUM
E8U10	1000 Ohms	Universal	6 Lb.	7.25	CUF
E8U25	2500 Ohms	Universal	6 Lb.	7.25	CAM
E8U100	10000 Ohms	Universal	6 Lb.	7.25	CAR
E8U4	4 Ohms	Universal	6 Lb.	7.25	CAT
E8U18	1800 Tapped 300	Universal	6 Lb.	7.25	CAW
E8-10	1000 Ohms	None	5½ Lb.	6.25	CED
E8-25	2500 Ohms	None	5½ Lb.	6.25	CEF
F8L10	1000 Ohms	Line	7 Lb.	$8.75	CAN
F8-U10	1000 Ohms	Universal	7 Lb.	8.75	COD
F8U25	2500 Ohms	Universal	7 Lb.	8.75	CUT
F8U100	10000 Ohms	Universal	7 Lb.	8.75	COT
F8U2	2 Ohms	Universal	7 Lb.	8.75	COB
F8-10	1000 Ohms	None	6½ Lb.	7.75	CEG
F8-25	2500 Ohms	None	6½ Lb.	7.75	CEH
E10L15	1500 Ohms	Line	10 Lb.	$8.00	CAS
E10L25	2500 Ohms	Line	10 Lb.	8.00	CUD
E10L4	4 Ohms	Line	10 Lb.	8.00	CUP
E10-15	1500 Ohms	None	9¼ Lb.	7.00	CEJ
E10-25	2500 Ohms	None	9¼ Lb.	7.00	CEK
E10-4	4 Ohms	None	9¼ Lb.	7.00	CEL
F10L25	2500 Ohms	Line	11 Lb.	$9.75	CUR
F10L2	2 Ohms	Line	11 Lb.	9.75	CAP
F10-25	2500 Ohms	None	10¼ Lb.	8.75	CEM
F10-2	2 Ohms	None	10¼ Lb.	8.75	CEN
E12L25	2500 Ohms	Line	12 Lb.	$10.00	COY
E12L4	4 Ohms	Line	12 Lb.	10.00	CUE
E12-25	2500 Ohms	None	11 Lb.	8.75	CEP
E12-50	5000 Ohms	None	11 Lb.	8.75	EAD
F12L10	1000 Ohms	Line	14 Lb.	$11.50	COG
F12U10	1000 Ohms	Universal	14 Lb.	11.50	COP
F12L25	2500 Ohms	Line	14 Lb.	11.50	CARE
F12U25	2500 Ohms	Universal	14 Lb.	11.50	CAPE
F12L2	2 Ohms	Line	14 Lb.	11.50	COOP
F12U2	2 Ohms	Universal	14 Lb.	11.50	COVE
F12LAC	110 V.-AC	Line	20 Lb.	19.00	CAST
F12UAC	110 V.-AC	Universal	20 Lb.	19.00	CARY
F12-25	2500 Ohms	None	13 Lb.	10.25	CES
F12-10	1000 Ohms	None	13 Lb.	10.25	CET
F12-2	2 Ohms	None	13 Lb.	10.25	CEV
F12-AC	110 V.-AC	None	19 Lb.	17.75	CEX
F12-50	5000 Ohms	None	13 Lb.	10.25	EAL
G12U25	2500 Ohms	Universal	16 Lb.	$18.00	CURD
G12C25	2500 Ohms	4400 Ohm Center Tap	16 Lb.	18.00	CODE
G12L25	2500 Ohms	Line	16 Lb.	18.00	CADE
G12U10	1000 Ohms	Universal	16 Lb.	18.00	CASE
G12C10	1000 Ohms	4400 Ohm Center Tap	16 Lb.	18.00	CALE
G12L10	1000 Ohms	Line	16 Lb.	18.00	CAME
G12-50	5000 Ohms	None	15 Lb.	16.75	CASE
G12-10	1000 Ohms	None	15 Lb.	16.75	CATE
G12-25	2500 Ohms	None	15 Lb.	16.75	CAVE
G12-AC	110 V.-AC	None	21 Lb.	25.50	CAWE
H12C25	2500 Ohms	4400 Ohm Center Tap	19 Lb.	$26.25	CUBE
H12L25	2500 Ohms	Line	19 Lb.	26.25	CULL
H12C1	1 Ohm	4400 Ohm Center Tap	19 Lb.	26.25	CORD
H12L1	1 Ohm	Line	19 Lb.	26.25	COOL
H12LAC	110 V.-AC	Line	23 Lb.	36.25	CELL
H12CAC	110 V.-AC	4400 Ohm Center Tap	23 Lb.	36.25	CARP
H12-25	2500 Ohms	None	17¾ Lb.	25.00	CAXE
H12-1	1 Ohm	None	17¾ Lb.	25.00	CAYE
H12-AC	110 V.-AC	None	21¾ Lb.	35.00	CAZE

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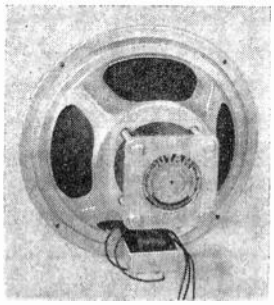
World Radio History

UTAH HIGH FIDELITY PERMO DYNAMIC SPEAKERS

Completely Dustproofed

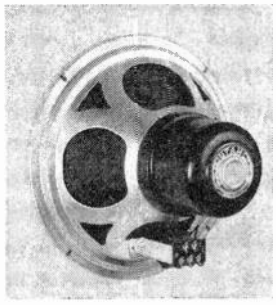
True high fidelity reproduction, and a carrying capacity of even more than rated. A new design and composition of magnet provides an amazing high efficiency, and each of these speakers is fully the equivalent of the same size of electro dynamic speaker. Do not confuse these speakers with any other permanent magnet or so called permanent magnet dynamics you have ever heard or tried before. They are absolutely the last word in this type of equipment and must be heard to be appreciated.



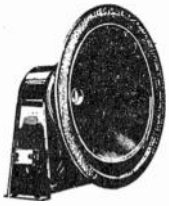
Trans.	Type	Cone Size	Magnet	Pole Diam.	Voice Coil	Max. Normal Watts	Price
*None	3P	3½ Inch	5 Oz.	⅝ Inch	3-5 Ohm	3 Watts	$3.00
*Univ.	5UP	5 Inch	5 Oz.	⅝ Inch	2½ Ohm	5 Watts	3.50
*Line	5LP	5 Inch	5 Oz.	⅝ Inch	2½ Ohm	5 Watts	3.50
Univ.	E6UP	6 Inch	7 Oz.	¾ Inch	6-8 Ohm	6	$6.50
Line	E6LP	6 Inch	7 Oz.	¾ Inch	6-8 Ohm	6	6.50
Univ.	F8UP	8 Inch	12 Oz.	¾ Inch	6-8 Ohm	10	8.50
Line	F8LP	8 Inch	12 Oz.	¾ Inch	6-8 Ohm	10	8.50
Univ.	G8UP	8 Inch	20 Oz.	1 Inch	6-8 Ohm	15	9.75
Line	G8LP	8 Inch	20 Oz.	1 Inch	6-8 Ohm	15	9.75
None	G8P	8 Inch	20 Oz.	1 Inch	6-8 Ohm	15	8.75
Univ.	H8UP	8 Inch	31 Oz.	1¼ Inch	6-8 Ohm	18	13.50
Line	H8LP	8 Inch	31 Oz.	1¼ Inch	6-8 Ohm	18	13.50
None	H8P	8 Inch	31 Oz.	1¼ Inch	6-8 Ohm	18	12.50
Univ.	J8UP	8 Inch	46 Oz.	1¼ Inch	6-8 Ohm	18	16.00
Line	J8LP	8 Inch	46 Oz.	1¼ Inch	6-8 Ohm	18	16.00
None	J8P	8 Inch.	46 Oz.	1¼ Inch	6-8 Ohm	18	15.00
Univ.	E10UP	10 Inch	20 Oz.	1 Inch	6-8 Ohm	16	11.50
Line	E10LP	10 Inch	20 Oz.	1 Inch	6-8 Ohm	16	11.50
Univ.	F10UP	10 Inch	31 Oz.	1¼ Inch	6-8 Ohm	25	14.00
Line	F10LP	10 Inch	31 Oz.	1¼ Inch	6-8 Ohm	25	14.00
Univ.	G10UP	10 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	17.25
Line	G10LP	10 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	17.25
None	G10P	10 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	16.00
Univ.	E12UP	12 Inch	20 Oz.	1 Inch	6-8 Ohm	18	15.00
Line	E12LP	12 Inch	20 Oz.	1 Inch	6-8 Ohm	18	15.00
None	E12P	12 Inch	20 Oz.	1 Inch	6-8 Ohm	18	14.00
Univ.	F12UP	12 Inch	31 Oz.	1¼ Inch	6-8 Ohm	25	17.75
Line	F12LP	12 Inch	31 Oz.	1¼ Inch	6-8 Ohm	25	17.75
None	F12P	12 Inch	31 Oz.	1¼ Inch	6-8 Ohm	25	16.50
Univ.	G12UP	12 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	22.50
Line	G12LP	12 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	22.50
None	G12P	12 Inch	46 Oz.	1¼ Inch	6-8 Ohm	25	21.25
Univ.	H12UP	12 Inch	7 Lb.	1½ Inch	6-8 Ohm	30	34.50
Line	H12LP	12 Inch	7 Lb.	1½ Inch	6-8 Ohm	30	34.50
None	H12P	12 Inch	7 Lb.	1½ Inch	6-8 Ohm	30	33.00

*Standard Models

THESE MODELS ← IN STOCK



UTAH 15 INCH SPEAKERS



Electro Dynamic

The finest, most efficient stadium speakers ever produced. Highly sensitive to even the lowest tone signals—specially treated voice coils giving unusually great power handling capacity—brilliant frequency response from 50 to over 8000 cycles. Audible proof of Utah's leadership.

Permanent Magnet Dynamic

Electro Dynamic Models

Model G15—recommended normal input 20 watts, and 30 watt peaks can be easily handled. Voice coil impedance 8 ohms at 400 cycles. Recommended field current 18 watts. Less transformer-deduct $2.00 list.

Model H15—recommended normal input 30 watts, and 45 watt peaks can be easily handled. Voice coil impedance 8 ohms at 400 cycles. Recommended field current 25 watts. Less transformer-deduct $2.00 list.

Type	Field	Output	Weight	Price	Code
G15-25	2500 Ohms	None	18 Lb.	$22.50	CRI
G15U25	2500 Ohms	Universal	20 Lb.	24.50	CRIS
G15L25	2500 Ohms	Line	20 Lb.	24.50	CRIM
G15-50	5000 Ohms	None	18 Lb.	22.50	CRIB
G15U50	5000 Ohms	Universal	20 Lb.	24.50	CRID
G15L50	5000 Ohms	Line	20 Lb.	24.50	CRIP
H15-25	2500 Ohms	None	19 Lb.	26.50	CRO
H15U25	2500 Ohms	Universal	21 Lb.	28.50	CROS
H15L25	2500 Ohms	Line	21 Lb.	28.50	CROM
H15-50	5000 Ohms	None	19 Lb.	26.50	CROB
H15U50	5000 Ohms	Universal	21 Lb.	28.50	CROD
H15L50	5000 Ohms	Line	21 Lb.	28.50	CROP

Permanent Magnet Dynamic Models (Completely Dustproofed)

Recommended normal input 30 watts, and 45 watt peaks can be easily handled. Voice coil impedance 8 ohms at 400 cycles. Less transformer-deduct $2.00 list.

Type	Field	Output	Weight	Price	Code
H15P	7 Lb.	None	16 Lb.	$36.50	CRA
H15UP	7 Lb.	Universal	18 Lb.	38.50	CRAS
H15LP	7 Lb.	Line	18 Lb.	38.50	CRAM

Utah "Q" Series Replacement Dynamic Speakers

Type	Cone Diam.	Output Trans.	Field	Price
R 345	3½ Inch	None	450	$2.50
Q506	5 Inch	None	6 Ohm	$2.75
Q530	5 Inch	Sgle. 43	3000 Tapped at 2500	2.75
Q518	5 Inch	Sgle. 43	1800 Tap 300	2.75
Q606	6 Inch	None	6 Ohm	3.40
Q610	6 Inch	Universal	1000	3.40
Q618	6 Inch	Universal	1800 Tapped at 300	3.40
Q620	6 Inch	Universal	2000	3.40
Q625	6 Inch	Universal	2500	3.40
Q810	8 Inch	Universal	1000	4.60
Q815	8 Inch	Universal	1500	4.60

Type	Cone Diam.	Output Trans.	Field	Price
Q818	8 Inch	Universal	1800 Tapped at 300	$4.60
Q820	8 Inch	Universal	2000	4.60
Q825	8 Inch	Universal	2500	4.60
Q1010	10 Inch	Universal	1000	6.50
Q1015	10 Inch	Universal	1500	6.50
Q1020	10 Inch	Universal	2000	6.50
Q1025	10 Inch	Universal	2500	6.50
Q1210	12 Inch	Universal	1000	7.50
Q1215	12 Inch	Universal	1500	7.50
Q1220	12 Inch	Universal	2000	7.50
Q1225	12 Inch	Universal	2500	7.50

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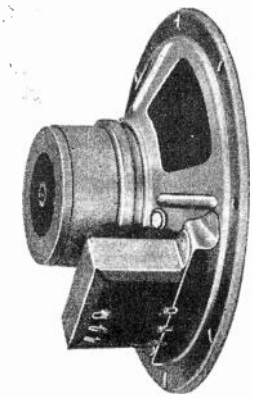
World Radio History

The CINAUDAGRAPH Magic Magnet Speaker

Outstanding in performance, quality of materials, and workmanship. A model for every use, from the small 6" MA 6-8 to the huge 18" DU 18-12, which is the largest permanent magnet speaker commercially available. All models employ the central single dowel principle, which assures precision of voice coil location at all times. Unusual fidelity of reproduction and remarkably uniform response are made possible by the use of special polyfibrous cone and quartz ribbon voice coil. Nipermag permanent magnets maintain high field intensities and reduce installation costs and rectifier upkeep.



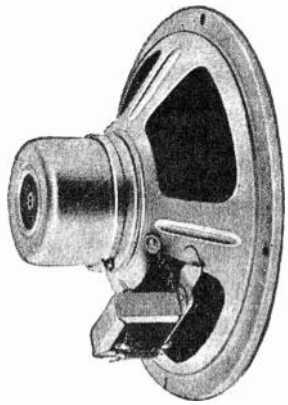
Model MA 6-8

Six Inch

The Magic Magnet six inch model is inexpensive in price and cost of operation. Reproducing up to 8000 cycles, it is ideal for use in compact radio receivers, public address installations and auto radio sets. Power handling capacity 4 to 8 watts. Resonance frequency 120-150 cycles. Overall diameter 6⅝" and maximum depth 2 7/16". Voice coil impedance 2½ or 6 ohms. Shipping weight without transformer 1⅞ lbs.

LIST PRICE (less transformer) **$4.20**

LIST PRICE (with Universal transformer) **5.60**



Models EZ 8-7 and EZ 8-10

Eight Inch

MODEL EZ 8-7 (shown left), is a distinct engineering advance over the conventional 8" speaker, giving superior performance in its price class. Economical in cost and operation, has unusual frequency response up to 8000 cycles. Saves battery current and improves quality as replacement speaker in auto and battery radio sets. Power capacity 5 to 8 watts. Overall diameter 8 3/32", depth 3 13/16". Resonance frequency 110-150 c.p.s. Voice coil diameter 1", impedance 2½ or 6 ohms. Shipping weight without transformer 3⅛ lbs.

LIST PRICE (less transformer) **$7.50**

LIST PRICE (with Universal transformer) **8.90**

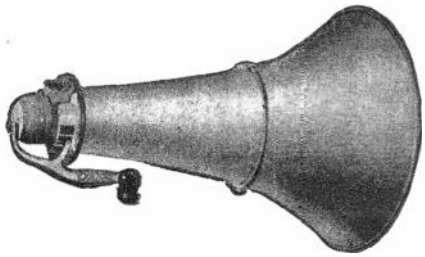
MODEL EZ 8-10. Same specifications as EZ 8-7, but with larger, more powerful magnet. Ideal for centralized radio installations and call systems, where clear cut reproduction of speech and music is essential. Depth 4¼". Shipping weight without transformer 4¼ lbs.

LIST PRICE (less transformer) **$10.50**

LIST PRICE (with Universal transformer) **11.90**

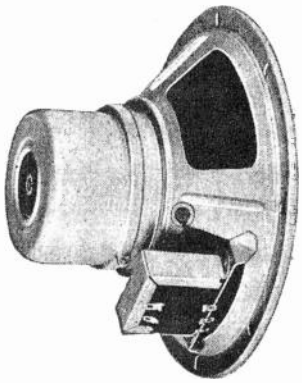
Cinaudagraph Air Column

Units and Horns



For outdoor and indoor use. Units are Cinaudagraph permanent magnet metal, famous for high fidelity. Horns are spun aluminum in two sections. Easy to transport Black crackle telescope stand and bracket of cast steel furnished.

	List Price
FYA 8-in. Speaker, input of 15 watts to 20 watts. Voice coil 6 ohms. Shipping weight 8 pounds	$31.00
HWA 10-in Speaker, input of 25 watts to 30, Voice coil 6 ohms. Shipping weight 27 pounds	56.00
SUA 10-in. Speaker, input 30 watts to 40 watts. Voice coil 8 ohms. Shipping weight 27 pounds	91.50
HU Horn for use with HWA or SUA units. 24-in. diam. bell, length 20-in. Shipping weight 18 lbs.	24.50
SW Horn for use with HWA or SUA units. 32-in. diam. bell, length 30 in. Shipping weight 22 lbs.	53.00
FX Horn for use with FYA unit. 24-in diam. bell, length 28-in. Shipping weight 18 pounds	32.00
Black crackle stand adjustable 4-ft. to 6-ft.	17.50



Models NZ 10-7 and NZ 10-10

Ten Inch

MODEL NZ 10-7 (shown left) has an extended low frequency response in addition to all other desirable qualities of Model EZ 8-7. Particularly suited for battery operated radio sets and other installations where good quality is required and cost is a consideration. Power capacity 8 to 10 watts. Resonance frequency 80-110 c.p.s. Overall diameter 10 5/16", depth 3⅞". Voice coil diameter 1", impedance 2½ or 6 ohms. Shipping weight without transformer 4⅜ lbs.

LIST PRICE (less transformer) **$9.00**

LIST PRICE (with Universal transformer) **10.40**

MODEL NZ 10-10 (not shown) has same excellent frequency response as NZ 10-7, but because of the larger permanent magnet has higher efficiency and greater power handling ability. Ideal for applications where portability, low weight and extended response to 8000 cycles are required. Same specifications as NZ 10-7 but larger magnet. Depth 4¼". Shipping weight without transformer 5½ lbs.

LIST PRICE (less transformer) **$12.25**

LIST PRICE (with Universal transformer) **13.65**

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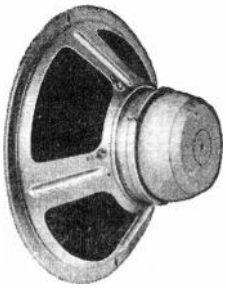
World Radio History

The CINAUDAGRAPH Magic Magnet Speaker



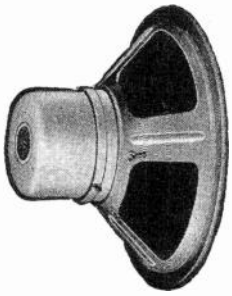
Model FB 12-11—12 In.

A sturdy high grade 12" speaker — ideal for public address installations and for all radio reproduction uses where only moderate power capacity and sound projection are necessary. Power handling capacity 12 to 18 watts. Overall diameter 12⅛", depth 5¾". Voice coil diameter 1¼", impedance 6 ohms. Resonance frequency 70-90 c.p.s. Shipping weight without transformer 8⅝ lbs.

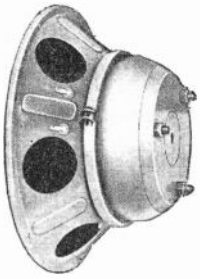
LIST PRICE (less transformer) $18.50
LIST PRICE (with Universal transformer) 20.40

Model FY 12-12—12 In.

Designed for both outdoor and indoor P. A. units, custom built sound equipment and portable motion picture use. An efficient 12" speaker combining high power sound projection with pure tone. Power handling capacity 15 to 18 watts. Overall diameter 12⅛", depth 5¾". Voice coil diameter 1½", impedance 6 ohms. Resonance frequency 60-80 c.p.s. Shpg. wt. without transformer 10½ lbs.



LIST PRICE (less transformer) $27.50
LIST PRICE (with Universal transformer) 29.90



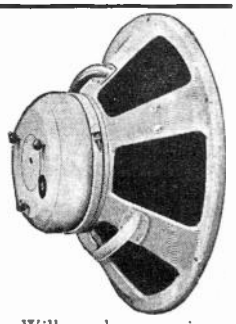
Model HW 13-13—Thirteen Inch

The 13" Magic Magnet Speaker incorporates all the amazing Cinaudagraph advances in construction and design, replacing the conventional woofer-tweeter combination and its inefficient, sound distorting filter systems. Answers every requirement for appreciable amplitude and great power capacity. Has broad frequency response flat to within + or — 5 d.b. from 40 to 9000 cycles. Ideal for broadcast monitoring, custom built radio receivers, quality talking picture installations and other uses demanding high fidelity standards. Power handling capacity 20 to 30 watts. Resonance frequency 30 to 50 c.p.s. Overall diameter 12 11/16", depth 6⅜". Voice coil diameter 2½", impedance 6 ohms. Shipping weight without transformer 42 lbs.

LIST PRICE (less transformer) $61.00
LIST PRICE (with Universal transformer) 63.95

Models SU 18-12 and DU 18-12—Eighteen Inch

THE SUPER MODEL SU 18-12 (shown right), with its powerful permanent magnet reproduces speech and music with a perfection never before attained. The superior characteristics of the large diaphragm obtain the highest possible decrement. Full coupling efficiency for frequency radiation as low as 30 cycles, maintaining a flat response up to 10,000 cycles, within + or — 5 d.b. Replaces usual woofer-tweeter combination. Ideal for large indoor wide-angle high frequency projection. The ultimate choice when only the finest musical reproduction is acceptable. Power handling capacity 30 to 35 watts. Resonance frequency 30-50 c.p.s. Overall diameter 18⅝", depth 7 3/16". Voice coil diameter 3½", impedance 7 ohms. Shipping weight without transformer 64 lbs.



LIST PRICE (less transformer) $100.00
LIST PRICE (with Universal transformer) 102.95

MODEL DU 18-12 is the largest, most powerful and efficient of the Cinaudagraph Magic Magnet Speakers. Will produce maximum driving efficiency at high amplitudes. Recommended for such installations as skating rinks and dance halls where power projection is the primary consideration. Same as Model SU 18-12 except that depth is 8⅝". Shipping weight without transformer 68 pounds.

LIST PRICE (with transformer) $100.00
LIST PRICE (with Universal transformer) 102.95

INFINITE BAFFLE CABINETS

Cinaudagraph Speakers operate with either the conventional flat baffle or in a completely enclosed baffle cabinet . . . Cinaudagraph Infinite Baffles are carefully lined to absorb all rear radiation and prevent reflection of high frequencies back to speaker diaphragm... Fitted with metal grille across opening and reinforced by nickel corner braces —finished in neutral gray.

No.	Outside Dimensions	Speaker Model	Without Transformer	With Transformer
1 BC	18" x13" x 7½"	EZ 8-7	$23.00	$24.40
		EZ 8-10	26.00	27.40
		EA 8-8	22.00	23.40
2 BC	21" x17" x10½"	NZ 10-7	30.25	31.65
		NZ 10-10	33.50	34.90
3 BC	35¾"x35¾"x11¼"	FB 12-11	48.50	50.40
		FY 12-12	57.50	59.90
		HW13-13	91.00	93.95
4 BC	35¾"x35¾"x16"	SU 18-12	132.50	135.95
		46 18-12	132.50	135.95

Baffles sold only with speakers.

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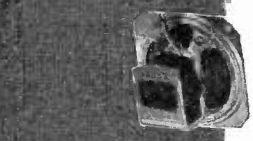
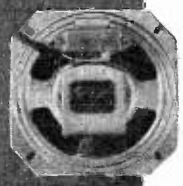
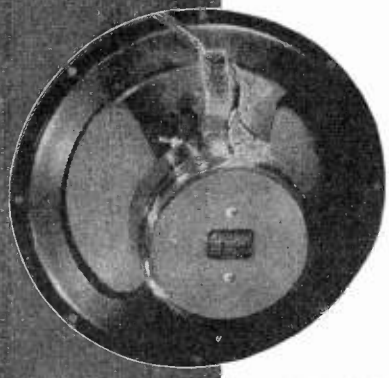
REPLACEMENT DYNAMICS QUAM







This line of replacement speakers is of the highest quality it is possible to build. Each unit is rigidly welded to form a one piece rugged assembly. No screws or fastenings to get out of adjustment. Universal mounting bracket packed with 4", 5", 5½", 6½" Dynamics only, a Quam feature at no extra cost. You will like the way QUAM speakers back up your service guarantees.

4 INCH STANDARD MODEL 40S

AC and AC-DC. For midget sets. Conservative output rating 3.5 watts. Standard 10" leads. Baffle opening 3¾". Mounting dia. 4 1/16". Depth 2¼". Shipping wt. 2½ lbs. Packed 20 units to carton. Individual pkgs. List price (less transformer), including excise tax.....$2.50
Model No. 43038 — 3000 ohms ● No. 42537 — 2500 ohms ● No. 41836 — 1800 ohms ● No. 41035 — 1000 ohms ● No. 44533 — 450 ohms.

5 INCH STANDARD MODEL 50S

AC and AC-DC. Ideal for replacement in small table model AC, AC-DC sets. Conservative output rating 3.5 watts. 10" standard leads. Outside dia. 5". Depth 2⅝". Approx. ship. wt. 2 lbs. Packed 20 units to carton. Individual pkgs. List price (less transformer), including excise tax.....$2.50
Model No. 53038 — 3000 ohms ● No. 52537 — 2500 ohms ● No. 51836 — 1800 ohms ● No. 51035 — 1000 ohms ● No. 54533 — 450 ohms ● No. 5623 — 5.5 ohms.

5½ INCH STANDARD MODEL 55S

High quality performance in compact space. For table models and automobile sets. AC and AC-DC. Conservative output rating 4.5 watts. Outside dia. across flats 5½". Across corners 6⅝". Mounting centers same as 6½" speakers. 10" standard leads. Depth 2 7/16". Ship. wt. 2.3 lbs. Packed 20 to carton. Individual pkgs. List price (less transformer) including excise tax.....$2.65
Model No. 553038 — 3000 ohms ● No. 552537 — 2500 ohms ● No. 551836 — 1800 ohms ● No. 551035 — 1000 ohms ● No. 554533 — 450 ohms ● No. 55623 — 5.5 ohms.

6½ INCH STANDARD MODEL 65S

For table models, automobile sets and small consoles. Conservative output rating 5.5 watts. Standard 15" leads. Outside dia. 6½". Depth 3½". Approx. ship. wt. 2.6 lbs., packed 20 units to carton. Individual pkgs. List price (less transformer), including excise tax.....$3.25
Model No. 63037 — 3000 ohms ● No. 62536 — 2500 ohms ● No. 61836 — 1800 ohms ● No. 61034 — 1000 ohms ● No. 64532 — 450 ohms ● No. 6622 — 5.5 ohms.

6½ INCH MODIFIED MODEL 65M

For table models and automobile sets. Conservative output rating 4.5 watts. 12" standard leads. Outside dia. 6½". Depth 3". Approx. ship. wt. 2.3 lbs., packed 20 units to carton. Individual pkgs. List Price (less transformer), including excise tax.....$2.80
Model No. 63038 — 3000 ohms ● No. 62537 — 2500 ohms ● No. 61836 — 1800 ohms ● No. 61035 — 1000 ohms ● No. 64533 — 450 ohms ● No. 6623 — 5.5 ohms.

8 INCH STANDARD MODEL 80S

For table models, automobile sets, small consoles, and small amplifying systems. Heavy duty field coil. Conservative output rating 8 watts. Standard 18" leads. Outside dia. 8". Depth 4⅜". Approx. ship. wt. 4.4 lbs., packed 12 units to carton, individual pkgs. List price (less transformer), including excise tax.....$4.80
Model No. 82535 — 2500 ohms ● No. 81834 — 1800 ohms ● No. 81033 — 1000 ohms ● No. 8621 — 5.5 ohms.

8 INCH MODIFIED MODEL 80M

For table models, automobile sets and small consoles. Conservative output rating 6 watts. Standard 18" leads. Outside dia. 8". Depth 3⅞". Approx. ship. wt. 3 lbs. Packed 12 units to carton, individual pkgs. List price (less transformer), including excise tax.....$3.95
Model No. 8M2536 — 2500 ohms ● No. 8M1835 — 1800 ohms ● No. 8M1034 — 1000 ohms ● No. 8M4532 — 450 ohms ● No. 8M622 — 5.5 ohms.

12 INCH STANDARD MODEL 120S

Extra heavy construction with increased power. Finished in black and chrome. Conservative output rating 12 watts. Standard 24" leads. Outside dia. 12". Dept 6". Approx. ship. wt. 8½ lbs. Packed one to carton. List price (less transformer), including excise tax.....$6.85
Model No. 122535 — 2500 ohms ● No. 121533 — 1500 ohms ● No. 121032 — 100 ohms ● No. 12621 — 6 volt.

MATCHING TRANSFORMERS

Recommended for

Models 40S-50S-55S-65M
Size — ½ x ½

Part No.	Impedance	Tube
T-773	2000 Ohm	25B5,25L6, etc.
T-704	4000 Ohm	25A7, 43, etc.
T-706	7000 Ohm	2A5, 42, 6F6, 47
T-717	10000 Ohm	41, 89, etc.

LIST PRICE — EACH.....$0.70

Models 65S-80M
Size — ½ x ⅝

T-774	2000 Ohm	25B5, 25L6, etc.
T-543	4000 Ohm	25A7, 43, etc.
T-548	7000 Ohm	2A5, 42, 6F6, 47
T-557	10000 Ohm	89, 41, etc.
T-733	10000 Ohm (plate to plate)	P.P., 6F6, 19, etc.

LIST PRICE — EACH.....$0.75

Transformers listed above equipped with metal shells.

T-747 500 and 1000 Ohm Line. Size — ½ x ⅝.
LIST PRICE — EACH.....$0.85
T-752 Universal—All Tubes. Size — ½ x ⅝.
LIST PRICE — EACH.....$1.25

TRANSFORMERS RECOMMENDED FOR

Model 80S
Size — ⅝ x ⅝

Part No.	Impedance	Tube
T-771	2000 Ohm	25B5, 25L6, etc.
T-767	4000 Ohm	25A7, 43, etc.
T-718	7000 Ohm	42, 6F6, 2A5, 47, etc.
T-797	10000 Ohm	89, 41, etc.

LIST PRICE — EACH.....$0.85

Size — ⅝ x ⅝

Part No.	Impedance	Tube
T-743	14000 Ohm (plate to plate)	P.P., 42, 6F6, 2A5, 47
T-798	8000 Ohm (plate to plate)	P.P., 43, 25A7
T-744	500 and 1000 Ohm Line	
T-745	10000 Ohm	19, etc.

List PRICE — EACH.....$1.00
T-751 Universal All Tubes
Size — ⅝ x ⅝
LIST PRICE — EACH.....$1.35

Model 120S
Size — ¾ x ¾

T-799	2500 Ohm	2A3-45, etc.
T-559	4000 Ohm	25A7, 43, etc.
T-740	7000 Ohm	47, 6F6, 42, 2A5, etc.
T-769	10000 Ohm	41, 49, etc.

LIST PRICE — EACH.....$1.10

Size — ¾ x ¾

T-741	14000 Ohm (plate to plate)	P.P., 42, 47, 2A5, 6F6, 42
T-749	10000 Ohm (plate to plate)	P.P., 25A7, 43, etc.
T-748	5000 Ohm (plate to plate)	P.P., 2A3, 45, etc.
T-742	500 and 1000 Ohm Line	

LIST PRICE — EACH.....$1.30
T-750 Universal—All Tubes. Size — ¾ x ¾.
LIST PRICE — EACH.....$1.60

ALL VOICE COIL IMPEDANCES STANDARDIZED TO 4 OHMS AT 400 CYCLES except on Model 120PM where impedance is 6 Ohms.

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World Radio History

QUAM REPLACEMENT P. M. DYNAMICS

This line of permanent magnet speakers was designed especially for replacement purposes where high quality, self-exciting, dynamic speakers are required. Excellent for automobile replacement—does not require a field current. They are fully dustproofed and weatherproof. Magnets are arc welded and once the unit is assembled at the plant there is no further need for adjustment. All the materials are of the highest quality.

4 INCH P.M. MODEL 40PM

Very compact. Unsurpassed for midget replacements and intercommunication systems. 4" P.M.'s can be used as a dynamic microphone. Conservative output rating 2 watts. Frequency response 180 to 8000 cps. Baffle opening 3¾". Mounting dia. 4 1/16". Packed 20 units to carton. Individual pkgs. Approx. ship. wt. 2½ lbs. List price (less transformer), including excise tax.....$3.25
For use as a microphone in conjunction with our No. T-844 transformer—sold only as a unit.
List Price, including excise tax.....$4.15

5 INCH P.M. MODEL 50PM

Remarkable performance on battery receivers, automobile sets, inter-communication systems, and as extension speakers. Conservative output rating 3.5 watts. Outside dia. 5". Depth 2¼". Approx. ship. wt. 2½ lbs. Packed 20 units to carton, individual pkgs. List Price (less transformer), including excise tax.....$3.25

5½ INCH P.M. MODEL 55PM

Excellent tone. 6½" speaker performance. For battery receivers, automobile sets and extension speakers. Conservative output rating 4.5 watts. Outside dia. across flats 5½". Across corners 6⅝". Mounting centers same as 6½" speaker. Depth 2⅝". Ship. wt. 2¾ lbs. Packed 20 to carton. Individual pkgs. List price (less transformer) including excise tax.....$3.60

6½ INCH P.M. MODEL 65 PM

Highly efficient — Exceptional tone quality. For battery receivers, automobile sets and extension speakers. Conservative output rating 5.5 watts. Outside dia. 6½". Depth 3 1/16". Approx. ship. wt. 2¾ lbs. Packed 20 units to carton. Individual pkgs.
List price (less transformer), including excise tax.....$3.80

8 INCH P.M. MODEL 80 PM

Excellent volume and brilliant tone fidelity. Ideal for large battery receivers, automobile sets, amplifiers, P.A. systems and extension speakers. Conservative output rating 7 watts. Outside dia. 8". Depth 3½". Approx. ship. wt. 3 lbs. Packed 12 units to carton. Individual pkgs.
List price (less transformer), including excise tax.....$4.50

12 INCH P.M. MODEL 120PM

Powerful performance! — P.A. Equipment or any installation where great power is necessary. Capacity 30 watts maximum. Frequency range 70 to 7500 cps. Voice coil impedance 6 ohms. Outside dia. 12". Depth 5⅝". Ship. wt. 8½ lbs. Packed one to carton.
List price (less transformer), including excise tax.....$14.85

Prices quoted are effective June 15, 1938

TRANSFORMER P. M. DYNAMICS

Recommended for

Models 40PM-50PM-55PM

Size — ½ x ½

Part No.	Impedance	Tube
T-773	2000 Ohm	25B5, 25L6, etc.
T-704	4000 Ohm	25A7, 43, etc.
T-706	7000 Ohm	2A5, 42, 6F6, 47
T-717	10000 Ohm	41, 89, etc.

LIST PRICE — EACH.....$0.70

Models 65PM-80PM

Size — ½ x ⅝

T-774	2000 Ohm	25B5, 25L6, etc.
T-543	4000 Ohm	25A7, 43, etc.
T-548	7000 Ohm	2A5, 42, 6F6, 47
T-557	10000 Ohm	89, 41, etc.
T-733	10000 Ohm (plate to plate)	P.P., 6F6, 19, etc.

LIST PRICE — EACH.....$0.75

Transformers listed above equipped with metal shells.

T-747 500 and 1000 Ohm Line. Size — ½ x ⅝.
LIST PRICE — EACH.....$0.85

T-752 Universal—All Tubes. Size — ½ x ⅝.
LIST PRICE — EACH.....$1.25

TRANSFORMERS RECOMMENDED FOR Model 80PM

Size — ⅝ x ⅝

	Impedance	Tube
T-771	2000 Ohm	25B5, 25L6, etc.
T-767	4000 Ohm	43, etc.
T-718	7000 Ohm	42, 6F6, etc.
T-797	10000 Ohm	41, etc.

LIST PRICE — EACH.....$0.85

Size — ⅝ x ⅝

Part No.	Impedance	Tube
T-743	14000 Ohm (plate to plate)	P.P., 42, 6F6, etc.
T-789	8000 Ohm (plate to plate)	P.P., 43
T-744	500 and 1000 Ohm line	
T-745	10000 Ohm (plate to plate)	19, etc.

LIST PRICE — EACH.....$1.00

T-751 Universal All Tubes
Size — ⅝ x ⅝
LIST PRICE — EACH.....$1.35

Model 120PM

Size — ¾ x ¾

T-799	2500 Ohm	2A3-45, etc.
T-559	4000 Ohm	43, etc.
T-740	7000 Ohm	42, 2A5, etc.
T-769	10000 Ohm	41, 49, etc.

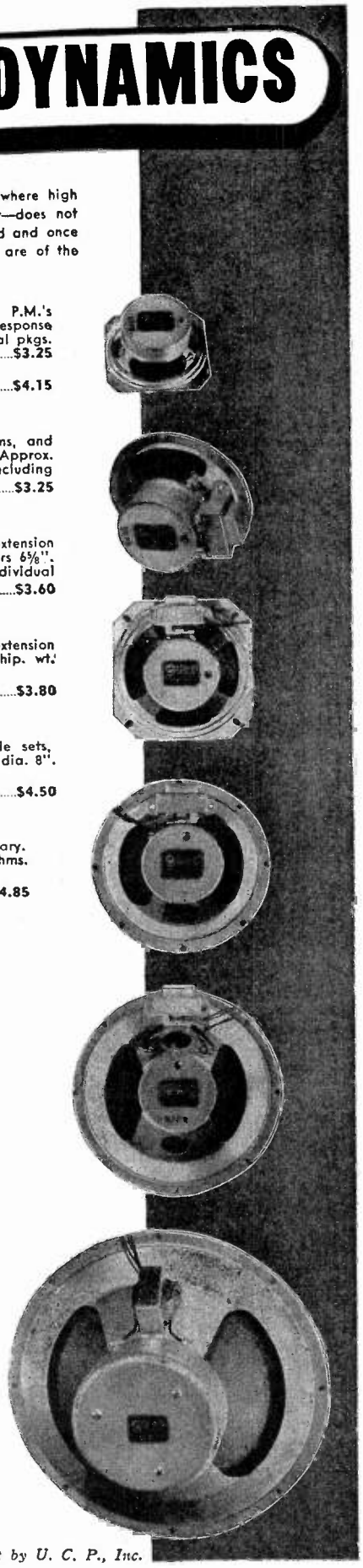
LIST PRICE — EACH.....$1.10

T-741	14000 Ohm (plate to plate)	P.P., 42, etc.
T-749	10000 Ohm (plate to plate)	P.P., 43, etc.
T-748	5000 Ohm (plate to plate)	P.P., 2A3, 45, etc.
T-742	500 and 100 Ohm line	

Size — ¾ x ¾
LIST PRICE — EACH.....$1.30

T-750 Universal All Tubes
Size — ¾ x ¾
LIST PRICE — EACH.....$1.60

ALL VOICE IMPEDANCES STANDARDIZED TO 4 OHMS at 400 CYCLES except on Model 120PM where impedance is 6 Ohms.



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World Radio History

OPERADIO MANUFACTURING COMPANY

OVER ONE MILLION SPEAKERS YEARLY!

Over a million radio receivers designed and built by the outstanding manufacturers in the country each year, carry as one of the most important parts of their assembly—OPERADIO Speakers.

Why. Because radio engineers know that a receiving set is no better than the speaker from which the sound emanates; therefore, they specify "OPERADIO." This being the case, it is reasonable to assume that when replacements are made, the same identical type of speaker should be used and these speakers are now available to the trade.

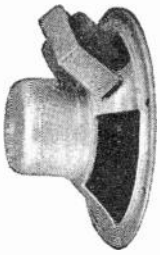
They are in the most part furnished direct to voice coil and by means of the newly developed Uni-Match Transformers, may by a simple adjustment, be matched to any impedance desired. This feature alone makes the OPERADIO Line of Radio Replacement Speakers outstanding in economy and flexibility. And this is not all.

OPERADIO Speakers are priced in line with any on the market and both the speakers and the transformers are packaged to make a display with plenty of eye appeal.

We wish to emphasize—OPERADIO Speakers are designed by outstanding speaker engineers to radio manufacturers specifications and are fabricated to bring out the best in radio receivers.

RADIO REPACEMENT SPEAKERS

ELECTRO DYNAMIC TYPE



5" SIZE

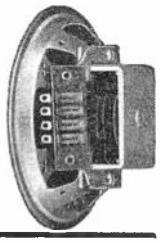
Model	Size	Field Resistance	Transformer	List Price
45J5	5"	450 ohm	No	$2.30
45J5-T	5"	450 ohm	Yes	2.90
30J5	5"	3000 ohm	No	2.30
30J5-T	5"	3000 ohm	Yes	2.90

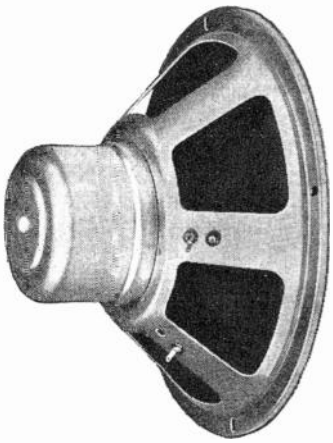
5¼" SIZE

Model	Size	Field Resistance	Transformer	List Price
05M525-H	5¼"	5 ohm	No	$2.50

6" SIZE

Model	Size	Field Resistance	Transformer	List Price
05M6	6"	5 ohm	No	$2.75
45M6	6"	450 ohm	No	2.75
10M6	6"	1000 ohm	No	2.75
15M6	6"	1500 ohm	No	2.75
25M6	6"	2500 ohm	No	2.75
30M6	6"	3000 ohm	No	2.75





8" SIZE

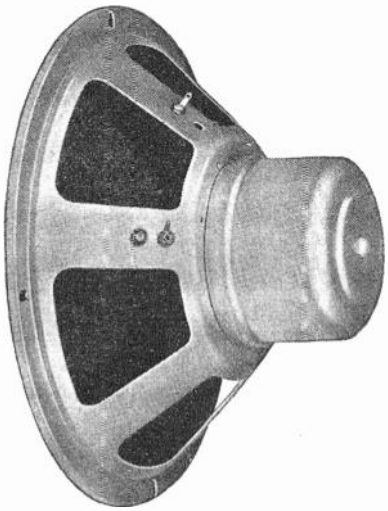
Model	Size	Field Resistance	Transformer	List Price
04BA8	8"	4 ohm	No	$3.85
10BA8	8"	1000 ohm	No	3.85
15BA8	8"	1500 ohm	No	3.85
25BA8	8"	2500 ohm	No	3.85

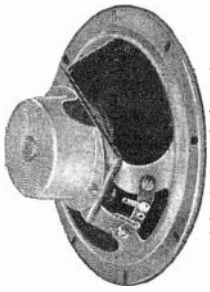
10" SIZE

10N3	10"	1000 ohm	No	$7.50
15N3	10"	1500 ohm	No	7.50
25N3	10"	2500 ohm	No	7.50

12" SIZE

Model	Size	Field Resistance	Transformer	List Price
10N4	12"	1000 ohm	No	$8.75
15N4	12"	1500 ohm	No	8.75
25N4	12"	2500 ohm	No	8.75





PERMANENT MAGNET TYPE

5" SIZE

Model	Size	Field Resistance	Transformer	List Price
AMD5-R	5"	P.M.	No	$2.70

6" SIZE

AM6-R	6"	P.M.	No	3.30

8" SIZE

AMA8-R	8"	P.M.	No	4.65

10" SIZE

Model	Size	Field Resistance	Transformer	List Price
BN3-R	10"	P.M.	No	$10.00

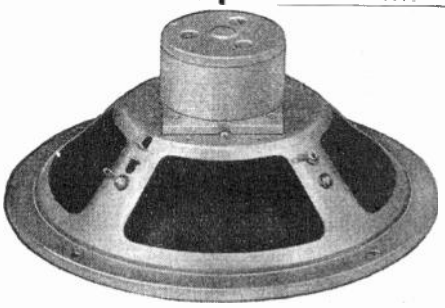
12" SIZE

BN4-R	12"	P.M.	No	12.00

UNI-MATCH TRANSFORMERS

RADIO REPLACEMENT TYPE

Transformer	Ohms	Switch	Recommended Speakers	List Price
9365 Universal	4000-8000-1200 C.T.	Yes	5" & 6" Speakers	$1.55
9366	2000 ohms for 25L6	No	5" & 6" Speakers	.65
9367 Universal	4000-8000-1200 C.T.	Yes	8" Speakers	1.65
9368	4000-8000-1200 C.T.	Yes	10" & 12" Speakers	2.25



WRITE FOR COMPLETE INTERCOMMUNICATIONS CATALOG

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World Radio History

OPERADIO MANUFACTURING COMPANY

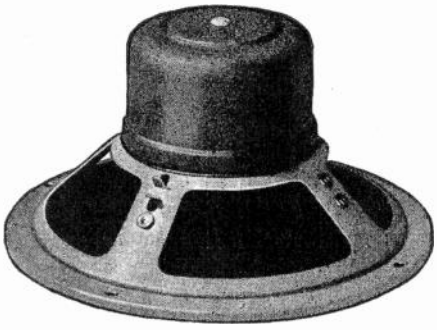
The Operadio Manufacturing Company enjoys the distinction of being the leading manufacturer of loud speakers. This line of public address speakers has been engineered to make it possible for the jobber and dealer to carry a complete stock with a minimum inventory. The speakers in the most part are furnished direct to voice coil except in the case of speakers for special application.

The new Operadio "Uni-Match" Transformer is so designed that the dealer or serviceman may mount any transformer of a suitable size to any speaker and by a simple adjustment of a switch incorporated in the terminal strip match the speaker to the desired output impedance.

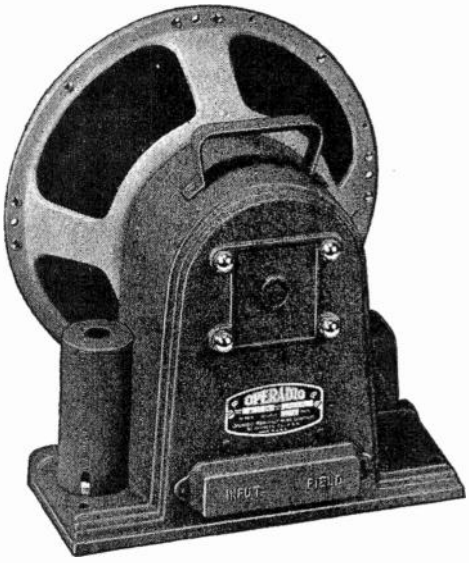
POWER RATINGS*

Operadio, in setting forth the specifications for the speakers listed on this page, give both the Practical and Theoretical Power Ratings.
The Practical Ratings are based on actual field practice—not on frequency tests. Recommended for use with Amplifiers of ratings not to exceed 5% distortion and for normal operating conditions.
Theoretical Ratings are extremely conservative, based on an ample safety margin for all reasonable operating conditions even when considered abnormal.
Operadio Public Address Speakers are finished in durable two-tone gray baked wrinkle.

PUBLIC ADDRESS SPEAKERS
ELECTRO DYNAMIC TYPE



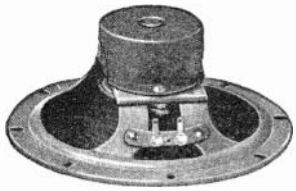
Model	Field Resistance	Transformer	Voice Coil Impedance	Voice Coil Diameter	Theoretical *Power Ratings: Practical	Normal	Peak	List Price
TYPE E-3—10" SPEAKERS								
HFQ	2500	No	8 ohms	1¼"	15 watts	9 watts	15 watts	$8.00
HNQ	7500	No	8 ohms	1¼"	15 watts	9 watts	15 watts	8.00
TYPE H-4—12" SPEAKERS								
LFQ	2500	No	8 ohms	1½"	18 watts	12 watts	20 watts	$15.00
LNQ	7500	No	8 ohms	1½"	18 watts	12 watts	20 watts	15.00
TYPE E-4—12" SPEAKERS								
JFQ	2500	No	8 ohms	1¼"	15 watts	10 watts	16 watts	$9.25
JNQ	7500	No	8 ohms	1¼"	15 watts	10 watts	16 watts	9.25
TYPE R-4—12" SPEAKERS								
KFQ	2500	No	8 ohms	1½"	20 watts	14 watts	22 watts	$19.75
KNQ	7500	No	8 ohms	1½"	20 watts	14 watts	22 watts	19.75
TYPE R-15—15" SPEAKERS								
MFQ	2500	No	8 ohms	1½"	30 watts	17 watts	30 watts	$26.75
MNQ	7500	No	8 ohms	1½"	30 watts	17 watts	30 watts	26.75



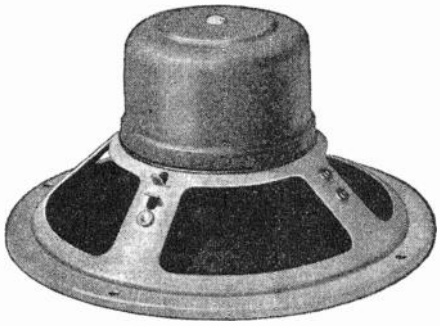
TYPE S-4—12" SPEAKER

Model	Field Resistance	Transformer	Voice Coil Impedance	Voice Coil Diameter	Theoretical *Power Ratings: Practical	Normal	Peak	List Price
GGS	A.C. Type	500 ohms	8 ohms	1½"	25 watts	15 watts	25 watts	$60.00

PUBLIC ADDRESS SPEAKERS
PERMANENT MAGNET TYPE



Model	Field Resistance	Transformer	Voice Coil Impedance	Voice Coil Diameter	Power Rating	List Price
TYPE AM6—6" SPEAKERS						
AM6-Q	P.M.	No	6 ohms	¾"	4 watts	$5.25
AM6-S	P.M.	500 ohms	6 ohms	¾"	4 watts	6.25
AM6-T	P.M.	4000 ohms	6 ohms	¾"	4 watts	6.25
TYPE BN6—6" SPEAKERS						
BN6-Q	P.M.	No	6 ohms	1"	6 watts	$8.00
BN6-S	P.M.	500 ohms	6 ohms	1"	6 watts	9.25
BN6-T	P.M.	4000 ohms	6 ohms	1"	6 watts	9.25
TYPE AM8—8" SPEAKERS						
AM8-Q	P.M.	No	6 ohms	¾"	5 watts	$6.85
AM8-S	P.M.	500 ohms	6 ohms	¾"	5 watts	7.85
AM8-T	P.M.	4000 ohms	6 ohms	¾"	5 watts	7.85
TYPE BM8—8" SPEAKERS						
BN8-Q	P.M.	No	6 ohms	1"	6 watts	$8.50
BN8-S	P.M.	500 ohms	6 ohms	1"	6 watts	9.75
BN8-T	P.M.	4000 ohms	6 ohms	1"	6 watts	9.75



Model	Field Resistance	Transformer	Voice Coil Impedance	Voice Coil Diameter	Theor. *Power Ratings: Practical	Normal	Peak	List Price
TYPE BN3—10" SPEAKER								
BN3-Q	P.M.	No	6 ohms	1"	10 watts	6 watts	10 watts	$11.25
TYPE BN4—12" SPEAKER								
BN4-Q	P.M.	No	6 ohms	1"	10 watts	6 watts	10 watts	$14.25
TYPE LE4—12" SPEAKER								
LE4-Q	P.M.	No	8 ohms	1¼"	15 watts	10 watts	16 watts	$24.00
TYPE NH4-12" SPEAKER								
NH4-Q	P.M.	No	8 ohms	1½"	20 watts	14 watts	22 watts	$34.75

UNI-MATCH TRANSFORMERS
PUBLIC ADDRESS TYPE

Transformer	Ohms	Switch	Recommended Speakers	List Price
9375.....	500	No	AM6—BN6—AM8 BN8—BN3—BN4	$1.50
9376.....	500	No	E-3—E-4—LE-4	1.75
9377.....	500	No	H-4—R-4—NH-4 MNQ—MFQ	3.00
9378 Universal	500-1000-1500-2000	Yes	AM6—BN6—AM8 BN8—BN3—BN4	1.90
9379 Universal	500-1000-1500-2000	Yes	E-3—E-4—LE-4	2.25
9380 Universal	500-1000-1500-2000	Yes	H-4—R-4—NH-4 MNQ—MFQ	3.75
9381 Universal	2500-3000-3500-4000	Yes	AM6—BN6—AM8 BN8—BN3—BN4	1.90
9382 Universal	2500-3000-3500-4000	Yes	E-3—E-4—LE-4	2.25
9383 Universal	2500-3000-3500-4000	Yes	H-4—R-4—NH-4 MNQ—MFQ	3.75

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AMERICAN MICROPHONES

Microphone Stands

All American Crystal Microphones are Licensed under Patents of the Brush Development Co.

MODEL "A1"

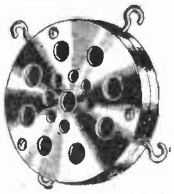
The special .002 in. hard duralumin diaphragm is stretched to an initial resonance of 5,500 cycles. A level output is thus extended several thousands cycles. The pressure calibration curve shows a response extending from 50 to 10,000 C.P.S. with a variation of but plus or minus 3 dB. The current on each button should approximate 10 mils. Net Weight, 1 lb. 9 oz.: body size, 3½ in. in diameter by 1⅝ in. thick.

List Price $45.00

MODEL "B-7" CRYSTAL MICROPHONE

Non - directional microphone, with Dual-Diaphragm and Dual-Crystal. Recommended for audio pick-up in general public address applications disc and film recordings, amateur phone transmission, etc. High internal capacity of dual-crystal elements lowers impedance proportionately; thus cable effect is minimized. Frequency response is uniform for all angles of approach. Standard reference level —58 db. Push-pull or single grid input. Furnished with side cable outlet stand mounting and 8 ft. cable.

List Price $25.00



MODEL "SJ"

It is a single-button microphone with an internal resistance of 200 ohms. The "SJ" may be used with any standard two-button microphone transformer, by using one-half of the primary in the microphone circuit. A regular single-button microphone transformer, however, is preferable.

Applications. — Inter-office communicating systems, burglar alarms, amateur transmitters, concealed detective auditors, and as an aid to the hard-of-hearing.

List Price $5.00

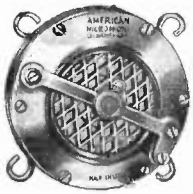
MODEL "BH" LAPEL MIKE

The quality obtainable with this little unit is above expectation. It is fully adequate for high and low range speaking voices. Single button, 200 ohms resistance. Finish: black art metal; size, 1½x½ ins.

Applications. — Speaker's platform, lecture rooms, theater premiers, sports announcements, surgeon's operating lecture rooms, remote control, class rooms.

List Price $6.00

MODEL "CD-4" DOUBLE-BUTTON CARBON MICROPHONE



is an advance in carbon microphone construction. This model features the "No-pack" cup, which effectively prevents packing due to displacement of the granules. The cellulose retainer gasket, now provided in this model, gives the CD-4 its very usable performance characteristic.

Diaphragm-protective grille is constructed to offer no acoustical impedance.

Internal resistance 200 ohms per button. Stretched duralumin diaphragm .002 in. in thickness. Normal operating current 10 ma per button. Finished in polished chrome. Complete working data and characteristics packed with each instrument. Packed wt. 1¾ lbs. Diameter 3¼ in. depth 1¼ in. Complete with yoke with ⅝"—27 thread for floor stand mounting.

Application: Amateur transmitters, home recording, public address, inter-office communication systems, etc.

List Price $15.00

MODEL "DB" 2

This double button mike is built to withstand rough usage. No rubbing noises are transmitted from the case to the microphone. A switch in the handle, makes and breaks the circuit.

The output of this two-button microphone is constant between the upper and lower limits of the speaking voice. Chrome finish. Furnished with 12 feet of three-conductor microphone cord. 200 ohms resistance per button.

List Price $15.00

MODEL "SB"

The "SB" Hand Microphone is a single-button composite diaphragm unit. Equipped with an on-and-off switch. Handles the voice frequencies adequately, and is very sensitive.

List Price $5.00

CARBON GRANULES

American Granules are processed to eliminate carbon noise. They are high in sensitivity and packed in hermetically sealed vials in exact amounts. Each vial packs 2 two-button standard microphones.

List Price $0.75

MODEL "EL-4" DOUBLE-BUTTON MICROPHONE

has cast grille which is attractive and serves as a protection to the diaphragm. The "No-pack" carbon cup greatly increases the stability of the instrument, making frequent volume settings, while the microphone is in operation, unnecessary. The diaphragm is stretched duralumin .002 in. in thickness and the tension has been carefully controlled so resonance does not occur within the working range. The cellulose retainer gasket, further reduces packing and undesirable damping and increases carbon life.

Normal operating current 10 ma per button. Internal resistance 200 ohms per button. Finished in polished chrome. Carefully packed with a comprehensive set of instructions and performance data. Packed wt. 1¼ lbs. Diameter 2¾ in., depth 1¼ in. Complete with yoke with ⅝"—27 thread for floor stand mounting.

Applications: Experimental recordings, amateur stations, public address installations etc.

List Price $7.50

ALL AMERICAN Floor Stands and Banquet Stands are equipped with ⅝"x27 top threaded connector. Carbon rings are not furnished with these stands but can be purchased separately, tapped ⅝"x27. Yokes furnished with AMERICAN microphones are also tapped ⅝"x27.

FH-3 AND FL-3 FLOOR STANDS

The new AMERICAN FH-3 and FL-3 Floor Stands have a positive action, friction lock which assures reliable, noiseless adjustments; insulated, heavy steel tubing; and three-contact, rubber - cushioned, "Floor Grip" Base. Finish baked Satin Black, with chrome trim. Adjustable to full six feet. FH-3, Net Wt. 15 lbs.; FL-3, Net Wt. 8 lbs.

FH-3, Studio Model, Code: FUHET.

List Price $15.50

FL-3, Lighter Model, Code: FLEXR.

List Price $10.50

BS BANQUET STAND

The round-base banquet stand is finished in baked Satin Black with chrome trim. The base has an imbedded, vibration-absorbing, rubber ring. Tubular upright serves as passageway for cable. Positive action, friction lock assures reliable, noiseless adjustments. Net Wt. 6 lbs. Adjustable to two feet. Code: FUDAS.

List Price $8.00

Models "EL" and "A1" Desk Stand's base rests on an insulating imbedded rubber ring. The four double hooks facilitates the installation and removal of unit. Space provided for passing cord thru ring. Stands finished in nickel.

"A1" Desk Stand. 6-inch ring, no covers —springs included. Weight 4 lbs., 9½ in. high.

List Price $4.00

"EL" Desk Stand. 5-inch ring, no covers —springs included. Weight 2 lbs.: 7½ ins. high.

List Price $2.75

Covers for A1 Stands—List Price $4.00

Covers for EL Stands—List Price $2.00

SUSPENSION RINGS WITH ⅝" x 27 FEMALE THREAD FOR STAND MOUNTING

Chrome Plated with 4 Double Mounting Hooks

6" Ring—List Price $2.50

5" Ring—List Price $2.25

Complete with 8 Springs

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AMERICAN MICROPHONES

Microphone Stands

All American Crystal Microphones are Licensed under Patents of the Brush Development Co.

NEW B9 CRYSTAL MICROPHONE

A small, lightweight, crystal microphone, with good response and high output. It is semi-directional and notably free from feedback. This unit has a wide range of applications, enhanced by the available accessories. The B9 is singular in that it is equipped with a plug at the microphone, thus making cable replacement a simple operation. Chrome finish. Complete with a plug and 8′ cable. Standard ⅝-27 fitting.

B9
List Price
$22.50

Request Catalog No. 27 for complete details

B9P
List Price
$26.00

ACCESSORIES listed below are available for all crystal and D5 and D7 dynamic microphones, and may be ordered separately:

	List Price
DS Stand	$2.50
DH Handle (Press-contact switch)	3.50
AH Handle (Slide switch)	2.50
AG Handle (no switch)	1.50
AG Base	1.00
AG Adapter	.50

The New . . . "CLIPPER" DYNAMIC

Another American Moving-Coil Microphone, Featuring

HIGH OUTPUT—SMALL SIZE

RUGGEDNESS—FIDELITY

TRIM—EFFICIENT DESIGN

LONG LIFE—STABILITY

D7 High Imp. **List $22.50**

D7 Low Imp. **List $20.00**

D7 and D7T Microphones come complete with 12½′ R/J cable and Amphenol plug. Chrome finish. ⅝-27 Connector. Over-all height, 2½″. Diameter, 1½″. Net weight, 8½ ounces.

Request Catalog No. 27 for Complete Details

AMERICAN DELUXE D-3 DYNAMIC MICROPHONE

The reputation of the American Microphone Company stands back of this instrument, whose quality is not excelled by any other dynamic microphone produced today.

FIDELITY: Faithful response over the entire audio range. Absence of peaks means elimination of acoustic feedback troubles in PA systems.

OUTPUT: Minus 80 db. with zero level at 6 Milliwatts permitting low level mixing. 50 ohms impedance. Inductive pick-up troubles at a minimum.

The American Model D-3 Dynamic is rugged, unaffected by temperature, pressure and humidity. Semi-directional pick-up. Cobalt steel field, no polarizing voltage required. Case bronze finished 2¾″ in diameter by 2½″ long. Equipped with 3 contact plug at microphone with 25 feet of high quality shielded and rubber covered cable. Mounting consists of an inconspicuous yoke slipping over unit and designed to mount on standard ⅝″ x 27 male thread. Suitable for broadcasting, high fidelity recording and finest public address purposes.

List Price $90.00

A. G. CRYSTAL MICROPHONE

A. G. Stand — Model AH — Model AG

An all-purpose microphone with a wide range of efficiency. Self-energizing: no polarizing voltage is required. Its high impedance permits the output to be fed direct to the grid of the input tube. It is not subject to overloads and is practically free from the disturbance of mechanical shock. Protected against moisture and temperature changes.

Completely wired, with low-loss microphone cable. A yoke fitting is furnished for mounting on desk or floor stand. Can be mounted in the standard carbon microphone rings. Size of the head 3¼″ x 1⅜″.

(Complete Instructions)

Model "AG"—List Price $22.50

MODEL "AH" HAND MICROPHONE

Equipped with switch and filter to absorb surge of make-and-break contact. Can be inserted in regular desk base.

List Price $25.00
Base only 1.00

MODEL "AG" DESK STAND

(Illustrated.) Chromium-plated. Base removable without removing plug from assembled cable.

List Price $2.50

NEW LOW PRICED DYNAMIC

The Dynamic is unsurpassed as an all-purpose microphone. It is most rugged and its life of trouble-free operation is indefinite. Being a pressure-type instrument, the response is unaffected by either a close or distant sound source. Insures a brilliant recording. Excellent for public address, indoor or outdoor installations, studio or remote pick-up.

The D-5 series dynamics are moving-coil, permanent-magnet dynamics. Semi-directional. Immune to temperature changes. Exceptionally rugged. Consistent in response. Pick-up with equal success from varying distances. Have excellent frequency response for talking or singing voice, orchestras, etc. Freedom from wind noises. High output. High or low impedance. Minimum feed-back. (Flat response.) Finish baked Satin Black with chrome trim. Net weight 1½ lbs. Small structure ideal for public address use. Low impedance, if desired, for Amateur Transmitting Stations. Most dependable for Police Broadcasting.

D-5-T DYNAMIC

D-5-T impedance 10,000 ohms. Designed for high-impedance input. A high-permeability, nickel alloy transformer is enclosed in the microphone case. Up to fifty feet of cable may be used on this instrument without frequency discrimination. Comes complete with twenty-five feet shielded rubber-jacketed cable, and Amphenol plug.

Code: DYHIM.
List Price $32.50

D-5 DYNAMIC

D-5 impedance 50 ohms. Designed for low-level mixing and for use on long lines. The standard output (50 ohms) will work into any conventional dynamic microphone circuit or input transformer 30-50 ohms to grid. Comes complete with twenty-five feet shielded, rubber-jacketed cable, and Amphenol plug.

Code: DYLOM.
List Price $27.50

DD Desk Stand for above. Round base, 4″ upright. Net weight 1¼ lbs. Satin black finish.

Code: DYNES.
List Price $2.50

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UNIVERSAL *Microphones*

15 MM DYNAMIC MICROPHONE

The most highly refined microphone on the market today, especially recommended for high fidelity installations. Absolute immunity to wind noises. Not affected by temperature or humidity. NO HISS OF ANY KIND. New modernistic bullet type body in polished chrome plate. Diameter 2¼". Depth 2⅜". Wt. 11 oz. Packed (carton) 3 lbs. No polarizing voltage required. Frequency response 50 to 8000 CPS. Output level—64 db.

Model 15 MM-DH—High impedance (direct to grid). Can be used up to 200 ft. from amplifier.
Model 15 MM-DP—To match 500 ohm line. Can be used up to 500 ft. from amplifier.
Model 15MM-DL—To match 200 ohm line. Can be used up to 500 ft. from amplifier.
Model 15MM-D—33 ohms to match inputs, mixers or other low impedance lines.
Complete with suspension loop, "Flex-Mount" adapter type; "On-and-Off" switch, 25-ft. cable, plug, Duvello cover and instructions in deluxe package. **List Price**.....**$24.50**

COMMUNICATION MODELS

"Grasp-to-Talk"

SINGLE BUTTON CARBON

New style desk model for all general uses. Finished in highly polished chrome plate with rubber-covered base and "Grasp-to-Talk" switch which cuts mike in and out at beginning and end of each conversation. Overall height 11 in. Wt. 2 lbs. Packed 3½ lbs. Imp. 200 ohms. Output level —40 db. Furnished with 6 ft. two-conductor cord.
Model GTC-1—List Price....$18.50

DOUBLE BUTTON CARBON

A close-talking desk model for "central office" installations, etc. Mike and desk mount finished in bright chromium plate. Equipped with rubber-covered base and "Grasp-to-Talk" switch. Overall height 11 in. Wt. 2 lbs. Packed 3½ lbs. Imp. 200 ohms per button. Output level —55 db. Furnished with 6 ft. 3-conductor cord.
Model GTC-2—List Price.....**$23.00**

CRYSTAL MODEL

For all types of communication systems. Close-talking, low-noise design, provides crisp, clear speech transmission. Moisture sealed curvilinear diaphragm. "Grasp-to-Talk" switch—transmits voice only when circuit is closed. Mike and desk mount finished in polished chrome plate. Overall height 11 in. Wt. 2 lbs. Packed 3½ lbs. Imp. direct-to-grid. Freq. response 50 to 5000 CPS. Output level —60 db. Furnished with 6 ft. low-capacity shielded cable.
Model GTX—List Price.....**$27.50**
(Licensed under patents of Brush Development Co.)

DYNAMIC MODELS

Dynamic models obtainable in all impedances as shown under "15MM" at top of page.
Model GTD—List Price.....**$27.50**

"Press-to-Talk" Switch

OPTIONAL

Any of above "Grasp-to-Talk" models may be ordered with "Press-to-Talk" Push Button switch. Pressing switch once closes circuit, cutting in microphone for transmission of messages. Releasing button opens circuit, cutting out microphone at conclusion of conversation.

"Press-to-Talk" Model	List Price
PRC-1—Single Button Carbon	$17.50
PRC-2—Double Button Carbon	22.50
PRX—Crystal	26.50
PRD—Universal Dynamic	26.50

Model "X-1" SINGLE BUTTON

Dia. 2½"

Standard impedance—gold spots, low hiss level and new detailed improvements. Fully protected diaphragm, frequency response 100 to 4000 cycles. Output level —50 db. Shpg. wt. 1¼ lbs.
List Price **$7.50**

15 MM CRYSTAL MICROPHONE

For highest quality sound pick-up, P.A. applications, disc and film recordings, amateur phone transmission, etc. Protected against moisture. Self-energizing. Low acoustic feedback, no background noises. Curvilinear diaphragm, pressure actuated. New modernistic bullet-type body in polished chrome plate. Diameter 2¼" Depth 2⅜". Wt. 8 oz. Packed (carton) 3 lbs. Impedance, direct to grid. Output level—64 db. Freq. response 50 to 5000 CPS.
Model 15MM-X — Complete with suspension loop, "Flex-Mount" adapter tube, "On-and-Off" switch, 25-ft. cable, plug, Duvello cover and instructions in deluxe package.
List Price **$24.50**
(Licensed under patents of Brush Development Co.)

HANDI-MIKES

SINGLE-BUTTON CARBON

For all general uses. Overall length 6". Diam. of head 2¼". Wt. 1 lb. Packed 1 lb. 8 oz. Imp. 200 ohms. Output level —40 db. Furnished with 6 ft. 2-conductor cord and "On-and-Off" Snap Switch.
Model 200—List Price **$10.00**

DOUBLE-BUTTON CARBON

Overall length 6". Wt. 1 lb. Packed 1 lb. 8 oz. Imp. 200 ohms per button. Output level —55 db. Furnished with 6 ft. 3-conductor weatherproof cord and "On-and-Off" Snap Switch.
Model 201—List Price **$15.00**

NORMAL OUTPUT CRYSTAL HANDI

Moisture sealed. Curvilinear diaphragm pressure-actuated. Overall length 6". Diam. of head 2½". Wt. 10½ oz. Packed 1 lb. 4 oz. Freq. response 50 to 5000 CPS. Imp. direct-to-grid. Output level —70 db. Furnished with Snap Switch and 10 ft. low-capacity shielded cable.
Model 202—List Price **$18.50**

HIGH OUTPUT CRYSTAL HANDI

Overall length 6". Diam. of head 2¼". Wt. 10½ oz. Packed 1 lb. 4 oz. Freq. response 50 to 5000 CPS. Imp. direct-to-grid. Output level —60 db. Furnished with Snap Switch and 10 ft. low-capacity shielded cable.
Model 203—List Price **$22.50**

NEW DYNAMIC HANDI-MIKE

NO HISS OF ANY KIND. Unaffected by heat, cold or humidity. Absolutely no hum pickup. Overall length 6". Diam. of head 2¼". Wt. 13½ oz. Packed 1 lb. 7 oz. Freq. response 100 to 8000 CPS. Imp. 33 ohms. Output level —64 db. Furnished with positive action Snap Switch and 10 ft. rubber-covered shielded cord.
Model 204—List Price **$22.50**

POLICE SPECIAL

SINGLE BUTTON CARBON HANDI-MIKE

Built for hardest use with heavy "Press-to-Talk" Switch and rubber cable. For relay circuit.
List Price **$18.50**
NOTE: All "Handi-Mikes" furnished in new style, balanced grip body, finished in highly polished chrome plate.

Model "XX" Double Button STRETCHED DIAPHRAGM

The microphone that set the entire trade agog some years ago when first announced. Standard impedance—low hiss level, and new detailed improvements; fully protected diaphragm, frequency response 100 to 4000 cycles. Shpg. wt. 1¼ lbs.
List Price **$10.00**
MODEL "BB"—New Super Design; stretched diaphragm, fully protected. The general all purpose microphone for both voice and music. A full size heavy model, 3" dia., 2" thick. Polished chrome plate. Frequency response 50 to 5000 cycles, 200 ohm buttons. Shpg. wt. 1¾ lbs.
List Price **$25.00**

"5 MM" SERIES

New Modern Streamliner

An outstanding microphone development. Suitable for voice and music. New exclusive design Push-Click built-in "On-and-Off" switch, never before included as standard equipment. Mounting thread ⅝"-27. Removable bayonet locking plug and 25 ft. low-capacity rubber-covered cable. Adapter loop for overhead suspension. Flexible friction type sectional mount with ⅝"-27 adapter thread; no screws, clamps or locks to adjust. Tilt it where you want it—"It stays put!" Size 1¼" square x 4½" high. Wt. 16 oz. Packed (carton) 3 lbs.
Model 5MM-H—High impedance (direct to grid).
Model 5MM-P—To match 500 ohm line.
Model 5MM-L—To match 200 ohm line.
Model 5MM-D—33 ohms to match inputs, mixers or other low impedance lines where dynamic microphones have been used.
List Price, complete, including Duvello cloth cover and diagrams, in new deluxe package for window or counter display.....**$24.50**

"M4" SERIES

New 4 Magnet Velocity Mike (Formerly RH)

For general P.A. application, amateur and semi-professional uses. Self-energizing; no polarizing voltage; no field or button current required; just plug in and use! NO HISS OF ANY KIND. Non-resonant. No background noises or feedback. Frequency range 40 to 10,000 CPS. Output level—64 db. Adjustable cradle and thumb nuts for tilting and locking in any desired position, mounting for ⅝"-27 thread stand, removable bayonet locking plug, 25 ft. low-capacity rubber covered cable. Size 2" x 3⅞" x 5½". Wt. 40 oz. Packed 5 lbs. Finished in black crackle enamel and artistic chrome trim.
Model M4H—High impedance (direct to grid).
Model M4P—To match 500 ohm line.
Model M4L—To match 200 ohm line.
Model M4D—33 ohms to match inputs, mixers or other low impedance lines where dynamic microphones have been used.
List Price, complete with removable bayonet locking plug, 25 ft. rubber-covered low-capacity cable and diagrams **$22.50**
List Price, complete as above EXCEPT with **3-prong lock ring plug**, and 25 ft. rubber-covered low-capacity cable and diagrams.....**$24.50**
NOTE: All models except M4H should have 3-prong plug to permit grounding of center tap.

"AV" SERIES

The constant air-velocity super microphone. Scientifically corrugated ribbon. New hi-flux Alnico magnets. Pickup is lineal instead of logarithmic. Freq. range 20 to 12,000 CPS. Output level—62 db. Widest pickup. Absolute freedom from background noise. Unaffected by heat, cold or humidity. The one really outstanding microphone. Adjustable cradle and tilt-lock, mounting for ⅝"-27 thread stand. Brilliant durable satin chrome finish with polished chrome trimming. Size 2⅛ x 3⅞ x 5¼" high. Wt. 40 oz. Packed 4 lbs.
Model AV-H — High impedance (direct to grid.)
Model AV-P—To match 500 ohms line.
Model AV-L—To match 200 ohm line.
Model AV-D—33 ohms to match inputs, mixers or other low impedance lines where dynamic microphones have been used.
List Price, any model, complete including 3-prong lock ring plug and 25 ft. rubber-covered cable.**$44.50**

Model "W" SINGLE BUTTON MICROPHONE

Small protected diaphragm, very sensitive and compact for Detectofone. Inter-office communicating systems with full quality performance. Standard impedance. Output level —38 db. Size 1⅞" diameter x ⅞" thick. Wt. 1½ oz.
List Price **$3.00**

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UNIVERSAL *Microphones*

AERO-MIKES

AIRCRAFTER

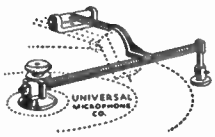
Sensationally New Aircraft Microphone

Provides extreme clarity of speech with exactly the same output from any angle or flying position. Operates perfectly in any weather. Finished in beautiful ivory black Dialectric. CANNOT BE CRACKED OR BROKEN. Diameter 1¾". Thickness 1¼". Total weight 5½ oz. with cord and plug. Single throw, double pole, non-locking PRESS-TO-TALK switch — positive "On-and-Off" — with audible click. 4 ft. of waterproofed and braid-covered cord reinforced 6 inches from either end. Special bronze conductors, shield and plug. Plated spring brass holder with roller-tipped fingers.

Supplied in three standard sensitivities: (S) Maximum, for closed cabin airplanes; (M) Medium, where background is comparatively quiet; (D) Scientifically damped to exclude high background noises. Specify sensitivity desired.

Model AR-1—List Price $35.00

RECORDING LEAD SCREWS



For recording up to 12-inch records at 98 lines per inch. Cuts from "outside to inside." Instantly connected or removed. Silent and accurate. Wt. 1 lb. Complete with guide arm and adjustable bearing as shown.

List Price $10.00

For recording up to 17-inch records, 98 lines per inch. Furnished to cut either "inside to outside" or "outside to inside"; specify which is desired. Otherwise same as above.

List Price $15.00

DISPATCHER

Latest Breastplate Model Leaves Both Hands Free

New "feather-weight" model, an exclusive UNIVERSAL development! For reporting news "on the spot"—wherever freedom of action is necessary. Equipped with 6-ft. flexible, durable cord.

Single Button Carbon Model DR-C. Imp. 200 ohms. Output level —30 db. Weighs only 7 ozs. complete. Packed 2 lbs.

List Price $18.50

Crystal Model DR-X—Imp. direct-to-grid. Output level —70 db. Freq. response 50 to 5000 CPS. Weight only 7 ozs. complete. Packed 2 lbs.

List Price $23.00

Licensed under patents of Brush Development Co.

Dynamic Model DR-D—(33 ohms)—Freq. response 100 to 8000 CPS. Output level —66 db. Weighs only 10 ozs. complete. Packed 2lbs.

List Price $24.50

"SEMI-PRO" CUTTING HEAD

A scientific recording head capable of cutting or grooving all types of material. Precision built for amateurs, experimenters and non-professional users. Very attractive watch mill finish. Furnished in either 15 or 500 ohms; specify which is desired. Weight, 6 ozs.

List Price $22.50

MIKE-AND-PHONE HAND SETS

Engineered especially for five-meter transmitters and the new five-meter transceivers; also for every other possible two-way communication use. Light, compact, portable, extra rugged. Highly polished molded bakelite units of the French phone type using special high output microphones. A 6-ft. 4-conductor cord furnished with individual connections to each instrument permits any form of circuit. Wt. 15 ozs. Packed 1¼ lbs.

Single-Button Microphone (output —38 db.) with either 2000-ohm (Code FIMEX) or 75-ohm (Code FIMER) high quality sensitive receiver.

List Price $10.00

Double-Button Microphone (output —55 db.) with either 2000-ohm Code (FIMEL) or 75-ohm (Code FIMEZ) high quality sensitive receiver.

List Price $15.00

RECORDING BLANKS

ALUMINUM BLANKS

UNIVERSAL Superfine Aluminum discs are of special alloy, hardness and surface mirror polish to assure volume, brilliancy and durability with a minimum of surface noise. Lubricant buffed into surface lubricates continuously while recording. Should be played back with a non-metallic needle for longest life and finest reproduction.

	List Price Each	
	Standard Weight	Heavy Weight
6-inch	$0.24	$0.30
8-inch	.36	.50
10-inch	.48	.75
12-inch	.60	1.00

NOTE: Standard weight blanks are not pregrooved. Heavy weight blanks are grooved or pregrooved, as ordered.

ECONOMY ACETATE BLANKS

Free and easy to cut with absence of groove hiss. Shipped in standard package of (12) only.

	List Price, Each
6-inch	$0.45
8-inch	.60
10-inch	.75
12-inch	.90
16-inch	1.80

FLOOR STANDS AND DESK MOUNTS

"RB" BASE—Ebony black rubber skid-proof base with standard ⅝"-27 thread for attaching to flexible adapter tube regularly supplied with 55M and 15MM microphones, thus converting into a desk mount which can be tilted at any desired angle, without screws, bolts or adjustments of any kind. Weighs 12 ozs. Packed, 1 lb.

List Price $0.90

"XM" DESK MOUNT — Highly polished nickel plate, ebony rubber base cover and 8 suspension springs especially for carbon medium or small microphone. Ring 5 inches in diameter. Weighs 1½ lbs. Packed, 2 lbs.

List Price, with 8 springs.....$3.50

"SM" DESK MOUNT—Small type 4¼" base and upright brass tube, completely chrome plated. Ideal for all small size, light weight modern type microphone models. ⅝"-27 thread. Height, 8 inches. Weighs 1¼ lbs. Packed, 2 lbs.

List Price $2.50

"FM" DESK MOUNT—Upright flexible tube and rubber covered 4¼" base. Polished chrome plate finish. ⅝"-27 thread. Permits tilting microphone to any desired angle. No locks, clamps or bolts. Noiseless. "It stays put"! Height, 8 inches. Weighs 1¼ lbs. Packed, 1½ lbs.

List Price $3.00

"LM" DESK MOUNT—Larger type 5½" base and upright brass tube completely chrome plated. For studio announcer. Used with heavier type microphones. ⅝"-27 thread. Height, 9". Weighs 2 lbs. Packed, 3 lbs.

List Price $3.50

"HM" HANDI DESK MOUNT—Spring pressure clasp holder. Mike can be instantly removed or replaced. Rubber covered base. Polished chrome plate finish. Weighs 2 lbs. Packed, 2½ lbs.

List Price $3.00

"MS" FLOOR STAND—Two-section adjustable with 10-inch cast iron round base. Beautifully finished in black "crackle" baked enamel and brilliant chrome trim. Shipped knocked down in heavy shipping carton. Weight, 10 lbs. Maximum height, 5 ft.; minimum, 30 inches. ⅝"-27 thread.

List Price $8.50

STUDIO FLOOR STAND—Two-section adjustable with 12" weighted round base. Maximum height, 5½ ft.; minimum, 33 inches. ⅝"-27 thread. Easy operating. Clamp lock. High polish chrome plate and black enamel finish. Weight, 16 lbs.

List Price $12.50

FOLDING ORCHESTRA STAND "QSR" and "QST"—Will fit any model microphone on pages E-3 and E-4, as well as all others having ⅝"-27 thread. Made in three sections. As a floor stand it extends to 66 inches; as a table or banquet stand it can be lowered to 25 inches. Clamp joints firm, smooth and noiseless. Covered with black rubber to prevent hand injury. Chrome and cadmium plated.

"QSR"—10" Round base. Weight. 8½ lbs.

List Price.....$12.50

"QST"—Tripod case. Weight 4 lbs. Packs in space only 3" x 3" x 20".

List Price.....$12.50

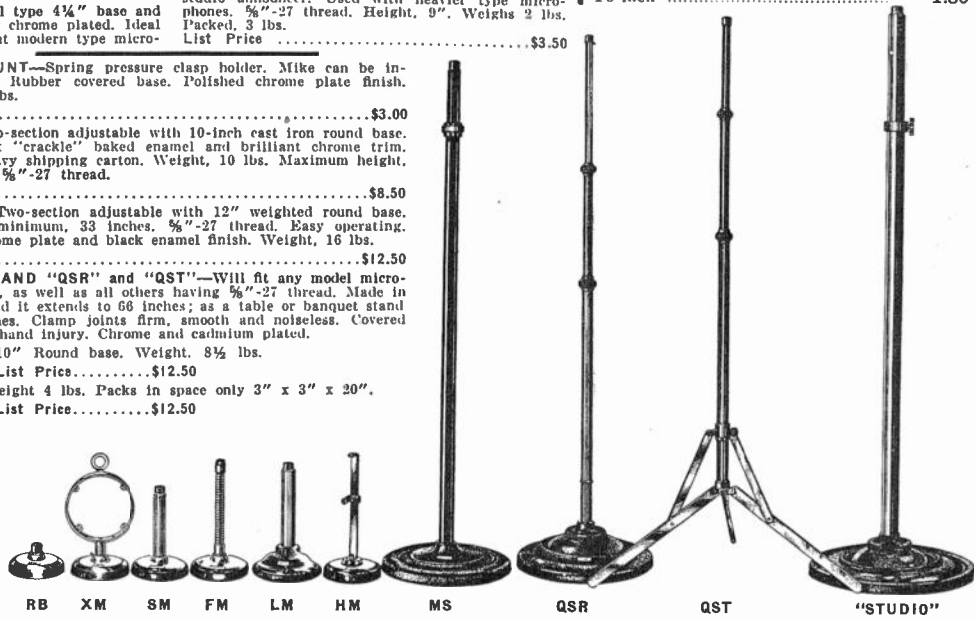
SUSPENSION RINGS — Beautifully chrome plated. 8 springs included. Packed in individual cartons. 5" Diameter, weighs 5 ozs.

List Price $2.50

6½" Diameter, weighs 9 ozs. **List Price** $4.00

SUSPENSION SPRING — Highest grade spring steel. Rust proof. Chrome plated. Usually furnished 8 per set.

List Price $0.05



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VELOCITY AMPERITE MICROPHONES

A COMPLETE LINE OF NEW 1939 AMPERITE VELOCITY MICROPHONES

AMPERITE VELOCITY MICROPHONES EMBODY THE LATEST AND BEST TECHNIQUE IN MICROPHONE DESIGN. Having broadcast quality and construction throughout, Amperite Microphones are excellent for Studio, P. A., and Recording. Guaranteed for three years against manufacturing defects. **Note these leading features:**

1—Excellent for close talking and distant pickup. Natural reproduction of entire audio range without annoying peaks.

2—Feedback trouble reduced to a minimum.

3—No background noise.

4—Immediately adaptable to any installation. High impedance models can be used with cable lengths up to 100 feet—low impedance models to 5000 feet.

5—Hand-hammered ribbon not affected by even a forty-mile gale.

6—Genuine Alnico magnets used throughout.

7—Not affected by high or low temperatures, humidity, or rough handling.

8—Triple shielded against both RF and magnetic fields.

9—No preamp necessary when used with amplifiers having a gain of 110 db or more. Fits standard 5/8-27" stands.

AMPERITE MICROPHONES—SPECIFICATIONS

Model	Output Impedance Ohms	Frequency Range Cps.	Output	Switch	Cable Connector	Cable*	LIST Gunmetal or Chrome	Application
RBHn RBMn	2000 200	40 to 11,000	—65db	Yes	Yes	25′	$42.00	For P.A. and Studio
RBHk RMBk	2000 200	40 to 11,000	—65db	Yes	Yes	25′	42.00	With Acoustic Compensator
RBBHn RBBn	2000 200	40 to 11,000	—65db	Yes	Yes	25′	42.00	For Entire Stage Pickup
RSHk RBSk	2000 200	60 to 8000	—68db	Yes	Yes	12′ 12′	32.00	Speech and Music
SR80-Hn SR80n	2000 200	40 to 15,000	—56db	Yes or No	Yes	25′	80.00	Best in Studio Microphones
RAH RAL	2000 200	60 to 7500	—68db	No	No	12′ 8′	22.00	Speech and Music
7JH 7J	2000 200	60 to 7500	—70db	No	No	25′	22.00	Lapel
ACH ACL	2000 200	60 to 7500	—70db	Yes	Yes	25′ 12′	....	Compact, for Stand and Hand
KTH KTL	2000 200	40 to 9000	—40db	No	Yes	25′	22.00 30.00	Musical Instrument
	KTH, with foot-operated volume control							
SKH SKL	2000 200	60 to 6000	—40db	No	No	20′	12.00 20.00	Contact Mikes
	SKH, with foot-operated volume control							

* Longer cable lengths obtainable at 6c per foot List, for extra cable only.

STANDARD REPLACEMENT RIBBONS—package of 2 ..... List $1.25
SUPERSENSITIVE REPLACEMENT RIBBONS—package of 2 ..... 1.75

AMPERITE MICROPHONE STANDS—SPECIFICATIONS

Model	Description	Base Wt.	Base Spread	Height Range	Thread	List Gunmetal Chrome	Ship. Wt.
FS-8M	Floor Stand	8 lb.	12″	37″–55″	5/8-27″	$14.00	15 lb.
FS-25M	Studio 3-legged Floor Stand	16 lb.	17″	42″–69″	1/2″ pipe	26.00	25 lb.
DS-M	Comb. desk & Banquet	6 lb.	7½″	16″–24″	5/8-27″	10.00	11 lb.
DS	Desk only	6 lb.	7½″	3″	5/8-27″ & 1/2″ P.	5.00	11 lb.
FSB	Boom	21 lb.	17′	36″–96″	1/2″ pipe	50.00	43 lb.
HS	Hand-I-Stand	1 lb.	3″x5″	...	...	4.00	3 lb.
Name plate for HS, with maximum of eight letters.....						2.00	

AMPERITE MICROPHONE STANDS

With Shock-Absorbing Rubber Bottom

Scientifically designed, Amperite stands feature:

1—Positive, **non-sliding** clutch. Will never wear out, never require adjustment. Will not "creep."

2—Safety cord, which stretches, preventing accidental mishaps.

The microphone can be rotated without loosening clutch. The action up and down is **smooth, pneumatic-like.**

BOOM STAND

The **Amperite Boom** (Model FSB) is adjustable in any direction. Has adjustable counterweight and friction clutch to provide smooth and easy operation. Microphone height can be varied from 36″ to 96″; length of boom arm, 28″. Other lengths obtainable on request.

NEW! AMPERITE HAND-I-STAND

Model HS—Ideal for desks, pulpit, footlights, banquets, etc. Leaf spring shock absorber. Unusually stable. Chrome-and-black finish.

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World Radio History

VELOCITY AMPERITE MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER

A Very Popular, Very Excellent Velocity

Answering the demand for a high-quality velocity microphone at a competitive price, Amperite presents the 1939 models RAH-RAL. Truly outstanding in performance, this Velocity is excellent for both speech and music. Eliminates feedback. Has a frequency range of 60 to 7500 cps. Output, —68 db. Unaffected by temperature, pressure, or humidity. Unusually rugged. Triple shielded, and fitted with heavy shock absorber and swivel bracket. Shipping weight 5 lbs.

Model		List
RAH (hi-imp.) with 12′ of cable		
RAL (200 ohms) with 8′ of cable		
Either Model, Chrome or Gun Metal,		$22.00

NEW ! Model SR80n, Output—56db.,

Highest in Studio Microphones

On the basis of all-around tests, Model SR80n has achieved an outstanding record. Now accepted as the best for studio, P. A., and recording. Frequency range 40 to 15,000 cps. Output, —56 db. Triple shielded, fitted with switch (optional), cable connector, and 25′ of cable.

Model		List
SR-80H	hi-imp.	Gunmetal or Chrome
SR-80	200 ohms	$80.00
Call Letter Plate		List $7.00

Other impedances obtainable at no extra cost.

New Amperite Compact Velocity

The smallest complete velocity ever made. Complete with output transformer, cable connector and switch. Has the output of a large velocity —70 db open line. Frequency response 60 to 7500 cps. ±2 db. Can be used for speech or music. Fits standard ⅝-27 stand. Can also be used as a hand microphone—has comfortable pistol grip.

Size of Head—1½x2⅜x1¾″. Net weight 1 lb. Complete with 25′ cable.

Model ACH.....List $25.00

Contak Mike

With Foot-Operated Volume Control
No String Changes Necessary
Can be Attached to Most Radio Sets

Gives natural reinforcement without peaks or other undesirable effects. Makes ordinary violin sound like a "Strad"; used by Philadelphia Symphony Orchestra for mandolin solo. Can be used on all string instruments such as Guitars, Violins, or as Vibration analyzer. Easily attached without tools—no drilling. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Ouput, —40 db. 25 ft. of cable. Ship. Wt. 2 lbs.

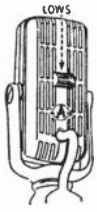
Model KTH	Hi-imp.	List $22.00
Model KTL	200 ohms with foot-operated volume control	List 30.00
Model SKH	Hi-imp.	List 12.00
Model SKL	200 ohms 60-6000 cps with foot-operated volume control	List $20.00

THE AMPERITE VELOCITY

Distinguished in Design and Quality

now offers a new exclusive feature in

THE ACOUSTIC COMPENSATOR



Models RBHk-RBMk

Considered the finest types of microphone available for P. A. work, these models are excellent for close talking and distant pickup, speech, music, or wherever else a high-quality microphone is required. Frequency range 40 to 11,000 cps. Output, —65 db. Excellent also for studio or recording. Complete with switch, cable connector and 25′ of cable.

The Acoustic Compensator permits the increase of the high frequencies by the mere flip of the finger. Simple construction. As shown in diagram, simply push the knob up to increase high frequencies, or down to increase lows. Makes microphone adjustable for close talking or distant pickup.

Models RBHk-RBMk, with acoustic compensator. Frequency range 40 to 11,000 cps. Output, —65 db. Complete with switch, cable connector and 25′ of cable. Chrome or Gunmetal. List $42.00

Same as above, except without acoustic compensator

		Chrome or Gunmetal
Model RBHn	High impedance ...	List $42.00
Model RBMn	200 ohms	List 42.00

Models RBBHn-RBBn

For unusual feedback conditions such as footlight installations· The 200-ohm model is especially recommended for such installations. Not to be used for close talking. Frequency range 40 to 11,000 cps. Complete with switch, cable connector and 25′ of cable.

		Chrome or Gunmeta
Model RBBHn	High impedance	List $42.00
Model RBBn	200 ohms	List 42.00

AMPERITE MICROPHONES ARE TRIPLE SHIELDED against all RF or magnetic fields, entirely eliminating hum pickup. They are acoustically designed to eliminate any possibility of cavity resonance.

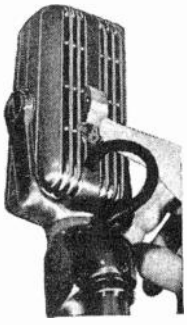
FINISHES: All microphones have the new standard gunmetal finish. Also available at no extra charge in long-lasting chrome finish.

NOTE: Special custom microphones, such as microphones with increased low or high frequencies, or special impedances, obtainable at no extra charge.

Additional CABLE LENGTHS obtainable at 6c list per foot.

New RSHk-RBSk

With Acoustic Compensator



Similar in appearance to RBHK. Has slightly less output and frequency range. For speech or music. ACOUSTIC COMPENSATOR permits adjustment for close or distant pickup or for various conditions encountered. Complete with switch and cable connector. Output —68 db. Frequency range 60 to 8000 cps. 12 ft. of cable.

		Chrome or gunmetal
Model RSHK	high-imp.	List $32.00
Model RBSK	200 ohms	List 32.00

Obtainable without Acoustic Compensator at same price.

Amperite, Jr. Velocity Mike

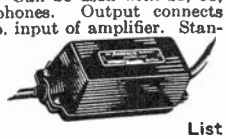
Lapel

The most successful "lapel" made. Size of match box. Ideal for lectures and specialty acts. Can be hidden under coat. Output constant with any position of the head. Transformer included in microphone case. Flat response 60 to 7500 cps. Output, —70db. Shipping weight 2 lbs.

Model 7J-H	Hi-imp.	List $22.00
Model 7J	200 ohms.....	22.00

Input Transformer (Cable Type) LGP

Enables the use of low impedance microphones and cable lengths up to 5000 ft. with amplifiers having high impedance input. Hum trouble entirely eliminated. Can be used with 25, 50, or 200-ohm microphones. Output connects directly to high imp. input of amplifier. Standard grade recommended for speech; laboratory grade for music. Shipping weight 3 lbs.



Model			List
LGP	(Standard)	60-8000 cps.....	$ 5.00
LGP	(Lab.)	40-14,000 cps.....	10.00

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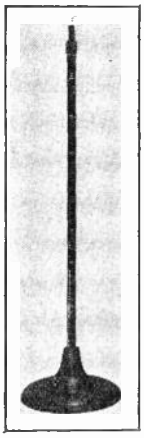
World Radio History

CARBON RIBBON EASTERN MIKE STANDS CRYSTAL DYNAMIC

TWO SECTION FLOOR STANDS

Shell Covered 10" Bases. 5/8"-27 Thread. Height 36"-67". Rubber Feet in Base. Chromium or Gun Metal Finish.



EF142—Light type—8¾ lbs.

List Price $11.75

EF17—Medium type—10 lbs.

List Price $12.50

EF33—Heavy type—17 lbs. 6 rubber feet in base.

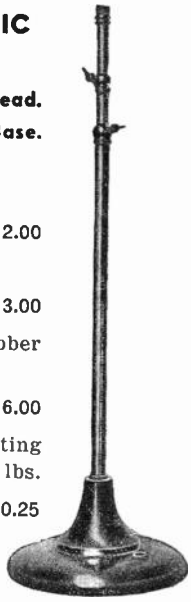
List Price $16.00

EF15—Light type—7½" base. Fitting for 5/8"-27 thread. Net weight 7 lbs.

List Price $10.25

THREE-SECTION TELESCOPIC FLOOR STANDS

Shell Covered 10" Bases. 5/8"-27 Thread. Height 26"-62". Rubber Feet in Base. Chromium Finish.



EF143—Light type—8¾ lbs.

List Price $12.00

EF19—Medium Type—10 lbs.

List Price $13.00

EF34—Heavy type—16 lbs. 6 rubber feet in base.

List Price $16.00

EF12—Light type—7½" base. Fitting for 5/8"-27 thread. Net weight 6½ lbs.

List Price $10.25

10" WRINKLE BASES

Black or Platinum Grey with Chromium Tubing. 36"-67" Height. Rubber Feet.

EF133—Light type—7½ lbs. 5/8"-27 fitting.

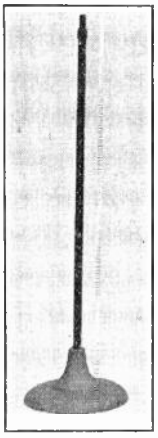
List Price $9.50

EF141—Similar to EF133 but has larger tubing section. 5/8"-27 thread. 8 lbs.

List Price $10.50

EF81 — Heavy type — 16 lbs. 5/8"-27 thread. 6 rubber feet.

List Price $14.50



10" WRINKLE BASES

Black or Platinum Grey with Chromium Tubing. 27"-63" Height. Rubber Feet.

EF134—Light type—7½ lbs. Fitting for 5/8"-27 thread.

List Price $9.50

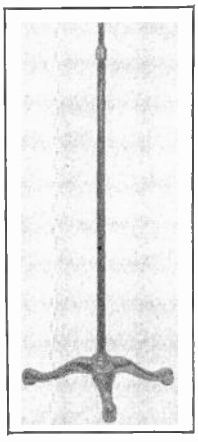
EF148—Similar to EF134 but has larger tubing section. 5/8"-27 thread. 8 lbs.

List Price $10.75

EF83 — Heavy type — 16 lbs. 5/8"-27 thread. 6 rubber feet.

List Price $14.50

THREE-LEGGED STANDS



Three Legged Casting. 15" Spread. 37"-66". 5/8"-27 Thread. Rubber Feet. Net Weight 12 lbs.

EF55—All chromium finish. Has smoothly ground casting.

List Price $15.50

EF111—Black or platinum grey. Wrinkle base with chromium tubing.

List Price $13.00

Collapsible Floor Stand Folding Base

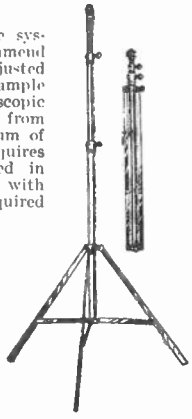
For remote control equipment and portable systems, where space is at a premium, we recommend this type of stand. The three legs can be adjusted to give a base spread of 20", which is ample assurance against tipping. Three brass telescopic sections allow stand height to be varied from 26" to 43" for two sections and a maximum of 60" for all three sections. When folded it requires only 21" of space. Entire stand furnished in chromium finish. These stands can be used with any type of microphone by ordering the required reducer as listed on page E-12.

EF73—Heavy tubing model for 5/8"-27 thread.

List Price $15.00

EF75—Light tubing model with fitting for 5/8"-27 thread.

List Price $11.75



NOTE: Stands which include *"Fitting for 5/8"-27 Thread"* have a basic thread of ½"-27. Other threads also available; for prices see page E-12.

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World Radio History

CARBON RIBBON **EASTERN MIKE STANDS** CRYSTAL DYNAMIC

Modernistic FLOOR STANDS

TWO SECTION STANDS

Black wrinkle bases with chromium tubing. Fitting for ⅝"-27 thread. Height: 35"-63".

EF123

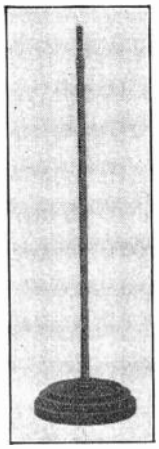
10" Base—Net 10 lbs. Has four iron feet moulded to casting.

List Price $10.25

EF92

9" Base—net 6 lbs. 3 rubber feet in base.

List Price $8.50



THREE SECTION STANDS

Black wrinkle bases with chromium tubing. Fitting for ⅝"-27 thread. Height: 25"-61".

EF136—(EF123 Base)

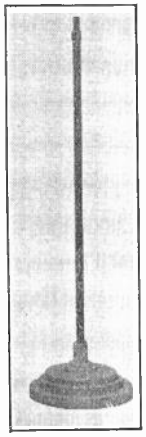
10" base net weight 9 lbs. Has four iron feet moulded to casting.

List Price $10.25

EF94—(EF92 Base)

9" Base—Net weight 6 lbs. 3 rubber feet in base.

List Price $8.50



LARGE MODERNISTIC BASE

Black or platinum grey wrinkle finish, with chromium tubing. Height 37"-65". ⅝"-27 thread. 6 rubber feet.

EF97

10" base. 12 lbs.

List Price $12.00

EF139

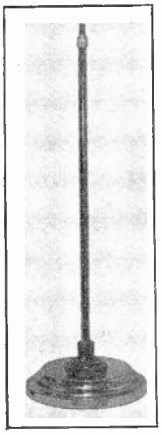
12" base—17 lbs. Has heavier tubing section for large microphones. Supplied with either ⅝"-27 or ½" pipe thread fitting.

List Price $19.00

EF140

12" base—24 lbs. Same tubing section as on EF139.

List Price $22.50



DELUXE TYPE FLOOR STAND

12" base. Has two piece two color shell over casting. Chromium finish for lower section of base and tubing and black for upper part of base. Height 37"-65". ⅝"-27 or ½" pipe thread on heavy tubing. 6 rubber feet in base.

EF43

Net weight 18 lbs.

List Price $21.50

EF47

Net weight 25 lbs.

List Price $25.00

EF138

Has EF97 base with large 3 section chrome tubing. Black or platinum grey base. Height 27"-63". ⅝"-27 thread. 6 rubber feet in base. Net weight 12 lbs.

List Price $12.00

RING MOUNTINGS

18 18A 18B

For W. E. 618 Type and Radio Receptor-Audio Research types which do not have a mounting bracket on case. Rings for these mikes in stock. Other sizes made to order. Available as follows:

Type 18—Ring Mounting.

Type 18A—Swivel Mounting.

Type 18B—For overhead suspension and stand mounting.

Type CLP—One-sided Call Letter plates for above rings only.

PRICES QUOTED ON REQUEST

CLP

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World Radio History

CARBON RIBBON EASTERN MIKE STANDS CRYSTAL DYNAMIC

TABLE STANDS — 5½" BASES

Deluxe Type — All Chromium — 3 Felt Feet in Base

ED14D

ED130

ED53

ED51L

ED5D

	List Price
ED14D—Adjustable height 9"-13". Swivel has threads for ⅛" pipe and ⅝"-27	$7.50
ED130—Height 4". ⅝"-27 thread	4.25
ED53—Desk stand kit for carbon microphone. Combination of four stands in one unit. Tall desk stand. Short desk stand. Suspension ring and carrying handle.	6.50
ED51L—Height 6¾". ⅝"-27 thread	$4.75
ED5D—Height 10¾". Swivel has threads for ⅛" pipe and ⅝"-27	5.50

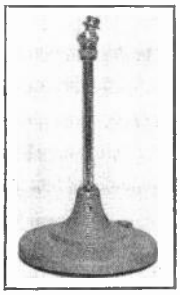
Economy Type— Black or Silver Wrinkle Bases with Chromium Tubing 3 Felt Feet in Base

ED127

ED101

ED129

ED126

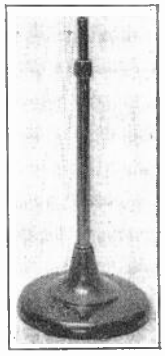


ED125

	List Price
ED127—Height 8½". ⅝"-27 thread	$3.75
ED101—Height 6¾". ⅝"-27 thread	3.75
ED129—Height 3¼". ⅝"-27 thread	3.25
ED126—Adjustable height 8"-12". Fitting for ⅝"-27 thread	$5.50
ED125—10¾" height. Swivel has threads for ⅛" pipe and ⅝"-27	4.50

HEAVY TABLE STANDS — 7½" BASES

Shell Covered Base — 3 Rubber Feet Chromium or Gun Metal Finish



EB4

ED23R

ED131

ED21

	List Price
EB4—Banquet stand. Height 16"-25". Fitting for ⅝"-27 thread. Net weight 6 lbs.	$9.75
ED23R—Height 8". Fitting for ⅝"-27 thread. Net weight 5¾ lbs.	7.50
ED23P—For ½" pipe thread	7.50
ED131—Height 4½". ⅝"-27 thread. Net weight 5½ lbs.	$5.50
ED131P—For ½" pipe thread	6.00
ED21—Short banquet stand. Height 8½"-12". ⅝"-27 thread. Net weight 5¾ lbs.	9.00
ED21P—With fitting for ½" pipe thread	10.00

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World Radio History

CARBON RIBBON

EASTERN MIKE STANDS

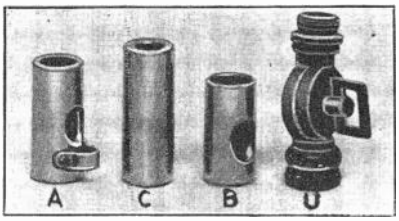
CRYSTAL DYNAMIC

FITTINGS AND ACCESSORIES

F

P

R



D

S

REDUCERS

Catalog No.	Mike Thread	Stand Thread	Figure	List
101	⅛" Pipe	⅝"-27	F	$0.75
102	⅛" Pipe	½"-27	F	.75
107	½" Pipe	⅝"-27	P	1.00
108	½" Pipe	½"-27	P	1.00
145	½" Pipe	¾"-27	P	1.00
109	⅝"-27	½"-27	R	.75
112	⅝"-27	½" Pipe	R	1.00
132	⅝"-27	¾"-27	R	1.00
*113	¼"-20	⅝"-27	T	.75
115	See No. 118		B	
118	WE630A	⅝"-27	A	1.50
118	WE633A	⅝"-27	A	1.50

* NOTE: No. 113 can also be used with CAMERAS.

SWIVELS

103	⅛" Pipe	⅝"-27	D	1.00
104	⅛" Pipe	½"-27	D	1.00
110	⅝"-27	⅝"-27	S	1.00
111	⅝"-27	½"-27	S	1.00
117	⅝"-27	⅝"-27	U	3.75
120	⅝"-27	½"-27	U	3.75

SHOCK ABSORBERS

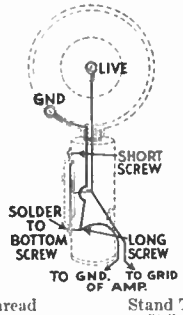
401

405

Cat. No.	Mike Thread	Stand Thread	List
405	⅝"-27	⅝"-27	$2.50
401	½" Pipe	½" Pipe	3.50
402	½" Pipe	⅝"-27	3.00

SHORT CIRCUITING SWITCHES

204

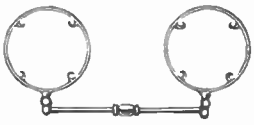


304

Cat. No.	Mike Thread	Stand Thread	List
204	⅝"-27	⅝"-27	$3.75
304	⅝"-27	⅝"-27	3.00

ACCESSORIES

BA 78


DAC

ER6

Cat. No.	List
ER6—Suspension Ring, 6½" diameter	$2.50
EC7—Dust Covers for 414 and 415	6.00
414—Mike Ring, Threaded ⅝"-27	2.00
415—Mike Ring, Threaded ½"-27	2.00
DAC—Double Arm, 6½" Rings	12.50
DA5—Arm with two ⅝"-27 Threads	9.00
DA½—Arm with two ½" Pipe Threads	12.50
BA78—Boom Arm ⅝"-27 Threads	8.50

EG

CABLE GUIDES

EG24—For ⅞" Tube	1.50
EG25—For ¾" Tube	1.50
EG27—For ⅝" Tube (Cable Grip)	1.25
417—Metal Plug Sleeve (Fig. "C" above)	1.00
420—Side Hole Bracket	.75

420

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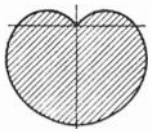
SHURE DIRECTIONAL Crystal Microphones

SHURE "UNIPLEX" True Uni-Directional Crystal Microphone

Sensitive at Front! Dead at Rear! Solves Feedback, Room and Background Noise, Reverberation Problems

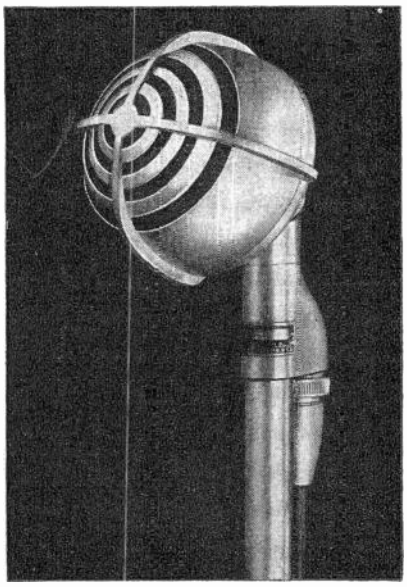


Uni-Directional

An entirely new acoustic principle, developed by Shure Engineers, brings you the 730A UNIPLEX—the first low-cost true uni-directional microphone! Provides high-quality pickup from the front, yet is practically unaffected by sound approaching from the rear. This means freedom from feedback, the practical elimination of crowd and background noise, and remarkable reduction in reverberation "room effects".

Use the UNIPLEX for improved sound reproduction in practically every application where conventional microphones have been employed. In theaters, night-clubs, restaurants, churches, auditoriums, and other acoustically-difficult locations, the UNIPLEX offers for the first time a truly satisfactory solution to the microphone problem. The UNIPLEX is as advanced in appearance as in performance, with its entirely new shape, pleasing curves, and distinctive "speed-lines". Finish is rich Satin-Chrome overall. The tilting head may be turned up for horizontal non-directional operation if desired. Smooth high-quality, wide-range response characteristic. Average front-to-rear discrimination, approximately 15 db. Output level, 62 db below 1 volt per bar. New special "Super-Shielded" C30A cable prevents hum and mechanical noise pickup; 25 ft. furnished with plug attached. New cable connector. Triple moisture-proofed Grafoil Bimorph crystal. Cast cartridge in floating mounting. Head diameter, 3 3/32"; depth 3 11/32". Net weight, 1 lb. Shpg. Wt. 1½ lb. Standard 5/8"-27 thread for stand mounting.

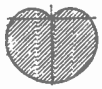
Model 730A. UNIPLEX Uni-Directional Crystal Microphone Complete with 25 ft. "Super-Shielded" cable with plug attached. Code: **Rupel.** List Price **$29.50**



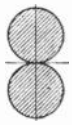
Entirely new, convenient built-in Cable Connector on every Shure Microphone . . . new Locking-Plug on cable — all at no extra cost!

(Shure Patent Pending)

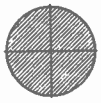
SHURE "TRI-POLAR" Controlled-Direction Crystal Microphone



Uni-Directional



Bi-Directional



Non-Directional

1. Uni-Directional 2. Bi-Directional 3. Non-Directional

The Professional Microphone for Broadcast, Recording and Public Address Work!

Here is the most advanced every-purpose microphone available today—the *only* microphone that provides three-way directional control! Model 720B TRI-POLAR gives the performance of three microphones in one unit, with three different basic directional characteristics instantly available through the three-point selector switch.

1. **Uni-Directional.** Provides wide-angle front-side pickup, with a 10 to 1 (20 db) discrimination against sound approaching from the rear. Reduces reverberation energy pickup 66%. Eliminates audience and background noise. Feedback can be eliminated entirely. Can be used near wall in small studios without troublesome echo effects. Useful wherever sound in a given location must be picked up to the exclusion of sounds in the opposite direction. Output level 69 db below 1 volt per bar.
2. **Bi-Directional.** Typical "velocity" characteristic. Permits pickup from front and back while dead sides discriminate against unwanted sounds. By proper placement, microphone may be used close to loudspeakers without feedback. Reverberation energy pickup is reduced 66%. Output level 74 db below 1 volt per bar.
3. **Non-Directional.** Full 360-degree all around pickup for group presentations, outdoor work and all applications for which a conventional-type crystal microphone would be used. Ideal for orchestra, dramatic plays, soloists, speakers, and general applications. Output level 74 db below 1 volt per bar.

This complete versatility makes it possible to solve, with the one microphone, practically any sound-pickup problem encountered in broadcast, recording, and public address work.

Gives smooth, high-quality wide-range response from 30 to 10,000 cycles under all operating conditions. Triple moisture-sealed Grafoil Bimorph crystals. Specially tested and laboratory adjusted. Rugged, light, compact. No delicate moving parts. Head tilts and may be aimed directly at the source of sound. New "Super-Shielded" C30A Cable prevents hum and mechanical noise pickup; twenty-five foot length furnished with polarized locking plug attached. New cable connector feature. Rich Satin-Chrome finish overall. Overall diam., 2¾". Overall height, 7 5/8". Shpg. wt., 2¾ lb. Standard 5/8"-27 thread for stand mounting.

Model 720B. TRI-POLAR Crystal Microphone. Complete with 25 ft. "Super-Shielded" Cable with plug attached. Code: **Ruped.**
List Price **$45**

Entirely new, convenient built-in Cable Connector on every Shure Microphone . . . new Locking-Plug on cable — all at no extra cost!

(Shure Patent Pending)

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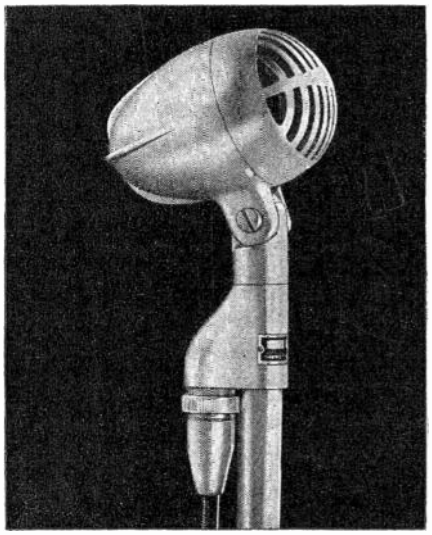
SHURE ULTRA Wide Range Crystal Microphones

SHURE "ROCKET" Convertible Semi-Directional Crystal Microphone

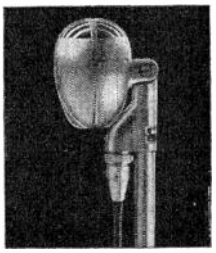


Ultra-modern in form and performance, this new streamlined Shure ROCKET adds distinctive beauty and versatility to high quality sound installations. Has all the features of Shure "Ultra" wide-range design—insures faithful sound reproduction—and permits easy convertibility from conventional to semi-directional and non-directional pickup. Tilting head easily aimed at source of sound for best response. The addition of the A91A Directional Baffle reduces pickup from sides and rear of the microphone at the higher frequencies, decreases feedback tendency and cuts down room-noise pickup. When turned to vertical position (without baffle) as shown at right, a non-directional horizontal characteristic is obtained. Output level, 53 db below 1 volt per bar. Genuine Grafoil Bimorph Crystal, triple moisture-sealed.

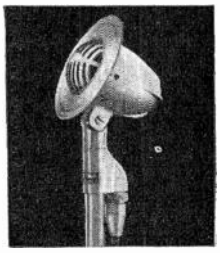
New convenient built-in cable-connector receptacle. New polarized locking-plug, attached to cable. Simplifies microphone setup and provides instant cable disconnection or replacement. Rich new Satin-Chrome finish overall. Diameter, 2⅜". Length overall, 3 7/16". Net wt., 1¼ lb. Shpg. wt., 1¾ lb. Standard 5/8"-27 thread for stand mounting.

Model 705A. ROCKET Crystal Microphone. Complete with 25 ft. shielded cable with plug attached. (No baffle included). Code: **Rupeb.** List Price **$25**

Model A91A. Directional Baffle for "Rocket". As illustrated. Snaps into place in an instant. Satin-finished aluminum. Code: **Rubab.** List Price **$2.50**



Non-Directional Position



"Rocket" with Baffle

SHURE "ULTRA" Wide-Range Crystal Microphones

The Highest Performance Available Today in General-Purpose Microphones

By whatever standards you judge them . . . fidelity of reproduction, beauty of design, dependability, convenience, . . . you'll find SHURE ULTRA will meet your requirements. Try them! Compare them with any other microphone regardless of price! You'll see why they have a long impressive record as standard equipment with leading amplifier manufacturers . . . why they are the popular choice here and abroad, in more than 55 countries in all climates throughout the world.

Note these outstanding features: "Ultra" Wide-Range reproduction from 30 to 10,000 cycles ★ Dual-Drive High Capacity Grafoil Bimorph Crystal ★ Complete Barometric Compensation ★ Internal Screen-Protected Cartridge ★ Crystal Triple Moisture-Sealed by special Shure process ★ High Output Level 53 db below 1 volt per bar ★ Acoustically-correct single high-efficiency Curvilinear Diaphragm ★ Rich new Satin-Chrome finish overall.

700D

701D

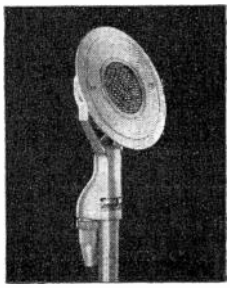
702D

Model 700D. Small compact unit with tilting head. Satin-Chrome finish overall. Diam. 2⅜". Complete with 25 ft. single-conductor shielded cable with plug attached. Code: **Rupaj.**
List Price **$25**

Model 701D. Ultra-modern "Grille-Type" skyscraper design, finished in Satin-Chrome overall. 3 11/16" high, 2 5/16" wide. Complete with 25 ft. shielded single-conductor cable with plug attached.
Code: **Rupap.** List Price **$25**

Model 702D. Small, attractive "Spherical" microphone with non-directional horizontal pickup characteristic. Satin-Chrome finish overall. Diam. 2¼". Complete with 25 ft. shielded single-conductor cable with plug attached. Code: **Rupav.**
List Price **$25**

In addition, each "ULTRA" has the new Shure built-in cable connector and removable locking-plug already attached to the cable. Standard 5/8"-27 thread for stand mounting.



Directional Baffle for 700D

Model A90A. Directional Baffle for the popular Shure Model 700D Crystal Microphone, shown at left, reduces pickup of high-frequency sound from back and sides, reduces feedback tendency, cuts down room-noise pickup. Quickly attached or removed—just snaps into place. Satin-finished aluminum. Code: **Rubaf.**
List Price **$2.50**

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SHURE

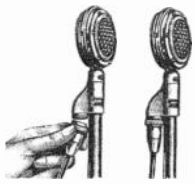
CRYSTAL MICROPHONES VIBRATION PICKUPS ★ *Accessories* ★

NEW "SUPER LEVEL" 70H CRYSTAL MICROPHONE

The new "Super Level" model climaxes the long record of outstanding performance of the Shure 70H—the *first* crystal microphone generally adopted by leading sound equipment manufacturers. Retaining the high-quality wide-range response and other features which made this microphone so popular, the "Super Level" 70H now provides the highest output level ever available in a crystal microphone. Rated at 46 db below 1 volt per bar, (26 db below 1 volt for 10 bar signal), the new 70H requires less amplifier gain—provides a useful margin of extra sensitivity when needed. Crystal is genuine Grafoil Bimorph, triple moisture sealed. Sturdy cast case, Satin-Chrome finished, with new built-in cable receptacle. Locking plug, attached to 7 ft. shielded cable.

Model 70H. "Super Level" Crystal Microphone. Code: **Rupep.** List Price **$22.50**

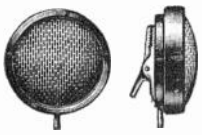
Model 70H-25 Ft. Same, with 25 ft. cable. Code: **Rupeb.** List Price **$24.30**



Every Shure Microphone has this New Built-In CABLE CONNECTOR at no extra cost!

Gives added convenience and flexibility to microphone installations. Each microphone is equipped with a 3-conductor shielded receptacle. Polarized plug with locking ring assembled and wired to the cable furnished with the microphone. Prongs recessed for protection. Permits easy cable attachment or replacement — simplifies mounting on stand.

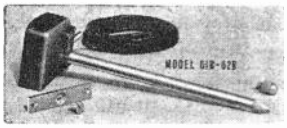
Model 76B Lapel Type Microphone



A greatly improved Crystal Lapel Microphone with higher output level. Gives high-quality reproduction of speaker's voice. Small, light and inconspicuous—only 1 7/8" diameter, weight only 1½ oz. Improved lapel clip. Iridescent Gray finish. Complete with 25 ft. shielded single-conductor cable. (No cable connector). Shpg. wt., ¾ lb.

Model 76B. Code: **Rulop.** List Price **$25**

Crystal Vibration Pickup Devices



Models 61B and 62B Vibration Pickups. Useful for locating and measuring vibration, checking surface smoothness, and for the solution of a wide variety of problems involving vibration in scientific research and industrial applications. Amplitude, frequency-component and direction of vibration may be determined. Both are rugged inertia-actuated acceleration-type instruments with no plungers or other external moving parts. Sturdy cast-aluminum case with spring cable-protector. Triple-moisture sealed Grafoil Bimorph Crystal. May be fastened to object under test or used with extension rod and tip for point-to-point tests. Iridescent Gray finish. Complete with 8" extension rod, ball tip, point tip, mounting bracket, 7 ft. shielded cable and complete instructions. Case 2½" by 2½" by 1 3/8". Shpg. wt., 1½ lbs.

Model 61B. Vibration Pickup. General Purpose type. Linear acceleration characteristic to 1300 cycles. Code: **Ruteb.** List Price **$30**

Model 62B. Vibration Pickup. High output model. Suitable for direct use with headphones. Linear to 600 cycles. Code: **Rutec.** List Price **$30**

Model 60E Vibration Pickup. An inexpensive general purpose vibration pickup suitable for reproduction of string musical instruments, interception of sound through walls and for general experimental work. Size: 1¾" by 1" by ¾". Mounting lugs provided. Satin-Chrome finish. Complete with 7 ft. shielded cable. Shpg. wt., ¾ lb.

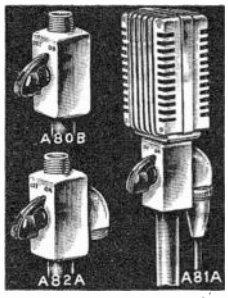
Model 60E. Code: **Ruteg.** List Price **$17.50**

Model 66C Stethophone

A non-acoustic piezoelectric Stethophone for pick-up of heart and chest sounds for reproduction or recording. Special "anti-noise" construction practically eliminates acoustic feedback and room noise pickup. Output, 5 to 10 millivolts. Small and compact. Only 1 5/16" in diameter: net weight, less cable, 3 oz. Beautiful Satin-Chrome finish. Complete with removable protective cap and 7 ft. shielded cable. Shpg. wt., ¾ lb.

Model 66C. Stethophone. Code: **Rutef.** List Price **$35**

Microphone ON-OFF Switches



Ideal for all applications where it is necessary to turn the sound system "on" and "off" at the microphone. New noiseless rotary switch in rugged cast case. New Satin-Chrome finish. Black bakelite knob. 5/8"-27 thread for stand.

Model A81A. Stand Switch. Factory assembled and wired to any *new model connector-type* Shure microphone. Cable receptacle for standard Shure plug. 2 1/8" high, 1 1/8" wide. Code: **Runig.** List Price (Add to list price of microphone) **$2.50**

Model A82A. Stand Switch. Threaded 5/8"-27 to fit former model Shure microphones, and microphones of other makes. Cable receptacle for standard Shure plug. Unwired, without microphone, cable or plug. Code: **Runit.** List Price **$4**

Model A80B. Same as A82A, but without cable receptacle. Code: **Runib.** List Price **$2.50**

Special Crystal Microphone Cable

C10C is a crystal microphone cable with remarkably low capacity and very high insulation resistance. High tensile strength conductor. Heavy, close shield. Overall rubber jacket. Available in factory-trimmed lengths with Shure microphone-plug attached (see listing below) and in bulk.

Model C10C Bulk Cable. Any length, untrimmed. Code: **Rusob.** List Price, per ft. **10c**

The new Shure "Super-Shielded" C30A Cable is hum-free even in intense magnetic and static fields. Has two heavy, insulated shields. "Microphonic" cable noise practically eliminated. Recommended for Shure "Uniplex" and "Tri-Polar" microphones. Convenient factory-trimmed lengths with Shure microphone-plug attached. Available in bulk on special order.

Model	Type	Length	List Price	Code
C10CP-7	Regular-Type Trimmed, with Plug Attached	7 ft.	$2.25	Rusod
C10CP-25		25 ft.	4.00	Rusof
C10CP-50		50 ft.	6.50	Rusog
C30AP-7	Super-Shielded Trimmed, with Plug Attached	7 ft.	3.10	Rusoh
C30AP-25		25 ft.	7.00	Rusok
C30AP-50		50 ft.	12.50	Rusom

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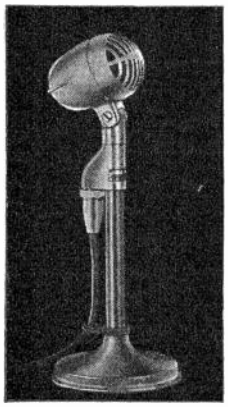
World Radio History

SHURE "Communications" MICROPHONES

ROCKET Communications-Type



A deluxe crystal microphone for commercial and advanced amateur radio operators. The ROCKET combines ultra-modern streamlined beauty, convenience, and the famous Shure "high-efficiency" speech characteristic. Gives clear crisp speech that cuts through noise and static—doubles power on important intelligibility speech frequencies. Head tilts to any desired angle. Shure A91A Baffle may be added to increase high-frequency directivity if desired. Built-in Cable Connector. Locking-plug attached to 7 ft. shielded cable. Output 30 db below 1 volt for 10-bar speech signal. Satin-Chrome finished head; Desk Mount in Iridescent Gray. Shpg. wt. 3 lbs.

Model 706S. Code: **Rupen.** List Price **$27.50**

Model 706SH. Same, without desk mount. Code: **Rupey.** List Price **$25**

New SUPER LEVEL 70SW

Communications-Type

The world-favorite 70SW now has the highest output ever available in a crystal microphone! Used in countless amateur and commercial stations everywhere. Famous Shure "high-efficiency" speech characteristic that cuts through noise and static—doubles power on important intelligibility speech frequencies. New built-in Cable Connector. Locking plug, attached to 7 ft. shielded cable. Output 26 db below 1 volt for 10-bar speech signal. Satin-Chrome head; Desk Mount Iridescent Gray finish. Shpg. wt. 3 lbs.

Model 70SW. Code: **Rupef.** List Price **$25**

Model 70SWH. Same, without desk mount. Code: **Rupek.** List Price **$22.50**

Military-Type Hand Microphones

Shure "Military-Type" Hand Microphones have set a new functional style in hand-microphone design. Extremely light and compact. Shaped to fit naturally, comfortably in the palm of the hand. Takes minimum space in portable equipment. Sturdy cast-aluminum case, beautifully modern, with gleaming Satin-Aluminum against a background of Iridescent Gray. High output level.

Both Crystal and Single-Cell Carbon types are available in General Purpose and "Anti-Noise" Close-Talking models. "Anti-Noise" Close-Talking models deliver clear, crisp speech with practical elimination of background noise—a recent development of Shure engineers. Models available also with an improved, combined "Press-to-Talk" and "On-Off" cam-operated switch. Extra relay contacts can be furnished promptly on special order.

Size: 3¾" high; 2¾" wide; 1¾" thick. Net weight, ¾ lb. Shpg. wt., 1 lb. Has spring cable protector. Furnished complete with removable Suspension Hook, and 7 ft. shielded rubber-jacketed cable. Satin-Aluminum and Iridescent Gray finish.

Model 750A. Crystal Hand Microphone. General Purpose type. Code: **Rusal.** List Price **$25**

Model 750B. Crystal Hand Microphone. Same as 750A but with switch. Code: **Rusel.** List Price **$26.50**

Model 760A. Crystal Hand Microphone. "Anti-Noise" Close-Talking Type. Code: **Rusil.** List Price **$30**

Model 760B. Crystal Hand Microphone. "Anti-Noise" Close-Talking Type. Same as 760A but with switch. Code: **Rusol.** List Price **$31.50**

Model 15A. Carbon Hand Microphone. General Purpose Type. Code: **Ruceb.** List Price **$15**

Model 15B. Carbon Hand Microphone. Same as 15A but with switch. Code: **Ruced.** List Price **$16.50**

Model 16A. Carbon Hand Microphone. "Anti-Noise" Close-Talking Type. Code: **Rucal.** List Price **$20**

Model 16B. Carbon Hand Microphone. Same as 16A but with switch. Code: **Rucap.** List Price **$21.50**

Model 3B TWO-BUTTON CARBON

Full-size two-button microphone with quality performance, for amateur transmitters, inter-communication systems and Public Address installations where dependability and low cost are the important requirements. Rigid cast frames and built-in protective grille. Has the Shure "Quickway" Hooks. New Satin-Chrome finish overall. Special design permits use as a single-button microphone. Frame diameter 3"; Thickness 13/16"; Net weight ½ lb. Shpg. wt. ¾ lb.

Model 3B. Code: **Ruciv.** List Price **$5.50**

Model 5B TWO-BUTTON CARBON

A high-quality, full-size two-button microphone. Regular full-size precision adjustable buttons and special diaphragm insure exceptional quality of reproduction. Ideal for low-cost sound systems. Rugged construction throughout. Attractive modern design, with new rich Satin-Chrome finish. Screen-protected diaphragm. Well-known Shure "Quickway" Hooks for convenient spring suspension. Diameter overall 3¾"; Thickness 1 1/16". Net weight 1 lb. Shpg. wt. 1¼ lb.

Model 5B. Code: **Rucit.** List Price **$10**

Model 10B Two-Button Hand Microphone

Convertible Hand Microphone. Convenient for general-purpose Public Address use. Convertible from hand to 3B type for stand mounting by removing mounting ring and inserting four "Quickway" Hooks. Iridescent Gray handle. Overall length, 8 7/8". Net weight, ¾ lb. Shipping weight, 1¼ lb. Complete with 6 ft. three-conductor cable and 4 "Quickway" Hooks.

Model 10B. Two-Button Hand Microphone, Code: **Rucor** List Price **$10**

Model 14A Close-Talking Hand Microphone. Same as Model 10B above but specially designed for close-talking purposes. Effective discrimination against room and background noise. Sharp, clear reproduction of voice. New principle eliminates muffled response of former close-talking microphones.

Model 14A. Code: **Rucog.** List Price **$12.50**

MICROPHONE REPAIR SERVICE

All microphones require occasional repairs. Carbon microphones especially need reconditioning at least once a year to maintain sensitivity and quality. "Microphone Headquarters" maintains a special repair department for repairing and reconditioning all types and makes of microphones. Write for quotations.

Shure Crystal Devices are licensed under patents of the Brush Development Company. Shure patents pending.

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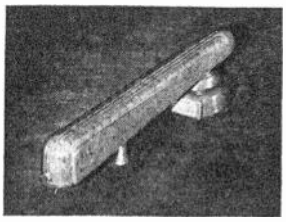
World Radio History

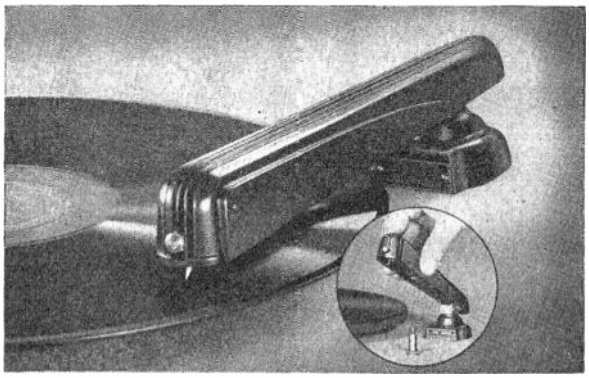
SHURE CRYSTAL PICKUPS

ZEPHYR *Balanced-Tracking* CRYSTAL RECORD REPRODUCER

An improved pickup with advanced features that give music lovers the type of reproduction they like. Plays 10" and 12" records. Does full justice to the complete range of modern high-quality recorded music. New full bass response combined with full-range high-frequency reproduction gives pleasing life-like quality, free from distortion and objectionable surface noise. Response easily modified to suit individual preferences by slight modification of input circuit. Records last longer too, due to Shure "Needle-Tilt" Balanced-Tracking that keeps the needle true to the groove, lightweight needle pressure of only 2¾ ounces, and very low needle-point impedance. The tone arm is elastically-isolated from the base with a new "full-floating" mounting that reduces mechanical feedback and eliminates motor vibration pickup.

In appearance the ZEPHYR is an outstanding example of modern design at its best. Streamlined with eye-satisfying curves and speed-lines, it was an award winner in the "Modern Plastics" Competition. Furnished in a choice of finishes—gleaming Black Bakelite Molded, or Walnut Bakelite to match the maple, oak, or walnut tones of radio and phonograph cabinets.





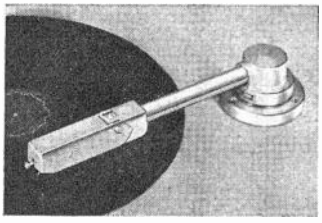
The new ZEPHYR embodies the best design principles that have been developed for crystal devices—many of them exclusive. The crystal is a genuine Grafoil Bimorph unit, triple moisture-sealed by special process. The factors of accidental damage and susceptibility to failure in unusually severe service conditions, have been practically eliminated by well-engineered, field-proven design features. Output voltage, approximately 2¼. Even the smallest mechanical detail has not been overlooked in ZEPHYR design. Low friction bearings of special material, hardened pivot points, and scientifically-stiffened non-resonant arm, are examples of the high order of mechanical design built into this product. Overall dimensions: 11 1/32" long, 2 3/16" high. Base 2" wide. Playing radius, 8 5/8". Shpg. wt., 1¾ lb.

Model 99C. Shure ZEPHYR Crystal Record Reproducer. Black Bakelite Molded. Complete with 3½ ft. shielded cord, arm rest, mounting screws and motorboard drilling template. Code: **Ruzag.**
List Price **$10**

Model 99CW. Same but Walnut Bakelite Molded. Code: **Ruzaw.**
List Price **$10**

(Shure Patent Pending)

Transcription-Type Record Reproducers



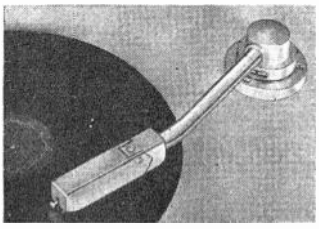
910B

The design of these transcription reproducers has been brought up-to-the-minute to meet the latest requirements for high-quality reproduction of lateral records in broadcasting, recording and public address work. Full bass response has been provided which is variable to suit individual requirements with simple networks in the input circuit. Smooth high-frequency response gives full reproduction to the useful recorded upper register, gradually attenuating the response at the upper frequencies where surface noise predominates. Output approximately 2¼ volts.

Genuine Grafoil Bimorph crystals are employed in cartridges designed for maximum stability and dependability. Special-process triple moisture-proofing insures immunity to atmospheric conditions.

Mechanical features are outstanding. Head pivots horizontally at front of arm for easy needle-changing and locks in place when tilted back. Arm automatically locks in position when swung away from turntable—no arm rest needed. Light needle-pressure of only 2¾ ounces, and low needle-point impedance. Finish is new Satin-Chromium overall. Complete with 3½ ft. shielded cord, mounting screws and motorboard drilling template.

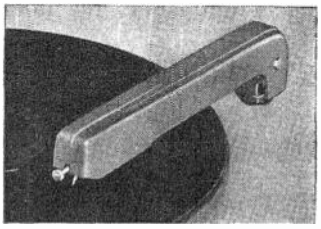
Model 910B. For 10" and 12" records. Straight-arm design, with Shure "needle-tilt" tracking error correction. Overall length, 10¾". Shpg. wt. 2 lbs.
Code: **Ruzil.**
List Price **$15.50**



914A

Model 914A. For 16", 12" and 10" records. Bent-arm tracking correction. Overall length, 12 7/8". Shpg. wt., 2 pounds.
Code: **Ruzig.**
List Price **$16.50**

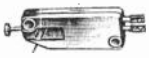
Model 94A "ECONOMY" Crystal Pickup



A small, compact crystal pickup that mounts in minimum space. Especially recommended for compact record players and for modernizing obsolete phonographs and combinations. Plays 10" and 12" records. Has Shure "Needle-Tilt" Balanced-Tracking. Triple moisture-sealed Grafoil Bimorph crystal. Full range frequency response excellently reproduces modern recordings. Output, 2¼ volts. Needle pressure, only 2¾ ounces. Floating, rubber-cushioned pivot-bearing assembly, designed for single-hole motorboard mounting. Sturdy cast arm with attractive modern speed lines. Smooth wood-tone brown finish. Length 7 15/16". Shpg. wt., ¾ lb.

Model 94A. Crystal Pickup. Complete with 20" shielded cord, arm rest and motorboard drilling template. Code: **Ruzec.**
List Price **$6.50**

Crystal Pickup Replacement Cartridges



Model W20C. Metal type cartridge that fits Shure 99, 94 and 910 pickups. Has built-in "Needle-Tilt" Balanced-Tracking. Code: **Ruzim.** List Price **$5.50**

Model W24C. Bakelite type cartridge for universal replacement in many pickups of other makes. Straight needle. **Screw terminals.** Code: **Ruzob.**
List Price **$5.50**

Model W26C. Special Bakelite type for Shure Model 914 Transcription Reproducer. **Lug Terminals.** Code: **Ruzol.** List Price **$5.50**

Model W25C. Bakelite type with standard "plug-in" **pin terminals** as used in many record players, and "coin machines". Straight needle. Code: **Ruzom.**
List Price **$5.50**

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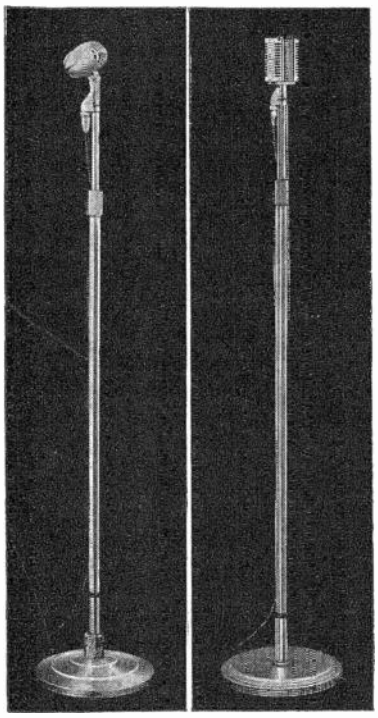
SHURE ★ STANDS ★ and Accessories



S51A-S51B S50A-S50B

"Stabilized" Friction-Lock Floor Stands

New, Quick, Positive Friction-Lock.
Floating, Shock-Proof Base-Cushioning.
Beautiful New Designs and Finishes.

An entirely new line of microphone stands—new in design . . . new in operation . . . new in finish—at new low costs! Improved super-positive Friction-Lock requires but a fraction of a turn to lock, yet will support a 50-lb. load. Easily, quietly raised or lowered. Exclusive new "Stabilized" 3-point base cushioning with pure gum-rubber isolation to eliminate effects of shock and vibration. Strikingly modern designs, finished in beautiful Iridescent Gray or optional Satin-Chrome.

P54A Cable Guide included with every Shure Floor Stand at no extra cost.

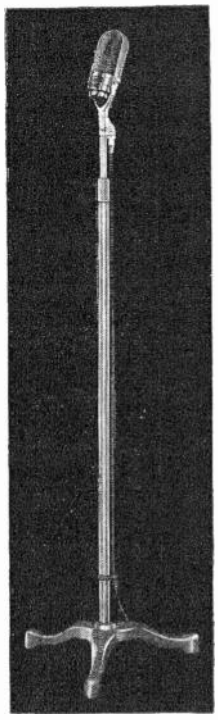
Model S50A. Floor Stand. Small round base (9½" diameter; weight 6 lbs.) with modernistic fluted rim. Effective height adjustment 44 3/8 to 70½ in. Total net wt., 8½ lbs. Shpg. wt., 9½ lbs. Iridescent Gray finish. Code: **Rusag.**
List Price **$10**

Model S50B. Same but Satin-Chrome finish. Code: **Rusaf.**
List Price **$10**

Model S51A. Floor Stand. Large round base (diameter 10½"; weight 10 lbs.). Modern step design with fluted rim. Beautiful Tenite plastic ornamental collar at base. Effective height adjustment, 44 5/8 to 70¾ in. Total net weight, 12½ lbs. Shpg. wt., 13½ lbs. Iridescent Gray finish. Code: **Rusig.**
List Price **$12.50**

Model S51B. Same but Satin-Chrome finish. Code: **Rusif.**
List Price **$12.50**

Model S55A. "Studio-Type" Floor Stand. Extremely stable 3-leg base. Effective height adjustment, 48 to 70 in. Base weight, 10¼ lbs. Leg spread 15½". Total net weight, 12¾ lbs. Shpg. wt., 14 lbs. Iridescent Gray finish only. Code: **Rusat.**
List Price **$15.50**



S55A

Desk and Banquet Stands

These highly-attractive modernistic stands harmonize in design and finish with the latest microphones. Equipped with Shure Friction-Lock for easy, positive height adjustment. New Iridescent Gray finish with Satin-Chrome concentric circles on base. Base diameter, 6".

Model S32D. Desk Stand. Height adjustable from 7 to 11 in. Shpg. wt., 3½ lbs.
Code: **Rused.**
List Price **$6.50**

Model S42D. Banquet Stand. Height adjustable from 15 to 22 in. Shpg. wt., 4 lbs.
Code: **Ruseb.**
List Price **$7.50**

Desk Stands

Model S31B. Desk Stand. Small, attractive, non-adjustable desk stand. Proper height for operating table. New Iridescent Gray finish. Cord entrance in base. Base diameter 4¼"; height 6¾". 5/8"-27 thread. Shpg. wt., 1¼ lbs.
Code: **Rusem.**
List Price **$3**

Model S30C. Desk Stand. For Carbon Microphones. Complete with 5" ring. Small. Attractive. Iridescent Gray base; satin-chrome ring. Cord entrance in base. Complete with 8 rustproof springs. Base diameter 4¼". Height overall 7". Shpg. wt., 1¼ lbs. Code: **Runep.**
List Price **$3.50**

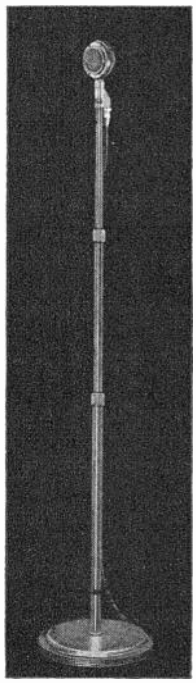
Rings and Springs

Fit All Shure Stands

Model R20C. Standard Ring. A sturdy, full-size 6" ring for carbon microphones. Attractive bevel-edge design. "Quick-way" Hooks for quick mounting. Satin-Chrome finish. Complete with 8 rustproof springs. Shpg. wt., 1 lb.
Code: **Ruket.** List Price **$2.50**

Model R10B. Ring. A light 5" ring for small carbon microphones. Satin-Chrome finish. Shpg. wt., ¾ lb. Complete with 8 rustproof springs. Code: **Rujes.** List Price **$2.25**

DOUBLE-EXTENSION Utility Stand



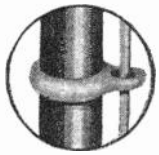
S54C

Model S54C. Floor Stand. A utility Double-Extension Friction-Lock stand especially suitable for portable use. New modernistic round base with fluted rim. Base diam., 9½"; wt., 6 lbs. Effective height range, 30 to 64 in. New Iridescent Gray finish. Shpg. wt., 8½ lbs. Code: **Rusap.**
List Price **$10**

Stand Adapters

Model A20A. Adapter. For mounting microphones with ½" Pipe Thread on any Shure Stand. (5/8"-27 thread) Code: **Rudap.**
List Price **$1.00**

Model A21A. Adapter. For mounting microphones with 1/8" Pipe Thread on any Shure Stand. (5/8"-27 thread). Code: **Rujec.**
List Price **$1.00**

★  ★

CABLE GUIDE on Shure Floor Stands At No Extra Cost!

Every Shure Floor Stand includes, at no extra cost, the Shure P54A Cable Guide, which slips over stand-upright and holds cable neatly in place. Made of molded soft rubber. Fits stand diameters from ¾" to 1¼". Code: **Ruvab.**
List Price, when ordered separately **35c**

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ASTATIC

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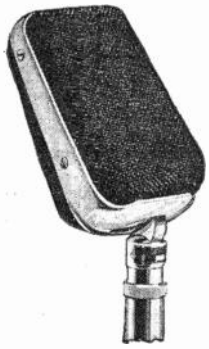
CRYSTAL MICROPHONES AND PICKUPS



New, Multi-Unit, Dual-Diaphragm Series

Modernistic Design . . . Self-Locking Tilting Head

Newest and most practical microphone available for night club, public address and similar installations where high fidelity reproduction is essential. Exclusive features permit maximum amplification without feedback. Exceptionally smooth frequency response to 7,000 c.p.s. Cannot be acoustically overloaded. Available in two models: MU-2 with two dual diaphragm crystal units, using four small diaphragms, and MU-4 with four units using eight diaphragms. The latter recommended for use where microphone is distant from amplifier. Black and chrome finish. Complete with interchangeable socket connector and 25-ft. cable. Standard 5/8-27 thread.

MU-2 $29.50 (LIST PRICES) MU-4 $39.50

Amateur's Favorite MODEL D-104

Popular design, rugged construction, low price and exceptional quality performance in the "speech range" make Model D-104 a great favorite with amateurs the world over. High output level —48 DB. No background noise. Equipped with high grade plug and socket connector and 8 ft. of shielded cable with special spring protector.

List Price . . . $22.50

MODEL D-104HS

Fitted with handle and convenient "off-and-on" or relay switch, as desired, Model D-104HS performs admirably under the most trying conditions. Similarly constructed and equipped as D-104.

List . $25.50

D-104H

With Handle Only

List . $24.50

D-104RS

With Relay Switch

List . $27.50

LAPEL MICROPHONE MODEL L-1

Here is a non-directional quality crystal microphone utilizing the exclusive Astatic dual diaphragm principle functioning on a single grafoil bimorph crystal element. Ideal for singers, speakers and moving announcers. Designed to clamp tightly and neatly to lapel with over shoulder cord. Inconspicuous to both listeners and performers. Frequency response substantially flat from 50 to 6,000 c p s output level —62 DB. Furnished with 25 ft. single wire braid covered cable. Fully guaranteed.

List Price . . . $25.00

Streamline Model

T-3 MICROPHONE

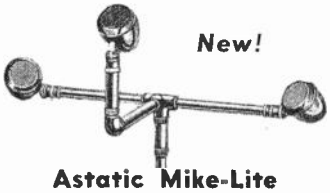
Astatic's general purpose microphone. High quality performance in any field. Designed with self-locking, tilting head. Adjustable to directional or non-directional position. Interior crystal assembly skilfully suspended within streamlined housing. Output level -52 db. Chrome finish. Equipped with three-prong locking connector. Interchangeable with all Astatic stand accessories. Complete with 25-ft. cable.

LIST PRICE $25.00

Public Address MODEL K-2

Non-directional, dual diaphragm, dual unit. Four small diaphragms actuating two grafoil crystal elements. Horizontal mounting of dual units preclude any possibility of overloading. Direct blasts of musical instruments or shouts of announcers are faithfully reproduced. Chrome and black finish. Complete with interchangeable connector and 25-ft. cable.

List Price . . . $27.50



New!

Astatic Mike-Lite

Twin lights with adjustable swivel on either side of microphone, throw rich halo of soft light upon performer. No more lighting worries. Assembly mounted on 10-lb. stand. Heavy chrome plate. Complete with T-3 Microphone and 25-ft. cable. Write for bulletin.

List Price . . . $62.50

TYPE G GRIP-TO-TALK DESK STAND

Designed with relay operating switch for remote control of amplifiers and transmitters. Equipped with Astatic interchangeable plug and socket connector. Combination List Prices:

GT-3 Microphone and Stand $30.00 (*Illustrated*)
GK-2 Microphone and Stand $32.50
GD-2 Microphone and Stand $30.00
GD-104 Microphone and Stand $27.50
Type G Stand alone $10.00

PIONEER MANUFACTURERS OF QUALITY CRYSTAL DEVICES

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ASTATIC

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LICENSED UNDER PATENTS OF BRUSH DEVELOPMENT CO.

CRYSTAL MICROPHONES AND PICKUPS

Astatic Offset-Head Reduces Tracking Error to a Minimum.

TRU-TAN ASTATIC PICKUP MODEL O-7

New Streamlined Design with Exclusive AXIAL Cushioning

Engineers recognize superiority of Astatic Crystal Pickups. Due to constant amplitude characteristics, compensation of record loss automatically obtains.

Astatic now gives you a crystal pickup of outstanding performance plus Axial Cushioning—the engineering achievement that reduces both motor noise and speaker-pickup feed-back. Model O-7, with Astatic offset-head reduces tracking error, extends frequency response, permits easier needle loading, lesseus neddle pressure and record wear. Requires only short mounting space. Streamline design. Standard telephone black with highlighted streamlining. A quality pickup at a new low price.

LIST PRICE $6.50

Replacement cartridge for above. List Price, $5.00

Astatic AXIAL Cushioning

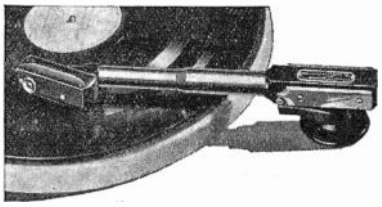
Axial Cushioning is now incorporated for the first time in a cyrstal pickup. The pickup arm is insulated from its supporting base at the vertical pivots, on the axis of the arm, by a highly absorbent damping material. With the pickup thus protected against motor-board vibration, motor noise is definitely reduced and speaker-pickup feedback so reduced that at least 10 DB. higher speaker level is possible before feedback sets in. The full, smooth, low frequency response of the Astatic Crystal Pickup may thus be enjoyed under the most adverse feedback conditions.

S-TYPE PICKUPS

For true reproduction of recorded sounds—true bass and brilliant trebles—no pronounced peaks throughout audio range, Astatic S-Type Pickups are extremely popular. Now made with exclusive axial cushioning feature. About one-half as light on the record as conventional magnetic pickup, therefore extremely kind to life of recordings. Only 2¾ ounces pressure on needle point. Finished black wrinkle with chromium plated trimmings. Fully guaranteed.

S- 8 . . . . . LIST PRICE $10.00
S-12 . . . . . LIST PRICE $12.50

Replacement cartridge for above. List Price, $5.00



PROFESSIONAL PICKUP MODEL B-16

LIST PRICE . . . $27.50

Especially designed for use on lateral transcriptions of all sizes.

MODEL B-16—Professional Tru-Tan Model B-16 adapts the Astatic exclusive Offset Head Design to the playing of records up to 16 inches in diameter—attaining a finer life-like reproduction and longer record service. Fool proof cueing-in. Free from arm resonance. Wide range frequency characteristics. Laboratory tested. Beautifully finished in modernistic black and chrome. Fully guaranteed.

Replacement cartridge for above. List Price, $5.00

MODEL B-10—Another Tru-Tan Astatic Pickup featuring the exclusive offset head design which holds the needle practically true to tangent to assure better reproduction and longer record life. Tracking error reduced to a minimum. Needle loading simplified. Free from resonance throughout audio frequency range. Ball bearing swivel base. Fully guaranteed.

Replacement cartridge for above. List Price, $5.00

MODEL B-10

LIST PRICE . . $17.50

Adjustable MICROPHONE STANDS

Astatic microphone stands are beautifully finished in triple chrome plate. No objectionable thumb screws; adjusted to desired elevation by simply raising or lowering rod; remains in any position until manually changed. Equipped with cast iron base and rubber feet. Threaded for Astatic Microphones.

A-1 FLOOR STAND
List Price $10.00

A-3 BANQUET STAND
List Price $6.00

E-1 TABLE STAND
List Price $3.00

ASTATIC SWITCH ADAPTERS

HS-25

Astatic Adapter HA-25 is a combination handle and switch for use with T-3, D-104, D-2 and K-2 Astatic Crystal Microphones. Equipped with 8 ft. single wire shielded rubber covered cable with spring protector.

	List Price
HS-25	$5.00
HA-25 (Without Switch)	4.00

Astatic Adapter SC-25 is a conveniently designed switch with new improved plug and socket connections permitting quick installation or interchange of T-3, D-104, D-2 and K-2 Microphones.

SC-25 ..... List Price 5.00

SC-25

SCRATCH FILTER MODEL 5-M

Astatic Model 5-M Scratch Filter continues to grow in favor. Thoroughly sealed and tuned to resonate at the point of greatest scratch intensity, this filter clarifies tone quality to a remarkable degree.

Fully guaranteed.

LIST PRICE . . . $1.50

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BRUNO

VELOTRON — Model A

General Purpose Microphone

The Velotron, Model A, is intended for general P. A. work where a reasonably priced and sturdy microphone is needed. This model is also ideal for amateurs, for in addition to its other qualities, it is free from hum pickup. Large output, "Velocity" quality, frequency response variable at will, are the typical characteristics of this type, which accounts for its popularity.

Cable length up to 500 ft. may be used with any Velotron, easily attached to the microphone by means of the connector, which is standard equipment with all Bruno high-impedance microphones.

SPECIFICATIONS

Output	—50 db.	Size	6 x 2¼ x 1½"
Impedance	To grid	Weight	1 lb.
Freq. response	Adjustable (30 to 14,000), C.P.S.	Cable	None supplied (See Made-up Cables)
Pol. voltage	150 to 350 volts	Finish	Gunmetal

MODEL		LIST PRICE
A	(as described)	**$19.50**
A-C	(chromium finish)	**20.50**

VELOTRON — Model WS

Wide Angle Pickup Microphone

When a large area is to be "covered" or the performer is constantly changing his position in respect to the microphone, as in stage work, it is advisable to use a wide angle of pickup Velotron such as Model WS.

This development is the latest contribution to the P.A. field by the Bruno Laboratories, and it is brought about by the use of directional "fins," which act as a funnel for the incoming sound waves without altering the high-fidelity characteristics of the microphone.

SPECIFICATIONS

Output	—45 db.	Size	7 x 3⅛ x 2"
Impedance	To grid	Weight	2 lbs.
Freq. response	Adjustable (30 to 14,000), C.P.S.	Cable	None supplied (See Made-up Cables)
Pol. voltage	150 to 350 volts	Finish	Gunmetal

MODEL		LIST PRICE
WS	(as described)	**$30.00**
WS-C	(chromium finish)	**31.00**
WS-S	(with built-in switch)	**31.50**
WS-CS	(chrome finish with switch)	**32.50**

VELOTRON Model SP

Special Purpose Microphone

This Velotron has been developed for a number of special uses, such as musical instrument amplification, detective pickup, contact or lapel microphone.

It is extremely small in size and only ⅜" thick, and may be screwed on a sounding board of a musical instrument or hidden behind a picture frame, and has all the qualities of the standard Velotron.

It may be permanently secured to a counter or to a secretary's desk for paging or calling systems. Model SP is supplied with 3 feet of cable with combination CF and CM connector.

SPECIFICATIONS

Output	—55 db.	Size	2⅞ x 2¾ x ½
Impedance	To grid	Weight	4 oz.
Freq. response	Adjustable (30 to 14,000), C.P.S.	Cable	3 ft.
Pol. voltage	150 to 350 volts	Finish	Gunmetal

MODEL		LIST PRICE
SP	(as described)	**$13.50**
SP-C	(chromium finish)	**14.50**

VELOTRON Model HA

Hand Microphone

This Velotron has been designed for hand operation, and, therefore, it is strictly a close-talking microphone and it will not pick up extraneous noises.

Velotron, Model HA, is the lightest microphone of its type on the market today, and as the cable connector is supplied at the end of the black japanned wooden handle, by means of our standard cable connector, it is very easy to handle.

SPECIFICATIONS

Output	—50 db.	Size	10 x 2¼ x 1½"
Impedance	To grid	Weight	13 oz.
Freq. response	Adjustable (30 to 14,000), C.P.S.	Cable	None supplied (See Made-up Cables)
Pol. voltage	120 to 350 volts	Finish	Chrome*

MODEL		LIST PRICE
HA	(as described)	**$23.00**
HAS	(with switch)	**24.00**

*Gunmetal on request.

MONOHAND STANDS

ONE HAND ADJUSTABLE

The Monohand Stand is a combination of beauty and convenience never before approached. Finished in durable lacquered gunmetal, the beautiful modernistic lines blend pleasantly with modern studio furnishings.

An ingenious arrangement makes it possible to lower or raise, absolutely noiselessly, the movable part of the stand by the pressure of a button conveniently placed below the microphone.

Smooth action in both directions – no wearing of parts – no sliding down — no clutches to tighten – just a button to press!

The only "one hand adjustable" stand – another original thought of the Bruno engineering staff.

The Monohand Stand may be supplied in two models.

The Model T has a triangular base which is unobstructive and may be placed where a round base cannot stand conveniently. The Model R is supplied with a round base having three projections to prevent rocking, no matter how uneven the floor may be.

SPECIFICATIONS

MODEL T		MODEL R	
Weight	14 lbs.	Weight	20 lbs.
Height	42" to 59"	Height	42" to 59"
Lower Tube	1" diam.	Lower Tube	1" diam.
Upper Tube	⅝"	Upper Tube	⅞"
Microphone Thread	⅞" – 27	Microphone Thread	⅝" – 27
Finish	Gunmetal	Finish	Gunmetal

MODEL		LIST PRICE
T	Triangular Base	$19.00
R	Round Base	21.00

MADE UP CABLE — CFC

The CFC assembly is a 98% shielded single conductor cable of low capacity and high tensile strength terminated by one F connector (female) at one end and skinned at the other. Supplied assembled, boxed.

MODEL		LIST PRICE
CFC-25	25-ft. cable (and one F connector)	**$2.50**
CFC-50	50-ft. cable (and one F connector)	**4.50**
CFC-100	100-ft. cable (and one F connector)	**8.50**

MADE UP CABLE — C2FC

The C2FC assembly is a 98% shielded single conductor cable of low capacity and high tensile strength terminated at both ends by a type F connector (female).

Supplied assembled, boxed.

MODEL		LIST PRICE
C2FC-25	25-ft. cable (and two F connectors)	**$3.00**
C2FC-50	50-ft. cable (and two F connectors)	**5.00**
C2FC-100	100-ft. cable (and two F connectors)	**9.00**

MADE UP CABLE — CMC

The CMC assembly is a 98% shielded single conductor cable of low capacity and high tensile strength terminated by one M connector (male) at one end and skinned at the other. Supplied assembled, boxed.

MODEL		LIST PRICE
CMC-25	25-ft. cable (and one M connector)	**$2.40**
CMC-50	50-ft. cable (and one M connector)	**4.40**
CMC-100	100-ft. cable (and one M connector)	**8.40**

MADE UP CABLE — CFMC

The CFMC assembly is a 98% shielded single conductor cable of low capacity and high tensile strength terminated at one end by a type F connector (female) and the other end by a type M connector (male).

Supplied assembled, boxed.

MODEL		LIST PRICE
CFMC-25	25-ft. cable (One F and one M connector)	**$2.90**
CFMC-50	50-ft. cable (One F and one M connector)	**4.90**
CFMC-100	100-ft. cable (One F and one M connector)	**8.90**

World Radio History

BRUNO

VELOCITY — Model VD

Economy Type Microphone

Bruno Velocity Microphones need no introduction, and this model, while it is most economical, has all the qualities of the Velocity microphone.
The VD is recommended when high fidelity at reasonable price is required.

SPECIFICATIONS

Output . . . 69-db.
Impedance {High Imp. to grid / Low Imp. 200 ohms}
Freq. response {Hi Pitched 80 to 10,000 C.P.S. / Hi Fidelity 50 to 10,000 C.P.S.}
Finish . . . . Gunmetal*
Size . . 6½ x 2-3/16 x 1½"
Weight 1¾ lbs.
Cable . {Low Imp. 8 ft. / Hi Imp. none supplied.} (See Made-up Cables)

MODEL		LIST PRICE
VD-HP	High pitched, high impedance (for normal P.A. pickup)	**$21.00**
VD-HF	High fidelity, high impedance (for distant pickup)	**22.00**
VD-CT	Close talking, high impedance (for announcing)	**23.00**
VD-LI	High fidelity, 200 ohm impedance (for distant pickup), low impedance input	**23.00**

*Add $1.00 to list price for chromium finish.

VELOCITY — Model VR

General Purpose Microphone

This Velocity microphone embodies all the latest electro acoustic improvements and is encased in a well-designed housing, avoiding all cavity resonance. The magnetic circuit supplied is unique, and it contains no iron pole pieces, thus accounting for the large output delivered by this microphone. This model may be obtained with or without a silent thumb switch constructed within the casing so as to eliminate the short length of cable generally connecting the microphone with a switch box. The switch is so constructed as to preclude the possibility of turning it on or off accidentally.

SPECIFICATIONS

Output . . . . —67 db.
Impedance . {High Imp. to grid / Low Imp. 200 ohms}
Freq. response {High Pitched 80 to 12,000, C.P.S. / Hi Fidelity 50 to 12,000, C.P.S.}
Size . . 7¼ x 3⅛ x 2-7/16"
Weight. 3 lbs.
Cable . {Low Imp. 8 ft. / High Imp. none supplied,}
Finish . Gunmetal*

MODEL		LIST PRICE
VR-HP	High pitched, high impedance (for normal P.A. pickup)	**$31.00**
VR-HF	High fidelity, high impedance (for distant pickup)	**32.00**
VR-CT	Close talking, high impedance (for announcing)	**33.00**
VR-LI	High fidelity, 200-ohm impedance (for distant pickup, low impedance input)	**33.00**

*Add $1.00 to list price for chromium finish. Add $1.50 to list price for switch.

VELOCITY — Model WM

Wide Angle Pick-up Microphone

The Model WM is the latest contribution of Bruno engineers to the microphone field and employs a new principle which tends to amplify the pickup angle on the front of the microphone and reduce it at the rear, thus enabling a wider angle of pickup and yet reducing the danger of feedback from reverberated sound waves. Two of these microphones are sufficient to "cover" an area large enough to require the use of three ordinary Velocity microphones.
Electrically this model is the equivalent of the VR type previously described, as it contains the same "movement" but it is housed in a completely die-cast casing of modernistic design, making this microphone unusually attractive and efficient. This model can be supplied with a thumb operated switch so designed as to make it impossible to throw it on or off accidentally.

SPECIFICATIONS

Output . . . . —65 db.
Impedance . {High Imp. to grid / Low Imp. 200 ohms}
Freq. response {Hi Pitched 80 to 12,000, C.P.S. / Hi Fidelity 50 to 12,000, C.P.S.}
Finish . . . . Gunmetal*
Size . . . 7¼ x 3⅛ x 2¼"
Weight . 3¾ lbs.
Cable . . {Low Imp. 25 ft. / Hi Imp. none supplied} (See Made-up Cables)

MODEL		LIST PRICE
WM-HP	High pitched (high Imp.) (for normal P.A. pickup)	$39.00
WM-HF	High fidelity, high Imp. (for distant pickup)	40.00
WM-CT	Close talking, high imp. (for announcing)	41.00
WM-LI	High fidelity, 200-ohm imp. (for distant pickup, low impedance input)	43.00

*Add $1.00 to list price for chromium finish. Add $1.50 to list price for switch.

VELOCITY — Model PR

Professional Type Microphone

The Professional type Velocity microphone has been developed for the purpose of obtaining the highest grade of fidelity, and no effort has been spared to achieve this result.
Model PR is equipped with a "movement" embodying the well-known Bruno magnetic circuit, eliminating the iron pole pieces used in inferior microphones. "Nicolum" is used throughout and this accounts for the comparatively large output of this type of microphone.
Extreme care has been used in the design of the transformer, which is of the hum bucking type, wound on permalloy metal, in order to reduce to a minimum stray field pickup.
The case has been designed along conservative lines, taking special care in eliminating cavity resonance, which tends to distort the incoming sound waves. This model is supplied with 35 ft. cable and an effective shock absorber, and in all respects is the acme of perfection.
This model is only supplied in the high fidelity type and is obtainable in 50-200, or to grid output impedance. All types are equipped with cable connectors.

SPECIFICATIONS

Output . . . . . —61 db.
Impedance . . . {PR-LI 50 and 200 ohms / PR-HF to grid}
Freq. response . . 30 to 14,000, C.P.S.
Size . . . . 9 x 4⅝ x 3⅜"
Weight . . 5 lbs.
Cable . . . 35 ft.
Finish . . . Telephone Black

MODEL		LIST
PR-HF	High fidelity, high impedance	**$90.00**
PR-LI	High fidelity, low impedance	**90.00**
PR-CL	(as above, calibrated for sound measurement standards) . .	**135.00**

VELOCITY MICROPHONE — Model OR

Orator Type — Wide-Angle Pick-up

This novel addition to a well-known line has been designed for pulpit and desk work, or for all those applications where the speaker generally assumes a fixed position. By an ingenious use of the directional "fins" developed for the Model WM and by placing the "movement" horizontally, an extremely wide angle of pickup is obtained, allowing complete freedom of motion on the part of the orator. This model, placed or secured three feet in front or at either side of the speaker is ideal for sound reinforcement and does away with the unsightly table or banquet stand, inasmuch as it is supplied with its own base, which may be tilted to obtain the best pickup.
This model is a combination of beauty and efficiency never equalled in the microphone field and may be also supplied with a Rotary Switch designed for noiseless and positive operation. This model is only obtainable in the high-fidelity type.

SPECIFICATIONS

Output . . . . . —65 db.
Impedance . . . {High Imp. to grid / Low Imp. 200 ohms}
Freq. response . 50 to 12,000, C.P.S.
Size . . . . . 3¾ x 7 x 2"
Weight . . 3 lbs.
Cable . . . {Low Imp. 25 ft. / High Imp. none supplied (See Made-up Cables)}
Finish . . . Gunmetal*

MODEL		LIST PRICE
OR-HF	High Imp. . . .	**$47.00**
OR-LI	Low Imp.	**$49.00**

*Add $1.50 to list price for chromium finish. Add $1.50 to list price for switch.

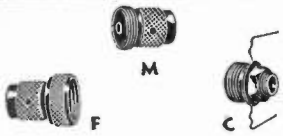
LICENSE

By virtue of an agreement with E. R. P. I., we are licensed to manufacture public address equipment under patents owned or controlled by W. E. Co. and Am. Tel. & Tel. Co., and by other agreements is licensed to manufacture Static Velocity Microphones under patents or patents pending, owned by Wm. A. Bruno.

GUARANTEE

When Bruno microphones are used in accordance with directions, we unconditionally guarantee them against mechanical and electrical defects for a period of one year from date of purchase. This guarantee does not apply to the finish of the casing.

CABLE CONNECTOR



Bruno Cable Connectors are designed for single, conductor shielded cable and afford a secure, quick, and positive connection between microphone and amplifier.
Contacts are self-wiping and the connector cannot be disconnected accidentally. Made of solid brass, finished in gunmetal, they are completely shielded and practically indestructible. They are obtainable separately and can be used for microphone connections — extension cable — or amplifier inputs.

MODEL		LIST PRICE
F	(female) ⅝"-27 thread	**$0.50**
M	(male) ⅝"-27 thread	**0.40**
C	(male — for chassis) ⅝"-27 thread, ⅜" hole	**0.30**

TRIPLE CONNECTOR

This ingenious and simple device will facilitate the connection of two parallel circuits and is applicable whenever a splice between three single conductor shielded cables is necessary.
Built along the lines of the well-known Bruno connector, it makes possible the connection of two microphones or two loud speakers in parallel to an amplifier having a single input or output circuit.
The 3C connector is threaded ⅝"-27 and will accommodate type M or C connectors.

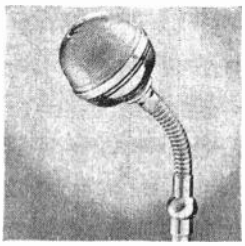
MODEL		LIST PRICE
3C	Triple Connector	**$2.00**

World Radio History

BRUSH *Crystal Products*

Crystal Microphones
HIGH LEVELER SERIES

DIAPHRAGM TYPE

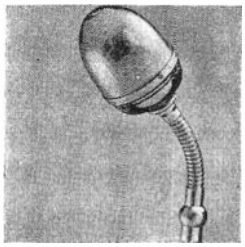


HL

● **Model HL**—This new mike, of the diaphragm crystal type, is intended for amateur stations and general PA applications where an inexpensive mike with high level and satisfactory response is required. Output level minus 46 db.* and response from 100 to 5,000 c.p.s. plus or minus 5 db. Very high capacity of the crystal element (.007 mfd.) permits the use of 150 to 200 feet of good quality low capacity cable without appreciable loss in output level. Comes with **Vari-Swiv** mounting, a flexible tubing that permits easy manipulation of the mike to take advantage of its directional characteristics. Finished in satin chrome. Mike comes with **Vari-Swiv** and 25 feet cable. A standard socket assembly is optional. Net weight microphone less cable, 11 oz. Shipping weight 2 lbs. Net weight with cable, 25 oz. Shipping weight 2 lbs.

Code word: (microphone less cable) **MILLE** .....**List price, $22.50**
Code word: (microphone with cable) **MICAE**.....**List price, $23.50**

DIAPHRAGM TYPE



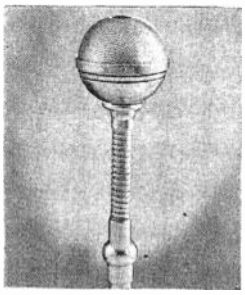
HM

● **Model HM**—A diaphragm crystal type microphone built into an attractive bullet shaped case containing the microphone and a high grade transformer with taps for 50, 200 and 500 ohm lines. This mike's main features are low impedance operation, high level, (minus 46 db.*) and the use of exceptionally long microphone leads. Response similar to model HL. Supplied with new Brush **Vari-Swiv** mounting. Standard socket assembly optional on request.
*Level-46db. at grid with proper input transformer.

Net weight less cable ..... 21 oz. With cable.....2 lbs.
Shipping weight less cable.... 2 lbs. With cable.....3 lbs.
Code word: (microphone less cable **MORRE. List price, $31.50**
Code word: (microphone with 25' cable) **MOROT. List price, $32.50**

*Level: Zero reference equals 1 volt per dyne per sq. cm.

SOUND CELL TYPE



D-1

● **Model D-1** — sound cell type — for better quality PA, recording and amateur station applications. Level minus 62 db.* Response 30 to 5,500 c.p.s. plus or minus 3 db. The microphone is supplied with the Brush **Vari-Swiv** mounting, and the unit is finished in satin chrome. Standard socket assembly may be substituted on request. Net weight less cable, 9 oz. with cable, 23 oz. Shipping weight 2 lbs.

Code word: (microphone less cable) **MIDER. List price, $22.50.**

Code word: (microphone with cable) **MIDOR. List price, $23.50**

MICROPHONE and DESK STAND*

Combination

● Combination offer — Here's a combination of microphone and desk stand at popular prices for amateur radio stations, lecture halls, churches, and office use. Desk stand base is modernistic—and equipped with 12" **Vari-Swiv** mounting, making the unit extremely flexible. Desk stand may be obtained in combination with model HL diaphragm crystal mike or the Brush model D-1 sound cell type. Standard finish of these two units is bronze to match the finish on desks, tables and places where the microphones will be used.
Net weight less cable..... 4 lbs. 10 oz. Shipping weight 6 lbs.
Net weight with 25' cable..5 lbs. 9 oz. Shipping weight 7 lbs.
Price without cable, **$25.50** list; with 25' cable, **$26.50** list

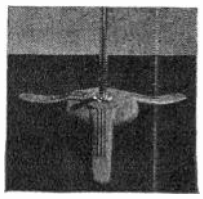
FLOOR STAND
and Combination Offers

HG-60

● **Model HG-60.** This attractive floor stand, so beautifully finished in satin chrome, has a 12" **Vari-Swiv** mounting as an integral part of the stand. Its modernistic base (as illustrated) is equipped with cable terminal strip and finished in grey crackle.

Code word: **FLORA.** Net weight, 14 lbs. 4 oz. Shipping weight, 20 lbs.....**List price, $10.00**
HG-60 stand with **HL** ..... **$31.50**—with 25' cable.....**List price, $32.50**
HG-60 stand with **D-1** ..... **$31.50**—with 25' cable.....**List price, $32.50**
HG-60 stand with **HM** ..... **$40.50**—with 25' cable.....**List Price, $41.50**

*DESK STAND



HG-60

● **Model HG-12.** A modernistic base is an attractive feature of this desk stand. It has a 12" flexible **Vari-Swiv** mounting and a conveniently accessible terminal strip concealed in the base. Is ideal for amateur, church, lecture, and other applications. Stand is shown with microphone above, right.

Code word: **DESCA.** Net weight, 4 lbs. 10 oz. Shipping weight, 7 lbs.
List Price **$4.50**

Detailed engineering data sheets available on request.

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World Radio History

BRUSH *Crystal Products*

CRYSTAL MICROPHONES

BL-1

LAPEL MICROPHONE

SOUND CELL TYPE

● **Model BL-1.** Small light weight microphone for lapel use. Permits the speaker to move about on the platform without restriction. Special internal cushioning and protecting rubber jacket insure quiet operation. No interference from breathing noises. Output level minus 72 db.* Size only 1¼" x 1¼" x ⅜". Shipped complete with 25 feet of light weight single conductor cable and clothing fastener. Net weight 11 oz. Shipping weight 2 lbs. Code word: **MAIZE.**

List Price **$25.00**

SPHERICAL MICROPHONE

SOUND CELL TYPE

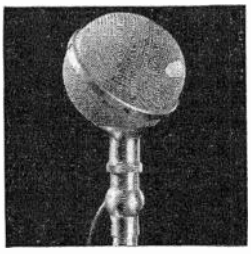
● **Model BR-2S.** A high quality microphone for remote pickup, public address, commercial interstation, police and amateur work. Very popular. Size only 2⅛" in diameter. Beautifully finished in satin chrome. Shipped complete with three conductor locking type plug and socket connector. Output level minus 65 db.* Frequency response superior to D-1.

BR-2S

Net weight 7 oz. Shipping weight 2 lbs. Code word: **MAPLE.**

List Price **$29.50**

BROADCAST MICROPHONES



AR-43

SOUND CELL TYPE

● **Model AR-43.** For better PA, recording and broadcast applications. Output level minus 60 db.* Frequency response flat from 30 to 5,000 cycles plus or minus 2 db. with slightly rising characteristic to 8,000 cycles. 3" spherical case in satin chrome. Net weight 9 oz. Shipping weight 2 lbs. Code word: **MIDAR.**

List Price **$75.00**

● **Model AR-26.** Similar to AR-43 but with higher internal capacity. Permits extra long cable. Output level minus 66 db.* Transformer available to facilitate operation on 50, 200 and 500 ohm lines. Net weight of microphone 11 oz. Shipping weight 2 lbs. Net weight transformer, 1 lb. 4 oz. Shipping weight 2 lb.

AR-26 Code word: **MITAR.** **List Price** **$75.00**
Transformer code word: **MOTOR.** **List Price** **15.00**

HIGH FIDELITY MICROPHONES

● **Model R-34.** For high fidelity applications in broadcast, recording and sound measurement applications. Frequency response flat from 30 to 10,000 cycles plus or minus 2 db. with output level of minus 67 db.* Net weight 11 oz. Shipping weight 2 lbs. Code word: **MIRER.**

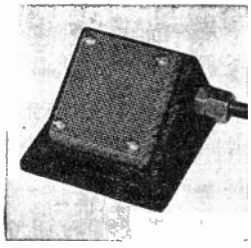
List Price **$75.00**

● **Model R-22.** For use as secondary laboratory standard, more exacting sound level measurements, high quality recording and broadcast applications. Case like BR-2S. Same frequency response as R-34. Output level minus 70 db.* Net weight 7 oz. Shipping weight 2 lbs. Code word: **MIROR.**

List Price **$65.00**

All microphones supplied less cable unless otherwise specified.

DESK MICROPHONE



BP-2

● **Model BP-2.** For use in pulpits, lecterns, lecture halls, etc. Size 3¼" x 3⅞" x 2¾" high, and due to its design can be placed in inconspicuous locations. Finished attractively in black crackle on the base and chromium plated grill. Output level minus 66 db.* Response flat to 5,000 cycles plus or minus 2 db. with slightly rising characteristic to 8,000 cycles. Net weight complete with cable locking compression bushing 14 oz. Shipping weight 3 lbs. Code word: **MIROD.**

List Price **$47.50**

HUSHATONE

SS-1J

● **HUSHATONE Model SS-1J.** The Brush **Hushatone** is a crystal operated pillow speaker, designed for exceptional comfort and enjoyment. Privacy enjoyed by the **Hushatone** gives it a natural use in hospitals, sanitariums, and in the home. The actual **Hushatone** is completely enclosed in an attractively designed soft rubber jacket, which not only protects the device against rough handling, but makes its presence less noticeable when placed under a soft pillow. The **Hushatone** may easily be installed on any type of midget, portable, home radio, or hospital multiple systems. The unit comes equipped complete with 7 feet of rubber cord. Net weight 7 oz. Shipping weight 2 lbs. Code word: **SEPIL.**

List Price **$7.50**

VIBROMIKE

VM-1

● **VIBROMIKE Model VM-1.** The Brush **Vibromike** is actually a contact microphone, which can be applied to violins, mandolins, guitars, etc. The unit is exceptionally small in size, light in weight, and its dimensions are only 1⅞" x ¾" x 5-16". The frequency response of the **Vibromike** is good from 30 to 6,000 c.p.s. and its extreme sensitivity makes it useable with even the smallest type of amplifier. The **Vibromike** comes complete with 25 feet of cable, and a mounting clamp. Net weight 8 oz. Shipping weight 1 lb. Code word: **MUSIO.**

List Price **$17.50**

*Level: Zero reference equals one volt per dyne per sq. cm.

Detailed engineering data sheets available on request.

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World Radio History

BRUSH *Crystal Headphones*

• All headphones manufactured by Brush are of the non-magnetic, high impedance crystal type. The driving members of these crystal phones are carefully designed and properly waterproofed Brush bimorph crystal elements. The cones and diaphragms in Brush headphones have been most carefully engineered, so that the proper response and output is obtained for the various applications for which the different models are recommended. Brush crystal headphones have extremely high impedance, and therefore may be used in even the most sensitive circuits, without altering the inherent characteristics of these circuits. The fact that Brush headphones are non-magnetic permits their use in close proximity with delicate electrical instruments, which normally are adversely affected by external magnetic fields.

"A"

YPE "A" HEADSET

• An extremely serviceable and very durable unit, light in weight. Ideal for use with home receivers —hard of hearing applications— amateur reception — monitoring work of commercial broadcasting stations—for balancing alternating current bridges and a wide variety of commercial and laboratory work. Net weight complete with five foot cords, 7 oz. Shipping weight 2 lbs. Code word: **MILLO.**

List Price **$9.00**

COMMUNICATIONS PHONES

"BJ"

• **Model BJ.** Designed to meet strictest specifications for communications type headphones. Made of aluminum, the case is extremely light in weight and so constructed that the diaphragm and crystal element are hermetically sealed within it. Headphones completely enclosed in molded rubber ear pieces, thus making them comfortable to wear and improving ear seal and low frequency response. Rubber covered phone cord 5 feet long. Net weight 6 oz. Shipping weight 1 lb. Code word: **MICOM.**

List Price **$12.00**

"A-1"

• **Model A-1.** In the fields of broadcast, recording studios, speech correction, and in sound laboratories of all types, high fidelity wide response headphones are an absolute necessity. In the Brush model A-1 headphones all requirements of faithful, high fidelity, wide range response, and light weight are complied with. The response of these headphones is from 50 to 12,000 c.p.s. Phones supplied complete with 5 foot cord. Net weight 7 oz. Shipping weight 2 lbs. Code word: **MIHIF.**

List Price **$27.50**

MINIATURE HARD-OF-HEARING HEAD PHONE

• In hard-of-hearing applications the midget insert type of earpiece is very popular. The Brush Development Company now makes available such a device, crystal operated, high impedance, and extremely light in weight. The unit is only 1 inch in diameter, and is designed to fit standard earpieces. The Brush miniature earpiece is known as Type DI, and lists at $20.00. Complete information regarding this unit is available from The Brush Development Company.

TYPE "A" SINGLE PHONE HEADSET

• For use where the preference is for single phone rather than two phone operation. Same applications as the two phone headset. Metal headband and small rubber cushion hold the phone securely against the user's ear.
Net weight complete with five foot lead, 3 oz. Shipping weight 1 lb. Code word: **MILOD.**

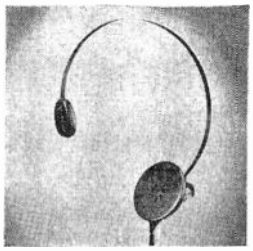
List Price **$5.00**

"A"

TYPE "B" SINGLE

• **Model "B" Single Phone.** Extremely light weight single headphone for use where weight is of prime importance. Identical in construction with BJ model except for rubber jacket. Dark finish light weight and comfortable snug fit to the head make it popular with hard-of-hearing. Supplied with 5 feet black cord with glove type snap fastener, which facilitates easy replacement. Net weight 2 oz. Shipping weight 1 lb. Code word: **MIBBO.**

List Price **$5.00**

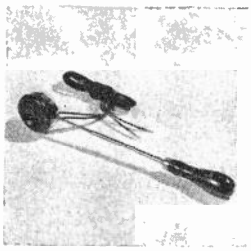


"B"

TYPE "A" LORGNETTE HANDLE

• For schools, churches, auditoriums, hard-of-hearing, etc. An attractive Type A phone with chromium plate and black enamel lorgnette handle. 5 inch extension from 12 to 17 inches. Selected by the hard of hearing themselves as being best suited for their use. Net weight 5 oz. Shipping weight 3 lbs. Code word: **MILME.**

List Price **$6.50**



"A"—Lorgnette

CABLE

• Brush cable fulfills the most exacting requirements of: Low capacity, low hum pickup, high insulation resistance. For applications where adverse oil conditions exist and ordinary cable has a short life, we recommend No. 8951 Neoprene covered cable because of its oil and weather resisting rubber covering. Its capacity is extremely low, and the shielding is of a tight wire weave which means minimum hum pickup regardless of conditions.

RUBBER COVERED SHIELDED CABLE

No.	Code	Wt. 100 ft.	O.D.	Appr. cap. per ft. btn. cond.	No. of cond.	List Price
1255A	Cabbe	3 lb. 9 oz.	1/4"	21 mmf.	2	$0.13 ft.
8849	Caror	1 lb. 8 oz.	5-32"	35 mmf.	1	.06 ft.
8951	Cacer	3 lb. 2 oz.	1/4"	31 mmf.	1	.09 ft.
Neoprene	Caoil	3 lb. 12 oz.	1/4"	31 mmf.	1	.10 ft.

Prices shown are list prices and are subject to usual trade discounts. Quantity quotations available upon request. Specifications such as capacity and O. D. may be changed without notice, from time to time. It is the Brush policy to offer the best available cable at all times.

Detailed engineering data sheets available on request.

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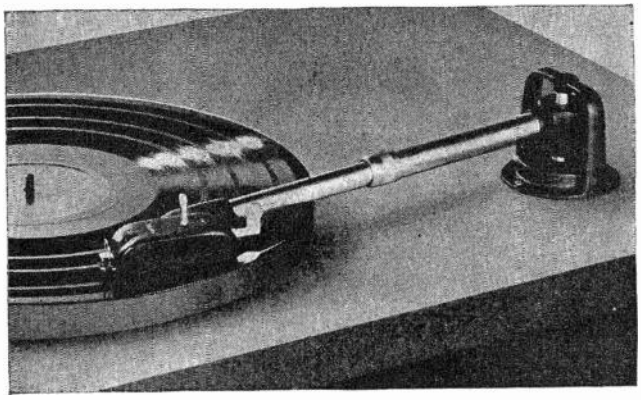
World Radio History

BRUSH *Instruments*

HIGH FIDELITY SOUND AND TESTING EQUIPMENT



S-16 High Fidelity Pickup

• With the Brush S-16 transcription type pickups, it is possible to accomplish hundreds of playbacks from direct recording acetate records before objectionable scratch is experienced. Some of its features are true reproduction with needle pressures as low as 3/4 of an ounce and needle pressures conveniently adjustable in 3 positions up to 2 oz. for satisfactory reproduction under adverse conditions; permanent point, true tracking with adjustable arm length from 12" to 16", free movement of the arm. It accommodates most any turn table. Available in lateral and vertical types. In ordering specify lateral or vertical.

Lateral Code word: **POLAT**
Vertical Code word: **VERTO**

Net weight, 1 lb. 7 oz. Shipping weight, 5 lbs.

Net Price **$75.00**

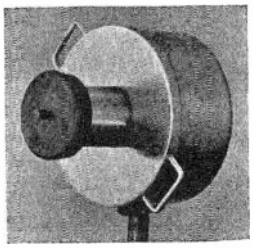
BRUSH VIBRATION PICKUPS—for use in testing all kinds of bearings, crankshafts, assembled generators, motors, gear trains, transformers, compressors, refrigerators, washing machines, fans, vacuum cleaners, air conditioning apparatus or their component parts, location of source of noise or vibration, etc.

VP-5

• This inertia type pickup delivers a voltage proportional to the acceleration it receives when applied to a vibrating body. There are no moving parts to actuate the crystal generator, and large amplitudes of vibration cannot harm the pickup. Recommended for frequencies up to 1500 cycles per second. The VP-5 is supplied with 8 5/8" probe. Vibration axis is perpendicular to large face. Response is approximately square law to 3,000 c.p.s. Net weight 13 oz. Shipping weight 3 lbs. Complete with 7 1/2 ft. of Neoprene rubber covered shielded cable.

Code Word: **MIAVE**

Net Price **$25.00**



DP-1

• This displacement type pickup is preferred for low frequency work because of its type of response and its greater sensitivity at these frequencies. Response flat from 1 to 600 c.p.s. ±15%. Will reproduce all frequencies up to 7,000 c.p.s. Vibration axis parallel with axis of pin. Size: diameter, 2 1/2"; overall width, 3 3/16" x overall length, 2 3/8"; length of pin, 1/8". Complete with 6 ft. of Neoprene rubber covered shielded cable. Net weight, 15 oz. Shipping weight 3 lbs.

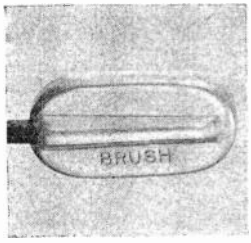
Code word: **LOAVE**

Net Price **$47.50**

• **DP-1H Pickup**—Makes available to the medical field an instrument to replace or supplement the stethoscope. Due to the fact an amplifier is used, control of volume of pickup is made possible; makes possible coverage of a wide range of frequencies. Net weight 15 oz. Shipping weight, 3 lbs.

Code word: **HARTE**

Net Price **$47.50**



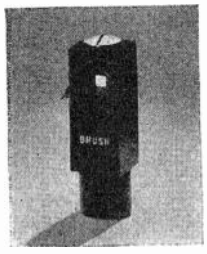
VP-1

• Applications similar to those of the model VP-5 but recommended for vibration studies in frequency ranges up to 10,000 c.p.s. Complete with 15 ft. of shielded cable. Size is 1 1/2" x 3/4" x 5/16". Vibration axis — perpendicular to bakelite surface. Net wgt. 6 oz. Shipping weight, 1 lb.

Code word: **HIAVE**

Net Price **$25.00**

BRUSH GALVANOMETERS



OS-2B

• Brush crystal galvanometers offer a very convenient means for recording and studying wave forms from high impedance drivers. Three types are available . . . OS-1B, OS-2B, OS-3B. The OS-1B has uniform sensitivity from 1—1000 c.p.s., the OS-2B from 1—5000 c.p.s., and the OS-3B from 1—9000 c.p.s. These units, regardless of type, are high capacitive impedance (over 20,000 ohms) and are voltage operated devices. A few applications are: electro-cardiograph apparatus, sound-on-film recording, vibration recording and analysis, geophysical work, etc.

Furnished with lens (focal length 10") as standard.

	Sizes	Code Words	Net Weight	Shipping Weight
OS-1B	11/16" x 11/16" x 5"	**OSLOW**	9 oz.	2 lbs.
OS-2B	11/16" x 11/16" x 2 1/2"	**OSMED**	4 oz.	1 lb.
OS-3B	11/16" x 11/16" x 2 1/2"	**OSHYE**	4 oz.	1 lb.

Net Price **$45.00**

Detailed engineering data sheets available on request.

Net

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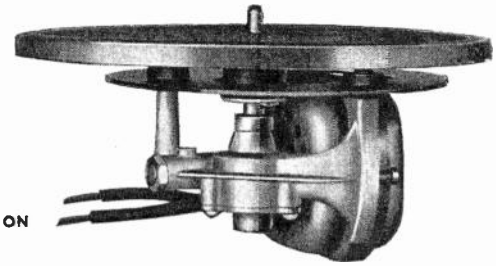
World Radio History

GENERAL INDUSTRIES

Phonograph Motors

MODEL CX 78 R.P.M.

TYPE INDUCTION



Constant Speed Electric Phonograph Motor

An Excellent Motor for Portable and Table Model Instruments

QUALITIES: ● Self starting. ● Furnished complete with mounting plate ready for installation. ● Very compact and light in weight. ● Sufficient power to play 10" and 12" records. ● Fully enclosed with gears and bearings running in a bath of oil in the sealed housing. ● Patented combination rubber turntable drive sleeve and record centering tip insuring mechanical and electrical insulation between turntable and motor. ● Silent, helical cut gears. ● Will not overheat in closed cases or cabinets.

ACCESSORIES: Turntable—Velveteen Covered. ● Mounting Screws, washers and nuts. ● Automatic Stop is optional.

SIZE: Length—4 1/4"; Width—4 1/8", Depth—3 1/8", from the mounting plate to bottom.

Model CX—78 R.P.M. Constant Speed, with 8" Turntable (Extra for 9", 10" and 12" turntables.) — List Price **$8.50**

This Motor Furnished for All Commercial Voltages and Cycles

GREEN FLYER ELECTRIC MOTOR

Two-speed Governor Controlled

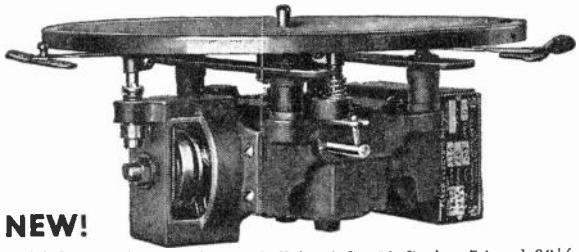
Specially designed for playing records recorded at 33 1/3 R.P.M. and 78 R.P.M. The shift from one speed to the other is accomplished by simply moving a lever. All gears are completely enclosed and run in oil. Silent spiral-cut gears made from Laminated Bakelite. Long over-size self-lubricating bearings.

Furnished complete with 10" Turntable, Dial and Pointer Speed Regulator, Speed Change Lever and Escutcheon Plate.

Size: Length—8 3/16", Width—5 5/16", Depth—3 3/4" from mounting strap to bottom.

	List Price
Model D—110 Volts A.C., 60 Cycles	**$17.00**
Model H—110 Volts A.C., 60 Cycles (same as Model "D" except Field 1/2" longer—recommended for 16" records	**18.50**

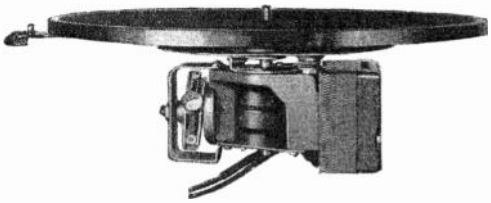
Model "D"—33 1/3 and 78 R.P.M.



NEW!

Model C (not illustrated)—110 Volts A.C., 60 Cycles, 78 and 33 1/3 R.P.M. two-speed motor with two 1 1/2" Fields, complete with weighted 12" Turntable, speed regulator, speed change lever and escutcheon plate. (Recommended for recording purposes.) List Price **$33.50**

Model "A" 78 R.P.M.—Model "B" 33 1/3 R.P.M.



GREEN FLYER

Governor Controlled Electric Motor

Furnished complete mounted on plate ready for installation. Open construction, allowing perfect ventilation. Absolute uniformity of speed under severe variation of voltage and record drag. Long over-size self-lubricating bearing. Silent Spiral-Cut Gears made from Laminated Bakelite. Will not overheat in closed cases and cabinets.

Finished in black enamel. Includes 10" Turntable, Dial and Pointer Speed Regulator. Automatic Stop is optional.

Size: Length—6 3/8", Width—3 5/8", Depth—3 5/16" from mounting plate to bottom.

	List Price
Model A—78 R.P.M., 110 Volts A.C., 60 Cycles	**$12.75**
Model B—33 1/3 R.P.M., 110 Volts A.C., 60 Cycles	**13.75**

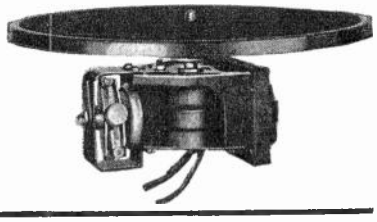
ELECTRIC PHONOGRAPH MOTOR

With Fixed Governing Arrangement

An excellent Motor for portable and table model instruments. Very compact. Ample power for playing 10" and 12" records. Governor controlled. Cover enclosed gears. Absolute uniformity of speed. Silent Spiral Cut Gears made from Laminated Bakelite. Will not overheat in closed cases or cabinets. Includes 10" turntable and screw type speed regulator.

Size: Length—5 13/16", Width—3 5/8", Depth of Field—2 11/16".

	List Price
Model V—78 R.P.M., 110 Volts A.C., 60 Cycles	**$11.25**
Model O—33 1/3 R.P.M., 110 Volts A.C., 60 Cycles	**12.25**



SIX VOLT D.C. MOTORS

	List Price
Model S—78 R.P.M., with 10" turntable, dial and pointer speed regulator	**$19.25**
Model T—33 1/3 R.P.M., with 10" turntable, dial and pointer speed regulator	**20.25**
Model R—Two-Speed, 78 and 33 1/3 R.P.M., with 10" turntable, dial and pointer speed regulator, speed change lever and escutcheon plate	**24.00**

The 6 Volt D.C. motors will also operate on 9 1/2 Volts A.C.

ON ALL MOTORS

	Add to List Price
For Automatic Stop	$1.50
For Weighted 12" Turntable	3.00
For Standard 12" Turntable	.50

UNIVERSAL PHONOGRAPH MOTORS

Model G—78 R.P.M., Single-Speed Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator ..... List Price **$19.25**

Model J—33 1/3 R.P.M., Single-Speed Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator ..... List Price **20.25**

Model N—Two-Speed, 78 and 33 1/3 R.P.M. Universal Motor, 110 Volts A.C. and D.C., 50-60 Cycles, with 10" turntable, dial and pointer speed regulator, speed change lever and escutcheon plate ..... List Price **22.00**

Universal motors have the A.C.-D.C. Switch assembled.

WHEN ORDERING MODELS A, B, E, F, D and H for

11 Volts A.C., 25 cycles add	each	$1.50
110 Volts A.C., 42 cycles add	each	1.50
220 Volts A.C., 50 cycles add	each	.75

(Models V and O not furnished for 25 and 42 cycles)

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World Radio History

GENERAL INDUSTRIES

Record Changers & Assemblies

A PRODUCT OF GENERAL INDUSTRIES CO.

AUTOMATIC RECORD CHANGER

Model "K"

Plays eight 10" records automatically

This Model K Automatic Record Changer is a very efficient, compact and simple unit. The entire unit requires a small space for mounting. SIZE: Length across front of base plate 12"; Width (front to back of base plate) 12"; Height above plate 5"; Depth below plate 3½". Includes Master Switch, Crystal Pickup with Volume Control and 110 Volt A.C. 60 Cycle, 78 R.P.M. enclosed type motor.

	List Price
No. 8—Automatic Record Changer, Model K	**$46.00**
No. 7—Same as No. 8, except less Volume Control	**45.25**
No. 6—Same as No. 8, except less on-and-off Switch	**45.50**
No. 5—Same as No. 8 except less Volume Control and on-and-off Switch	**45.00**

FEATURES: ● Plays eight 10-inch Records automatically ● Plays 12-inch Record Manually ● Any Record may be repeated ● Repeats last record ● Records may be rejected ● Simple change for playing manually ● All Steel Construction ● Finish—Statuary Bronze.

AUTOMATIC RECORD CHANGER

Model "L"

Plays seven 12' records or eight 10" records automatically

This efficient record changer is compact and simple in construction. There are no intricate working parts to get out of order. The complete unit requires very small space for mounting. SIZE: Length across the front of base plate 14"; Width (front to back of base plate) 15"; Height above plate 5"; Depth below plate 3½". Includes On-and-Off Switch, Crystal Pickup and Volume Control, 110 Volt A.C., 60 Cycle, 78 R.P.M. enclosed type motor.

	List Price
No. 18—Automatic Record Changer, Model L	**$50.75**
No. 17—Same as No. 18, except less Volume Control	**50.00**
No. 16—Same as No. 18, except less on-and-aff Switch	**50.25**
No. 15—Same as No. 18, except less Volume Control and on-and-off Switch	**49.75**

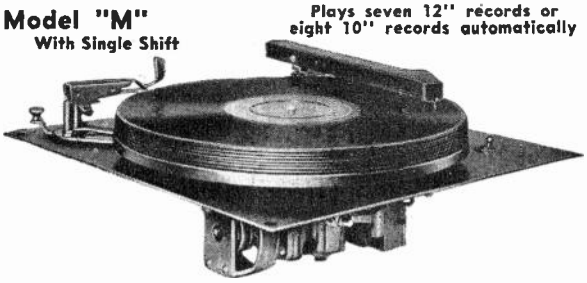
FEATURES: ● Plays seven 12-inch or eight 10-inch Records Automatically ● Any Record may be repeated ● Records may be rejected ● Repeats last record ● Simple change for playing manually ● Simple change for 10-inch or 12-inch Rcords ● All Steel Construction ● Finish—Statuary Bronze.

AUTOMATIC RECORD CHANGER

Model "M"

With Single Shift

Plays seven 12" records or eight 10" records automatically



The new Model M Automatic Record Changer is of the same compact and simple construction as the other efficient General Industries units; no intricate working parts to get out of order. The complete unit requires small space for mounting. SIZE: Length across front of base plate 14"; Width (front to back of base plate) 15"; Height above plate 5"; Depth below plate 3½". Includes Cyrstal Pickup, Volume Control, On-and-Off Switch, 78 R.P.M. Enclosed Type Motor, 110 Volts A.C., 60 Cycles.

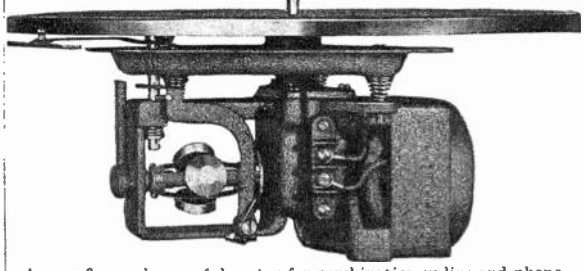
	List Price
No. 25—Automatic Record Changer,. Model M	**$53.00**
No. 26—Same as No. 25, except less Volume Control	**52.75**
No. 27—Same as No. 25, except less on-and-off Switch	**52.50**
No. 28—Same as No. 25, except less Volume Control and on-and-off Switch	**52.00**

FEATURES: ● Plays seven 12-inch or eight 10-inch Records Automatically ● Any Record may be repeated ● Records may be rejected ● Repeats last record ● **Set handle in correct position,** when changing from one size record to the other. No other change is necessary ● All Steel Construction.

BLUE FLYER

Governor Controlled Electric Motor

Model "E" 78 R.P.M.—Model "F" 33⅓ R.P.M.



A very fine and powerful motor for combination radios and phonographs, and cabinet machines.

Furnished complete mounted on plate ready for installation. Open construction, allowing perfect ventilation. Absolute uniformity of speed under severe variations of voltage and record drag. Long over-size self-lubrication bearings. Silent spiral-cut gears made from Laminated Bakelite. Will not overheat in closed cases and cabinets.

Finished in handsome blue Cracklin Enamel. Includes 10" Turntable, Dial and Pointer Speed Regulator. Automatic Stops are optional.

Size: Length—7⅛", Width—3¼", Depth—4⅜" from mounting plate to bottom.

	List Price
Model E—78 R.P.M., 110 Volts, A.C., 60 Cycles	**$15.50**
Model F—33⅓ R.P.M., 110 Volts, A.C., 60 Cycles	**16.50**

ON "K", "L" "M" RECORD CHANGERS

For Two Speed Motor ..... Add $3.00 to List Price

We are furnishing on our Record Changers the crystal cartridges manufactured by Webster Electric Co., Astatic Microphone Laboratory and Shure Brothers. Please specify which one you prefer.

ON ALL RECORD CHANGERS

	Add to List Price
For 78 R.P.M.—110 Volts A.C. & D.C. Universal Motor	$8.00
For 78 R.P.M.—110 Volts A.C., 25 Cycle Motor	1.50
For 78 R.P.M.—110 Volts A.C., 42 Cycle Motor	1.50
For 78 R.P.M.—220 Volts A.C., 50 Cycle Motor	.75
For 78 R.P.M.—6 Volts D.C. Motor	9.00

Please specify the voltage and frequency required.

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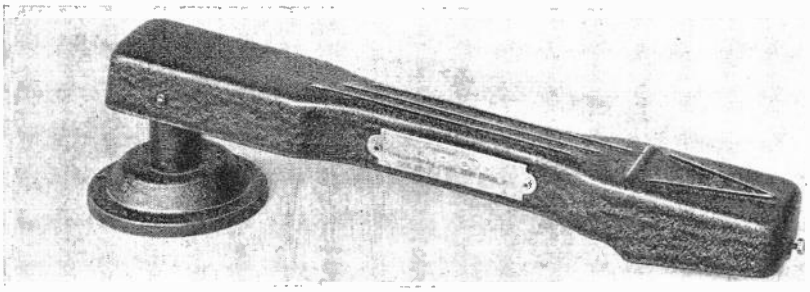
World Radio History

UPCO

PICK-UPS
CUTTING HEADS
PHONO-REPRODUCERS

HIGH FIDELITY PICK-UP

PRECISION-BUILT . . . . RATTLE PROOF

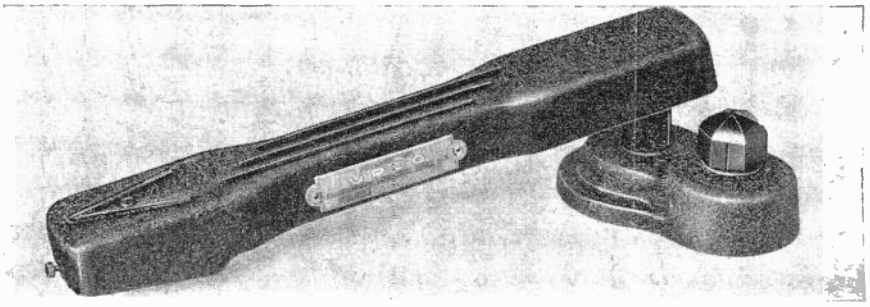


MODEL M-1 — without volume control.

LIST PRICE $7.25

MODEL M-2 — with volume control built in base.

LIST PRICE $8.00



THE UPCO M-1 and M-2 Models are beautifully styled, lightweight pick-ups, excellent for use with combination radio-phonographs and portable public address systems.

These new models have been made available by UPCO engineers after lengthy development to satisfy those who prefer a well-balanced, fine performing pick-up at a minimum cost. Ultra modern design and rattleproof construction, which have been built into the UPCO Featherweight models, make these pick-ups unique in their price class.

The use of the latest type ALNICO magnet insures the constant high fidelity performance and flat frequency response found in the M-1 and M-2, which more than fulfills the requirements of present day commercial recordings.

With only a 2½ oz. needle point pressure, and rattleproof construction, the Featherweight models enable records to enjoy a long life, free from scratches and other indentures which might otherwise mar fine performance.

The UPCO M-1 and M-2 will play all records up to 12″ at 78 or 33 1/3 R. P. M. and are furnished in standard high and low impedances. The attractive black crystalline finish will harmoniously match all surroundings. Also may be had in statuary bronze.

The M-1 has the same characteristics as the M-2 with the exception that no volume control is supplied. Length of arm—8½″. Overall length—9¼″. Shipping weight—12 oz.

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World Radio History

UPCO

PICK-UPS CUTTING HEADS PHONO-REPRODUCERS

THE complete UPCO pick-up is engineered, machined, tooled and assembled under one roof by engineering experts who have designed and developed sound reproducing devices for more than twenty years. These facilities enable UPCO to produce a finer and better product at a lower cost.

UPCO pick-ups are known the world over for their fine quality and tone fidelity, and are specified as standard equipment by the leading manufacturers of phonographs, radio-phonographs and public address systems.

Our engineering facilities are immediately available for your special problems and requirements.

We build recording heads for all types of recording on acetate and aluminum.

PICK-UP HEADS

Made with the finest English Cobalt magnet, with special solid steel pole pieces and armature. NON-FREEZABLE.

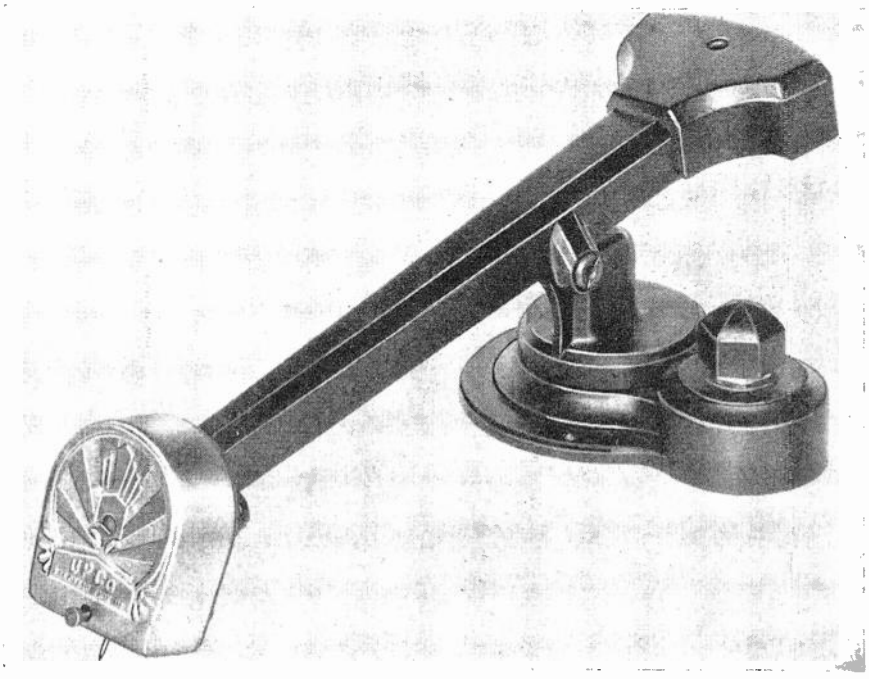
Model P

List Price $5.75

Same construction as above but is made to fit old type phonograph and orthophonic tone arms.

Model D.....List Price $6.75

BALANCED PICK-UP

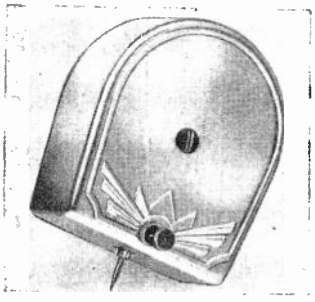


A perfectly balanced and adjustable pick-up to play 78 and 33⅓ R.P.M. records. Every moving part is on ball-bearing suspension. Die-cast, vibration free arm and base.

Model No. 25—With volume control built in base ..... **List Price $10.00**

Model No. 25A—Without volume control..... **List Price 9.25**

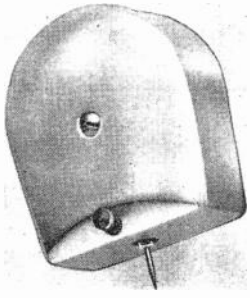
CUTTING HEADS



MODEL RN2

RN2—A high Fidelity Recording Head with a wide range frequency response; excellent quality; supplied in 15, 200, 500 ohm impedances. Specify impedance when ordering.

List Price $15.00



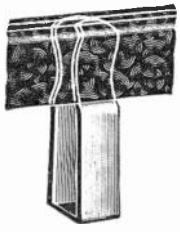
MODEL RB3

RB3—A Custom Made High Fidelity Recording Head; precision machined faithful and accurate recording; supplied in 15, 200, 500 ohm impedances. Specify impedance when ordering.

List Price $50.00

Guaranteed matched Pairs built to order.

BRACKET



A new type, specially designed rest for magnetic and crystal pick-ups. Supports pick-up without scratching or chipping finish.

List Price
$.20

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World Radio History

PICK-UP UNITS **AUDAX** RECORDERS

The Standard by which Others are Judged and Valued

"The new AUDAX creation (COMPENSATED MICRODYNE is the neatest trick of the year. . . ."—reads a recent editorial in the leading Technical Magazine.

THROUGH constant refinements, the well known "RELAYED-FREQUENCY" MICRODYNE—the most highly sensitized pickup in the world—has now reached a state of perfection, where its response is FLAT over the entire recorded spectrum and operates with but a few grams on the record.

It is used by Radio Stations, Studios, Laboratories, Music Lovers, etc., etc.

By means of a newly developed INDUCTOR and a new type LOW-PASS coupler, (a newly discovered ingredient), a response is obtained which is FLAT from 500 to 8,000 cycles and,—a gradually rising bass, reaching about 12 db at 50 cycles.

This is the first time in the history of Reproduced Music that, a unit with such remarkable response characteristics is made available at the price of ordinary pickups.

NEW!

NEW!

COMPENSATED MICRODYNE

AUDAX MICRODYNE IC-36—Has new Compensator principle. FLAT to over 8,000 cycles and rising bass curve reaching about 12 db at 50 cycles. Small, beautifully stream-lined head, scientifically off-set. Tip-jack connectors. New needle guide. Feather-touch on record. Will track perfectly on any record, with a pressure of only a few grams,—therefore, needs no adjustable counter-weight. New non-resonant arm. Precision ball-bearings. Brown and gold finish. Available only up to 500 ohms.

MODEL IC-36
Overall length—12⅛". Radial sweep—9⅛".
For records up to 12", List Price $38.50

MODEL IC-37
Overall length—14½". Radial sweep—11½".
For records up to 18", List Price $49.50

AUDAX MICRODYNE IC-24—Has the new Compensator principle. In general appearance, identical with IC-36 above. FLAT to 7,000 cycles and rising bass curve about 12 db at 50 cycles. Beautifully stream-lined head, scientifically off-set. Equipped with new needle guide and tip-jack connectors. Feather-touch on record. New non-resonant arm has precision ball-bearings. May be had in 200, 500 ohms and high impedance.

MODEL IC-24
Overall length—12⅛". Radial sweep—9⅛".
For records up to 12", List Price $18.50

MODEL IC-25
Overall length—14½". Radial sweep—11½".
For records up to 18", List Price $29.50

RELAYED-FREQUENCY MICRODYNE

AUDAX MICRODYNE RF-6-A—Substantially FLAT to 10,000 cycles. May be used with JEWEL-POINT or conventional needle. Needle impedance practically nil. Will track perfectly on any record, with a pressure of only a few grams,—therefore, needs no adjustable counter-weight. Small, beautifully stream-lined head, scientifically off-set. Tip-jack connectors. New non-resonant arm. Precision ball-bearings. Black and gold finish. Available in low or high impedance.

MODEL RF-6-A
Overall length—15⅜". Radial sweep—12¾".
For records up to 18", List Price $125.00

Also available for Hill and Dale performance at extra charge.

AUDAX MICRODYNE RF-5—Identical with RF-6-A above, except that, response is not quite so smooth.
List Price $98.00

AUDAX MICRODYNE RF-3—Substantially FLAT to 8,000 cycles. Beautifully stream-lined, scientifically off-set head. Needle pressure only a few grams. New non-resonant arm—precision ball-bearings. Black and gold finish. Available in low or high impedance.

Overall length—13". Radial sweep—10-38".
For records up to 12", List Price $60.00

MICRODYNE Pickups are ideal for reproducing acetate transcriptions numerous times with no increase in surface noise or loss of fidelity.

MICRODYNE Models may also be used with a permanent point.

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World Radio History

PICK-UP UNITS **AUDAX** RECORDERS

The Standard by which Others are Judged and Valued

This reputation earned by AUDAX reproducers the world over, has been consistently maintained through all these years by giving the trade the best that money and engineering skill can produce.

Because AUDAX instruments are made for use where quality and consistency of performance are essential, they are strictly of the Inductor type.

NEW!

NEW!

AUDAX AT-12

Beautifully stream-lined head, scientifically off-set. Very light on record—response to over 6000 cycles. Equipped with new needle guide. New non-resonant arm has precision ball-bearings. Brown and gold finish. Available in 200, 500 ohms or high impedance.

Overall length—9¾". Radial sweep 8".
For records up to 12" **$12.50**

AUDAX AT-10

In appearance, identical with AT-12, above. Has excellent frequency response — Beautifully stream-lined, scientifically off-set head. New needle-guide. Very light on record. New non-resonant arm. Precision ball-bearings. High impedance.

Overall length—9¾". Radial sweep 8".
For records up to 12" **$8.00**

AUDAX RECORDING HEADS

AUDAX 7-B

Unquestionably the best available today. Used by the foremost Radio Stations and Studios in making High Fidelity Records. Will record from 50 cycles to approximately 6500 cycles **$75.00**

AUDAX 4-A

Will record from 50 cycles to approximately 5500 cycles **$32.50**

AUDAX 3-A

Will record from 60 cycles to approximately 4800 cycles **$21.00**

Additional information on the above Cutters as well as other models will be gladly furnished.

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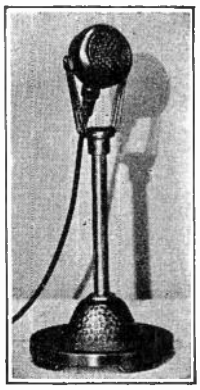
World Radio History

TURNER Crystal Microphones

MODEL 77 CRYSTAL MICROPHONE

Gives You Broadcast Quality and Studio Appearance



Model 77 on T6 Stand

Model 77 gives you for the first time—true fidelity with high output level—in the same microphone. A unique saddle—commercial design, and rich finish make this an expensive-looking microphone. The head is adjustable to a semi-directional or non-directional position. Here is a studio microphone that can be used successfully on P.A. setups or out-of-doors. A built-in filter eliminates wind effects and prevents blasting. Total absence of peaks greatly reduces feedback possibilities.

Long Microphone Lines Possible

A high capacity crystal is used permitting the use of lines up to 150 feet if good cable is used. With well shielded, low-capacity cable, the loss in long lines is small and level into the grid is well above any possible hum level. The crystal is suspended in shock absorbing material. Breakage and noise due to handling is thereby eliminated. The cable connector allows instant cable removal and changes without splicing.

Specifications

Range: 30-10,000 cycles. Level —54 DB. Height of head and saddle 5¼". Overall height on T6 stand 13⅛". Connector and 8 feet cable furnished. Finish in dark copper plate. T6 stand matches 77 microphone.

Model 77 Crystal Microphone, with Cable, List Price.....$27.50
With T6 Stand as shown, List Price.....$30.00

MODEL 38

True Non-Directional

Model 38

This single crystal model has become popular with hams and public address men the world over.

Combines high level with particularly good response. Output level—55 DB. Flat down to 40 cycles. Slightly rising high frequency response. This characteristic offsets loss of high frequencies which is present in most transmitters. Used by many dance bands due to its attractiveness. Particularly effective for vocal specialties. Crystal interior is suspended in shock proof material. Identical in appearance with the higher priced Multi-Crystal microphones.

Chrome finish—non-corroding grill. Furnished with removable base and cord assembly. Absolutely non-directional — not affected by wind or moisture.

Model 38, List Price.....$22.50
(Specify "single grid" or "push pull" when ordering)

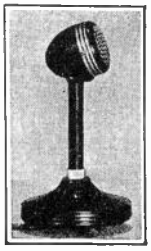
NEW 30-30 CRYSTAL MICROPHONE

Gives You Streamline Design . . .
Broadcast Quality . . . Low Price

Model 30-30

Connector permits cable to be removed or changed easily — eliminates bunglesome splices. High output—52 DB. Response range 30-8000 cycles. Semi-directional. No peaks to cause feedback. Crystal cushioned to prevent breakage and noise. Will not blast. Not affected by wind on outdoor setups. Fits all standard mike stands. Eight foot cable and connector included. Finished in rich ebony and flashing chrome.

Model 30-30, List Price....$22.50



MODEL 30-BT

A Streamlined Crystal Microphone
For Desk or Hand Use

Professional looking. Use it as a hand mike. Weighs only 27 ounces complete.

Level—52 DB. Response range 30-8,000 cycles. Sealed against climate. Won't blast from close speaking. Eight feet of cable provided. Here is real eye-appeal for your desk.

Model 30-BT, List Price.....$24.00

MODEL 78 HEARTBEAT PICK-UP MICROPHONE

Model 78

Also used for pulse and head noise pickup. Small sound entrance limits pickup to exact area under examination. Noise due to handling reduced to a minimum. Can be used near loud speaker without feedback.

Eight feet cable, chrome finish. Can be sterilized. Easily taped to chest during surgery.

Model 78, List Price.....$30.00

MODEL VT-73 VOICE TRANMISSIONS MICROPHONE

Doubles Your Effective Power

Built especially for voice transmission. Speech frequencies are emphasized by creating a rising curvature of the response between 500 and 4000 cycles. Lower frequencies greatly attenuated. You get double power output on the intelligible speech frequencies and crisp clear signals even through Q.R.M.

VT-73 is a combination microphone, handle and stand. Weighs 27 ounces. Anti-resonant cable. Climatically sealed. Fully R.F. shielded. VT-73 won't blast from close speaking.

High output —50 DB. Less amplification needed. Interior floated to prevent breakage. Finished in telephone black and chrome. Get broadcast quality reports with VT-73.

Model VT-73

Model VT-73, List Price.....$25.25

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World Radio History

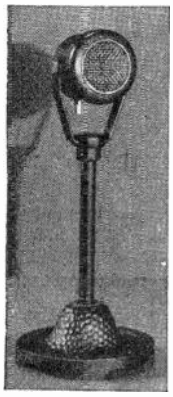
TURNER microphones

NEW! DYNAMIC MODEL 99

GIVES YOU DEPENDABLE STUDIO PERFORMANCE

Regardless of Climate or Temperature

INDOORS OR OUT



Model 99
on T6G Stand

The Model 99 was developed for the operator who insists upon sure-fire operation under the toughest conditions. The most rugged microphone we can offer. Will perform regardless of climate or temperature. An acoustic valve automatically takes care of changes in air pressure due to climate or altitude. Positively not affected by dampness. A special sealing process protects the voice coil and transformer windings. No parts to be attacked by salt air.

High Output—No Low Frequency Boom

This nickel alloy magnet is not affected by jars and keeps its intense magnetic field for years. Output is —59 DB. Trustworthy response flat within plus or minus 4 DB, 60-9000 cycles. Absence of peaks lets you work close to loud speakers without "ringback." The adjustable saddle gives you semi-directional or non-directional operation as you choose. Cable connector allows quick, easy cable changes. Eight foot cable provided. Finished in gunmetal. Model 99 is professional and expensive looking. It adds real eye value to your equipment. Fits any ⅝-inch-27 stand.

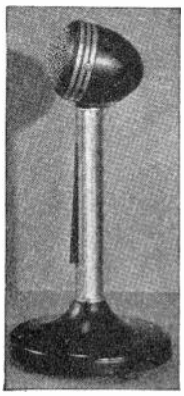
Model 99

30 ohms, List Price.....$27.50
Choice of 200 ohms; 500 ohms; Hi-impedance.
List Price $29.50
With stand as shown add to List Price.....$3.00

AIRPORT MODEL 30-36

A TOUCH OF YOUR THUMB CONTROLS YOUR RIG

Momentary or Locking Switch Action—As You Choose



Model 30-36
Showing the trigger switch in locking position. You lock and unlock it with your thumb.

Airport Model 30-36 is a lightweight microphone desk set that you can pick up and use as a hand microphone. An easy touch of your thumb operates the positive trigger switch. This switch has two positions. One is for push-to-talk operation and the other a locking position that leaves the mike "on" permanently.

When you pick up the Airport model you are immediately pleased with the logical location of the switch and the easy, tireless way it operates.

Switch Wired for Mike Line Shorting or for Relay Operation

The Airport model is furnished in two ways. In one, the switch is wired to open and close the microphone line. In the other, the switch controls the relay circuit. Eight feet of cable furnished with each type. Be sure to specify which type of switch operation you need. The output level is high—minus 52 DB. Extreme high gain is not needed in your amplifier. Frequency range 50-8000 cycles. A smooth rising characteristic of the highs gives you an effective increase of double power at the intelligible speech frequencies. Smartly streamlined. You get broadcast quality reports with the Airport 30-36. Specify if you want switching for mike line or relay operation.

Airport Model 30-36, List Price.....$27.50

THE MODEL 55 "TORPEDO" CRYSTAL MICROPHONE

AMAZING LOW COST

Model 55

Fast production methods make this startling low price possible. Guaranteed to out-perform many $22.50 mikes. Smooth response on both high and low frequencies. The Torpedo makes your voice sound like "you." Because it is streamlined and free from peaks, you can operate it close to the loud speakers without feedback trouble. Operation is semi-directional. No input transformer or polarizing voltage needed. Works with any amplifier designed for crystal or other high impedance mike. Range 50-7000 cycles—level —60 DB.

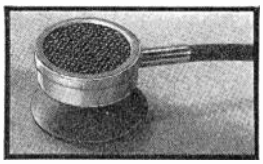
Crystal suspended in soft gaskets to eliminate noise due to handling.

Finished in chrome—aircraft aluminum and black. An expensive looking microphone at low cost. Guaranteed for a year. Free wiring diagram packed with each Torpedo.

Model 55 "Torpedo", List Price.....$14.95

MODEL 31 Suction Cup Microphone

ELECTRIFIES ANY MUSICAL INSTRUMENT



Snaps on any instrument by rubber suction cup. You can also sing or announce in it. Only Turner can offer this microphone. For use with any amplifier designed for crystal or high impedance velocity microphone. Twenty feet of cable furnished. Finished in chrome, black and red.

Model 31, List Price.....$22.50

THE TURNER "THIRD HAND"

HOLDS THE MIKE FOR YOU

Model 3H
Adjustable to fit you. Fits any standard mike.

The "Third Hand" holds the mike close to your mouth where you can get tremendous volume without feedback. Leaves both hands free. Slips over your head in a jiffy—as natural to wear as a necktie. Weighs only 12 ounces. Fits comfortably.

Brings the microphone close to your mouth yet keeps it out of your line of vision. You can talk close without craning your neck. Cuts down background noise too. Has ⅝ inch-27 mike thread. Recommended for use with Turner 30-30 and TORPEDO microphones as they will not blast from close speaking. Can be furnished with mike switch when ordered with Turner microphone. Can be used with long line as traveling microphone. Makes driving safer. Ideal for window demonstrators.

Model 3H, List Price.....$5.95

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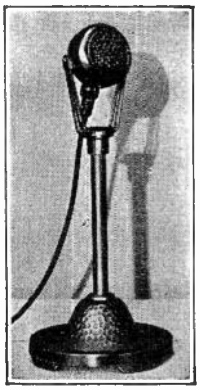
World Radio History

TURNER Crystal Microphones

MODEL 77 CRYSTAL MICROPHONE

Gives You Broadcast Quality and Studio Appearance



Model 77 on T6 Stand

Model 77 gives you for the first time—true fidelity with high output level—in the same microphone. A unique saddle—commercial design, and rich finish make this an expensive-looking microphone. The head is adjustable to a semi-directional or non-directional position. Here is a studio microphone that can be used successfully on P.A. setups or out-of-doors. A built-in filter eliminates wind effects and prevents blasting. Total absence of peaks greatly reduces feedback possibilities.

Long Microphone Lines Possible

A high capacity crystal is used permitting the use of lines up to 150 feet if good cable is used. With well shielded, low-capacity cable, the loss in long lines is small and level into the grid is well above any possible hum level. The crystal is suspended in shock absorbing material. Breakage and noise due to handling is thereby eliminated. The cable connector allows instant cable removal and changes without splicing.

Specifications

Range: 30-10,000 cycles. Level —54 DB. Height of head and saddle 5¼". Overall height on T6 stand 13⅛". Connector and 8 feet cable furnished. Finish in dark copper plate. T6 stand matches 77 microphone.

Model 77 Crystal Microphone, with Cable, List Price.....$27.50
With T6 Stand as shown, List Price.....$30.00

MODEL 38

True Non-Directional

Model 38

This single crystal model has become popular with hams and public address men the world over.

Combines high level with particularly good response. Output level—55 DB. Flat down to 40 cycles. Slightly rising high frequency response. This characteristic offsets loss of high frequencies which is present in most transmitters. Used by many dance bands due to its attractiveness. Particularly effective for vocal specialties. Crystal interior is suspended in shock proof material. Identical in appearance with the higher priced Multi-Crystal microphones.

Chrome finish—non-corroding grill. Furnished with removable base and cord assembly. Absolutely non-directional — not affected by wind or moisture.

Model 38, List Price.....$22.50
(Specify "single grid" or "push pull" when ordering)

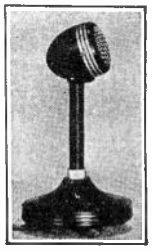
NEW 30-30 CRYSTAL MICROPHONE

Gives You Streamline Design . . .
Broadcast Quality . . . Low Price

Connector permits cable to be removed or changed easily — eliminates bunglesome splices. High output—52 DB. Response range 30-8000 cycles. Semi-directional. No peaks to cause feedback. Crystal cushioned to prevent breakage and noise. Will not blast. Not affected by wind on outdoor setups. Fits all standard mike stands. Eight foot cable and connector included. Finished in rich ebony and flashing chrome.

Model 30-30

Model 30-30, List Price....$22.50



MODEL 30-BT

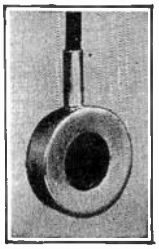
A Streamlined Crystal Microphone For Desk or Hand Use

Professional looking. Use it as a hand mike. Weighs only 27 ounces complete.

Level—52 DB. Response range 30-8,000 cycles. Sealed against climate. Won't blast from close speaking. Eight feet of cable provided. Here is real eye-appeal for your desk.

Model 30-BT, List Price.....$24.00

MODEL 78 HEARTBEAT PICK-UP MICROPHONE



Model 78

Also used for pulse and head noise pickup. Small sound entrance limits pickup to exact area under examination. Noise due to handling reduced to a minimum. Can be used near loud speaker without feedback.

Eight feet cable, chrome finish. Can be sterilized. Easily taped to chest during surgery.

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Model VT-73

Model VT-73, List Price.....$25.25

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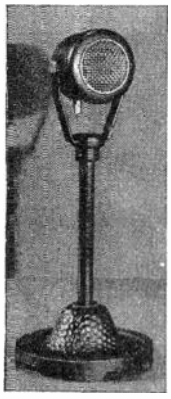
World Radio History

TURNER microphones

NEW! DYNAMIC MODEL 99

GIVES YOU DEPENDABLE STUDIO PERFORMANCE



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on T6G Stand

Regardless of Climate or Temperature

INDOORS OR OUT

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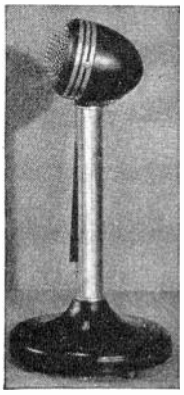
30 ohms, List Price.....$27.50
Choice of 200 ohms; 500 ohms; Hi-impedance.
List Price $29.50
With stand as shown add to List Price.....$3.00

AIRPORT MODEL 30-36

A TOUCH OF YOUR THUMB CONTROLS YOUR RIG

Momentary or Locking Switch Action—As You Choose



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Switch Wired for Mike Line Shorting or for Relay Operation

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Specify if you want switching for mike line or relay operation.

Airport Model 30-36, List Price.....$27.50

THE MODEL 55 "TORPEDO" CRYSTAL MICROPHONE

AMAZING LOW COST

Model 55

Fast production methods make this startling low price possible. Guaranteed to out-perform many $22.50 mikes. Smooth response on both high and low frequencies. The Torpedo makes your voice sound like "you." Because it is streamlined and free from peaks, you can operate it close to the loud speakers without feedback trouble. Operation is semi-directional. No input transformer or polarizing voltage needed. Works with any amplifier designed for crystal or other high impedance mike. Range 50-7000 cycles—level —60 DB.

Crystal suspended in soft gaskets to eliminate noise due to handling.

Finished in chrome—aircraft aluminum and black. An expensive looking microphone at low cost. Guaranteed for a year. Free wiring diagram packed with each Torpedo.

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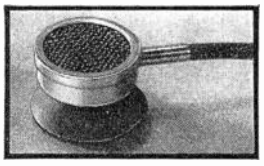
MODEL 31 Suction Cup Microphone

ELECTRIFIES ANY MUSICAL INSTRUMENT



Snaps on any instrument by rubber suction cup. You can also sing or announce in it. Only Turner can offer this microphone. For use with any amplifier designed for crystal or high impedance velocity microphone. Twenty feet of cable furnished. Finished in chrome, black and red.

Model 31, List Price.....$22.50

THE TURNER "THIRD HAND"

HOLDS THE MIKE FOR YOU

Model 3H
Adjustable to fit you. Fits any standard mike.

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Brings the microphone close to your mouth yet keeps it out of your line of vision. You can talk close without craning your neck. Cuts down background noise too. Has ⅝ inch-27 mike thread. Recommended for use with Turner 30-30 and TORPEDO microphones as they will not blast from close speaking. Can be furnished with mike switch when ordered with Turner microphone. Can be used with long line as traveling microphone. Makes driving safer. Ideal for window demonstrators.

Model 3H, List Price.....$5.95

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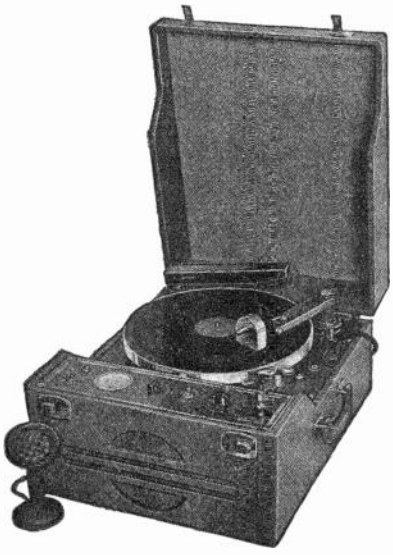
World Radio History

PORTABLE PRESTO STATIONARY
SOUND RECORDING EQUIPMENT



Presto Junior Recorder

A simple, inexpensive, sound recorder and phonograph used by thousands of actors, musicians and radio artists and for entertainment in the home. The Presto Junior consists of a 12"-78 RPM recording turntable, a recording mechanism that makes the record groove as it records the sound; a playback pickup; 3 watt amplifier and loudspeaker mounted in a brown leatherette carrying case. It records from the microphone or radio set on records up to the 12" size playing 4 minutes continuously. Plays any phonograph record. Dimensions are 10" x 16" x 20".

Operating weight is 37 lbs.

TYPE	PRICE
5-J—For Home Recording, including capacity microphone and desk stand	$149.00
6-J—For Studio Recording, including capacity microphone and floor stand	162.50
7-J—For making sound for home movies, including dynamic microphone with floor stand and remote control switch	189.00

PRESTO MODEL K RECORDER

A lightweight, portable recorder designed for music and voice teachers and the smaller schools. The Model K has several improvements over the Junior model, including a high fidelity, counterbalanced pickup and a 10 inch loudspeaker mounted in the detachable cover of the carrying case. Makes and plays records up to the 12" size at 78 RPM and records either from the microphone or radio set. The Model K may also be operated as a public address system. Dimensions are 14" x 15½" x 20½". Operating weight is 46 lbs.

TYPE	PRICE
1-K—Recorder, including dynamic microphone and floor stand	$189.00
2-K—Recorder for making sound for home movies, including dynamic microphone with stand and remote control switch	206.50
4-A—Higher fidelity cutting head supplied in place of standard head with either of above models at additional cost of	20.00

PRESTO RADIO RECORDER

The turntable, recording mechanism and playback pickup only, as furnished with the Presto Junior Recorder, mounted in a walnut finished case. Designed to be used in connection with a radio set to record programs off the air or to play phonograph records through the radio set. May also be used with an external microphone and amplifier system. Makes and plays records up to 12" at 78 RPM. Type 8-R—Recorder, complete with connecting cables, $98.50

PRESTO ORANGE SEAL DISCS

(Discs may be cut on both sides)

Size	Playing Time per Side	Price Pkge. of 10
6"	1 minute	$ 4.00
8"	2 minutes	5.50
10"	3 minutes	8.00
12"	4 minutes	10.00

CUTTING AND PLAYING NEEDLES DISCLUBE — MAILING ENVELOPES

Semi-permanent sapphire cutting needles, each	$6.00
Charge for resharpening sapphire needle	2.00
Steel cutting needles, per dozen	3.25
Red Shank steel playing needles, per hundred	.80
Disclube, record preservative, 2 oz. can	.45
Disclube, record preservative, pint can	2.00
Mailing envelopes, for 6" records only, per doz.	.50

THE PRESTO RECORDER MAKES THE GROOVE AS IT RECORDS THE SOUND

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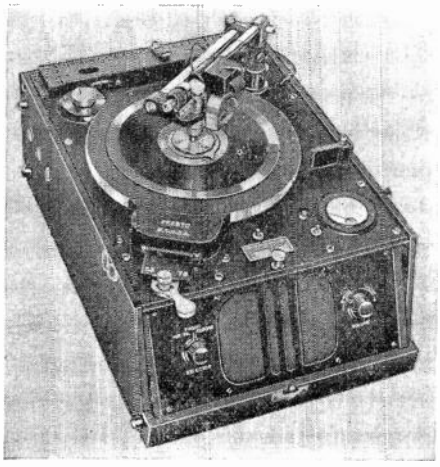
World Radio History

PORTABLE **PRESTO** STATIONARY

SOUND RECORDING EQUIPMENT



PRESTO MODEL E RECORDER

A commercial recorder now used in the Speech and Music departments of over 600 colleges and universities. Sturdily constructed to withstand years of hard service. Makes and plays records up to 13½" size at either 78 or 33⅓ RPM. Consists of 12" recording turntable, positive drive overhead cutter feed mechanism, high fidelity pickup, five watt amplifier and loudspeaker mounted in a black leatherette carrying case. Provision is made for adding one or more external loudspeakers when used as a public address system. Capable of making high fidelity master recordings which can be duplicated in any quantity.

Dimensions 13½" x 16½" x 24". Operating weight is 72 lbs.

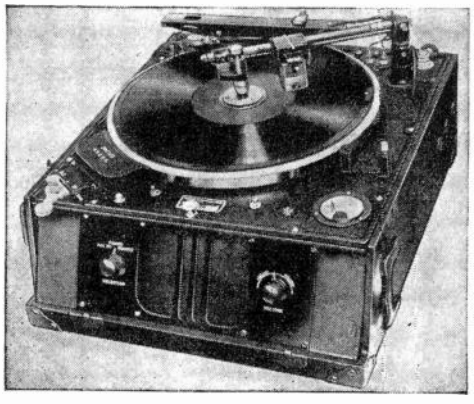
Type		Price
12-E	Recorder including high grade dynamic microphone and floor stand, equipped with 3-A cutting head (Range 80-4000 cycles)	$350.00
14-E	Recorder, same as 12-E but equipped with 1-B high fidelity cutting head (Range 40-7000 cycles)	420.00

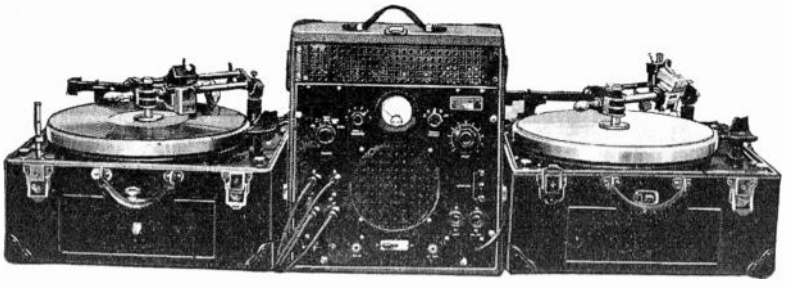
PRESTO MODEL X RECORDER

Similar in design to the model E except that it is equipped with a 16" recording turntable and mechanism to make electrical transcriptions playing 15 minutes continuously. Records and plays records in all sizes from 6" to 17¼" at 78 and 33⅓ RPM. The 16X recorder is recommended for radio stations, schools and commercial recording studios making "off the air" or studio recordings. Extensively used for making sound on disc accompaniment for 16 mm motion pictures.

Dimensions are 15" x 22" x 25". Operating weight is 89 lbs.

Type		Price
15-X	Recorder with high grade dynamic microphone and stand, equipped with 4-A cutting head	$500.00
16-X	Recorder, same as above but equipped with 1-B high fidelity cutting head (Range 40-7000 c.p.s.)	560.00





PRESTO PROFESSIONAL RECORDER

Used by over 300 radio broadcasting stations for making electrical transcriptions. Also used by the United States and nine foreign governments, leading advertising agencies, phonograph record manufacturers, public utility and industrial organizations.

Literature on Request

THE PRESTO RECORDER MAKES THE GROOVE AS IT RECORDS THE SOUND

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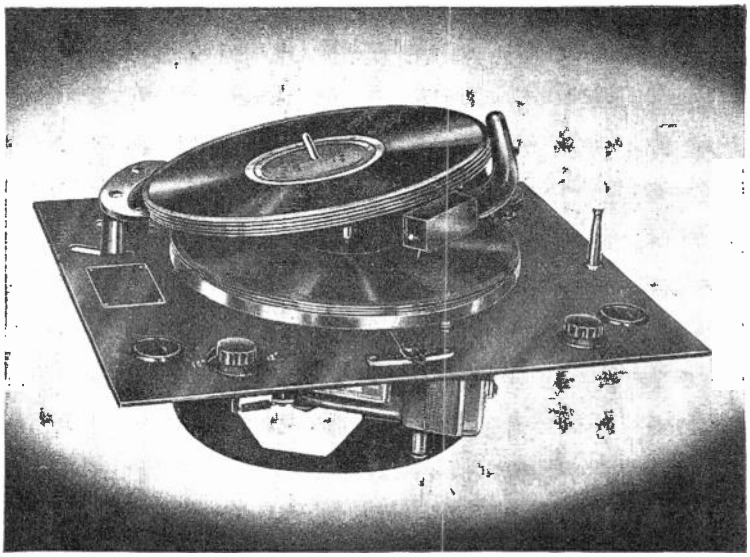
World Radio History

'GARRARD' RECORD CHANGERS

The R.C.8 Type
AUTOMATIC RECORD CHANGER



The "Garrard" R.C.8 type Automatic Record Changer Unit is of particularly simple and straightforward design, it has been well tried and proved to be exceptionally reliable.

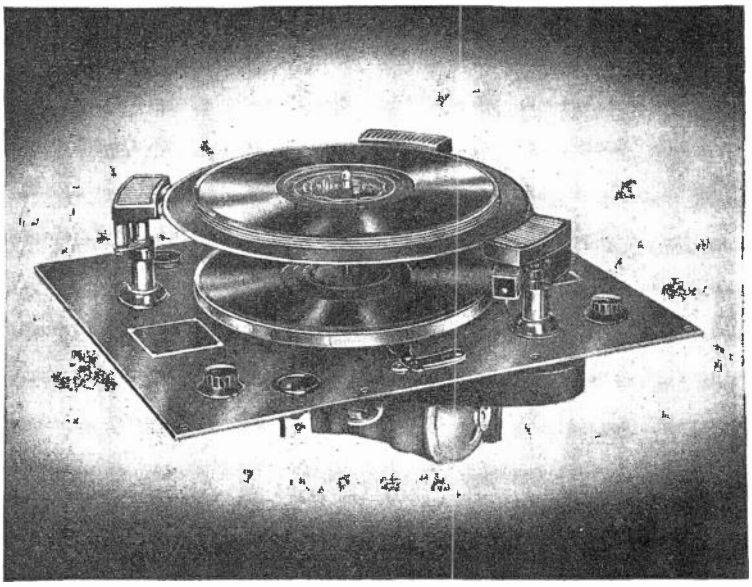
The unit is complete and fitted with a powerful, dependable "Garrard" Electric Motor. It is mounted on an attractive Bronze finish heavy gage unit plate, incorporating all the controls, together with the "Garrard" Tangent Arm and Piezo Electric Pick-up, ready for mounting into cabinet.

Important "GARRARD" Features

● **PLAYS 10" AND 12" RECORDS**—The "Garrard" Automatic Record Changing Unit is designed to play eight 10" or eight 12" records of any make. ● **AUTOMATIC STOP**—Whatever the number of records up to eight—as soon as the last one is played the Changer automatically stops and switches off the electric current. ● **TANGENT ARM** — The tangent arm made famous by "GARRARD" is standard equipment on all "Garrard" Changers. By means of this arm the needle is maintained at the right angle to the record grooves whether at the beginning or at the end of the record. ● **CRYSTAL PICK-UP**—The "Garrard" Record Changer is furnished with a Piezo Electric Pick-Up. The pick-up head swings completely round so that needles can be easily inserted. ● **POWERFUL MOTOR** — A powerful highly efficient Electric Motor built by "Garrard" is employed. The motor is of the enclosed type and silent running, and is used by many principal Radio Manufacturers. ● **AUTOMATIC REJECTION**—Any record decided not to be played is automatically rejected by turning the knob to "reject" position. ● **NOISELESS**—The design has been so carefully evolved that the chance of interference with radio amplification has been eliminated. Also during playing, the Changer mechanism is entirely idle, so reducing mechanical noise to absolute minimum. ● **COMPACT** — The "Garrard" Changer is remarkably compact. The overall dimensions of the Changer with a full record supply are 16" long by 14" wide by 4¾" clearance above the Unit Plate by 4¾" clearance below the Unit Plate for the A.C. model and 5½" clearance below the Unit Plate for the A.C.-D.C. model. It is therefore particularly suitable where restricted fitting space only is available. ● **SIMPLE TO INSTALL**—The unit is entirely complete and provides ideal opportunity for inexpensive conversion. It is very simple to install.

R.C.8 Model for A.C. 100/130 volts, 50/60 cycles..... **Price $75.00**
R.C.6 Model for A.C. 100/130 and 200/250 volts, 50/60 cycles..... **Price 76.00**
R.C.5 Universal Model for A.C.-D.C. 100/130 and 200/250 volts 25/60 cycles..... **Price 85.00**

The R.C.1A Type
AUTOMATIC RECORD CHANGER



The Type R.C.1A is our special "Mixer" model. It will play any combination of eight 10" and 12" records mixed, with complete reliability and perfect performance associated with "Garrard" products.

The unit comprises powerful Electric Phonograph Motor and changing mechanism mounted on a sturdy heavy gage Bronze finish metal plate incorporating all controls, together with "Garrard" Tangent Arm and Piezo Electric Pick-up completely ready for use.

Important "GARRARD" Features

● **MIXES RECORDS**—The "Garrard" R.C.1A type Automatic Record Changer is especially designed to play 10" and 12" Records of any make (except records of special thickness) and in any combination up to eight in number ● **TANGENT ARM**—The tangent arm made famous by "GARRARD" is standard equipment on all "Garrard" Changers. By means of this arm the needle is maintained at the right angle to the record grooves whether at the beginning or at the end of the record. ● **CRYSTAL PICK-UP**—The "Garrard" Record Changer is furnished with a Piezo Electric Pick-Up. The pick-up head swings completely round so that needles can be easily inserted. ● **POWERFUL MOTOR**—A powerful highly efficient Electric Motor built by "Garrard" is employed. The motor is of the enclosed type and silent running, and is used by many principal Radio Manufacturers. ● **AUTOMATIC STOP**—Whatever the number of records up to eight—as soon as the last one is played the Changer automatically stops. ● **AUTOMATIC REJECTION**—Any record decided not to be played is automatically rejected by turning the knob to "reject" position. ● **AUTOMATIC REPEAT** — Any record desired to be repeated is automatically played again by simply turning knob to "repeat" position. ● **NOISELESS**—The design has been so carefully evolved that the chance of interference with radio amplification has been eliminated. Also during playing, the Changer mechanism is entirely idle, so reducing mechanical noise to absolute minimum. ● **COMPACT**—The overall dimensions of the R.C.1A type Changer is 17½" long x 14¾" wide x 5⅝" deep below the Unit Plate and 4¼" above the Unit Plate. Top of cabinet should not exceed 2" above motor plate to facilitate ease of removing 12" records. ● **SIMPLE TO INSTALL**—No electrical knowledge is necessary. The unit as supplied is immediately ready for operation.

R.C.1A Model for A.C. 100/130 and 200/250 volts 50/60 cycles..... **Price $102.50**
R.C.2A UNIVERSAL Model for A.C.-D.C. 100/130 and 200/250 volts 25/60 cycles..... **Price 112.50**

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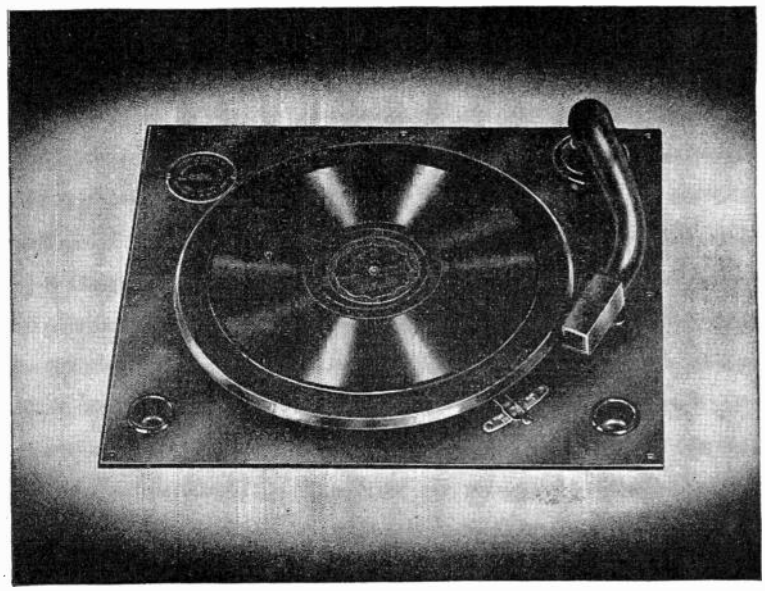
APPLY FOR CONFIDENTIAL DISCOUNTS

World Radio History

'GARRARD' PHONOGRAPH UNITS



SINGLE RECORD PHONOGRAPH ASSEMBLIES

With the "Garrard" Phonograph Units any Radio can be quickly converted to a Radio-Phonograph Combination. The same "Garrard" motors, tangent pick-up arm and Piezo Electric Pick-up described used in the Record Changers are incorporated in these Single Phonograph Assemblies.

The "Garrard" Phonograph assemblies are made in two types, both with patent fully automatic starting and stopping.

TYPE "A"

The type "A" comprises the Motor mounted on rectangular plate 16" x 14", complete with 12" Turntable, Crystal Pick-up and "Garrard" Tangent Arm, connected to "Garrard" Patent Automatic Stop. The whole unit bronzed and lacquered and supplied with two Needle Bowls and Pick-up Arm Rest. It is complete and ready to install.

TYPE "B"

The type "B" unit is similar to the type "A" except that the Mounting Plate is not supplied. It consists of the Motor mounted on a simple plate, complete with 12" Turntable, Crystal Pick-up and Tangent Arm connected to "Garrard" Patent Automatic Stop in Bronzed and Lacquered finish. The unit is essentially useful for fitting into a limited space, the minimum required being 14½" x 13¼".

	Price Type A	Price Type B
A.C. 8 Model 100/30 volts, 50/60 cycles A.C.	$30.75	$28.00
A.C. 6 Model 100/130 and 200/250 volts, 50/60 cycle A.C.	31.75	29.00
U.5 Universal Model—A.C.-D.C. 100/130 and 200/250 volts, 25/60 cycle	41.00	37.50

'GARRARD' PHONOGRAPH MOTORS

SPEED REGULATED PHONOGRAPH MOTORS

In quality of material and workmanship the most exacting "Garrard" standard of performance and dependability are fulfilled. The motors are powerful and highly efficient which results in economical operation. They have a wide range of speed regulation, 60-90 r.p.m. to suit all requirements. The Patent "Garrard" Governor is fitted to all "Garrard" Motors, which ensures perfectly smooth and regular running of the motor.

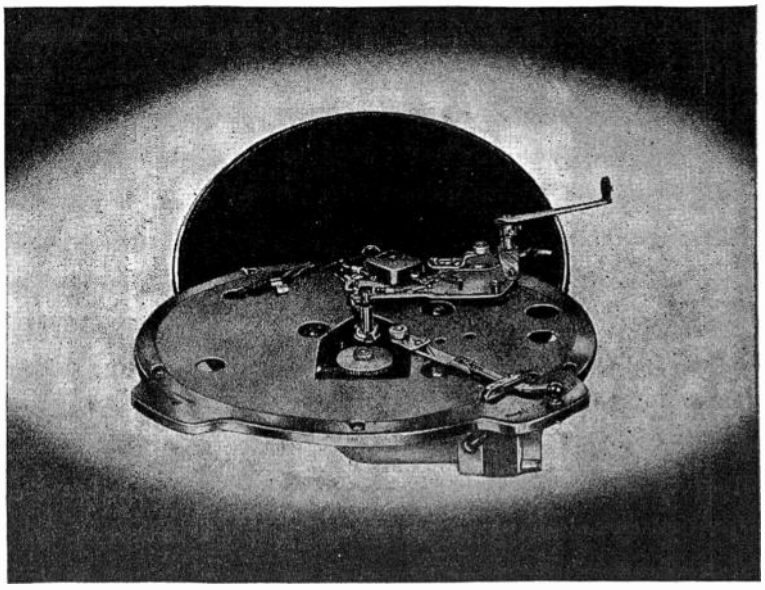
Available in two types.

TYPE "C"

The type "C" motors are supplied complete with 12" Turntable and mounted on 12" Florentine Bronze Motor Plate, incorporating Speed Indicator and the latest type "Garrard" Patent Fully Automatic Starting and Stopping Switch. Can immediately be placed in Cabinet without assembly of small parts or complicated wiring.

TYPE "D"

The type "D" motors are identical to the type "C" except that they are furnished with 12" turntable and Speed Indicator Arm and plate only.



	Price Type C	Price Type D
A.C. 8 Model 100/30 volts, 50/60 cycles A.C.	$15.75	$12.00
A.C. 6 Model 100/130 and 200/250 volts, 50/60 cycle A.C.	16.75	13.00
U.5 Universal Model—A.C.-D.C. 100"130 and 200/250 volts, 25/60 cycle	25.50	23.00

APPLY FOR CONFIDENTIAL DISCOUNTS

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World Radio History

Radio TRIPLETT Testers

25,000 OHMS PER VOLT — MODEL 1601 DELUXE SET TESTER

MEASURES: D.C. volts 10-50-250-500-1000-2000 at 25,000 ohms resistance per volt; A.C. volts 10-50-250-500-1000-2000 at 1000 ohms resistance per volt; 250 D.C. microamperes; 1-10-50-250-500 D.C. M.A.; 1, 2 and 20 D.C. amperes.

RESISTANCE: 0 to 500 low ohms, backup circuit; 0-20,000 and 0 to 200,000 ohms, 2 and 20 megohms.

CONDENSER TESTER: Ranges .001 to 30 microfarads. Also electrolytic leakage test.

DECIBEL METER: Down —20 to +550.

FREE POINT TESTER: Makes all series and parallel meter connections through five sockets, with standard R.M.A. markings.

INSTRUMENT: Latest engineered indicating instrument in molded case with attractive modernistic design. Extra large illuminated dial assures easy-to-read scales. (Tester also has shadowgraph meter for adjusting line voltage.)

PANEL: Silver and black etched panel has beautiful natural silver background with sunken black lettering.

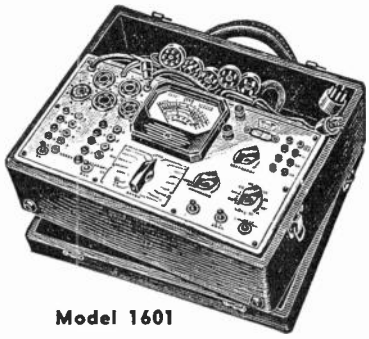
MODEL 1601 CASE: Attractively colored leatherette case with removable cover. Has carrying compartment for all accessories. Dimensions when closed: 15½" x 12" x 6⅝".

MODEL 1601—Batteries, all accessories and complete instructions are included. Code—TYTER.

List Price $74.00 (complete in leatherette case).....U.S.A. Dealers' Net Price $49.33

Also supplied in DeLuxe Line metal case with black wrinkle finish.
Attached carrying handle. Dimensions: 14½" x 7⅝" x 4½". Code—THIAB

List Price $68.00 (in metal case).....U.S.A. Dealers' Net Price $45.33



Model 1601

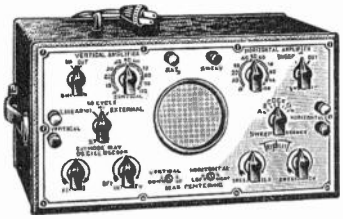
MODEL 1602

Model 1602—Volt-Ohm-Milliammeter only. Same as Model 1601 but does not have Free Point Tester and Condenser Tester.

Code—THUMA—List Price (Leatherette Case) $58.50.....U.S.A. Dealers' Net Price $39.00

Code—THEPO—List Price (Metal Case) $52.50.....U.S.A. Dealers' Net Price $35.00

DELUXE OSCILLOSCOPES — TURRET TUBE MOUNTING



Model 1691

Two outstanding new oscilloscopes with 2" and 3" screens. Either unit meets every servicing requirement for the visual study and adjustment of circuit problems.

The cathode ray tube with exclusive Triplett turret type mounting can be moved up or down or to either side for adjustment to any angle always in alignment with the user's line of vision. Extremely brilliant pattern. Adjustable shield enables easy reading in brightest daylight in Model 1690. Model 1691 has clamp-on shield.

Incorporates separately controlled resistance coupled vertical and horizontal amplifiers. Vertical and horizontal plates can be either direct coupled with amplitude control, or through amplifiers with amplitude control. 60 Cycle A.C. operated.

Linear sweep from 15 to 20,000 cycles. Sweep (either internal, external or 60 cycle) may be used through amplifier or direct with amplitude control. Positive lock.

Model 1691 in metal case only, 14½" x 8⅝" x 7¾". Complete with tubes, accessories and instructions. (Model 1691 also may be obtained with a fixed tube if preferred.)

Model 1690 (2" screen.) (Leatherette case.) Code—TAROB. Shipping weight 25 lbs.

List Price (with tubes) $76.50.....U.S.A. Dealers' Net Price $51.00

Model 1690. (2" screen.) (Metal case.) Code—TROAB. Shipping weight 24 lbs.

List Price $70.50.....U.S.A. Dealers' Net Price $47.00

Model 1691. (3" screen.) (Metal case.) Code TIERR. Shipping weight 30 lbs.

List Price $93.75.....U.S.A. Dealers' Net Price $62.50

NEW TRIPLE SHIELDED SIGNAL GENERATOR — ZERO LEAKAGE

Extreme accuracy—zero leakage. Triple shielding eliminates all possibility of the most negligible leaks. Double line filters. Covers 100 Kc. to 30 Mc. in six ranges.

Unusually large dial (direct reading Vernier type from 100 Kc. to 30 Mc.) has total scale length of 52⅝". Accuracy guaranteed for all servicing requirements. Each iron core coil is individually calibrated and tracked for linearity over the entire range. Has air and silvered trimmers. Continuously variable and pad type attenuators offer steps from zero output to a maximum of 100,000 microvolts. Complete with all necessary accessories and tubes. A.C. operated, 60 cycles.

Supplied in sturdy, colored, leatherette covered carrying case. Size when closed: 15½x12x6⅜".

Model 1630— Code—TRYUY

List Price $73.50 (complete in leatherette case).....U.S.A. Dealers' Net Price $49.00

Also available in metal case with black wrinkle finish. Dimensions: 14½" x 7⅝" x 4½". Code—TAARB

List Price $67.50 (in metal case).....U.S.A. Dealers' Net Price $45.00

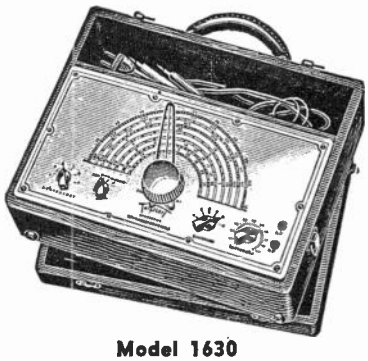
Model 1631—Same as Model 1630 but in addition incorporates electronic frequency modulation. For use with all Cathode Ray Oscilloscopes in alignment applications without separate frequency modulator. Eliminates all defects of mechanical sweeps.

Frequency modulation is continuously variable from 5 KC. to 40 KC. Either CW, or 400 cycle internal or external modulation. Code—TAMCO

List Price $88.50 (complete in leatherette case).....U.S.A. Dealers' Net Price $59.00

Code—TRARB

List Price $82.50 (in metal case).....U.S.A. Dealers' Net Price $55.00



Model 1630

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World Radio History

Radio TRIPLETT Testers

ACTUAL PERFORMANCE VIBRATOR TESTER-Model 1670

Model 1670 tests automotive and home battery radio receiver vibrators under actual performance conditions. Load of 5,000 ohms, recommended by vibrator engineers, is applied. Has been designed in cooperation with laboratories of leading manufacturers of vibrator testers.

Three scale instrument: 0-10 volts scale shows input voltage to the vibrator; GOOD-BAD scale for output; scale marked 0-100 per cent shows per cent of output voltage as reflected by the change in input voltage.

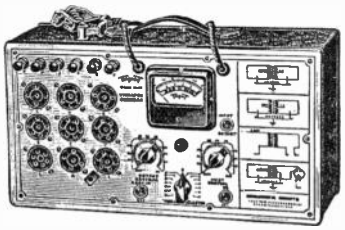
Low damped meter permits needle to follow voltage fluctuations caused by faulty vibrator contacts. Supplied in metal case with attractive black wrinkle finish. Size: 14½" x 7⅝" x 4½".

Modern etched panel—black on natural silver background. Fundamental circuits appear directly on the panel as a part of its attractive design. Attached leather strap carrying handle.

Model 1670—(Complete in metal case) Code—TUARB
List Price $36.00 ..... **U.S.A. Dealers' Net Price $24.00**

Model 1670 Vibrator Tester also may be obtained in the DeLuxe leatherette covered case with roomy built-in compartment for accessories. Cover is removable. Dimensions when closed: 15½" x 12" x 6⅜".

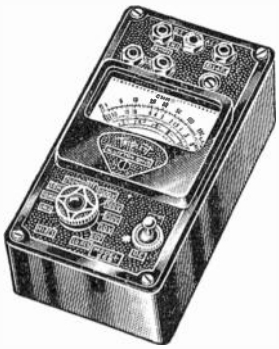
Model 1670—(Complete in leatherette case) Code—TOFRR
List Price $42.00 ..... **U.S.A. Dealers' Net Price $28.00**



Model 1670

Pocket Volt-Ohm-Milliammeter

Model 666



An actual pocket-size Volt - Ohm - Milliammeter in black molded case with A.C. and D.C. voltage ranges, D.C. milliamperes range and a selector switch for all instrument readings. Has low and high ohms scales for testing resistances. . . . Small enough to be carried conveniently in the coat pocket yet has all the advantages of larger multimeters. Provides measurements for every requirement of the serviceman—in the home or shop. Also an indispensable extra-utility instrument for laboratory experimenters, radio amateurs and manufacturers. . . . Scale length corresponds in size to that of Triplett three-inch instrument. Ranges: D.C. 10-50-250-500-1000 volts at 1000 ohms per volt; 1-10-50-250 M.A.; A.C. 10-50-250-500-1000 volts at 1000 ohms per volt; Low ohms ½ to 300; High ohms to 250,000. Provisions for external batteries for higher resistance measurements. Sturdy black molded case, 3⅛"x5⅝"x2⅛" high. Panel is modernistic silver and black. Battery and test leads with alligator clips included. Shg. wt. 4 lbs. Code—TRYMA

Model 666 ..... **List Price $22.50**
U.S.A. Dealers' Net Price **$15.00**

Attractive Leather Carrying Case, Model 669, Available.
List Price **$5.50**
U.S.A. Dealers' Net Price **$3.67**

MODULATION MONITOR

Model 1295

Actual modulation percentage of radio transmitters is shown on the direct reading dial. Eliminates uncertainty of depending on the ear, variation of antenna ammeter or the loop and light in determining carrier shift and percentage of modulation. Scale indicates modulation from 40 to 120 per cent. All readings are in peaks. Visual information provided on a second dial for carrier reference level for modulation test and also to check carrier shift during modulation. Model 1295 has a twin instrument, tilting type, with two separate movements. It is factory calibrated and no further calibrations are needed. Shipping weight 11 lbs. Master Unit Metal Case, 7⅞ x 6⅝ x 4⅝".

Model 1295 Unit— Code—TRKKY
List Price $37.25 ..... **Net Price $24.83**

DELUXE CONDENSER BRIDGE

Model 1640

Model 1640, a true bridge type condenser tester, balances against actual capacity standards as accurately as the most expensive bridge. Balance is shown directly on the full open dial of the front-illuminated Triplett precision instrument. A truly laboratory instrument, easy to operate and for lasting service.

Provides the most conclusive tests possible for shorts, opens, leakage, breakdown, and capacity. Checks all condensers from .0001 to 100 mfds. Has provisions for power factor measurements. Paper and electrolytic condensers are tested for breakdown at the proper A.C. and D.C. voltages: 10 ranges—25, 50, 100, 150, 200, 300, 450, 525, 575. Capacity ranges are: .0001 to .001; .001 to .01; .01 to .1; .1 to 1; 1 to 10; 10 to 100 mfd. Unique shadow type line voltage indicator is incorporated. Unit is A.C. operated with self-contained power supply. Contains an 80 rectifier and 6C6 amplifying tubes.

Model 1640 (Leatherette Case size 15½" x 12" x 6⅜") Code—TUMES
List Price $69.00 ..... **U.S.A. Dealers' Net Price $46.00**

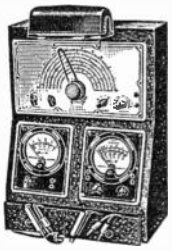
Model 1640 (Metal Case size 14½" x 7⅝" x 4½") CODE—TROWO
List Price $63.00 ..... **U.S.A. Dealers' Net Price $42.00**

CONVERTER FOR TUBE TESTER

A.C. Converter for operating Triplett A.C. Tube Testers from 6-V. storage battery
List Price $30.00 ..... **Net Price $20.00**

LABORATORY TEST BENCH PANELS

Model 1402



Model 1403

Model 1404

Triplett Laboratory Test Bench Panels, in three cabinet styles, offer facilities for a complete service laboratory. Compact, convenient and practical. Every dial and control is in full view and easily accessible. Cabinets may be bolted together to form a continuous panel. Any Triplett DeLuxe or Master line tester can be included. Cabinets may be purchased alone or with any one or more instruments. Additional testers may be added as needed.

Laboratory Test Bench Panel cabinets are of sturdy metal construction with attractive black wrinkle finish. Height, 22½"; width, 16"; depth 7⅞" at bottom, and 5" at top. Roomy drawer at bottom holds all accessories, instructions and tools. The clamp-on lamp with black wrinkle finish to match the cabinet is supplied extra.

Model 1402 Cabinet (For any two DeLuxe Testers.) Code—TOUTE
Model 1403 Cabinet (For one DeLuxe and two Master testers.) Code—TABUK
Model 1404 Cabinet (For any four Master units.) Code—TLEAD
List Price (Any Cabinet only) 15.00 ..... **U.S.A. Dealers' Net Price $10.00**

Special extra deep cabinets are available to hold 3" oscilloscope if desired.

Model 1499—Clamp-on Lamp only. Code—TOTRA
List Price $6.50 ..... **U.S.A. Dealers' Net Price $4.34**

Write for information and quotations on combinations in any cabinet style.

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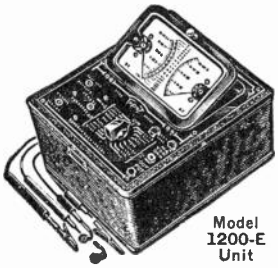
World Radio History

Radio TRIPLETT Testers

VOLT-OHM-MILLIAMMETERS



Model 1200-E Unit

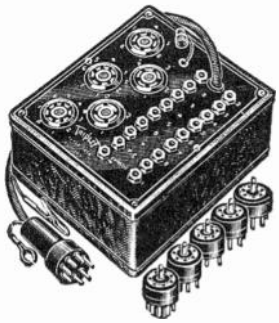
25,000 OHMS PER VOLT D.C. measurements and resistance readings to 40 megohms with this new super sensitive Volt-Ohm-Milliammeter. Instrument reads D.C.: 10-50-250-500-1000 volts at 25,000 ohms per volt; 0-50 microamperes; 1-10-50-250 milliamperes; low ohms, back-up circuit, ¼ to 1000; 40,000 ohms, 4 and 40 megohms; A.C. 10-50-250-500-1000 volts.
Has two instruments, A.C. and D.C., in tilting type twin case. Switch contact error less than ½% on milliamperes. No error on voltages. Resistance measurements have individual zero adjustments. Selector switch for all readings. Contains 22½ and 1½ volt batteries. Shpg. wt. 10 lbs.
1200-E Unit— Code—TWARB
List $46.75 ..... Net $31.17
Model 1200-A—Same as 1200E but reads as follows: D.C. 10-50-250-500-1000 volts at 2000 ohms per volt; 1-10-50-250 M.A. low ohms, backup circuit, ½ to 500; 1500 ohms, 1½ and 2 megohms. A.C. 10-50-250-500-1000 volts. Shpg. wt. 10 lbs.
1200-A Unit— Code—TRITE
List $35.75 ..... Net $23.83
Model 1200-B—Same as 1200-A but with D.C. movement and copper oxide rectifier for A.C. readings 2-10-50-250-500-1000 volts at 1000 ohms per volt. Shpg. wt. 10 lbs.
1200-B Unit— Code—TRRRF
List $44.00 ..... Net $29.33
Model 1200-C—Same as 1200-A but with 5000 ohms per volt D.C. suitable for AVC checking; 250 microamperes, and 7½ megohms scales. Shpg. wt. 10 lbs.
1200-C Unit— Code—TRFFA
List $40.25 ..... Net $26.83

MODEL 1209-D

A special Master Unit. Has 5" instrument with easily readable scales. Volt-Ohm-Milliammeter readings: 10-50-250-500-1000 D.C. volts at 1000 ohms per volt; 1-10-50-250 milliamperes; low ohms, ½ to 500; high ohms to 100,000. Provisions for extending resistance range to 1 megohm by adding additional batteries. Complete in metal case for portable use. Shpg. wt. 9 lbs. Code—TEABB.

List $30.00 ..... Net $20.00

FREE POINT TESTER

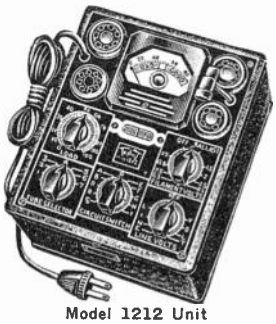


Model 1220-A Unit

For servicing sets using metal, glass-metal or glass tubes. Has five sockets—with standard RMA markings. Panel also includes 8 automatic switch type and 10 single action jacks. Makes all series and parallel meter connections through the set sockets to all parts of the circuit. Automatic in operation. Used in conjunction with any Triplett Volt-Ohm-Milliammeter. Sh. wt. 8 lbs.

1220-A Unit— Code—TRICH
List $16.50 ..... Net $11.00

TUBE TESTER



Model 1212 Unit

Checks all receiving tubes, plus ballast types, quickly and conclusively. Separate plate tests on diodes and rectifiers. Neon shorts test shows slightest inter-element shorts and leakages. Has every essential for approved emission tests. Results show directly on three-color GOOD-BAD scale of the three-inch precision instrument. Unique shadow type A.C. meter for line volts adjustment. A.C. operated (60 cycles - 110 volts). Up-to-date tube charts provided regularly to all registered owners. Shpg. wt. 12 lbs.

1212 Unit— Code—TALAB
List $33.00 ..... Net $22.00

SIGNAL GENERATORS

Model 1231 Unit

Built-in trimmer calibrated coils for accuracy within all servicing requirements. Six bands cover 120-30,000 Kc. all fundamentals. Fully stabilized. Extra long 12" vernier type direct reading scale. Improved band selector switch. 400 cycle audio signal available. Includes batteries and two type '30 tubes. Shpg. wt. 13 lbs.

1231 Unit— Code—TRUTH
List $38.50 ..... Net $25.67

1232 Unit— Code—TULSA
Same as 1231, but for 110 volts 60 cycle A.C. operation. Shpg. wt. 16 lbs.
List $42.25 ..... Net $27.50

1230 Unit— Code—TRIBE
An All-Wave Signal Generator supplying a continuously variable signal. Frequencies controlled on six fixed positions, from 100-18,000 Kc. Batteries, tubes and six individually calibrated graphs supplied. Shpg. wt. 14 lbs.
List $25.25 ..... Net $16.83

MASTER UNITS

Case is metal with baked electro black wrinkle finish. Size: 7⅞" x 6⅝" x 4⅝" deep. Panels are attractively etched, silver and red on black, with metal re-inforcements. Sockets are flush. All materials are of the best quality.

MASTER UNIT TEST SETS

A complete portable radio servicing laboratory. Includes Models 1200-A Volt-Ohm-Milliammeter, 1212 Tube Tester, 1220-A Free Point Tester and 1231 Direct Reading All-Wave Signal Generator in the 1204 case. Shpg. wt. 37 lbs.

Model 1206 Complete— Code—TROMB
List $132.75 ..... Net $88.50

Model 1207 — Same as above, but with Model 1232 Signal Generator. Shpg. wt. 37 lbs. Code—TWINE.
List $135.50 ..... Net $90.33

Model 1205-A—Same as 1206, but has Model 1230 Signal Generator. Shpg. wt. 36 lbs. Code TRIED. **List $119.50 ..... Net $79.67**

MASTER UNIT CASES

1201 Case only—For single Master Unit. Shpg. wt 5 lbs.
Code—TRENT. **List $6.00 ..... Net $4.00**

1202 Case only—For two Master Units. Shpg. wt. 8 lbs.
Code—TREEN. **List $7.00 ..... Net $4.67**

1203 Case only—For three Master Units. Shpg. wt. 11 lbs.
Code—TREAD. **List $8.00 ..... Net $5.33**

1204 Case only—For Master Test Set. Shpg. wt. 13 lbs.
Code—TRAWL. **List $9.00 ..... Net $6.00**

MODEL 1209-A

A Master Unit A.C. Voltmeter with ranges of 10-50-250-500-1000 volts at 40 ohms per volt. Complete in metal case for portable use. Shpg. wt. 9 lbs. Code—TERON
List $24.00 ..... Net $16.00

***For information on* TRIPLETT Model 1295 Modulation Monitor, see page F-2.**

VACUUM TUBE VOLTMETERS

Model 1252

Self - calibrating developments plus the advantages of the tube on the end of the cable make Model 1252 the ideal instrument for high frequency work. This self-calibrating feature is automatic and controlled by the exclusive Triplett tube bridge circuit. Permits indications above, below and at the null point. Adjusting bridge at the zero level insures exact calibration independent of tube emission values, or when replacing tubes. Ranges are 3-15-75-300 volts. Tester contains Triplett twin instrument, tilting type, with two separate movements. One indicates when bridge is in balance—other is a four-range voltmeter with scales reading in peak A.C. and D.C. volts

1252 Unit. Shpg. wt. 18 lbs. Code—TAPON
List $72.50 ..... Net $48.33

1251 Unit—Same as Model 1252, but tube is mounted inside case, rather than on cable. Code—THEKA **List $71.50 ..... Net $47.67**
1250 Unit—Similar to Model 1251, but with ranges of 2.5, 10 and 50 volts. Code—TRPPD.
List $55.00 ..... Net $36.67

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World Radio History

Radio TRIPLETT Testers

FINAL ANALYSES TESTERS

Model 1616

True dynamic mutual conductance tube tester with simplified push-button control. So simple now anyone can use. It is the ultimate method for a complete tube test. Also has complete Volt-Ohm-Milliammeter. Checks amplifier and power tubes under actual operating conditions. Direct GOOD-BAD tube reading on three-color scale. In addition percentage of Mu to 100 per cent good condition is shown. Separate tests for diode, rectifier and ballast tubes. Filament location switch permits application of filament voltages to any prongs of the tube. Same is true of plate, screen, C. G. location switches, etc. One spare socket for future needs. Separate Gas test and conclusive neon shorts test. Rotating chart has data for more than 350 tubes—includes all ballast tubes.

Volt-Ohm-Milliammeter ranges: D.C. Volts 0-10-50-250-500-1000 at 1000 ohms per volt; D.C. Ma. 0-10-50-250; .2 to 500 ohms; 300,000 ohms, 1.5 and 3 megohms. A.C. Volts 0-10-50-250-500-1000 at 400 ohms per volt. Special chart permits decibel readings against volts to 42 decibels. Two inter-changeable plug-in rectifiers: in tube tester and volt-ohm-milliammeter circuits. Front illuminated instrument also indicates when tester is connected to supply line. Attractive all-metal case, lustrous satin finish. Sloping panel. Removable cover. Case size: 15¼" x 11⅝" x 6½" closed. A.C. operated including ohmmeter.

Model 1616— Code—TROKA
List $110.00.....**Net $73.34**

Model 1615

Model 1615 Dynamic Mutual Conductance Tube Tester only is the same as Model 1616 but does not have Volt-Ohm-Milliammeter.

Model 1615— Code—TREOP
List $95.00.....**Net $63.34**

PUSH-BUTTON TESTING

Simplified Push-Button Control—the newest and handiest development in servicing—is only one of the many startling features of these new Triplett multi-purpose testers. Operation could not be simpler. In testing tubes rotate the chart to the required section and push buttons indicated directly below each row. Results are shown on the full open dial of the illuminated instrument. A similar procedure is followed in use of the Volt-Ohm-Milliammeter incorporated in the testers.

1500 SERIES TESTERS

Model 1511

Model 1511 is the same as Model 1616 Push-Button Tester but is in a standard 1500 series quartered oak case with selector switch controls. Incorporates for tube testing the highly developed dynamic mutual conductance circuit and volt-ohm-milliammeter as used in Model 1616. Rotating chart enables a quick selection of tube testing instructions. Case is 15¾" x 11⅛" x 7½". Attractive durable antique bronze etched panel with contrasting markings. Illuminated instrument has a gold dial. The Volt-Ohm-Milliammeter section is a separate panel with tip jacks and all controls attached, eliminating complicated switch wiring.

Model 1511— Code—TESPO
List $89.50.....**Net $59.67**

Model 1510

Dynamic Mutual Conductance Tube Tester only. Same as Model 1511, less Volt-Ohm-Milliammeter.

Model 1510— Code—TEHIO
List $74.50.....**Net $49.67**

ROBOT TESTERS

Model 1611

Model 1611 Robot Tube Tester and Volt-Ohm-Milliammeter has simplified push-button controls—the newest development in servicing. The tube testing circuit is the modified emission type and is constructed to RMA load requirements. Push-Button controlled filament location switch enables filament voltages to be applied to any prongs of the tube. Return location switch allows return circuit to be applied to the proper prongs of the tube. Results show directly on the GOOD-BAD three-color scale. Neon shorts test indicates the slightest inter-element shorts and leakages. Separate plate tests on diodes and rectifiers. Checks any receiving tube, plus ballast types. Volt-Ohm-Milliammeter ranges are: D.C. Volts 0-10-50-250-500-1000 at 1000 ohms per volt; D.C. Milliamperes 0-1-10-50-250; Low Ohms, backup circuit, ½ to 500; 300,000 ohms, 1.5 and 3 megohms. A.C. Volts 0-10-50-250-500-1000 at 400 ohms per volt. Plug-in copper oxide rectifier used simplifies replacement in case of unintentional damage. Operating instructions are on the rotating chart and indicate buttons to be pressed for the desired range. Colored buttons for easy selection.
Unique shadow type A.C. meter for line volts adjustment, controlled by push-buttons. Front illumination is regularly supplied on the indicating instrument. The attractive all-metal case has lustrous satin finish and sloping panel. Removable cover. Case size is 15¼" x 11⅝" x 6½", closed. A.C. operated, 60 cycles, 110 volts.

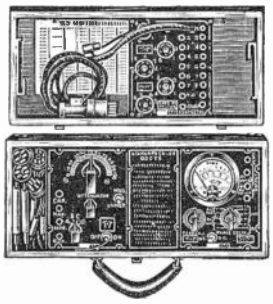
Model 1611— Code—TRAPS
List $74.25.....**Net $49.50**

Model 1610

Tube Tester only is the same as Model 1611 but does not include the Volt-Ohm-Milliammeter section.

Model 1610— Code—TOURA
List $58.50.....**Net $39.00**

1100 SERIES



Model 1181-E

Many prefer the extreme compactness of these testers which have been kept up-to-date in all engineering developments. Model 1181-E Portable Laboratory combines: Model 1125-A Volt-Ohm-Milliammeter (A.C. and D.C. Volts 0-15-75-150-750 at 1000 ohms per volt; D.C. Ma. 1.5-15-150; A.C. Ma. 15-150; 0-1500 ohms; 1.5 and 3 megohms); Model 1151 All-Wave Signal Generator (Covers frequencies from 110 Kc. to 18 Mc. Battery Operated); Model 1166-A Free Point Auxiliary Set Tester (Measures Voltages, currents, resistance and continuity). Durable etched panels. Quartered oak case with removable cover, 16½" x 7½" x 4¾". Batteries and accessories included. Shpg. wt. 17 lbs.

Model 1181-E— Code—TRAMA
List $62.75.....**Net $41.83**

Model 1180-E— Code—TREAT
Model 1180-E Perpetual tester combines Models 1125 and 1151 in a 1181-E size case. Sh. wt. 17 lbs.
List $49.50.....**Net $33.00**

Model 1167-E— Code—TRAIN
Model 1167-E Set Tester includes Models 1125-A and 1166-A in a 1181-E size case. Shpg. wt. 17 lbs.
List $41.25.....**Net $27.50**

SINGLE TESTERS

Model 1125-A—Shpg. wt. 12 lbs. Code—TRANI
List $33.00.....**Net $22.00**

Model 1151—Shpg. wt. 13 lbs. Code—TRAKE
List $38.50.....**Net $25.67**

Model 1166-A—Shpg. wt. 10 lbs. Code—TRAIT
List $20.25.....**Net $13.50**

Model 1166-A—(less case to mount in cover of 1175-A or 1180-E). Shpg. wt. 8 lbs. Code—TRASH
List $16.50.....**Net $11.00**

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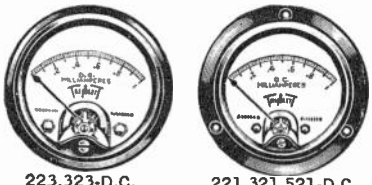
World Radio History

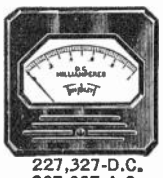
Measuring TRIPLETT Instruments



223,323-D.C.
233,333-A.C.

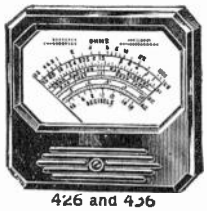
221,321,521-D.C.
231,331,531-A.C.

324,328,524-D.C.
334,338,534-A.C.



227,327-D.C.
237,337-A.C.

326,421-D.C.
336,421-A.C.



426 and 436

TRIPLETT D.C. INSTRUMENTS are the D'Arsonval type with an extra light moving coil and reinforced strong parts. TRIPLETT A.C. INSTRUMENTS are the movable iron repulsion type. All are air damped. Have extra light moving parts. Both A.C. and D.C. instruments have Sapphire jewel bearings, finest workmanship to assure dependable performance, white enameled metal scales, molded zero adjusters. Accuracy within 2%.

Front illumination shields with lamps for Model 321-331, 421-431, 426-436, 521-531, list extra each.....$1.50

DIMENSIONS OF A. C. AND D. C. MODELS

Model No. D. C.	Model No. A. C.	Code D. C.	Code D. C.	Body	Flange	Body Depth	Type Case	Scale Length D. C.	Scale Length A. C.	Case
221	231	THROW	THRAM	2⅛" diam.	2⅜" diam.	1⅜"	Flush	1 23/32"	1 35/64"	Molded
223	233	TOAST	TRUCE	2 1/16" diam.	2 5/16" diam.	1¼"	Clamp-on	1 23/32"	1 35/64"	Metal
227	237	TAZZZ	TENKA	2 3/16" diam.	2⅜"x2⅜"	1⅝"	Flush	1 23/32"	1 35/64"	Molded
323	333	TACIT	TOBIT	2¾" diam.	3 3/16" diam.	1¼"	Clamp-on	2⅜"	2 9/64"	Metal
321	331	TRIPE	TROUT	2¾" diam.	3½" diam.	1⅜"	Flush	2⅜"	2 9/64"	Molded or Metal
324	334	TIGER	TROWL	2¾" diam.	3 1/16" diam.	1⅝"	Projection	2⅜"	2 9/64"	Metal Case—Molded Base
326	336	TRZAZ	TRUUL	2⅛" diam.	3⅛"X2 15/16"	1 1/32"	Flush	2⅜"	2 9/64"	Molded
326-A	336-A	TRJFM	TROME	2 3/16" diam.	2 21/32"x2 27/64"	1 1/32"	Flush	2⅜"	2 9/64"	Molded—Square Type (not shown)
327	337	TEPAT	TEPIK	2¾"	3"x3"	1⅜"	Flush	2⅜"	2 9/64"	Molded
328	338	TRQQE	TRTTH	3" diam.	3½" diam.	1 21/32"	Projection	2⅜"	2 9/64"	Metal
421	431	TOOTH	TRINE	2¾" diam.	4¼"x4"	1 15"16"	Flush	3⅛"	2⅞"	Molded
521	531	TREES	TRIMS	4⅜" diam.	5¼" diam.	1½"	Flush	3⅛"	2⅞"	Molded
524	534	TALOS	TUTOR	4⅜" diam.	4¾" diam.	1⅜"	Projection	3⅛"	2⅞"	Molded
529	539	TUJIM	TUMKA	2 23/32" diam.	4¾"x4"	15/16"	Flush	3⅛"	2⅞"	Molded—Fan Type—(not shown)
TWIN	TWIN	(See page F-6)		4⅞"x2⅞"	5½"x3⅝"	1⅜"	Flush			Molded

D. C. VOLTMETERS—125 OHMS PER VOLT

Range	Code	Models 221-223-227	Models 321-324-327	Models 326-326A	Models 421-426-429	Model 521	Model 524
0-5	TRCXC	$4.50	$5.75		$7.50	$8.25	$8.25
0-10	TRDWD	4.50	5.75	$5.75	7.50	8.25	8.25
0-15	TREVE	4.50	5.75				
0-25	TRFUF	4.50	5.75				
0-50	TRGTG	4.50	5.75		7.50	8.25	8.25
0-100	TRHSH	4.50	5.75		7.50	8.25	8.25
0-150	TRIRI	4.50	5.75	5.75	7.50	8.25	8.25
0-300	TRLOL	6.50	8.25	8.25	9.75	12.00	12.00
0-500	TRMNM	7.75	9.25		11.00		
0-2,000	TRPKP	26.50*	24.00*		29.75*		30.50*

D. C. VOLTMETERS—1000 OHMS PER VOLT

Range	Code	Models 221-223-227	Models 321-324-327	Models 326-326A	Models 421-426-529	Model 521	Model 524
0-10	TAIGA	$6.50	$8.25	$8.25	$9.75	$11.75	$11.75
0-150	TAINE	7.75	8.75	8.75	10.00	12.75	12.75
0-300	TRULL	8.75	10.00	10.00	11.50	14.25	14.25
0-500	TUBAL	10.00	11.00		12.75		
0-1,000	TURIN	23.50*	25.25*		27.75*		

* Price includes recommended external resistance boxes.

D. C. MILLIAMMETERS

Range	Approx. Res.	Code	Models 221-223-227	Models 321-324-327	Models 326-326A	Models 421-426-529	Model 521	Model 524
0-1	33	TRAAN	$5.75	$7.00	$7.00	$9.00	$10.00	$10.00
0-15	2	TRFFS	4.50	5.75				
0-25	1.2	TRGGT	4.50	5.75	5.75	7.50	8.25	8.25
0-50	.6	TRHHU	4.50	5.75	5.75	7.50	8.25	8.25
0-100	.3	TRJJW	4.50	5.75	5.75	7.50	8.25	8.25
0-150	.23	TRKKX	4.50	5.75	5.75	7.50	8.25	8.25
0-200	.15	TRLLY	4.50	5.75	5.75	7.50	8.25	8.25
0-250	.12	TRMMZ	4.50	5.75	5.75	7.50	8.25	8.25
0-300	.1	TRNNA	4.50	5.75	5.75	7.50		
0-500	.06	TROOB	4.50	5.75	5.75	7.50	8.25	8.25

D. C. MICROAMMETERS

Range	Approx. Res.	Code	Models 221-223-227	Models 321-324-327	Models 326-326A	Models 421-426-529	Model 521	Model 524
0-50	2150	TALBE		$15.00	$15.00	$16.75	$17.50	
0-100	900	TRABA		13.00	13.00	14.75	15.50	
0-200	360	TARDY		12.00	12.00	14.00	17.25	$17.25
0-500	156	TWIRL	$7.75	9.25	9.25	10.75	11.75	11.75

D. C. AMMETERS

Range	Approx. Res.	Code	Models 221-223-227	Models 321-324-327	Models 326-326A	Models 421-426-529	Model 521	Model 52
0-1	.05	TALUS	$4.50	$5.75		$7.50	$8.25	$8.25
0-10	.005	TROCK	4.50	5.75	$5.75	7.50	8.25	8.25
0-25	.002	TANGS	4.50	5.75	5.75	7.50	8.25	8.25
30-0-30	.0016	TAPIR	4.50	5.75				
	Appro .							

A. C. VOLTMETERS

Range	Ohms per V.	Code	Models 231-233-237	Models 331-334-337	Models 336-336A	Models 431-436-539	Model 531	Model 534
0-5	10.7	TERSE	$4.50	$5.75	$5.75	$7.50	$8.25	$8.25
0-10	16	TRUMP	4.50	5.75	5.75	7.50	8.25	8.25
0-15	16	TURCO	4.50	5.75	5.75	7.50	8.25	8.25
0-150	110	TOYTE	5.75	7.00	7.00	9.00	10.00	10.00
0-300	166	TWEAK	7.25	8.25	8.25	9.75	15.75	15.75

A. C. AMMETERS

Range	Approx. Res.	Code	Models 231-233-237	Models 331-334-337	Models 336-336A	Models 431-436-539	Model 531	Model 534
0-3	.02	TULIP	$4.50	$5.75		$7.50	$8.25	$8.25
0-5	.01	TEUCH	4.50	5.75	$5.75	7.50	8.25	8.25
0-10	.005	TEHEE	4.50	5.75	5.75	7.50	8.25	8.25
0-25	.001	TELEO	5.75	7.00	7.00	9.00	10.00	10.00

A. C. MILLIAMMETERS

Range	Approx. Res.	Code	Models 231-233-237	Models 331-334-337	Models 336-336A	Models 431-436-539	Model 531	Model 534
0-10	1950	TEETH	$5.50	$6.75		$10.00	$11.00	$11.00
0-15	1125	TOUSY	4.50	5.75				
0-50	85	TEMPT	4.50	5.75		7.50	8.25	8.25
0-100	23	THARM	4.50	5.75	$5.75	7.50	8.25	8.25
0-250	4	THEEK	4.50	5.75	5.75	7.50	8.25	8.25
0-500	.8	THEOS	4.50	5.75	5.75	7.50	8.25	8.25

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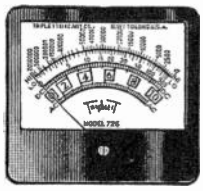
World Radio History

Measuring TRIPLETT Instruments

25,000 OHMS PER VOLT KITS



Model 726

Foundation instruments with 25,000 ohms per volt sensitivity D.C. available in four styles. Have dials for reading: D.C.—0-10-50-250-1000 volts at 25,000 ohms per volt; 0-50-250 microamperes; 1-10-50-250 milliamperes; ½ to 500 ohms, back-up circuit; 20,000, 200,000 ohms and 2 megohms. A.C.—0-10-50-250-1000 volts at 1000 ohms per volt.

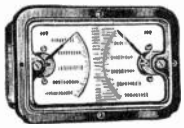
INSTRUMENTS ONLY

Model 321—Code—TEJFM. 3" Round. White dial. Shipping weight 3 lbs.
List Price $15.00
Model 426—Code—TIGKA. 4" Square. White dial. Shipping weight 4 lbs.
List Price $16.75
Model 521—Code TITMA. 5" Round. White dial. Shipping weight 5 lbs.
List Price $17.50
Model 726—Code—TOWKA. 7" Square. Black dial, scale markings in color. Unique edgewise illumination feature is regular in 7" only. Shpg. wt. 6 lbs.
List Price $27.50

KITS (Less Instruments)

A.C.-D.C. Control Box. All necessary parts for above readings. Completely assembled in metal box. Code—THUEY. **List Price** $23.50
A.C.-D.C. Kit with Box—Unassembled. Code—TRUPE. **List Price** $16.75
A.C.-D.C. Kit less Box—Assembled for mounting to panel. Code—TOOFA.
List Price $21.75

TWIN INSTRUMENTS



THE TWIN is furnished in any combination of A.C. or D.C. instruments. Both are included in the special rectangular molded case that requires a minimum of space. Permits simultaneous readings on both instruments when connected in the same or separate circuits. Instrument scales are side by side making possible two distinct readings at a glance. Used to balance loads in three-wire circuits; detect line fluctuations when load readings are taken; measure antenna and modulation current; determine filament and plate voltages and similar applications.

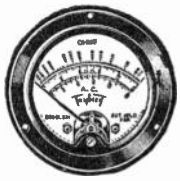
To determine List Price of Twin Instruments take the sum total list price of both instruments as supplied in Models 321 or 331.

MODEL 1200-A KIT

Enables the engineer to build his own Volt-Ohm-Milliammeter. Has No. 120 Triplett Twin Instrument with scale reading: D.C. 10-50-250-500-1000 volts at 2000 ohms per volt; 1-10-50-250 milliamperes; ½ to 500 lows ohms by back up circuit; 1500 ohms; 1.5 and 3 megohms. A.C. 10-50-250-500-1000 volts. Also included in the kit are mounted resistors and shunts for the above readings; No. 121 Special Triplett Selector Switch; No. 124 .5 MFD Condenser for output measurements; No. 125 Rheostat Assembly; Complete set of diagrams and instructions; Hook-up wire; Complete set of hardware; Marked panel plate; Test leads.

Model 1200-A Kit—Complete. Code—TRIPS. **List Price** $27.50
No. 120 Twin Instument only—(for above kit) **List Price** $15.50

UNIVERSAL A.C.-D.C. METER
(COPPER-OXIDE TYPE)



D.C. 2% Accuracy. A.C. 5% Accuracy.
The A.C. scale has 75 divisions marked 0-15 in red. The D.C. scale is similar but printed in black. The ohm scale reads 0-1500 in black and 0-1.5 megohms in red. With multipliers, scale readings are 15-75-150-750 volts. A.C. or D.C. at 1000 ohms per volt resistance. D.C. Milliampere readings are 1½-15-150; A.C. Ma. are 15-150; 0-1,500 ohms; 1.5 and 3. meg. The copper-oxide unit is employed in what is regarded as the most advanced circuit, minimizing losses in rectification. This unit with a D. P. D. T. toggle switch for A.C. or D.C. is housed with shunts for the 0-.4 milliammeter in a separate case suitable for panel mounting and having four connections, 2 each for A.C. and D.C. A 12" lead connects to meter.

Universal Model 321 Meter (0-.4 M. A.) with copper-oxide unit and switch complete. Code—TRIOS. **List Price** $15.00
Model 1127 Kit—Consisting of mounted resistors and shunts for all above readings, selector switch, rheostat, jacks, panel, bar knobs, batteries—22.5 and 1.5 v. and hook-up wire, complete less meter. Code—TRUNK.
List Price $22.00
Model C-4—Copper-Oxide Retifier (full-wave). Code—TAKER.
List Price $4.00
Model B-2—Copper-oxide Retifier (half-wave). Code—TIMON.
List Price $2.00

VOLT-OHM-MILLIAMMETERS

Model 321—(Scale reads 30-300-600 volts; 30-300 milliamperes; 100,000 ohms.) Code—TRIES. Shipping weight 3 lbs. **List Price** $7.50
Model 321—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms, .2 to 500; high ohms 100 to 100,000.) Code—TABOR. Shipping weight 3 lbs. **List Price** $7.50
Model 326—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms, .2 to 500; high ohms 100 to 100,000.) Code—TRENN. Shipping weight 3 lbs. **List Price** $7.50
Model 421—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms, .2 to 500; high ohms 100 to 100,000.) Code—TRERE. Shipping weight 4 lbs. **List Price** $9.50
Model 521—(Scale reads 10-50-250-500-1000 volts; 1-10-50-250 milliamperes; low ohms, .2 to 500; high ohms 100 to 100,000.) Code—TRILL. Shipping weight 5 lbs. **List Price** $10.50

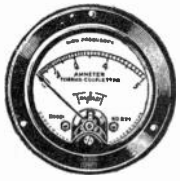
(Wiring diagrams furnished with each instrument)

SHUNTS AND RESISTORS FOR ABOVE INSTRUMENTS

Resistors mounted on bakelite for 30-300-600 volts. Code—TRICK.
List Price $7.25
Shunts mounted on bakelite for 30-300 milliamperes. Code—TRULY.
List Price $2.00
Current Limiting Resistor for 100,000 ohms. Code—TRGGU.
List Price $1.00
Resistors mounted on bakelite for 10-50-250-500-1000 volts. Code—TAMWA.
List Price $11.00
Shunts for 1-10-50-250 milliamperes; current limiting resistors for low and high ohms (.2 to 500; 100 to 100,000); and shunt for low ohms; all mounted on bakelite. Code—TATER. **List Price** $3.50
Zero adjusting rheostat for ohms ranges. Code—TAUJM. **List Price** $1.00
Multi-Deck Selector Switch. (2 decks.) With knob. Code—TEYON.
List Price $2.50

(Metal panel, for 5" instrument only. **List Price $1.50**)

THERMO AMMETERS ‡ High Frequency. Accuracy 2%



Triplett Thermo Ammeters are supplied in Models 241, 341, 346, 441 and 541. These models correspond in size, etc., to corresponding D.C. models. All have molded cases. Have external couples which withstand 50% overload connected to meter with 2 ft. leads. Couples are easily replaced when necessary. Internal couples to order.
External Couples only, for any Model ..... List Price $4.00

Range	Approx. Res.	Model 241 Code	Model 241 List	Model 341 Code	Model 341 List	Model 346 Code	Model 346 List	Model 441 Code	Model 441 List	Model 541 Code	Model 541 List
0-1 Amps.	.35	TORUS	$8.75	TONGA	$10.00	TRUST	$10.00	TUBER	$11.75	TACHE	$12.50
0-1.5 Amps.	.21	TITHE	8.75	TIZZA	10.00	THRED	10.00	TONIC	11.75	TOTAL	12.50
0-2.5 Amps.	.13	TODDY	8.75	TESTA	10.00	TWILL	10.00	TONUS	11.75	THANK	12.50
0-5 Amps.	.06	TOLYL	8.75	TOUGH	10.00	TWIST	10.00	THEOR	11.75	TOUCH	12.50

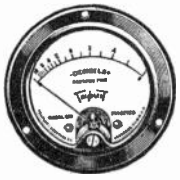
OUTPUT METER

The Triplett Output Meter has 3 ranges—2-5-5-50 volts. Copper-oxide rectifier type. Contains condenser for blocking the D.C. component. Four marked bind-posts or pin jacks and meter are mounted on substantial molded base. Test leads with clips and break-in adapter furnished. Shipping weight 31 lbs.
With Tip Jacks— Code—TRALL
List Price $16.75
With Binding Posts— Code—TREEK
List Price $16.75
Output Meter—In Master Case Code—TWYNN
List Price $19.25

SENSITIVE RELAYS

Highly sensitive Triplett relays are of the D'Arsonval Moving Coil type, carefully designed to give dependable, satisfactory performance. Fixed contacts of instruments are set in adjustable screws, allowing a wide adjustment of upper and lower limits of contact. Contacts furnished are Handy metal; also platinum, silver, and platinum-iridium are supplied according to applied current and voltages. These relays are generally used in connection with polarized relays when current draw exceeds 50 M.A. Magnetic clutch type with manual release can also be had.
Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Each application should be accompanied with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points.

POWER LEVEL INDICATORS



Used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Station Equipment, etc. The Decibel Meter permits the operator to make instant adjustments to prevent sound blasting or distortion. Furnished in two ways—either standard or highly damped. Standard range furnished reads up 6 and down 10 decibels, zero decibel at 1.73 volts, 500 ohm lines, 6 milliwatts. Standard damping furnished, unless highly damped is specified. Other ranges to order only.

Model 421—Up 6 down 10 Decibel Meter. Code—TROOP. **List Price $19.75**
Model 321—Up 6 down 10 Decibel Meter. Code—TAINT **List Price 18.00**

DECIBEL METERS AND KITS

Kits are now available to increase range of Power Level Indicators. Readings advance in steps of 4 decibels up to 22 decibels.
Easily assembled Triplett Decibel Meter Kits are supplied for non-constant impedance. 500 ohm input line.
Model 150 Decibel Meter Kit—(Non-constant Impedance)—includes; Triplett Model 321 Decibel Meter, Selector Switch, 9 Wire-wound Multipliers on Bakelite Mounting Board, Hook-up Wire, Diagrams and Instructions. Code—TILTH. **List Price** $30.00

We also distribute a complete line of TRIPLETT Multipliers, Shunts, Ring Shunt Assemblies, Multi-Deck Selector Switches and Bar Knobs.

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World Radio History

RADIO INSTRUMENTS *Readrite* TEST EQUIPMENT

SINGLE TESTERS AND COMBINATIONS

Model 442

Model 540

Model 640

Model 740

MODEL 442 TUBE TESTER

Checks all receiving tubes, including ballast types, quickly and accurately. Applies proper load values. Separate plate tests on diodes and rectifiers. Positive neon shorts test shows all inter-element shorts and leakages. Shadowgraph line volts meter. Tube values indicated on Triplett precision instrument with three-color GOOD-BAD scale. Emission approved circuit for 60 cycle, 110 volts. Approximate shipping weight, 12 lbs.

Model 442— Code—RUDDY

List Price $31.50....Dealer's Net Price $18.90

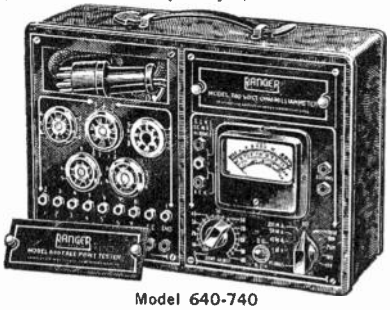
MODEL 540 SIGNAL GENERATOR

This All-Wave Direct Reading D.C. oscillator has new plug-in coils, peaked with trimmer condensers and individually calibrated to exceptionally low tolerances. Five frequency bands from 110 to 20,000 Kc.—all fundamentals. Greater accuracy is assured also by the absence of switch contacts, and short grid wire connections. Guaranteed accuracy is 1% from 110 to 3000 Kc.; 2% for higher frequencies. Completely shielded for static and magnetic fields. Attenuation and stability are outstanding features. Strong signals, both modulated and unmodulated, are provided. Three 1½ volt unicells, 45 volts of B batteries and two type 30 tubes are included with necessary accessories. Handy compartment, with snap-on cover, for accessories. Approx. shpg. wt. 11 lbs.

Model 540— Code—RAMUS

List 32.50....U.S.A. Dealers' Net Price $19.50

Single testers as shown above are in sturdy metal cases with black electro-enamel finish. Size is 5⅞" x 7⅞" x 4⅛". Silver and black panels. Leather strap carrying handle.



Model 640-740

Models 442, 540, 640 and 740 also are available in combinations of two units. Metal case, black electro-enamel finish, 11⅛"x7⅞"x4⅛".

Model 442-540— Code—RACER
Approximate shipping weight, 21 pounds.
List Price $61.50....Dealer's Net Price $36.90

Model 640-740— Code—RENAN
Approximate shipping weight, 16 pounds.
List Price $47.25....Dealer's Net Price $28.35

Model 442-740— Code—RAPID
Approximate shipping weight, 20 pounds.
List Price $61.50....Dealer's Net Price $36.90

Model 540-740— Code—RECTO
Approximate shipping weight, 19 pounds.
List Price $62.50....Dealer's Net Price $37.50

MODEL 640 FREE POINT TESTER

Generally used with Model 740 Volt-Ohm-Milliammeter. Has five sockets with standard R. M. A. markings for servicing sets using any type tubes. Panel includes eight automatic switch type and ten single action jacks. Extra connections can be made, when necessary, at very slight cost. All series and parallel instrument connections are made through the set sockets to any part of the circuit. Handy compartment, with snap-on cover for accessories. Approximate shipping weight, 8 pounds.

Model 640— Code—RATAN

List $17.25....U.S.A. Dealer's Net Price $10.35

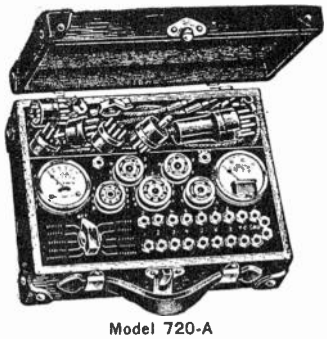
Model 740 Volt-Ohm-Milliammeter

Has 3" square Triplett precision instrument with scale readings: 10-50-250-500-1000 A.C. and D.C. volts at 1000 ohms per volt; (D.C. Accuracy 2%; A.C. 5%); 1-10-50-250 D.C. milliamperes; low ohms, 0-300; high ohms to 250,000 at 1.5 volts. Provisions for resistance readings up to 2.5 megohms by adding external batteries. Measures low ohms with 25 ohms in center of scale, giving good meter deflection down to ½ Ohm. Low loss switch contacts. Long battery life is assured by low current draw not exceeding 1 milliampere. Handy compartment, with snap-on cover, for accessories. Approximate shipping weight, 9 pounds.

Model 740— Code—REDAN

List $32.50....U.S.A. Dealer's Net Price $19.50

POINT-TO-POINT TESTERS



Model 720-A

Designed for speedy and efficient servicing. Equipped to handle sets using glass or glass-metal tubes. Measures resistance, capacity and continuity; checks voltage of any tube circuit. Has two meters—D.C. scale reading 15-150-300-600 volts, 15-150 milliamperes; A.C. scale reading 10-25-150 and 750 volts. Complete set of instructions, charts and accessories; black leatherette covered case which measures 11" x 8" x 4¾" when closed. Shipping weight 10 pounds.

Model 720-A Code—READY
List Price $25.00
U.S.A. Dealer's Net $15.00

Same as 720-A, but has Triplett 223 D.C. voltmeter with scale reading 15-150-300-600 volts at 1000 ohms per volt. Shpg. wt. 11 lbs.

Model 730-A— Code—REIGN
List Price $31.00..... U.S.A. Dealer's Net Price $18.60

Similar to 720-A, but has three meters. Shipping weight 10 pounds.

Model 710-A— Code—ROBOT
List Price $27.50.....Dealer's Net Price $16.50

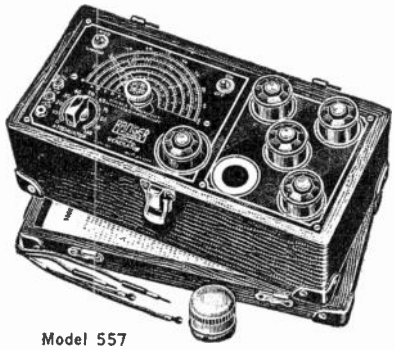
Same as 710-A, but has Triplett 1000 ohm per volt D.C. voltmeter; scale 15-60-300-600. Shipping weight 11 pounds.

Model 712-A— Code—REMIT
List Price $37.00.....Dealer's Net Price $22.20

DIRECT READING SIGNAL GENERATOR

Individually calibrated plug-in type coils, setting a new standard of obtaining laboratory accuracy at low cost, are used with Model 557 Ranger-Examiner All-Wave Direct Reading Signal Generator. See description above for Model 540 oscillator.

Supplied in attractive black leatherette case. Silver and black panel. When closed case measures 12" x 6½" x 5¾". Approximate shipping wt. 12 lbs.



Model 557

Model 557— Code—RAGEE

List Price $31.50.....U.S.A. Dealer's Net Price $18.90

Model 554-A—Same as Model 557 but not Direct Reading. Calibrated graphs included for accuracies under 1% on any band. Shipping weight 12 pounds.

Model 554-A— Code—RADIO

List Price $24.00.....U.S.A. Dealer's Net Price $14.40

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World Radio History

RADIO INSTRUMENTS *Readrite* TEST EQUIPMENT

DIRECT READING TUBE TESTER

Model 432

Quick and accurate tests for all radio receiving tubes, also ballast types. The emission circuit used is widely acclaimed for its thorough reliability and ease of operation. Proper load values as recommended by RMA are applied. **Provides separate** plate tests on diodes and rectifiers. **Neon shorts test** determines slightest inter-element shorts and leakages. **Indicating instrument** is a highest quality Triplett model with three-color GOOD-BAD direct reading dial. **Unique shadow-type** separate A.C. meter for line voltage adjustment. **Testing procedure** is simple. Only five operations. Tester is A.C. operated, 60 cycles, 110 volts. **Attractive quartered oak** case, super quality, with handle. Removable cover. Suitable for counter or portable use. Size: 9" x 8½" x 7". Silver and black durable etched panel.

Model 432— Code—ROTOR

List $36.00 ...U.S.A. Dealer's Net Price $21.60

MODEL 431 TUBE TESTER

Has approved emission circuit. Checks all receiving tubes (no ballast test). Meter shorts test. Readrite meter. Oak case is same as Model 432.

Model 431— Code—RENEW

List $26.50 U.S.A. Dealer's Net Price $15.90

A.C.-D.C. POCKET VOLT-OHM-MILLIAMMETER

Model 736

Has A.C. and D.C. ranges, molded case with rounded corners, individual zero adjustment for resistance measurements. Has a Triplett precision instrument. Readings are: A.C. and D.C. Volts 0-15-150-750; (D.C. at 1000 ohms per volt; A.C. at 400 ohms per volt); D.C. Milliamperes, 0-1½-15-150; Low Ohms, ½ to 1000; High Ohms, 0-100,000 at 1½ volts. External batteries may be used for higher resistance measurements. Jacks are arranged to facilitate ease of operation.

The sturdy molded case has rounded corners. Size: 3 1/16" x 5⅞" x 2⅛". Attractive silver and black panel. All accessories, including test leads, alligator clips, and instructions are included. Shipping weight, approx. 5 pounds.

Model 736 Pocket A.C.-D.C. Volt-Ohm-Milliammeter. Code—RATTI

List $20.00 ...U.S.A. Dealer's Net Price $12.00

Model 739—Attractive leather carrying case with strap handle. Ample space for tester, instructions and all accessories.

List $6.00.....U.S.A. Dealer's Net Price $3.60

D.C. POCKET VOLT-OHM-MILLIAMMETER

Model 735

Model 735 is a pocket size D.C. Volt-Ohm-Milliammeter with selector switch, black molded case with all corners nicely rounded and ranges comparable to those of larger multimeters. Can be carried easily in the coat pocket. Provides measurements for all essential requirements.

Ranges are 15-150-750 volts at 1000 ohms per volt; 1.5-15-150 M.A.; ½-1,000 low ohms; 0-100,000 high ohms at 1.5 volts. External batteries may be used for higher resistance measurements.

Has Triplett D'Arsonval type precision instrument with readings accurate within 2%. Selector switch for all ranges and individual zero adjustment for resistance measurements.

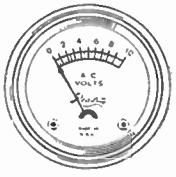
Sturdy black molded case 3 1/16" x 5⅞" x 2⅛" high. Attractive silver and black etched panel. Battery and test leads with alligator clips are included. Approx. shpg. wt. 3 lbs., 4 ozs.

Model 735— Code—REGAL

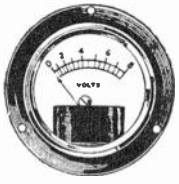
List $18.00....U.S.A. Dealer's Net Price $10.80

Model 737—Jack type, is the same as Model 735 but is operated by means of jacks rather than the selector switch. Code—RIVET

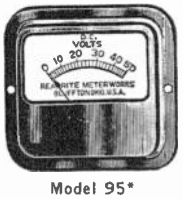
List $15.50 ..U.S.A. Dealer's Net Price $9.30



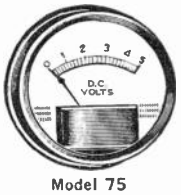
Model 55



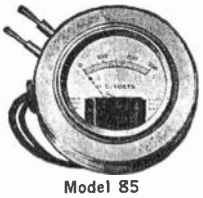
Model 65



Model 95*



Model 75



Model 85

READRITE instruments are economical, ruggedly constructed, and dependably accurate. D.C. are the polarized vane, solenoid type. A.C. are double vane repulsion type. Easy reading black lithographed on white, metal plates. Model 55, flush mounted clamp-on type, requires a 2¾" hole; has narrow rim and is furnished in full nickel; this model will be furnished unless other types are specified. No. 65-A flange ring is used to convert Model 55 into Model 65 wide flange type. **Dealer's Net Price**.....$0.09

*Model 95 Square Meter—A new addition to the Readrite line. (Shown above.) Modern in design. Square case, black lacquer finish, 2 9/16" x 2⅝". Requires 2 1/16" mounting opening. Prices $0.35 List more in corresponding ranges.

(Prices apply to Models 55, 65, 75—Model 85, $1.75 list extra—Model 95, $0.35 list extra)

Range	Code	List Price	Net
D.C. VOLTMETERS			
0-1	Royal	$1.00	$0.60
0-3	Ridge	1.00	.60
0-5	Rive	1.00	.60
0-6	Rite	1.00	.60
0-8	Road	1.00	.60
0-10	Roam	1.00	.60
0-15	Roar	1.00	.60
0-50	Rod	1.00	.60
0-100	Roil	1.50	.90
0-150	Roll	1.75	1.05
0-150	Romp	3.25	1.95
0-300	Rood	3.25	1.95
0-500	Roof	4.50	2.70
0-60-300	Rook	4.50	2.70
D.C. AMMETERS			
0-1	Repel	$1.00	$0.60
0-3	Rot	1.00	.60
0-10	Rote	1.00	.60
0-25	Ridd	1.50	.90
0-50	Rokk	2.50	1.50
20-0-20	Rud	1.00	.60
30-0-30	Ryky	2.00	1.20

Range	Code	List Price	Net
D.C. MILLIAMMETERS			
0-5	Ratio	$2.25	$1.35
0-10	Rue	2.00	1.20
0-15	Ruff	1.00	.60
0-25	Rug	1.00	.60
0-50	Razor	1.00	.60
0-100	Rump	1.00	.60
0-150	Run	1.00	.60
0-200	Rung	1.00	.60
0-300	Runt	1.00	.60
0-400	Ruse	1.00	.60
0-20-100	Raven	2.00	1.20
0-15-150	Rebel	2.00	1.20
A.C. MILLIAMMETERS			
0-25	Raff	$2.75	$1.65
0-50	Rum	2.75	1.65
0-100	Rome	2.75	1.65
0-250	Rong	2.75	1.65
0-500	Roost	2.75	1.65
D.C. POCKET TYPE			
40 Amp.	Rise	$1.00	$0.60
50 Volts	Risk	1.00	.60
40 A.—50 V.	Rustle	1.50	.90

Range	Code	List Price	Net
A.C. VOLTMETERS			
0-6	Rale	$2.75	$1.65
0-10	Ram	2.75	1.65
0-15	Ramp	2.75	1.65
0-150	Rath	4.50	2.70
0-300	Rase	5.50	3.30
0-750	Reck	7.75	4.65
0-10-140	Rural	4.50	2.70
A.C. AMMETERS			
0-1	Rant	$2.75	$1.65
0-3	Ritz	2.75	1.65
0-5	Route	2.75	1.65
0-10	Rast	2.75	1.65
0-50	Rouge	3.75	2.25

SELECTOR SWITCHES

Single Pole, 13 Positions. Code—RALLS

List Price $1.25 ..... Net Price $0.75

Double Pole, 12 Positions. Code—RADDS

List Price $1.75.....Net Price $1.05

We also distribute the complete line of READRITE Selector Switches, Bar Knobs, Precision Resistors and Multipliers, Ohmmeters, Resistance Meters, Induction Ammeters, Air-Cell Testers and TUNING METERS.

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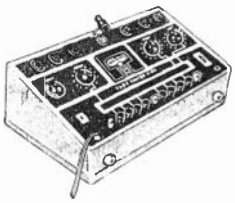
World Radio History

RCA RADIO TEST EQUIPMENT

NEW RCA TUBE TESTER



Simplicity of operation achieved to a new high degree. Anyone can operate it — even without an instruction book. Power consumption 25 watts. Tube: 1-1H4G (Rectifier). Finish: Gray wrinkle lacquer. Light metal trim, 13½" long, 5¾" deep, 8" high. Wt. 14 lbs.

FEATURES: ● Operates with one finger; buttons released or retained automatically. ● Shows line voltage up to instant of actual test; not necessary to set line voltage before inserting tube in socket. ● Tests every standard type of receiving and ballast tube. ● Tests Magic Eye Tubes for brilliance and opening and closing of eye. ● Tests 4-prong and octal-base ballast tubes for noisy welds and opens. ● Tests voltage drop on all types of Gas Tubes. ● Spare switch section and socket minimizes obsolescence. ● Easy-reading roll chart. ● Line voltage adjustment for 100-125 volt line.

No. 156-A—Counter Type, Net Price.....$37.95

No. 156—Portable Type, Net Price.....$39.95

(Complete with cover and snap-out handle.)

3-INCH CATHODE RAY OSCILLOGRAPH

RCA's newest and finest general purpose 3-inch Oscillograph. Many new features; new low price. Reduced size and weight for greater portability.

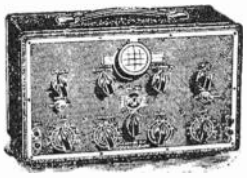
Specifications

RADIOTRONS—1 RCA-906 (improved type), 2 RCA-6C6, 2 RCA-80, 1 RCA-881. SENSITIVITY — Without amplifier—20 volts per inch deflection. With amplifier—0.5 volt per inch deflection. AMPLIFIER RESPONSE — Flat, 20-90,000 cycles—Gain 40. TIMING AXIS—15-22,000 cycles. CONTROLS—Front panel for all operations, including panel centering. POWER OUTPUT—110-volts, 50-60 cycles. INPUT POWER—50 watts. DIMENSIONS—Height 15". Width 8". Depth 14". FINISH—Blue-gray baked wrinkle lacquer with streamlined handle.

No. 155—Net Price.....$63.95

No. 9640—Same as above but for 25 cycle operation. Net Price.....$68.95

2-INCH CATHODE RAY OSCILLOGRAPH



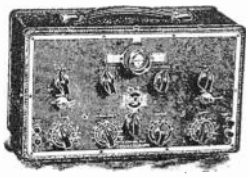
This unit provides every important feature needed in a modern Cathode Ray Oscillograph. Has new easily read, tilt mounted screen. Uses the new RCA-902 2-inch tube.

Specifications

RADIOTRONS—1 RCA-902 (2-inch), 1 RCA-885, 2 RCA-6C6, 1 RCA-80. SENSITIVITY—0.5 volts (RMS) for full-scale deflection (with amplifier). AMPLIFIER RANGE AND GAIN—Flat 20 —15,000 cycles, gain 50. TIMING AXIS (HORIZONTAL SWEEP)—30-10,000 cycles. OPERATION—All controls on front panel—complete with calibration screen. INPUT POWER CONSUMPTION—30 watts. DIMENSIONS Length 13¾", height 9¼", depth 7¾". Weight 14½ lbs. Special snap handle—sturdy case. FINISH Gray wrinkle lacquer with nickel trimming. Reversed etched, nickel-silver panel. Large, soft rubber feet.

No. 151-2—Net Price.....$49.95

1-INCH CATHODE RAY OSCILLOGRAPH



Align receivers visually — check distortion and hum — see what you're doing with this modern X-ray of radio. Traditional RCA quality, built to give long and faithful service—at a price you can afford to pay. In addition to radio servicing, this is a general purpose oscillograph for transmitter, sound equipment and many other applications.

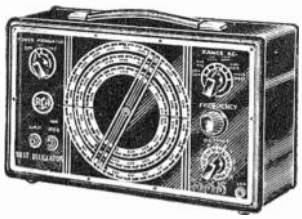
Specifications

RADIOTRONS—1 RCA-913, 1 RCA-885, 2 RCA-6C6, 1 RCA-80. Total 5. SENSITIVITY—1.75 volts for full scale deflection. AMPLIFIER—Flat 20-15,000 cycles, gain 50. TIMING AXIS—30-10,000 cycles. POWER SUPPLY—110 volts, 50-60 cycles. INPUT POWER — 30 watts. DIMENSIONS — Length 13¾". Height 19¼". Depth 7¾". Weight 11½ lbs. FINISH—Gray wrinkle lacquer with nickel trimming. Reversed etched nickel-silver panel, snap handle and large soft rubber feet.

No. 151—Net Price.....$39.95

No. 151-A—For 25 cycle operation. Net Price.$44.95

A-C OPERATED TEST OSCILLATOR



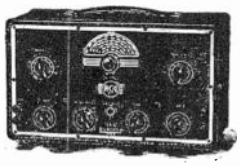
Complete a-c operation and fuse protection. 6" giant dial, over 50" in length, insures an easily read setting. RCA all-metal tubes.

Specifications

VOLTAGE—110-120 volts. FREQUENCY—50-60 cycles. POWER CONSUMPTION—30 watts. FUSE PROTECTION—1 Ampere. R-F FREQUENCY RANGE—(6 bands-Fundamental Frequency—100-30,000 kc. AUDIO MODULATION FREQUENCY—(3 volts available for testing)—400 cycles. R-F OUTPUT—Low—0.01 volts max.; Medium—0.25 volts max.; High—1.0 volts max.; Minimum—2 Microvolts. OUTPUT IMPEDANCES—10, 750 and 4000 ohms. TUBES—RCA-5W4, RCA-6C5, RCA-6K8 R-F. CALIBRATION ACCURACY—2%. FREQUENCY MODULATOR JACK, provided for use with Sweep Condenser for visual I.F. alignment. DIMENSIONS—13¾" x 9¼" x 6½". Wt. 12½ lbs. FINISH—Blue-Gray wrinkle lacquer with lithographed panel. Special Snap Handle.

No. 153—Net Price.....$29.95

ELECTRONIC SWEEP TEST OSCILLATOR



The finest in test oscillator equipment. Offers every important feature for servicing radio receivers. Has its own internal frequency modulator for visual oscillographic alignment.

Specifications

FREQUENCY RANGE—90-32,000 kcs.; fundamental frequency 6 ranges—no harmonics. RADIOTRONS—1 RCA-6A7, 1 RCA 6F7, 2 RCA 6C6, 1 RCA-80. MODULATION—Amplitude, 100 cycles 30%. Frequency, 120 times per second, adjustable from 1 to 40 kcs. at any output frequency—calibrated control. DIAL—4 inches. Direct reading, indirect illumination, no parallax, vernier ratio 2:1 and 5:1. Calibration accuracy 1%. 45" Scale. OUTPUT VOLTAGE—0.25 volts max. at all frequencies—negligible leakage. OUTPUT CONTROL—Three-step attenuator plus continuously variable control. DIMENSIONS—Length 13¾". Height 9¼". Depth 7½". Weight 17 lbs. Special snap handle. FINISH—Gray wrinkle lacquer with nickel trimming. Reversed etched nickel-silver panel.

No. 150—Net Price.....$64.50

No. 150-A—For 25 cycle operation. Net Price.$72.50

BEAT FREQUENCY AUDIO OSCILLATOR

Gives a variable frequency source of alternating current voltage from 30 to 15,000 cycles—more than the range of the finest radio receivers now built. Excellent for testing loudspeakers, P.A. systems, locating cabinet rattles, running fidelity curves, etc. Provides choice of 3 output impedances through medium of tapped output transformer. Large 8¾" dial over approximately 160 degrees, for accurate setting. Attractive gray wrinkle finish with special snap handle.

SPECIFICATIONS

POWER RATING—110-120 V., 50-60 cycles, 35 watts. FUSE PROTECTION—1.0 amp. OUTPUT FREQUENCY—30-15,000 cycles ± 1 db from 30 to 10,000 cycles down 2 db (at 15,000 cycles). OUTPUT VOLTAGE—Open circuit—37.5 volts; 5,000 ohm load—25 volts; 500 ohm load—7.5 volts; 250 ohm load—5.2 volts. POWER OUTPUT—125 milliwatts. RADIOTRONS—RCA-6J7 Fixed r-f oscillator, RCA-6J7 Variable oscillator, RCA-6C5 Detector, RCA 6J5 Output amplifier, RCA 5W4 Rectifier. HUM LEVEL, — 60 db below maximum output. DISTORTION—less than 5% rms over entire range. DIMENSIONS—9½" x 13¼" x 6½". Weight 15 lbs.

No. 154, Net Price.....$49.95

PIEZO ELECTRIC CALIBRATOR

Gives you laboratory calibrating accuracy for checking oscillators, alignment points and many other frequencies used in radio service work. Contains a special crystal oscillator having frequency modes at 100 kc. and 1000 kc. each having prolific harmonics. Complete with own power supply and RCA-955 acorn type oscillator tube. Checks frequencies from 100 kc. to 20,000 kc. in 100 kc. steps and 1000 kc. to 50,000 kc. in 1000 kc. steps. Guaranteed accuracy 0.05% of 100 kc. and 1000 kc.

SPECIFICATIONS

FUNDAMENTAL FREQUENCIES—100 kc. and 1000 kc. ACCURACY OF CALIBRATION—2 parts in 1 million. TEMPERATURE COEFFICIENT—20 cycles per 1000 kc. per degree Centigrade. POWER REQUIRED—110-120 volt, 50-60 cycle A.C. (90-135 volt D.C. plate supply may be connected externally for unmodulated operation if desired). POWER CONSUMPTION—2 watts. CONTROLS—"Hi-Lo" Toggle switch. SIZE—5½" x 3⅞" x 2⅝". Weight 1 lb. 3 oz.

No. 9572, Net Price.....$29.95

UNIVERSAL AC BRIDGE

MEASURES

Inductance—100 microhenries to 10 henries
Capacity—10 micro-microfarads to 10 microfarads
Resistance—1 ohm to 1 megohm

Simplifies and speeds the analysis of many service or laboratory problems. Quickly checks inductance, capacity and resistance over extremely wide ranges. Only additional equipment needed is a headphone for use as a pull indicator. Finest engineering and quality

SPECIFICATIONS

CIRCUIT—Variable-Ratio-Arm A.C. Wheatstone Type Bridge. TUBES—1 RCA-25Z5, 1 RCA-76, 1 RCA-6F7. ACCURACY—5% overall at full scale. POWER SUPPLY—110-120 volts, 25-60 cycles A.C. Power consumption 40 watts. FREQUENCY OF AUDIO OSCILLATOR—1000 cycles ± 10%. SIZE—Case 6½" x 9¾" x 4½". Weight 5½ lbs.

No. 9600—Net Price complete with all tubes and standards.....$49.65

OUTPUT INDICATOR

A "burn-out proof" instrument that serves as an excellent indicating device for aligning receivers. Works with any dynamic loudspeaker. Consists of a tapped step-up transformer, potentiometer, glow tube and three binding posts—all mounted in a die-cast bakelite case.

SPECIFICATIONS

SIZE—5⅜" x 2⅞" x 2¾". Wt. 12 ozs. LAMP RATING — 50-60 volts breakdown. TRANSFORMER RATIO — 80:1 (Max.) INPUT IMPEDANCES—O to H, 4 ohms; O to L, 1½ ohms; H to L, 0.6 ohm.

No. 4317, Net Price.....$4.00

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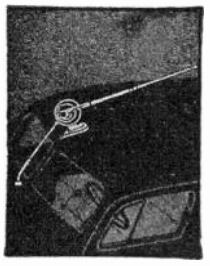
World Radio History

RCA HOME AND AUTO ANTENNAS

MONOGRAM ANTENNA



New! Outstanding in appearance and efficiency. Streamlined Bakelite Insulator with special rubber suction cup provides easy installation. High gloss satin finish, guaranteed rust-proof. Extends 21" to 35½". Cowl bar also telescopic. Complete with low capacity shielded lead-in cable with male fittings for receiver connection. Wt. 13 oz.

No. 9823—Net Price.....$2.37

COWLTENNA

RCA's latest vertical type auto antenna. Permanently installed to side cowl. Streamlined insulator includes rubber pad to insure perfect seal. Extends 28¾" to 49½". Beautiful appearance guaranteed rust- and corrosion-proof, high gloss satin finish. Easily installed, all soldering eliminated. Includes 36" low capacity shielded lead-in cable fitted with metal shield and male bayonet fitting. Wt. 9 oz.

No. 9825—Net Price.....$1.77

RODTENNAS

RCA's most easily installed auto antennas—just five minutes for a complete job. Simply remove either door hinge pin, attach RODTENNA and return pin—no drilling, no soldering, no cementing. No. 9793 highly flexible, made of high carbon vanadium steel, triple chromium plated. No. 9827 telescopic uses a new non-rusting metal having high gloss satin finish. Both furnished with 36" low capacity shielded cable.

No. 9793—Flexible Type. Net Price....$1.65

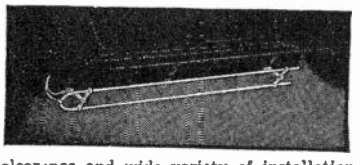
No. 9827—Telescopic Type. Net Price 1.35

NEW! POPULAR PRICED RODTENNA

A new rust-proof high efficiency antenna for every auto radio installation. Extended length 47½"; closed, 26". Stainless steel extension, non rusting metal chromium plated lower section. Complete with 36" shielded lead.

No. 9851—Net Price.....$1.17

DI-POLE ANTENNA

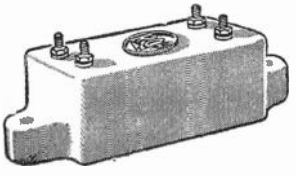


Unexcelled for efficient under-car installations. Simple in design, efficient in operation, easily installed on any car. Will reduce ignition interference to a minimum. Adjustable brackets for road clearance and wide variety of installation locations. Complete with shielded lead-in cable having female bayonet connector, and all necessary fittings.

No. 9605—Net Price.....$1.56

MAGIC WAVE ANTENNA TRANSFORMER

WITH BUILT-IN LIGHTNING ARRESTER



This new unit, when used with the No. 9813 Set Coupling Transformer, a vertical or horizontal antenna and a transmission line, gives all the features of the RCA Magic Wave Antenna.

- Up to 16 radios may be operated from one antenna by use of additional coupling and distribution transformers.
- Antenna may be from 20 to 120 ft. long.
- Transmission line may be any length up to 500 ft.
- Iron pipe, 20'-30' in length, may be used for vertical antenna.
- Uses Magnetite Core Transformers.
- Easily installed. May be adapted to existing installations.

No. 9849—Net price $1.20

RCA VICTOR MASTER ANTENNA

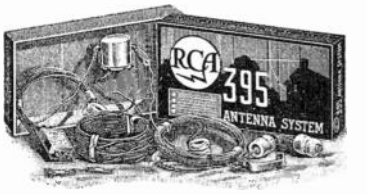
The latest development in antenna design. Gives every broadcast receiver owner the ultimate in noise-free radio reception. Not only noise reducing, but includes a new balancing circuit by means of which any local noise, such as vacuum cleaners, etc., can be greatly minimized. Consists of a balanced doublet with a counterpoise parallel to the transmission. Length of counterpoise is adjustable. Frequency range covered is from 540 to 23,000 kcs. including all standard broadcast and foreign short-wave bands. **Net Price**

No. 9845—Complete with Receiver Coupling Transformer.....$4.17

No. 9852—(Model MA) Less Receiver Coupling Transformer.. 3.00

No. 9846—Receiver Coupling Transformer only..... 1.17

395 ANTENNA SYSTEM



A scientifically designed system at a price everyone can afford to pay. Operates perfectly with receivers of all types and manufacture; unusually easy to install. Requires only two supports, 40 ft. apart. All parts assembled and soldered.

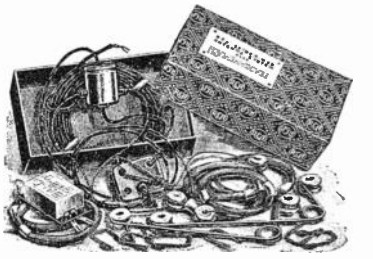
Contents of Kit

- 2 Antenna Wire Coils—Each 20 ft. long
- 2 Strain Insulators
- 1 Transmission Line—60 ft.
- 1 Junction Box
- 2 Coupling Unit Links
- 2 Nail-on-Knob Insulators
- 1 Ground Clamp
- 1 Instruction Sheet

No. 395—Net Price $2.37

No. 12855—Set Coupling Unit for 395 and RK-40 Antennas. Net Price 45

SPIDER-WEB ANTENNA

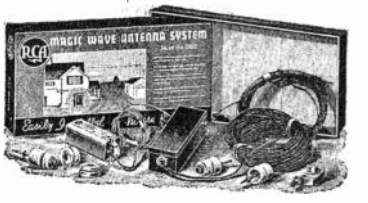


A Transoceanic Communications type antenna for the home. Gives excellent signal pickup over the frequency range from 140 to 23,000 kc. By adding No. 9689 High Frequency Kit, the range is increased to 70,000 kc. with full noise reduction. Proper design requires only a span of 38 ft. and a vertical clearance of 12 ft. Consists of a series of doublet antennas and an improved transmission line which gives the utmost in noise reduction of the signal pickup over an extremely wide range. *RCA's finest antenna, especially recommended for amateur and short-wave reception.*

No. 9685—Spider-Web Antenna. Net Price.....$5.37

No. 9689—High Frequency Kit (Increases range to 70,000 kc.). List Price.....90

IMPROVED MAGIC WAVE ANTENNA



A new highly efficient noise reducing antenna for every type of radio installation. Has literally "everything" a radio user requires. Noise reduction over all bands, flexibility in installation and high signal pickup. In no other RCA antenna can you obtain *all* of the following features:

● Noise reduction of both standard and foreign broadcasting bands (530 to 23,000 k.c.) ● Built-in lightning arrester in antenna coupling unit ● Operates up to 16 outlets from 1 antenna with additional coupling and distribution transformers ● Antenna may be from 20 to 120 feet long ● Transmission line may be any length up to 5000 feet ● Uses magnetite core transformers ● Can be easily attached to existing antennas ● Easily installed; completely assembled and soldered. **Net Price**

No. 9812—(Included complete assembly for single outlet installation) $3.57

No. 9849—Antenna Coupling Transformer with Built-in Lightning Arrestor 1.20

No. 9814—Distribution Transformer (1 required for each 4 additional receivers)..... 1.80

No. 9813—Set Coupling Transformer (1 required for each additional receiver)..... 1.50

Net

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World Radio History

JACKSON Radio Testing Equipment

New! Faster! Better! — Automatic Range Selection

PANEL SIZES ARE IDENTICAL

Model 642

UNIVERSAL MULTIMETER

20,000 Ohms Per Volt

AUTOMATIC RANGE SELECTION—PUSH BUTTON CONTROLLED. Instant selection of any meter range is made simple with the eleven key push button selector. No confusion—no mistakes. The key bank is so arranged that pressing one button automatically releases all others. All range circuits are cleared except the range in use. Test leads remain connected to same posts at all times (except for amps. or microamps).

TWENTY-ONE RANGES—SEVEN FUNCTIONS AC/DC volts—ohms—decibels—milliamperes—microamperes and amperes. Has special built-in shunt and 10 ampere range.

OHMS RANGES from ½ ohm up to thirty megohms. No external batteries or line power required. Current readings may be made as low as 2/1000ths of one milliampere. All D.C. volts ranges are 20,000 ohms per volt.

METER RANGES—

A.C. Volts: 0-10/100/250/500/1000
D.C. Volts: 0-10/100/250/500/1000
Decibels: Minus 10 to plus 14/10 to 34/30 to 54
D.C. M.A.: 0-10/100/250
Microamps: 0-100
Amperes: 0-10
Ohms: 0-3000/300,000/30,000,000

The new 6-inch Full Vision JACKSON Meter has extra large, easy to read scale. Meter is six inches over flanges.

Construction is of the finest in materials and workmanship. Case is welded steel finished in grey morocco. Fitted with removable snap-on steel cover. Protects meter and controls.

Case dimensions: 8½" x 8½" x 4½". Weight 6 lbs. Complete with self-contained battery. Furnished with test leads.

MODEL 642 NET CASH PRICE **$39.95**

1,000 OHMS PER VOLT MODEL—Same ranges as above except microamps is 0-1000 and ohm ranges are 0-3000/300,000/3,000,000.

MODEL 643 NET CASH PRICE **$29.95**

Model 650

CONDENSER TESTER

AUTOMATIC PUSH BUTTON CONTROLLED — Amazing in speed and simplicity of use. Capacity readings almost instantaneous! Leakage test by just pressing a button.

The Model 650 is a modern, accurate and complete instrument for detecting faulty condensers — ELECTROLYTIC, PAPER or MICA. Uses a new method for Leakage Test which will reveal otherwise unnoticed condenser defects.

SCALE IS GLASS ENCLOSED and is equipped with the new Jackson SCALE EXPANDER indicating pointer—doubles effective scale length. New Jackson "Tricolor" Scale eliminates guesswork and errors in reading capacity values. Each scale is distinctively colored. Each test button is colored to indicate scale in use.

MEASURES ALL VALUES direct reading in Microfarads, from .00001 mfd up to 100 mfd.

MEASURES POWER FACTOR on direct reading dial. Power Factor range calibrated from 0 to 60%.

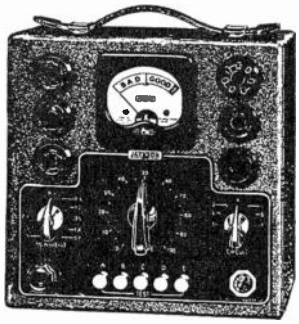
COMPLETE SELECTION OF TEST VOLTAGE. 20 volts to 500 volts. ELECTRON RAY TUBE indicates exact balance or shows if leakage is present.

INSTANTANEOUS LEAKAGE INDICATION — counting of flashes eliminated. No other guess-work with this modern tester. Has special built-in amplifier stage which actually responds to slightest leakage, if present. Thus all leakage defects may be located.

PUSH BUTTON SELECTION—ranges and leakage selection on 5 key bank. Pressing any button releases all other ranges.

Case dimensions—8½" x 8½" x 5¼". Unit welded steel finished in grey morocco. Weight 9 lbs. Supplied complete WITH ALL TUBES.

MODEL 650 NET CASH PRICE **$29.95**



Model 633

TUBE TESTER

This new DYNAMIC tube tester incorporates the most advanced **features of design and accuracy** —yet it is remarkably low-priced.

The test method is a new advancement in the JACKSON DYNAMIC OUTPUT circuit which has established an excellent reputation for accuracy.

The control arrangement is greatly simplified—only three controls to set per chart, then depress test button. Simplified chart fitted into metal lid of tester.

Free chart service for one year after purchase. Only nominal charge thereafter.

FEATURES—Full range line voltage control—Neon Shorts Test circuit—Tests all Ballast Tubes—3-inch Square Type Meter—Tests Multi-section Tubes Correctly—Tests OZ4 Gas Rectifier. Also many other features of "built-in" quality and performance which have made JACKSON testers famous for accuracy and reliability.

Case is welded steel 8½" x 8½" x 4½", finished in grey morocco. The tester is compact, light in weight and easily portable. Has snap on metal cover which protects meter and controls.

MODEL 633 NET CASH PRICE **$24.95**

NOTE—Relay Rack Panel mounting available for any instrument on this page.

Model 640

TEST OSCILLATOR

A complete "standard type" oscillator for all general purpose work. Has full range direct reading dial from 100 KC up to 30 Megacycles. No skips or harmonics calibrated. All ranges are fundamental frequencies. PUSH BUTTON selection of all ranges makes speedy and accurate operation possible.

GLASS ENCLOSED DIAL—prevents dust and avoids possibility of damage to pointer.

TWO CIRCUIT ATTENUATOR provides variable ratio and also vernier control.

HAS POWERFUL SIGNAL output which may be used either as pure R.F. or Modulated R.F. Carrier is modulated at approximately 30%. The A.F. voltage is available for external use.

ACCURACY GUARANTEED to ½ of 1% on all ranges.

Operates from 110 volt 60 cycles. Uses three tubes (rectifier, oscillator and modulator).

Panel is cast aluminum and case is unit-welded steel, finished in grey morocco baked enamel.

Dimensions—8½" x 8½" x 6". Wt. 9 lbs. Supplied complete with all tubes installed. Shielded cable for connection to receiver is furnished.

MODEL 640 NET CASH PRICE **$29.95**

—CONVENIENT TIME PAYMENT TERMS—

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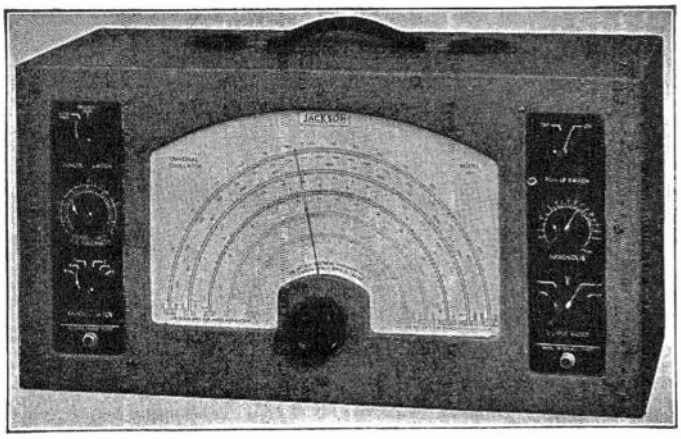
World Radio History

JACKSON Radio Testing Equipment



UNIVERSAL OSCILLATOR

Model 420

The most complete signal generator available at any price. Consists of two oscillators built into one simplified instrument.

1—Complete "Standard Type" of Oscillator. This feature permits the use of the oscillator for all general purpose work. Eliminates the guess work and errors formerly created by spurious signals set up by beat frequency operation.

2—Complete "Frequency Modulated" Oscillator—Pure electronic frequency sweep provides the familiar "double image" method of alignment. Absolutely no moving parts of any kind. Perfectly balanced and easy to use.

The Model 420 makes accurate alignment of any radio set an easy job. This is possible only because the 420 is actually two instruments in one. With the standard type of signal a line-up job can be started with known accuracy—confusion is eliminated. After the line-up has been started, the oscillograph pattern is then obtained by using the frequency modulated signal of the 420.

CONSTRUCTION FEATURES—Each of the six bands is separately calibrated both for correct inductance and capacitance. The dial is extra large and all ranges are direct reading. The fundamental frequency coverage is continuous from 100 K.C. to 30 M.C. A range selector switch provides for instant use of any desired band.

Each inductance coil is wound on a specially molded bakelite form. The entire coil assembly is built in a "sealed unit" part of the chassis. All compensation condensers are of the air-tuned type. The attenuator controls are enclosed in a cast aluminum shield separate from the main chassis. This cast shield makes it possible to provide ultra fine attentuation.

DIMENSIONS—17" x 8¾" x 8". Weight 20 lbs.

ACCESSORIES—Complete with all tubes and cable for oscillograph.

MODEL 420 NET CASH PRICE **$59.50**

PERFORMANCE FEATURES

FULL RANGE—100 K.C. to 30 M.C.

ALL DIRECT READING—no charts of any kind.

VARIABLE PER CENT OF MODULATION—calibrated from 0 to 100%.

FREE FROM SPURIOUS HARMONICS—on amplitude modulated bands.

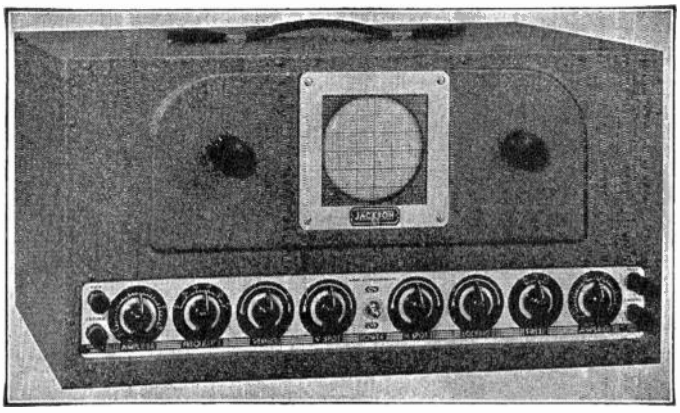
MAY BE EXTERNALLY MODULATED—with phono pickup, etc.

ELECTRONIC FREQUENCY MODULATION—no moving parts of any kind.

VARIABLE BAND WIDTH Frequency Modulation 0-40 K.C.

POWERFUL SIGNAL OUTPUT—all air tuned circuits.

Large easy to read dial, glass enclosed. Two colored scale to separate amplitude bands from Frequency Modulated bands.



3" OSCILLOGRAPH

Model 523

The 3-inch size oscillograph screen permits easy examination of patterns which might be difficult to observe on smaller sizes. The Jackson oscillograph incorporates every valuable feature necessary for visual voltage and current examination. It is easy to operate and is designed to secure stability. Note the simplified control arrangement.

SPECIFICATIONS

SENSITIVITY—The input sensitivity to vertical plates is 4/10 of one volt R.M.S. per inch of deflection. This sensitivity is secured by means of high gain amplifiers having a frequency range to 100 kilocycles.

HORIZONTAL SWEEP—A horizontal time axis "saw-tooth" oscillator provides a frequency from 20 to 20,000 cycles. Frequencies up to 100,000 cycles may readily be inspected, resulting in a five pattern image. Timing frequency range switch is marked directly in frequency. This feature greatly simplifies the selection of a desired frequency range.

CONSTRUCTION—Design and construction are practical in every respect. This oscillograph is a perfect companion unit for the new Jackson Universal Oscillator. The main panel is cast aluminum. The entire cabinet is heavy gauge steel construction. The instrument is attractively finished in grey morocco, oven-baked enamel. The control plates are etched with white back-ground and black characters. The very finest of materials and construction are employed throughout.

POWER SUPPLY & TUBES—Operates from 110-volt, 50-60 cycle power supply. The Model 523 is supplied complete with 3-inch Cathode Ray Tube, two type 57, one type 885 and two type 80.

DIMENSIONS—17" x 8¾" x 12¾" overall. Weight 30 lbs.

MODEL 523 NET CASH PRICE **$59.50**

EVERY VALUABLE FEATURE IS INCLUDED:

- Vertical Amplifier and Horizontal Amplifier
- Calibrated Linear Timing Circuit
- Frequency Control and Vernier
- Automatic "Lock-in" Control
- Spot and Focus Controls on Main Panel
- Calibrated Screen

CALIBRATED SCREEN—The panel is recessed to accommodate a special calibrated screen which is furnished with the instrument. This screen is valuable in all work which requires visual resonance curves, and comparative voltage analysis.

—CONVENIENT TIME PAYMENT TERMS—

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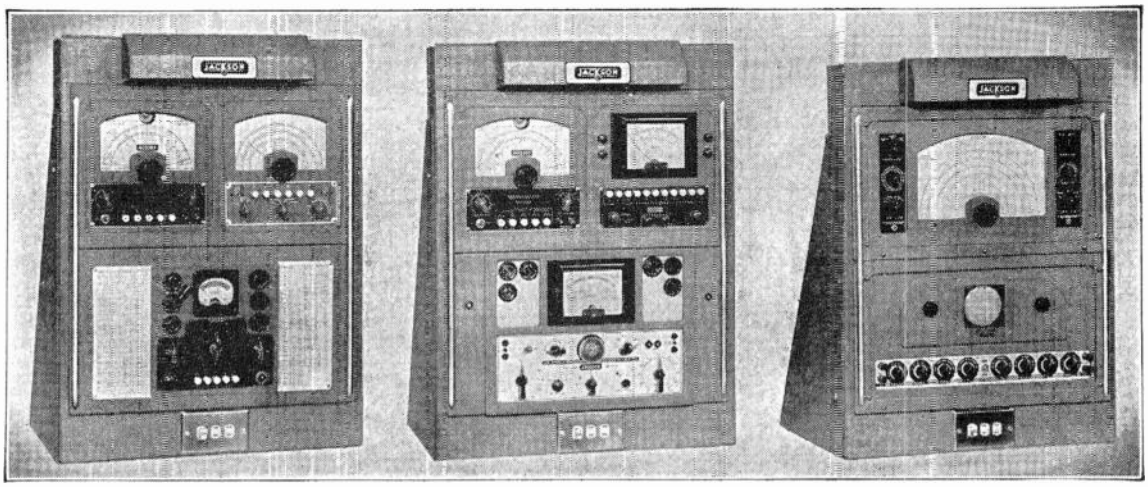
World Radio History

JACKSON Radio Testing Equipment

JACKSON "SERVICE LAB" ASSEMBLIES IMPROVE SHOP EFFICIENCY



MODEL 708 SERVICE LAB complete with Model 650 Condenser Tester, Model 640 Test Oscillator and Model 633 Dynamic Output Tube Tester.

This Service Lab is a splendid combination of necessary test instruments. Any instrument may be removed for portable use if desired. Complete with all accessories.

#708 NET CASH PRICE **$99.50**

MODEL 702 SERVICE LAB contains the new 20,000 ohm per volt Universal Multimeter. Installed beside the Model 642 is the Model 650 Condenser Tester. The lower section of the lab is occupied by the Model 630 Dynamic Output Tube Tester. The Model 702 is an ideal combination containing the newest, most essential instruments for modern servicing (except cathode ray).

#702 NET CASH PRICE **$124.50**

MODEL 701 "VISULINE" SERVICE LAB. A complete cathode ray alignment laboratory. Contains two perfectly matched instruments for use in all receiver alignment problems. Full size 3-inch cathode ray oscillograph with all built-in features. Also the new Jackson Model 420 Universal Oscillator. Complete with full instructions and accessories.

#701 NET CASH PRICE **$139.50**

The Service Lab Earns Extra Profits for You

Your modern Jackson equipped shop has a two-fold function in earning extra profits for you.

FIRST—A higher price per job can easily be obtained because of the accurate workmanship you can offer.

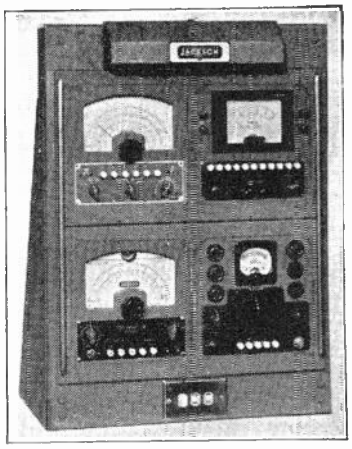
SECOND—Your work is completed more quickly, more efficiently. The time saved on each job makes it possible to handle a greater volume of work. More jobs mean more profits.

ATTENTION VALUE—Your well equipped, modern shop will attract customers. The impressive equipment displayed will convince your trade that you are equipped to do the job.

DIMENSIONS—Each rack is identical in dimensions, which are as follows: Height 27½", width 20", depth 16". The standardized dimensions make it possible to place two or more Labs side by side and yet retain absolutely uniform appearance.

The Service Lab Is A Good Investment!

Each instrument in the Service Lab assembly is a standard Jackson model described in this catalog. In this way the equipment is better protected against obsolescence—and a good investment.



Model 700

"SERVICE LAB"

A new "Super-Service" test laboratory backed by the Jackson Guarantee of Quality and Performance.

Contains four separate instruments. Each unit is a complete portable instrument in itself and may be removed easily.

Model 640 Test Oscillator
Model 642—20,000 ohm per volt Multimeter
Model 650—Condenser Tester
Model 633 Tube Tester

Full dimensions—20" wide x 27½" high x 16" depth.

#700 NET CASH PRICE **$139.50**

Start today to equip your shop with modern Jackson instruments. Service Lab units are priced as low as $44.50. Additional instruments may be added at any later time. Each Service Lab is complete as shown, including relay rack completely assembled and wired with master A.C. Line Switch and convenience outlets. Finished in attractive grey morocco and equipped with chrome trim strips. Also included is the Jackson Service Lab Lamp which provides front panel illumination for the equipment. There are no extras to buy.

—CONVENIENT TIME PAYMENT TERMS—

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World Radio History

JACKSON Radio Testing Equipment

MODEL 635 DYNAMIC OUTPUT TUBE TESTER

(With Universal AC-DC Meter Ranges)

Model 635

The very finest in tube testers, plus universal meter ranges for testing receivers, parts and circuits.

METER RANGES FOR ALL PURPOSES

A.C. volts: 0—15/150/1500
D.C. Volts: 0—7½/75/150/300/750/1500 (1000 ohms per volt)
D.C. Milliamperes: 0—7½/75/150
Ohms: 0—100/100,000/1 meg./10 meg.
Decibels: From minus 10 db to plus 18 db
Condenser Test: Neon method with dual sensitivity

DYNAMIC OUTPUT TEST—The most perfect method devised for accurate determination of tube condition. The "Dynamic Output" tube testing circuit is an exclusive feature of Jackson testers.

TESTS ALL TUBES announced up to date. Provision for many more. The tester is protected against obsolescence in every possible feature of design and manufacture.

TESTS ALL BALLAST TUBES—A special feature of the tester is complete provision for testing any type of ballast tube for opens, shorts or leakages, without the use of test prods. A special switch is provided on the tester for this purpose.

ALL READINGS DIRECT on "Good-Bad" Scale. No special marks for diodes, etc. Most simplified operation ever attained in a precision instrument.

PRE-SELECTOR classifies any tube according to correct type and tests the tube properly—diodes, triodes, pentodes, S.G. and rectifiers (including gaseous such as OZ4, etc.).

DUAL NEON TEST—A new exclusive Jackson feature for finding extremely high resistance leakages between tube elements. Push button shifts sensitivity from normal to ultra sensitive.

The New FULL-VISION Jackson Meter is an exclusive built-in feature of this tester. This new meter measures 6 inches over flanges. It is housed in a highly polished Bakelite case.

DIAL IS ILLUMINATED. The scale is extra long and easy to read.

FINEST CONSTRUCTION FEATURES—Cast aluminum main panel, deep etched metal escutcheon plates, sealed unit construction, full sized 2-watt neon indicator, finest silver contact switches, sturdy oak carrying case.

DIMENSIONS—14¾"x13¾"x6" overall. Weight 13 lbs.

ACCESSORIES—Furnished complete with self-contained batteries (for ohmmeter), and test prods.

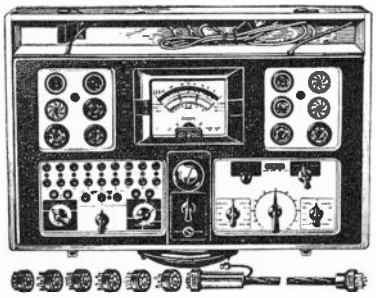
Model 635 Dynamic Output Tester.....Dealer Net Price **$49.50**

Model 630

Model 630—Same as Model 635, but does not have complete Universal Meter ranges. Identical in every other respect. Model 630 is provided with two special ohmmeter ranges giving full coverage of measurement from ½ OHM to TEN MEGOHMS. No batteries required.

Model 630.....Dealer Net Price **$39.50**

MODEL 680 DYNAMIC ANALYZER



METER RANGES—

A.C. Volts: 0-15/150/1500
D.C. Volts: 0-7½/75/150/300/750/1500
D.C. Milliamperes: 7½/75/150
Ohms: 0-100/100,000/1 meg./10 meg.
Mfds.: .001 to .15/.01 to 1.5/.1 to 15
Decibels: minus 10 db to plus 18 db

Complete Dynamic Output Tube Tester and Set Analyzer Combined! Has all tube testing features as described for Model 635. Ballast tube test—Dual Neon Sensitivity—Illuminated Meter—etc.

Has meter ranges for Microfarads, A.C. and D.C. volts, D.C. M.A., Decibels, Ohms and Megohms. All ranges selected by means of a special 18 position switch.

CIRCUIT ANALYSIS—In addition to point to point tests, the Model 680 may be used for socket analysis of any radio receiver. The instrument has a complete set of sockets and "cut-in" jacks for this purpose. These jacks are numbered to standard R.M.A. tube base pins. A standard 8-wire analysis cable, plug and associated adapters is used to connect to the radio receiver. This plug and adapter set is furnished with the instrument.

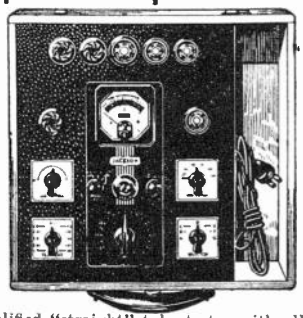
CONSTRUCTION—Main panel is one-piece cast aluminum 19 inches long, 10½ inches wide (standard relay rack size), finished in grey morocco. Control panels are etched metal having a white background and black characters. Case is genuine oak 19¾" x 13¼" x 6".

COMPLETE WITH ALL ACCESSORIES—Cord and plug set for socket analysis tests (Cord Set No. 908 CN). Also test prods—jumper leads—batteries installed. Nothing else to buy.

MODEL 680 NET CASH PRICE **$69.50**

Model 627 TUBE TESTER

Compact — Simple — Accurate!



A simplified "straight" tube tester with all of the famous built-in Jackson features.

DYNAMIC OUTPUT TEST—the most perfect method for accurate test of tube condition. Tests all tubes announced up-to-date. Provision for many more.

ALL READING DIRECT on "Good-Bad" Scale. No special marks for diodes, etc. Meter is new square type in 3-inch Bakelite case.

TESTS ALL BALLAST TUBES for shorts, opens or leakage. Also has the Jackson Dual Neon Sensitivity Shorts Test for all tubes.

STEEL PANEL, grey finished, sturdy construction throughout. **Portable model** in genuine oak case, 12¾" x 13¼" x 6", removable lid. **Counter style** in grey leatherette, sloping front cabinet 11" x 12¾" x 7". Weight 13 lbs.

MODEL 627 Either Style Net Cash Price **$33.75**

Net

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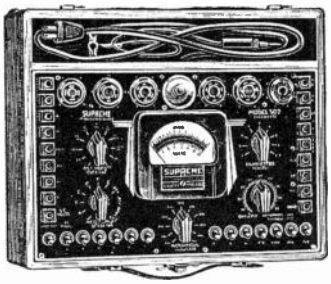
World Radio History

SUPREME INSTRUMENTS

Supreme by Comparison

Model 502



Here is an instrument which is not only a complete tube tester, but a set tester as well! The basic tube testing circuit is the same as the Model 501. This means that the Model 502 uses the new SUPREME Electro-Conductance tube test for all quality tests of separate diode and rectifier plates as well as individual tube sectional and complete tube element quality tests. It also means that the Model 502 includes inter-element leakage checks between any two elements, and open element test in each tube element and a short test between any two tube elements. The Model 502 also uses the obsolescence proof "Floating Filament" Selector and associated circuit.

Besides all this, the Model 502 offers 19 additional ranges and functions including four A.C. voltage ranges of 0/7/140/350/1400 volts, measuring as low as 0.2 volts; four D.C. voltage ranges of 0/7/140/350/1400 volts, measuring as low as 0.2 volts; three ohmmeter ranges of 0/200/2,000/20,000 ohms, measuring as low as 0.1 ohms with 3.5 ohms at center scale; two megohm ranges of 0/2 meg.-/20 meg., all with self-contained power supplies; an electrostatic capacitor leakage test on a neon bulb, and an electrolytic filter capacitor leakage test directly on a "Good-Bad" English reading meter scale.

Just imagine this superb instrument housed in a golden oak carrying case and mounted on a brown and silver panel. Remember, the complete instrument weighs only 16 pounds and measures overall but 10½" x 14½" x 5". Comes complete with all instructions and tube list for 100 to 133 volts, 60 cycl unless otherwise ordered at slight additional cost. (Can be obtained with 25,000 ohms per volt super-sensitive meter—Model 502-S—at $5.00 additional.)

Cash Price $49.95

Installment Terms—$5.50 Cash and 9 Payments of $5.50.

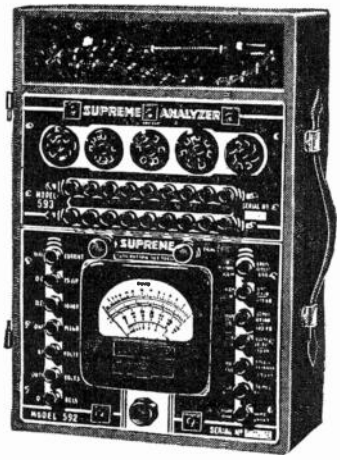
Model 501

Here is the new SUPREME Electro-Conductance tube tester. No one-tube test will prove satisfactory! So, the Model 501 incorporates five possible tests: (1) inter-element leakage between any two tube elements, (2) open element test in each tube element, (3) short check between any two elements, (4) quality test of complete tube elements—and (5) in multi-section or full wave rectifier tubes, separate sectional or plate quality tests. Five possible tests on every tube! Uses the same tube testing circuit as Model 502 described above.

Cash Price $36.95

Installment Terms—$4.07 Cash and 9 Payments of $4.07.

Combinations

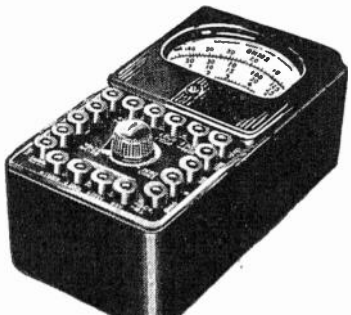


New SUPREME instruments can be had in many combinations. One of the most popular—592 Set Tester and 593 Analyzer Unit—is illustrated above. Read the descriptions of these units on the next page. You will then see why SUPREME gives you more for your money than any other instruments.

Combination Cash Price, Model 592 and 593 with Case as Illustrated, $55.50

Installment Terms—$5.09 Cash and 11 Payments of $5.09.

Model 542



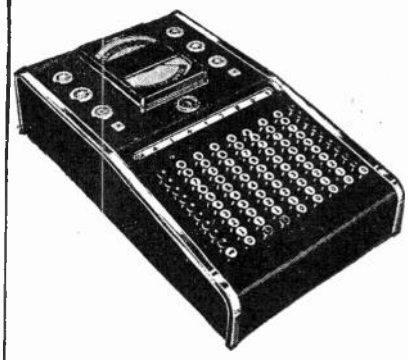
Here is the biggest value in the smallest complete Multi-Meter on the market. A regular little pocket laboratory with a case only 3" x 5¾" x 2" in size, weighing but 23 ounces—21 ranges—just as accurate and even more convenient than you would expect to find in an instrument twice its price. At your finger tips are 4 D.C. mil ranges (with first scale division 5 microamperes) of 0/0.3/6/30/150; 4 D.C. volt ranges (with first scale division 0.1 volts) of 0/6/150/300/1500; 4 ohms ranges (with 1 ohm first scale division and 25 ohms center scale) of 0/2,000/20,000/200,000/2 meg. 4 AC. volt ranges (with first scale division 0.1 volt) of 0/6/30/150/600; 4 output ranges of 0/6/30/150/600; 4 decibel ranges of —6/+10, +8/+24, +22/+38, +34/+50. The Model 542 is not a toy—it uses a full size 3" square meter with a rugged, accurate 200 microampere movement and a knife edged pointer. This movement has a sensitivity of 5000 ohms per volt! All ohmmeter ranges, including the megohm range, are operated by batteries furnished with the instrument and contained within its durable black moulded bakelite case.

Here Is a Complete Pocket Lab for Only $16.30

or it may be purchased on the Easy Installment Terms of $4.73 Cash and 3 Payments of $4.73.

Net

Model 506-C



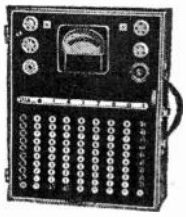
SUPREME ANNOUNCES THE NEW ZEPHYR TUBE TESTERS. Think of it—a tube tester so simple that instructions are not necessary. Even a child can operate it. Simply spin the numerical chart roll until the type number of the tube comes up—then punch the buttons according to the numbers shown (just like a cash register)—and the big illuminated meter reads "Good", "?" or "Bad." **That is all there is to it. The large double scale meter is easily read from both sides of the counter.**

Tests all receiving tube types including "M", "MG", "G" and "GT" types for shorts and leaks between elements on neon bulb, and for "Quality" on a large English reading scale. Also checks for open circuited and loose elements. Makes separate tests on diodes, full wave rectifiers and multi-purpose tubes. Line voltage control. FOOL-PROOF. No tube will pass the 506 that won't perform in a radio set.

Sells more tubes and makes more money for you. Engineer or novice can secure equally dependable and accurate results when using the **SUPREME ZEPHYR Tube Tester.**

Through the use of push-button selector switches and a modern, trouble-free, accurate tube-testing circuit, anyone can test all types of radio tubes for shorted, leaky or open elements as well as cathode electron flow in both single and multi-section type tubes. In short, the SUPREME ZEPHYR will **completely** test your customer's tubes without complicated or "tricky", confusing, time-wasting switching circuits.

A PORTABLE TYPE, TOO!



The Supreme Zephyr Portable Type Tube Tester is exactly the same as the Counter Type except that the flat panel is mounted in a sturdy, attractive quartered oak carrying case. The panel is also smaller in size, and uses a single dial meter.

Here's the greatest tube selling device ever designed for the radio serviceman. Only the SUPREME ZEPHYR speaks the language that your customers can understand. It sells tubes—it sells your service—it instills confidence.

Cash Price on Either Counter or Portable Model Only $59.50

Installment Terms $5.46 Cash and 11 Payments of $5.46.

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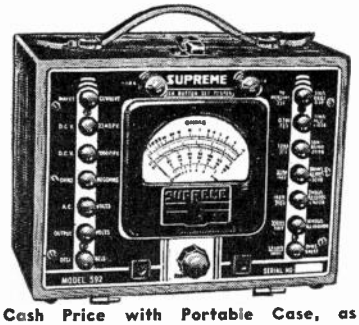
World Radio History

SUPREME INSTRUMENTS
Easiest Installment Terms

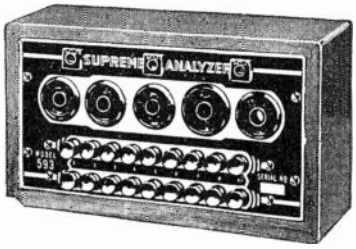


Cash Price with Portable Case, as Illustrated $41.00

Model 592

Model 592 has an exclusive, new push button switching circuit offering 47 ranges with two D.C. voltage sensitivities in the same instrument, both 1000 and 25,000 ohms per volt! 7 D.C. Voltage ranges from 0.1 to 1400 volts—0/3.5/7/35/140/350/700/1400 volts—at 1000 ohms per volt and 7 D.C. voltage ranges from 0.1 to 1400 volts—0/3.5/7/35/140/350/700/1400 volts at 25,000 ohms per volt. Direct current measurements from 1 microampere to 14 amperes in 8 ranges—0/70 microamperes /0.7/7.0/35/140/350 mils. 1.4/14 amperes! Unprecedented resistance measurements from one-quarter ohm to 50 megohms in 6 ranges. 0/500/5M/50M/500M/5 meg./50 meg. using completely internal batteries—no A.C. supply required! An "Ohms Short" button on panel allows "Zero Adjust" procedure without shorting leads together. The 592 offers 7 A.C. voltage ranges of 0/3.5/7/35/140/350/700/1400—all read on but three basic scales without holding down a switch or button! Just push another button and a condenser is internally connected in series with all the A.C. voltage ranges for use as an output meter. In addition, 5 decibel ranges;—10 to +6, 0 to +16, +10 to +26, + 20 to +36, +30 to +46—check the power output of any P.A. amplifier. The 592 has a "Good-Bad" colored tube testing scale for use with the 594 Tube Tester circuit.

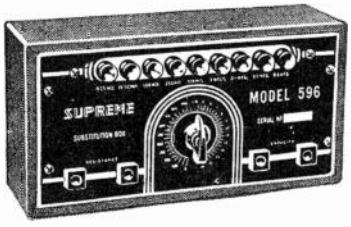
Installment Terms—$4.51 Cash and 9 Payments of $4.51.



Cash Price with Portable Case, as Illustrated $14.65

Model 593

Another SUPREME first—the SPEED PUSH-BUTTON ANALYZER! No more connectors and twin-jacks. Connect any multimeter to the 593, its analyzer plug in the receiver and the tube in the 593. Now—just press only two buttons for any current, voltage or resistance measurement without disturbing the radio chassis. Two rows of push buttons take the place of now obsolete twin-jacks. Spreads out the receiver circuit on the analyzer panel. No fuss—no bother—no special instructions! Just as easy as ringing a door bell. For voltage or resistance measurements push one upper and one lower button corresponding to proper tube elements. If meter needle backs off scale due to polarity reverse, you merely reverse upper and lower buttons. For current, push both upper and lower buttons corresponding to proper tube element.



Cash Price with Portable Case, as Illustrated $10.90

Model 596

A handy service instrument used to determine the proper value of resistance and capacity for replacement work. Contains a variable resistor for any value to 50,000 ohms and fixed values of 100,000, 250,000, 500,000 ohms and 1 meg. All available through push buttons. Also three push buttons give condenser values of 0.1, 0.5, and 8.0 microfarads. Resistance and capacity ranges terminate at separate pairs of pin jacks so that you can use both simultaneously by depressing both a resistane and a capacity push button.

Cash Price with Portable Case, as Illustrated $26.00

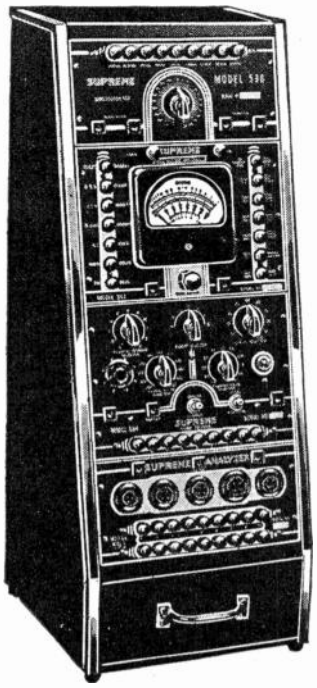
Installment Terms—$4.09 Cash and 6 Payments of $4.09.

Model 594

Model 594 uses only one octal socket, but is designed so you can test all non-octal tubes by means of your own analyer plug and cable unit or the special 593 Push Button Analyzer. For servicemen who would rather use converters (for these units are not true "adapters") we offer a set of converters at slight additional cost which are as easy to use as an analyzer adapter.

The Model 594 offers a real chance for servicemen to modernize their obsolete tube checkers. Any separate 1 mil. movement meter which you now have can be used with the 594, or it can be used with the 592 Set Tester meter which has a "Good-?-Bad" English reading colored scale. "Tomorrow's Tube Tester" checks all new or old type receiving tubes, including "M", "MG", "G", and "GT" types, octals, non-octals, gas rectifiers, magic eye tubes, single section or multi-section types, amplifiers, detectors, converters, rectifiers, etc. Tubes are checked five ways. Complete and sectional quality check. "Hot" short, open element and leakage tests are made between any two elements by merely punching a row of push-buttons, one after the other. "Tomorrow's Tube Tester" comes complete with full, easy instructions and a tube chart booklet of over 600 tube tests.

LABRACK



Your new SUPREME SPEED instruments can be mounted in the **SUPREME LABRACK** as illustrated above. Beautiful baked enamel finish and chrome trimming. Occupies less than one square foot of bench space. Convenient drawer which holds analyzer plug, cord and all accessories. Four rubber feet and holes for mounting rack on your bench.

Complete LABRACK as Illustrated, including Model 592, 593, 594 and 596 With All Accessories

Cash Price $91.25

Installment Terms—$8.36 Cash and 11 Payments of $8.36.

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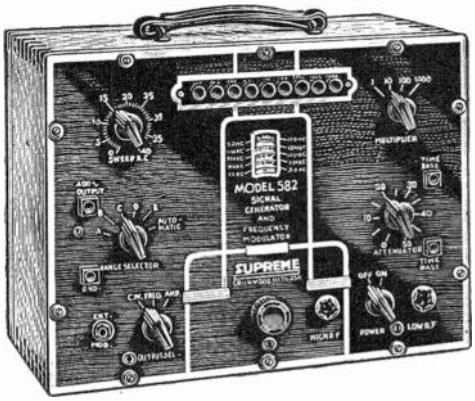
SUPREME INSTRUMENTS
Newest Engineering Developments

Model 582 — 582A



The Model 582-A is the first Signal Generator to give push-button tuning on popular I.F. and broadcast frequencies. An exhaustive check-up showed that more than 90% of all receiver models ever made used but five I.F. frequencies. Add to this four R.F. frequencies, and you can align practically all of the sets you service with fixed frequency push-buttons. Due to the extremely stable electron coupled oscillator circuit, the Model 582A or 582 offers exceptionally wide frequency coverage—from 85 KC to 15 MC on fundamentals—and to 60 MC on harmonics. Setting the "Range Selector" automatically spot-lights the desired band. The R.F. output is greatly increased by the use of newly developed permeability tuned iron core inductors in the main tuning circuits. These circuits are accurately balanced at the low frequencies by means of a variable iron core and at the high frequencies with air dielectric trimmers. Instantly, at the turn of the knob, C.W. (unmodulated R.F.), frequency modulated R.F., or amplitude modulated R.F. is available. No adding or subtracting. 400 cycle audio note available for audio amplification checks.

For the first time in radio history SUPREME offers a completely electronic frequency modulator which continues to utilize the famous SUPREME automatic "Lock-Center-Synchronize" circuit. Only by using one of these new instruments can you get absolutely stabilized images on the scope of the most important steps in receiver servicing. The razor-edged tuning has an effective scale length of 8 feet. No parallax—only the desired band and frequency are illuminated. A ladder type attenuator gives a constant 100 ohm impedance at all attenuator and frequency settings. A special shielding allows attenuation to ½ microvolt. Either the Model 582 or 582-A are ideal instruments for use with scopes such as the Model 546.

Model 546

The 546 has a full set of controls to cover every conceivable operation and the whole design is so basic that it will be good for years. It is an electrical "foot ruler" that will always be a standard service instrument.

All the controls are on the front panel for instant and convenient use. It has an intensity control and a focus control; also vertical and horizontal spot centering controls. Vertical and horizontal amplifiers are built in, each using a 6C6 tube with graduated gain control. The input impedance is 500,000 ohms at less than 20 micro-micro-farads input capacitance. Both amplifiers are flat from 15 to 90,000 cycles. Direct access, from the front panel, may be had to both the vertical and horizontal plates for D.C. measurements. The linear saw-tooth time base or sweep voltage is developed by an 885 gas triode oscillator which covers a range of from 15 to over 30,000 cycles in seven overlapping steps so that frequencies up to about 300,000 cycles may be observed. A vernier control allows accurate setting of any frequency desired. A new "snap-lock" synchronizing circuit is employed to simplify the synchronizing operation. Another important and exclusive SUPREME feature is the high speed return-trace eliminator which takes out the return sweep at high time base frequencies and eliminates distortion when observing high frequency patterns on the C.R. screen. The operator has a choice of internal or external synchronization, and of either the internal linear sweep or any external sweep. The rectifier uses two type 80 tubes in a special cascade circuit. The first one operates as a full wave rectifier to supply operating voltages to the two amplifiers and the linear sweep oscillator. Cascaded (or in series with) the full wave rectifier is another 80 operating as a half-wave rectifier to build up the operating potential to 1200 volts for the cathode ray tube. This extra-modern rectifier circuit minimizes the reaction on the amplifiers and 885 gas triode as adustments are made about the C.R. tube, and greatly stabilizes their operation. This is just the instrument to use with your new Model 582 or 582-A Signal Generator.

Model 582 Signal Generator (without push buttons) Cash Price.....$59.95

or $5.50 Cash and $5.50 per Month for 11 Months.

Model 582A Push Button Signal Generator Cash Price $66.95

or $6.14 Cash and $6.14 per Month for 11 Months.

MODEL 582-A

Push Button Signal Generator plus Model 546 Oscilloscope for only $11.63 Cash and $11.63 for 11 Months.

Cash Price $126.90

MODEL 582

(Without push-buttons) with Model 546 11.00 Cash and $11.00 for 11 Months.

Cash Price $119.90

Cash Price $59.95

Installment Terms—$5.50 Cash and 11 Payments of $5.50.

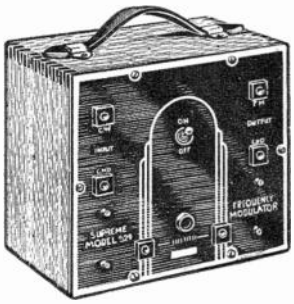
Model 570

Most accurate low-priced signal generator on the market. Eight frequency bands from 125 kilocycles to 60 megacycles. First five bands on fundamentals (to 15 megacycles), last three bands harmonics of fifth band (11 megacycle to 60 megacycle.) Generated frequency highly stable and practically independent of line voltage variations. 400 cycle self-contained modulator stage modulates carrier 30%. Carrier may be externally modulated from 20 to 10,000 cycles. Ladder type attenuator. Completely shielded. Can be used either modulated or unmodulated. 400 cycle audio output available externally for audio test purposes. In conjunction with external frequency modulator and cathode ray oscilloscope, the Model 570 can be used for visual alignment work.

Cash Price $31.95

Installment Terms—$3.90 Cash and 8 Payments of $3.90.

Model 529



This frequency modulator will operate with any good R.F. Oscillator such as the Model 570. A fixed 600 K.C. oscillator operates in conjunction with the unique SUPREME electronic modulator to frequency modulate the R.F. oscillator. The band width of modulation is carefully calibrated at 30 K.C. on the fundamental of the 600 K.C. oscillator, and 60 K.C. on the second harmonic, or 1200 K.C. The SUPREME system of modulation and I.F. alignment is the only one that automatically and electrically centers, synchronizes and locks the selectivity curve on the screen of the cathode ray tube.

Cash Price $21.95

Installment Terms—$4.00 Cash and 5 Payments of $4.00.

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SUPREME INSTRUMENTS
Illuminated Quadrimeters

Model 551

Fast and accurate checking of all radio circuits can be made with SUPREME'S free reference point system of analysis. All resistance, voltage, and current measurements can be made between tube elements and receiver chassis without necessity of removing receiver from its cabinet. Analyzer can also be used as multi-meter for "Point-to-Point" analysis. All readings are made on a 4" square meter. Ranges available: A.C. and D.C. and Output Volts, 0/7/140/350/1400 at 1000 ohms per volt. D.C. Milliamperes, 0/1/7/35/140. Resistance, 0/200/2,000/20,000 ohms and 0/2/20 megohms. Beautiful bronze panel. Solid oak carrying case with removable cover. Accessories include cable, adapters, test leads, and instructions. Size 11" x 10½" x 4½". (Can be obtained with 25,000 ohms per volt supersensitive meter—Model 551-S—at $5.00 additional.)

Cash Price $38.95

Installment Terms—$4.29 Cash and 9 Payments of $4.29.

Model 541

Here is the sweetest and fastest little multimeter ever offered the serviceman at any price. The complete instrument measures only 7¼" x 10¼" x 4½" and actually weighs only 9 pounds. The Model 541 is so engineered as to provide fast, accurate results because its 21 ranges and functions are at your finger tips on a single selector switch. Has exactly the same meter ranges as the Model 551 Analyzer listed above.

The Model 541, mounted on antique bronze panel and in golden oak carrying case, comes complete with all instructions and accessories and is available for 110 to 125 volt-60 cycle use unless specially ordered at slight additional cost. (Can be obtained with 25,000 ohms per volt super-sensitive meter—Model 541-S—at $5.00 additional.)

Cash Price $26.95

Installment Terms—$3.70 Cash and 7 Payments of $3.70.

Model 531

Always ahead of the rest—SUPREME now offers the smallest, handiest oscilloscope using the new 2" cathode ray tube. Radio amateurs will find the 531 extremely valuable for visually checking modulation percentage and other characteristics of their rigs. P.A. technicians will find it useful for checking distortion and other characteristics in amplifier stages.

Cash Price $21.95

Installment Terms—$4.00 Cash and 5 Payments of $4.00.

Model 530

This model is useful for visual alignment purposes, ham analysis, wave form study, etc., in radios and audio amplifiers and for percent modulation checking and numerous tests on amateur transmitters. Controls; spot intensity and focus; horizontal and vertical spot adjust; horizontal gain control; vertical amplifier with gain control—linear response 15-90,000 cycles. Sensitivity 1.7 volts per inch. Input impedance 500,000 ohms. 60 cycle sweep with selective reverse sweep eliminator. External sweep may be used. Direct access to both sets of deflecting plates through condenser coupling.

Cash Price $29.95

Installment Terms—$4.00 Cash and 7 Payments of $4.14.

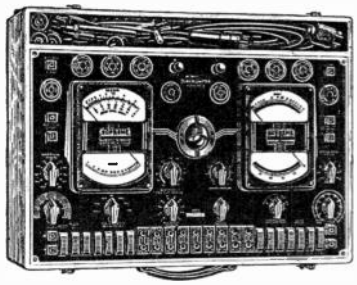
Model 535

Can be used for all purposes of a 3" Oscilloscope. **Return Sweep Eliminator** completely removes bothersome high frequency linear return sweep. Exclusive **Selective Return Sweep Eliminator** includes or rejects power supply frequency return sweep when used as a time base. Positive synchronizing circuit. No image wandering. Linear time base (saw tooth) oscillator from 15 to 30,000 cycles in seven ranges, with vernier frequency control. Both spot centering controls on panel and on one shaft protrusion. Minimum controls—maximum operation speed. Signal under study can be applied direct to plates (through capacitor) or through amplifier. External sweep voltages can be applied direct to plates (through capacitor) or through amplifier. Amplifies linearly to 90,000 cycles. Signal under study can be internally, externally, or power supply frequency synhronized. Can be used for all tests heretofore restricted to larger scopes. Single and double image alignment when used with Model 582 or any other signal generator which can be frequency modulated.

Cash Price $49.95

Installment Terms—$5.50 Cash and 9 Payments of $5.50.

Model 585

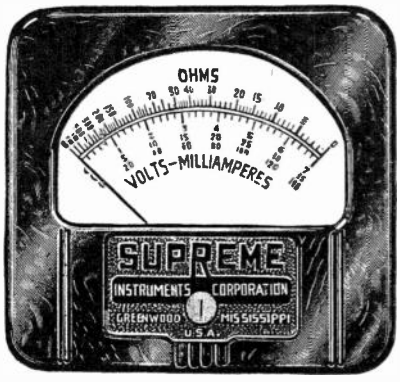


A test unit that provides all the circuit ranges necessary for present day servicing. The following ranges are available on the illuminated double window Quadrimeters: A.C. and D.C. and Output Volts, 0/7/35/140/350/700/1400 at 1000 ohms per volt, D.C. Milliamperes, 0/1/7/35/140/350/-700/1400 D.C. Amperes 0/14 Mfds. 0/.07/.35/-1.4/3.5/7.0/14 ohms 0/200/2000/20,000/200,000/ Megohms 0/2/20 with self-contained power supply. Decibels. —10 to +6, 0 to +16, +10 to +26, +20 to +36, +30 to +46. Tube quality shown on English reading "Good-Bad" meter. Floating filament selector provides test for all radio receiving tubes. Electrolytic condensers tested on "Good-?-Bad" meter scale. Capacity ranges measure any paper, electrolytic, or mica condenser. Paper or mica capacitor leakage on full-size neon lamp.

Cash Price $96.95

Installment Terms—$8.89 Cash and 11 Payments of $8.89.

Model 513



A very sensitive self-constructed multi-meter, with the new SUPREME 25,000 ohms per volt meter. A multimeter having 30 ranges and functions can be built from these parts. 6 A.C. voltmeter ranges to 1400 A.C. volts with 0.2 volts as first indication. 6 D.C. volt ranges to 1400 D.C. volts (0.2 volts first indication), 6 output ranges to 1400 A.C. volts; 6 D.C. mil ranges to 1400 D.C. mils with 1 microampere first indication, 5 ohmmeter ranges to 50 megohms using only a 45 volt battery, with a low 500 ohm range having 0.25 ohm first indication. Includes all resistors and capacitors as well as 2 knobs, 1 "Zero Adjust" potentiometer, 1 copper-oxide rectifier, and 1 "Functional" switch, plus complete instructions and drawings.

Cash Price $19.95

Net

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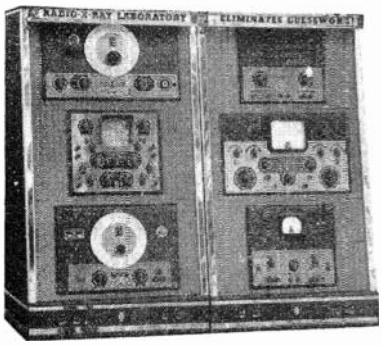
World Radio History

Clough-Brengle Precision Instruments



Auto and Home Radio Service Laboratory

Rack—Each with three panels as specified. Blank panels optional. Reflector—Choice of two signs, "Radio-X-Ray Laboratory" and "Eliminates Guesswork." Construction — Uniweld, heavy-gauge steel. Finish—Dark green, gray and nickel. Size—35¾ x 19⅜ x 17, 11¼ deep at top. Weight—38 lbs. Price—Per Unit-Section, $29.50. $5.25 cash and $4.00 for seven months.

Best Paid Professions Point the Way to Higher Service Income

SHOWMANSHIP Pays! Big attorneys use it by placing their law libraries where they are sure to catch the eye. And all well paid professions, physicians included, work before their customers with an impressive showing of equipment that tells louder than words that here's a man who is up-to-date and an expert in his work.

Stamping the expert in radio service is the ability quickly and surely to localize *any* trouble in *any* receiver, through speedy, modern, dynamic analysis with time-saving cathode ray.

Best of all, this fast, expert method takes no college degree to learn, but can be put to work by anyone who can read a receiver diagram, in quick time.

Short, to the point, easily understood directions for complete dynamic check of any receiver from end to end are given in a new, condensed booklet "Complete Dynamic Analysis, Step-by-Step, With Time-Saving Cathode-Ray," by Kendall Clough, C-B chief engineer.

Here's the easy, swift and sure road to practical mastery of your profession, to public respect and confidence, earned through convincing, out-in-the-open demonstration of expert skill.

"Complete Dynamic Testing" is supplied free to purchasers of any C-B instrument, or sold independently for 50c. Get your copy TODAY!

Every Instrument Is a Stepping Stone to a Radio and Television Laboratory

PRACTICAL, successful showmanship is the important contribution to service progress of C-B Radio-X-Ray Laboratory—a brand new display assembly of new C-B instruments, covering every home and auto radio service need.

All instruments for installation in Radio-X-Ray Laboratories are standard models, independently portable and useful as such. They have, however, one important point in common that sets them above any instruments previously made —all are built to unit height of 9¼" for attachment to unit-height panels in C-B laboratory assemblies.

Instruments are caught to mounting panels by two ingenious handle catches (patents applied for), so that installing or removing them is as easy as putting them on an ordinary shelf.

For instruments of make other than C-B, blank panels are provided that can be cut to fit, provided unit height does not exceed 9½", or width 17".

Through building step by step a complete radio and television laboratory, your dollar is multiplied with every C-B instrument you buy. Each unit adds to the value of the rest, in raising your professional standing and building trade at increased rates of pay.

Further, your investment is given maximum protection against value deterioration and obsolescence. Discard of any single instrument does not mean spoiling or rebuilding your whole display at a considerable loss.

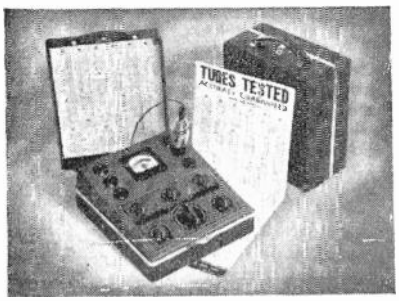
Custom-built laboratories are worth practically nothing on resale. By contrast, C-B laboratories command substantial resale value, because of unit standardization and resultant usability anywhere.

Rolling Radio-X-Ray Laboratory

Dolly — Instantly moves rack to work anywhere. Attracts attention and saves bench space. Construction — Heavy-gauge uniweld steel. Wheels—3" wear-tested, moulded rubber composition. Finish—Green and gray. Size—28½ x 19⅝ x 17. Weight—35 lbs. Price—$14.50. $3.50 and $2.60 for 5 mos.

Two Testers in One—Impressive Counter Instrument and Handy Portable

- Cabled wiring
- Extra wall chart
- Lists over 600 tubes
- Completely tests them all
- Settings read like phone numbers
- Accuracy protects dealer and customer



ACCURATELY measuring the effect of signal voltage on plate current flow, Dynatest Model 125 provides a reliable index to mutual conductance of radio tubes, as a dependable gauge of actual operating merit.

Closely controlled loads and voltages are applied to each tube element, and the resultant plate current is measured in an accurately calibrated circuit to give a simple "Good-Bad" indication.

The Dynatest tube chart lists over 600 tubes, the largest number ever published. Yet due to copyrighted numerical indexing and grouping it is the easiest reading and fastest-finding chart as well.

Not only does Dynatest provide a complete working test of all tubes, including rectifiers, but it performs, with hot cathode, a point-to-point check of each element of every tube, even to pilot light taps on ballast tubes, for short circuits and inter-element leakage.

For tubes in critical circuits requiring higher inter-element resistance than RMA standard of 250,000 ohms, sensitivity of test is increased several times by a special test circuit.

Non-obsolescence of the design is proved by performance, since more than 150 tubes have been added to the chart since it was first published, without a single revision in wiring or construction. For future possible new tube basing arrangements, a spare socket and extra switch bank are provided.

Finish, dark green, gray and silver. Size, with cover, 11½ x 9½ x 5. Weight, 12 lbs. Price, $34.50. Terms, $5.00 cash and $4.80 for seven months.

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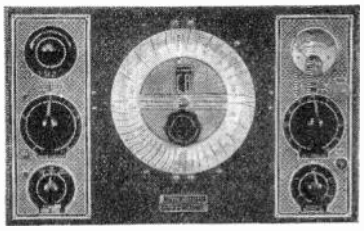
World Radio History

Clough-Brengle Precision Instruments



Range—100 kc.-30 mc. in 5 bands. Accuracy—½% of dial indication. Output—½ to 100,000 microvolts of (1) unmodulated r-f, (2) 400-cycle, 30%-modulated, pure sine wave r-f. High Output—.1 to 1.8 volts. Verni-Vider Dial—Reads to 1/10%. Adjustment—In v.t.v.m. circuit to compensate new tubes. Drift—Temperature compensated to below 1/10%. Accessory—Shielded coaxial cable. Finish—Dark green and silver. Size—9¼ x 15 x 7. Weight—24 lbs.

First with Measured Performance C-B Microvolter No. 199

ACCURATELY measured and certified receiver performance is the service industry's newest, powerful, sales builder, with C-B Microvolter No. 199.

Now you can *prove* to customers that their receivers have been restored 100% to original factory sensitivity as published in microvolts. No arguments. No dissatisfaction.

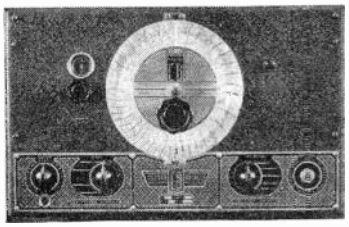
In this revolutionary instrument, with output accurately calibrated from less than ½ to 100,000 microvolts, are features costing heretofore twice to twenty times the sum:

Attenuator section on a massive foundation of heavy copper, with two decks separated by a solid copper shield and the entire assembly placed in a tight, heavy copper enclosure.

Hand-made, ultra-precision lattice-wound, non-inductive attenuator resistors, minutely adjusted and impregnated, baked and aged to prevent change.

Roto-inductor and s-l-f condenser connected by a heavy, solid copper bracket. Entire oscillator section sealed in a heavy solid copper casket with 1½" overlap between edges.

Price, including five tubes, $95.00. $10.00 cash and $9.65 for ten months.



Range—100 kc.-31 mc. Accuracy—½%. Verni-Vider reads to 1/10%. Output—½ to 100,000 microvolts. Unmodulated r-f, modulated r-f (external or 400-cycle internal), and audio, 400-cycle. Attenuation — Vernier-regulated ladder design in four steps. Drift—Held to 1/10%. Cable—Shielded coaxial. Finish—Dark green and silver. Size—9¼ x 15 x 7. Weight—23 lbs.

Tops In Accuracy with Verni-Vider—No. 110

Check these features as determining the real worth of the Signal Generator upon which you stake your reputation.

Accuracy—Does frequency check to ½% at all dial points? Dial—Can it be read to 1/10% on all settings?

Stability—Does construction, thermal shielding and tropical sealing indicate ability to hold accuracy to ½% over long periods of service? Are output and frequency unaffected by load changes and line variations?

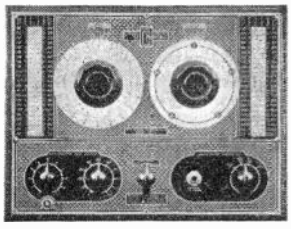
Attenuation—Is it down to ½ microvolt or better, and so accurate as to provide a reliable standard for gain measurement? Is input to attenuator flat and up to maximum rated voltage on all bands?

Leakage—Is no leakage perceptible adjacent to a receiver with a sensitivity of ¼ microvolt or better?

Waveform—Are audio modulation and audio output truly sinusoidal?

Range—Do fundamental frequencies extend to 30 mc., with harmonic content suppressed to provide uniform input to attenuator and to prevent confusion?

Model 110 checks 100% on all counts. Price, including tubes, $49.50. $7.00 cash and $7.00 for seven months.



Range—100 kc.-30 mc. Accuracy—½%. Visi-Vider reads to 1/10%. Output—½ to 100,000 microvolts. Unmodulated r-f, modulated r-f (external or 400-cycle internal), and audio, 400-cycle. Attenuation—Dual, continually variable. Drift—Held to 1/10% at all times. Cable—Shielded coaxial. Finish—Dark green and silver. Size—9¼ x 12 x 7½. Weight—18 lbs.

Rivals Costliest Designs—Popular Model OCX

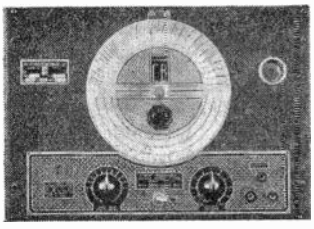
Advantages of costliest signal generators, in accuracy, suppression of harmonics, reduction of strays, attenuation, stability and other factors of real merit are combined by Model OCX with outstanding ruggedness for hard daily service work.

Hand calibration to ten or more points on each of five bands guarantees accuracy of ½%, while speed of direct reading is approximated through hand inscription on the front panel of over ninety most used frequencies.

With costlier C-B designs, Model OCX shares the exclusive advantage of roto-inductor band switching, by which each coil assembly, built to identical pattern and with all components in identical relation, is physically introduced into the oscillating circuit through the same contacts, while the rest are completely removed from the field.

Circuit constants are held identical, therefore, for all combinations, while reduced wiring and contact resistance improve materially the Q of the circuit and so increase both frequency range and voltage output.

Price, including tubes, $34.50. $5.00 cash and $4.80 for seven months.



Range—0-15,000 cycles. Accuracy—2%. Verni-Vider reads to 1/10%. Output—16½ db, or 0-270 mw. into 500 or 5000-ohm impedance. Distortion—Less than 3%. Hum Level—58 db below maximum output. Adjustment—Zero beat with electronic eye. Stability — Improved by thermal shie'ding. Finish—Dark green and silver. Size—9¼ x 13 x 8. Weight—20 lbs.

Modernizes Sets—Audio Oscillator No. 79-C

Of the various applications of a truly high grade audio oscillator, the checking of cabinet and speaker rattles, while valuable, is the least important. From a profit standpoint, a far more productive employment is the modernization of receiver audio amplifiers, to meet improved listening standards, more especially as developed by the rapidly enlarging market for high-fidelity record reproduction through the addition of electric pick-ups to existing sets.

Existing audio deficiencies and the resultant amount of high or low frequency compensation required to lift reproduction to satisfactory level are quickly and accurately determined by a precision instrument of high thermal stability such as Audio Oscillator No. 79-C, with range of 0-15,000 c. p. s., frequency calibration accurate to 2%, harmonic distortion less than 3%, and output variation less than ± ½ db from 75 to 10,000 cycles, and ± 2 db above and below these limits.

A real profit maker in the hands of advanced service men. Price, $59.50. $7.00 cash and $6.00 for ten months.

Matching Transformers: 1184—500 to 1-2-3-6-8-10-15 ohms. 1201—500 to 1000-2000-3000-6000-8000-10000-15000. 1346—5000 to 500 and 125. 1347—5000 to 500 and 200. Price—$6.50.

Net

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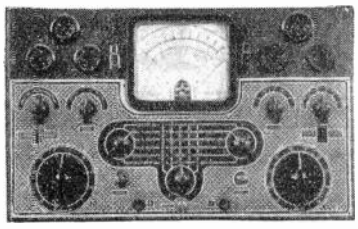
World Radio History



D-C Volts—0-5-20-100-500-1000. A-C Volts—0-8-32-160-800-1600. D-C Mils.—0-.5-10-100-500-Short Pos. Ohms—0-4000-400,000-40 megs. Mfds.—.0005-.1, .05-10. DB—15+13, −3+25, +11+39, +25+53, +31+59. A-C Output—Same as a-c volts. Power—A-C line, with 30-volt compensation. Accessories—Test prods and clip. Cover and extra wall chart. Finish—Dark green and silver. Size—With snap-lock cover, 9¾ x 15 x 6¼. Weight—18 lbs.

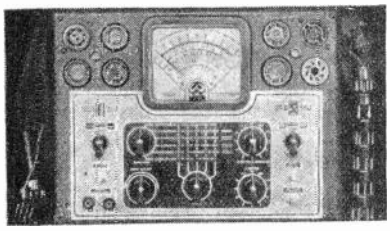
Fastest and Most Complete Tester C-B Uni-Checker No. 135

TRIPLE utility, (1) as a counter instrument, (2) rack unit, and (3) handy portable, gives Model 135 Uni-Checker greater service value than has ever before been combined in a single test instrument.

In addition to checking reliably and swiftly all tubes by Dynatest method (chart shows over 600 tubes—greatest number ever published) it provides most rapid and easy point-to-point check of all circuits and components, through only two switches and only two combination binding posts.

Twenty-nine ranges, covering every radio and sound service measurement, including capacity and power output, are incorporated in a new safety progression that virtually eliminates meter danger. In addition, inductance readings of 1-140 and 100-14,000 henries are had by chart conversion of capacity indications.

Special precision movement, adjusted to five positions, is accurate to 2% of full-scale on d-c at 2000 o. p. v., and 5% on a-c at 1250 o. p. v. Wide-open, easy reading scales are clearly separated by printing in different colors (black, green and red). $54.50. $8.00 cash and $6.00 for ten months.



Ranges—Same as 135 Uni-Checker, with added provision for 4½-volt internal battery to give ohms ranges of 0-4000, 0-400,000. Zero Set—Push button shorts terminals. Accessories—Analyzer cable, 6 adapters, test prods and clip. Cover and extra wall chart. Finish—Dark green and silver. Size—With removable snap-lock cover, 9¼ x 16½ x 4½. Weight—17 lbs.

Most Rapid and Foolproof—Unilyzer No. 285

New speed and freedom of error in receiver analysis are provided by amazingly simplified Unilyzer No. 285.

Only two rotary switches give instant connection for all tests at socket terminals and ground, including capacity, and output in a-c volts or db.

Work is speeded further by a new, copyrighted, quick-finding basing chart of over 450 receiving tubes, the greatest number ever published.

Selection of measuring functions and ranges is enormously simplified through only two switches, one for function and the other for range, with a single zero set for resistance and capacity scales.

Meter burn-out is eliminated by connecting the line cord of the receiver through the Unilyzer so that set power is shut off when switching to resistance or capacity ranges, and by isolating the meter and all its associated circuits, except when pressing test buttons.

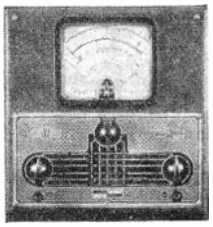
Operation is optional either as an analyzer or point-to-point tester, with a full complement of accessories for each. For resistance ranges, provision is made for an internal battery, in addition to line power. Price, $49.50. $7.00 cash and $7.00 for seven months.

Adds Capacity and Decibel Ranges

Twenty-nine ranges, including capacity and decibel, are combined with new speed and safety provisions to make this the most useful meter yet devised. D-C Sensitivity, 2000 o. p. v. A-C, 1250. With steel cover, $29.50. $5.25 and $4.00 for seven months.

D-C Volts — 0-5-20-100-500-1000. A-C Volts—0-8-32-160-800-1600. D-C Mils. — 0-.5-10-100-Short Pos. Ohms — 0-4,000, 0-40,000, 0-4 megs. With ext. battery, 0-20 megs. DB—15+59, 6 mw. 500-ohm level. A-C Output—Same as a-c volts. Mfds.—.0005-.1, .05-10. Accessories—Test prods and alligator clip. Size—9¼ x 9⅛ x 4⅜. Weight—9 lbs.

Unimeter No. 185 with Snap-Lock Cover

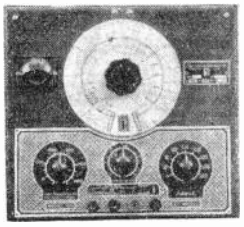


Automatic Good-Bad Leakage Test

Determinative leakage standards operate in a novel circuit to give automatic Good-Bad indication, with added precision check for close limit applications. Tests *all* condensers in radio use. *With all tubes*, $24.50. $5.00 cash and $3.75 for six months.

Mfds. — .000001-.001-0.1-100. Ohms — 10-10,000-10 megs. 0-500 megs. Leakage — 0-500 megs. Power Factor — 0-50%. Transf. Turns Ratio — .01-100. Accuracy—Improved by C-B precision potentiometer. Dial — Wide-open, read vertically. Snap-Leg—Tilts instrument at reading angle. Finish—Green and silver. Size—9¼x10x4½. Weight—10 lbs.

No. 130 Condenser and Resistor Bridge

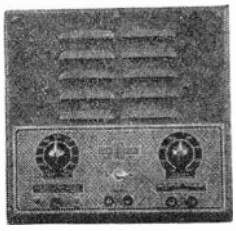


Saves Labor of Removing Speakers

Matching 97% of all speaker systems, this time-saver does away with taking speakers from cars or consoles, and also provides quick comparative dynamic check of misconnected or defective hum bucking coils. $19.50. $4.50 cash and $3.00 for six months.

Impedances — For matching single-ended or push-pull circuits. 2500, 4000, 5000, 7500, 10000 or 15000 ohms. For voice coils—1.5, 3, 5, 8, 15 ohms. Field Resistance — Variable 500-4000 ohms. Output Connection — Constant impedance of 1000 ohms. Switch—To substitute load resistance for speaker. Size—9¼ x 10 x 5. Weight—15 lbs.

No. 131 Multi-Speaker Substitute

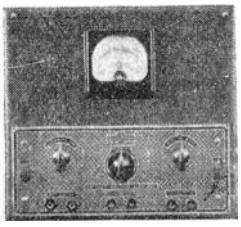


Necessary to Auto-Vibrator Check

Accuracy requires check of vibrator, power transformer, buffer condensers and rectifier as a single unit, at starting voltage as low as 4½ to running voltage as high as 8. Model 132 accurately controls these conditions. $21.50. $5 cash and $3.30 for six months.

Meter—Rugged d'Arsonval type. Volts—0-10. Amperes—0-20. Connections—To set through separate switches for (1) playing test, (2) vibrator check. Relay—Breaks at 15 amps. in event of a sticky vibrator or short in set. Polarity Switch—Reverses ground of test input. Cables—Heavy, rubber-insulated. Size—9¼ x 10 x 5. Weight—8 lbs.

No. 132 Battery Voltage Control



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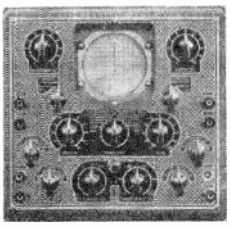
World Radio History

Clough-Brengle Precision Instruments



Sweep Width—Variable 0-50 kc., for stages badly misaligned and to give complete view of broad single-stage response. **Image Expansion**—Enables close-up view as desired. **Return Trace**—Eliminated by positive suppressor circuit. **Fidelity**—Greatly superior because of combination of perfectly linear 120-cycle sweep and pure sinusoidal 60-cycle frequency modulation. **Finish**—Dark green, with black and silver escutcheon. **Size**—9¼ x 10 x 13. **Weight**—23 lbs.

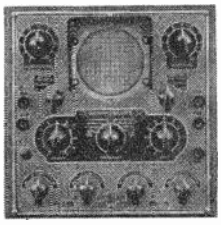
Best Road to Better Pay—Dynamic Test with Graphoscope 127

FASTEST, handiest and most efficient tool for modern dynamic testing, Uni-Signal Graphoscope No. 127 combines, in a single instrument of unprecedented ruggedness, compactness and portability, all the advanced features of Graphoscope No. 126 and Frequency Modulator No. 111.

Alone with the latter it delivers only the wanted signal, free from harmonics. Further, without external time-base cables, it automatically centers and synchronizes the frequency modulated signal with the pre-set linear sweep to provide perfect trace stability and freedom from wandering.

Simplified grouping and complete absence of interaction between controls give quick and easy mastery of every function. Including ten tubes, $93.50. $10.00 and $9.55 for ten months.

Anti-Capacity Demodulator 147
Avoids capacity-error of test leads at i-f and r-f, through bringing the demodulator into the receiving circuit instead of vice versa. Price—$9.75.



Sensitivity—Input in rms volts per inch deflection: To vert. plates, through amp., .26, direct 25. To horizontal plates, through amp., 6.8, direct 20. **Input Impedance**—To vert. amp., 1 meg.; hor. 2.5. To vert. plates, 5 megs.; to hor. 2.5. **Accessories**—Tube shade and calibrated screen. **Size**—9¼ x 9 x 13. **Weight**—21 lbs.

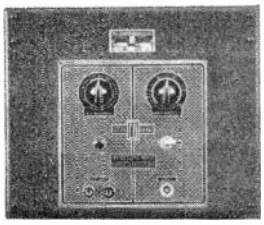
Superior Flexibility, Range and Sturdiness Join in Graphoscope No. 126

EVERY utility and operating refinement that years of circuit research and application study could produce is compressed into astonishing new compactness, sturdiness and portability in Graphoscope No. 126.

Extra-rugged chassis, shielding and case of heavy-gauge uniweld steel lend extraordinary protection to all vital parts, while unduplicated utility and flexibility of application are provided through a total of seven combinations of sweep source and synchronizing voltage.

Other features contributing to the superior range and accuracy of this fine instrument are (1) High sweep rate, 15-30,000 cycles, (2) Perfectly linear sweep, licensed under Bedell patent, (3) Amplifier output free of distortion and virtually flat as to frequency characteristic up to 100.000 cycles, (4) Return trace eliminator, (5) Variable sweep expansion, and (6) Complete absence of hum modulation or interaction of controls.

Price, including tubes, $64.50. $7.50 cash and $6.50 for ten months.



Frequency Sweep—Perfectly linear. **Width**—Accurately variable 0-50 kc. **Attenuation**—Fixed oscillator output of 1650 kc. is adjusted to signal by 3-step resistor with 10-1 ratio per step, and counterbalanced to less than 10 microvolts in modulated output. **Accessory**—Shielded coaxial cable. **Size**—9¼x11½x8. **Wt.**—18 lbs.

Only Uni-Signal No. 111 Gives Only Wanted Signal, Free from Harmonics

EMPLOYING five tubes instead of the conventional three, in a novel balanced double-modulator circuit, the No. 111 Frequency Modulator stands alone in delivering only the wanted signal, free from confusing, time-wasting harmonics.

Further, the virtual doubling of the square-law detector range of the conjugate modulators through ingenious push-pull arrangement gives the added advantages of (1) increased power, and (2) extension of sweep width to 50 kc., for locating resonance in misaligned or insensitive sets, and for better amplitude comparison between single stages as well as complete depiction of even the broadest selectivity curves.

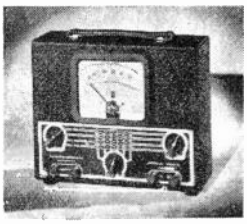
Speeding all work is automatic synchronization between the rate of frequency modulation and rate of linear sweep in connected oscillographs through lock-in voltage from the No. 111 power supply, while superior accuracy is assured by ingenious temperature compensation of the fixed oscillator to drift of less than 1 kc. With tubes, $39.50. $6.00 cash and $5.50 for seven months.

Ultra-Sensitive and Dependable

Multiple refinements impart superior accuracy, while only two controls select all ranges. Minus batteries, with steel cover, $43.50. $5 cash and $4.40 for ten months.

D-C Volts—3.5, 7, 35, 140, 350, 1400 (20,000 o. p. v.). **A-C**—Same (7000 o. p. v.). All read on same a-c scale. **D-C Mils.**—.07, .7, 7, 35, 350. **Ohms**—0-3000, 0-30,000, 0-3 meg., 0-30 meg. Single adjustment for all ranges. **DB**—14+61. Blocking condenser enables use as output meter. **Accuracy**—2% of full scale d-c, 4% a-c. Temperature coefficient less than .05% per degree C. **Test Prods**—With 4-ft. leads and clip. **Size**—8 x 9¾ x 4¼. **Weight**—9 lbs.

20,000 Ohms-Per-Volt Unimeter No. 120



Needed for True Precision Work

Exclusive refinements such as freedom from frequency error to 30 mc. make this instrument the most advanced of its type. $45.50. $5.50 and $4.57 for ten months.

RMS Volts—0-1.2. read to .1 v. **Peak Volts**—0-10, 0-100. **Tube Extension**—Eliminates capacity effect of leads in r-f or i-f work. **Low Frequency Measurements** — Through binding posts, with tube and cable inside case. **Input Impedance**—With tube in case, 10 megs.; extended outside, 8 megs. **Accuracy**—2% of full scale under 4000 kc., 5% to 30 mc. **Calibration**—Unaffected by tube renewal. **Shielding** — Isolates circuits. **Size**—9¼ x 10⅜ x 4¼. **Wt.**—12 lbs.

Vacuum Tube Voltmeter Model 88-A

Net

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World Radio History

HICKOK TEST EQUIPMENT

MODELS 17 & 18 UNIVERSAL SIGNAL GENERATORS

WITH FIVE OUTPUT SELECTIONS

Model 18—Size 13" x 10" x 7". Ship. wt. 21 lbs. Etched aluminum panel. Steel case.

● Frequency Modulated R.F. Output. (30 KC Sweep) ● Amplitude Modulated R.F. Output. (400 Cycles) ● Unmodulated R.F. Output ● 100 to 10,000 Cycle Variable Audio Frequency Output ● 400 Cycle Fixed Audio Output ● All Ranges Controlled by Output Attenuator ● Self Contained Power Level Meter. Three Ranges. —10 to +6, +6 to +22, +22 to +38. MODEL 18 ONLY ● 6 R.F. Ranges 100 to 250 KC, 250 to 650 KC, 650 to 1600 KC, 1.6 to 4.0 MC, 4.0 to 10 MC, 10 to 30 MC. 100" of Direct Reading Scale. Output voltage from 1 microvolt to over 100,000 microvolts on all ranges. Accuracy better than 1% ● Two Negative Resistance Audio Frequency Oscillators. 0 to 400 cycles, fixed, 100 to 10,000 cycle variable. Accuracy approximately 5%. Output voltage continuously variable from 0 to 1.0 volt.

Model 17—Size 13" x 10" x 7". Ship. wt. 20 lbs. Etched aluminum panel. Steel case. Without Meter.

TUBES: The tubes used are the type 6J7, type 6C6, type 6K7 and type IV. All these tubes are the latest 6 volt heater type tubes, and are operated sufficiently below their normal rating to insure long life and uniform service.

POWER: The Oscillator includes a complete built-in power supply consisting of a transformer, rectifier and filter. It may be operated from any 110 volt A.C. line, 40 to 65 cycles; other voltages and frequencies available at slight additional cost.

CABLES: Each oscillator comes completely equipped and supplied with all necessary connecting cables. Complete and concise operating instructions are furnished with each oscillator and the operator will find these instructions very helpful for practical service work.

MODEL 18 with Power Level Meter; List Price $90.00
DEALERS NET PRICE 54.00

MODEL 17 without Power Level Meter; List Price $75.00
DEALERS NET PRICE 45.00

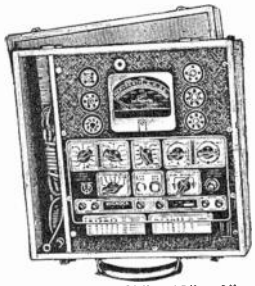
(220 volt or 25 cycle types—$3.00 net extra)

MODELS T53C and T53P DYNAMIC MUTUAL CONDUCTANCE TUBE TESTERS

READING IN MICROMHOS WITH NEW TRANSLUCENT MULTICOLOR ILLUMINATED METER DIAL

Both types equipped with etched, removable operating panel. Simple, easy to understand and operate. One setting to make.

Ninety-four unused switch positions for future tubes. Only fifty used. All positions wired.



T53P—Size 14¾" x 13" x 6". Sloping Panel. Ship. wt. 20 lbs.

Technical Description of T53C and T53P Tube Testers: Rectified current is used to energize both plate and grid. Superimposed on the rectified voltage in the grid circuit is an alternating signal voltage. ● The large square meter responds only to the change in plate current caused by the signal on the grid. The meter is not affected by the steady value of the plate current, except in diodes and rectifiers in which plate current is indicated ● The T53 type tests are truly Dynamic Mutual Conductance Testers. In twin and multi-element types, the components are tested separately, determining the dynamic mutual conductance of each component. In twin grid tubes each grid is energized separately, determining the relative function of each. Diode plates are tested separately.

Model T53P—Dynamic Mutual Conductance Tube Tester (Portable Type)

List Price $83.00. Dealers Net Price $49.80

MODEL T53C (Counter Type)

Panel construction and method of operation identical with portable type (at left).

Exclusive Features: 1. True Dynamic Mutual Conductance in Micromhos. Recognized by tube manufacturers and engineers as the only exact test. 2. Sufficient Plate Current to accurately check both emission and Mutual Conductance simultaneously. 3. Each tube element receives proper voltage. Rectified current is used on both Plate and Grids. 4. Checks gas content on meter. Gassy tubes ruin the operation of even the best radio receivers. 5. Detects both short and open elements. 6. Elements tested separately in multi-element tubes. 7. Short tests made hot or cold. 8. Selector switches take care of all tubes. 9. Mutual Conductance readings not affected by amount of plate current. 10. Ninety-four unused switch positions for future tubes, only 50 used. All positions wired. 11. Only one setting to make. No complications. No customer confusion. 12. Tests Diode plates separately.

T53C—Size 14" x 16" x 6". Sloping panel. Ship. wt. 22 lbs.

The Hickok method of indicating as embraced in this tester, is the result of years of experience in the manufacture of direct reading Dynamic Mutual Conductance Tube Testers, to conform to all manufacturer's standards of practice.

Model T53C Dynamic Mutual Conductance Tube Tester (Counter Type). List Price $83.00. DEALERS NET PRICE $49.80

(220 volts or 25 cycle types—$3.00 net extra)

Model 51-X Dynamic Mutual Conductance Tube Tester — Set Analyzer

Indicating in Micromhos—Also "Good," "Replace," "Doubtful" with Volts, Ohms, Milliamperes, Capacity, Condenser Leakage, Output, Inductance and Decibel Readings.

51-X—Size 14" x 13¾" x 6" deep. Sloping panel. Hardwood case, beautiful rubbed walnut finish. Meter scale length 3¾", unusually long. Ship. wt. 21 lbs.

Greatest value ever offered in an all purpose tester. It will make all measurements required in portable radio service. Made in portable type, as illustrated. Furnished with test leads.

Exclusive Features

SET TEST SECTION

1. A.C.-D.C. Volts: 0-20, 200, 500, 1000 in five overlapping ranges. Same uniform scale for A.C. and D.C. 2. D.C. Milliamperes: 0-20-200 direct. 3. Ohms: .1 to 25 megohms in 3 over-lapping ranges. NO BATTERIES USED. 4. Capacity: .0001 to 24 mfds. Checks leakage in electrolytic condensers with Polarizing Voltage Applied. 5. A.C. Voltmeter used to read OUTPUT. 6. A.C. Voltmeter accurate on AUDIO FREQUENCIES. 7. Instructions supplied for reading DECIBELS. 8. Checks Inductance of chokes with or without D.C. COMPONENT OF CURRENT. 9. Overall accuracy well within 2%. 10. No copper oxide rectifiers: insures permanency of calibration. Electronic rectifiers used.

TUBE TESTER SECTION—Identical to T53 listed above.

MODEL 51-X MUTUAL CONDUCTANCE TUBE TESTER

List Price $99.00. DEALERS NET PRICE $59.40

(220 volts or 25 cycle types—$3.00 net extra)

MODEL 4955-S VOLT-OHM-MILLIAMMETER

ACCURACY WITHIN 2% ● HICKOK 4" SQUARE METER. SCALE LENGTH 3¾" ● FOR GENERAL CIRCUIT TESTING: Contains low ohm range—.05-30 ohms ● SCALE RANGES AS FOLLOWS:

A.C. VOLTS, 0-10/50/250/500/2500. D.C. VOLTS, 0/10/50/250/500/2500. OHMS, .05-30, .5-10,000, 50 ohms to 1 megohm, 500 ohms to 10 megohms. 8 ohms in the middle of the scale. D.C. MICROAMPERES, 0/500. D.C. MILLIAMPERES, 0/1/-5/50/500.

A.C. voltmeter can be used as an output meter. These readings may be readily converted into decibels by means of chart furnished with instructions.

GUARANTEED ACCURACY: All ranges including the A.C. volts ranges, are guaranteed to have an accuracy of within 2%, within temperature range of 50 degrees to 90 degrees Fahrenheit. This instrument incorporates a new type rectifier circuit, which will withstand more overloads than any other type. The rectifier is guaranteed for one year.

The instrument used in this volt-ohm-milliammeter is especially built by Hickok for this service. The movement is large and rugged, and a very high torque weight ratio gives lively, instantaneous pointer action. Large, open face dial. Four colors are used on the scales to promote legibility. The movement is curve corrected by an exclusive Hickok process which gives a higher accuracy at all points on the scale. Permanently correct calibration. This complete self-contained unit is suited for industrial applications owing to its rugged construction. All parts are of the highest standard of quality and all resistors are moisture proof and accurately adjusted. This is the finest volt-ohm-milliammeter obtainable today. Regular leads supplied are 4' long with special insulated pin prods of proper diameter for insertion in the latest type tube socket.

4955-S — Size 7" x 4½" x 3½". Metal etched panel. Ship. wt. 4¾ lbs.

MODEL 4955-S VOLT-OHM-MILLIAMMETER ..... List Price $44.00
DEALERS NET PRICE 26.40
Carrying Case for above, extra—**DEALERS NET PRICE** 4.00

EXTERNAL SHUNT

For increasing Range to 5 and 50 Amperes. List Price $6.00
DEALERS NET PRICE $3.60

Further Technical Details on Any of These Instruments Will Be Furnished on Request.

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World Radio History

HICKOK TEST EQUIPMENT

Model 4900-S
Size: 12¾" wide, 9⅞" high, 5½" deep.
Shipping Weight 16 lbs.

MODEL 4800-S AND 4900-S ZERO CURRENT VOLTMETER TESTERS
Infinite Ohms per Volt

NOTE THESE EXCLUSIVE FEATURES:

ZERO CURRENT VOLTMETER: 1. Infinite ohms per volt on the following ranges 0/10/50/250 volts D.C. No current drain on circuit under test. ● 2. AVC, AFC and other high resistance circuit voltages accurately measured without disturbing the operating of the set. ● 3. Special leads supplied for connection to the grid cap of an RF or IF tube to measure bias voltages directly. ● 4. Above measurements are only possible with an instrument having infinite ohms per volt. ● 5. Infinite resistance obtained by the use of variable voltage from tester balanced against voltage of circuit test. This voltage is then read on the regular D.C. volts scales. Balance and voltage indicated on one meter. ● Balancing voltage E_2 obtained from self contained power supply. ● Hickok Zero Current Principle permits use of meter movement far more rugged than those used in conventional high resistance voltmeters.

IMPROVED METER DESIGN: 1. Large open face scale can be read from Wide angle and considerable distance. ● 2. Extra long scale—3¾" in four colors. ● 3. Large rugged movement. Very high torque-weight ratio gives lively pointer action. ● 4. Pointer formed from heavy gauge, hard aluminum to withstand high overloads. ● 5. Hickok exclusive design gives higher accuracy at all points on the scale. ● 6. Large, forged magnet with accurately machined pole pieces. Punched laminated magnets are not used in Hickok meters. ● 7. Movements carefully aged to insured permanently correct calibration. ● 8. All meters used in Hickok testers are Hickok built in accordance with the best grade instrument manufacturing practice. Highest standard meters for over thirty years.

WIDE COVERAGE SET ANALYZER SECTION: 1. Simplification of range selection by rotary switches. ● 2. Improved circuit designed to eliminate errors caused by switch contact resistance. ● 3. Rectifier guaranteed one year. Exclusive circuit will withstand more overload than any other type. ● 4. Overall accuracy all ranges within 1½% (including AC volts ranges) within temperature range 50° to 90° F. ● 5. D.C. Volt ranges: {0/10/50/250 at infinite ohms per volt. {0/2.5/10/50/250/500/2500 at 1000 ohms per volt. ● 6. A.C. Volt ranges: 0/2.5/10/50/250/500/2500. 1000 ohms per volt. ● 7. Ohms ranges: 0/1000/10,000/100,000/1 megohm/10 megohms. Readable as low as .05 ohms. 15 ohms midscale; low range. ● 8. D.C. Microamperes: 0/500. Resistance 500 ohms. Can be used with photo-electric cells for measuring relative light intensity. ● 9. D.C. Milliamperes: 0/1/5/50/500. ● 10. Capacity in Microfarads: 0/.02/.2/2/20/200. Readable as low as .0001 mfds. ● 11. Electrolytic condenser leakage. Method of checking all types of condensers complete and accurate: no "Good-Bad" scales or other inferior methods used. ● 12. Output Ranges: 0/2.5/10/50/250/500/2500 Volts. ● 13. Decibels. Impedance, inductance and A.C. Ripple (Hum) measurements.

SPECIAL EXTERNAL SHUNTS AVAILABLE: 1. All 4800-S and 4900-S analyzers calibrated in MILLIVOLTS so external shunts can be used. ● 2. Specially designed double range shunt, range: 0/5/50 Amperes. (250 M.V.) Net Price $3.60. (List Price $6.00). Other shunts on special order.

BUILT-IN MULTI SELECTOR UNIT:—MODEL 4800-S ONLY. 1. Cables and accessories for all tubes. ● 2. New improved long life jacks for series or parallel connections. ● 3. Connections made to any or all tube elements give quick and convenient method for complete socket analysis without disturbing any of the connections in the set under test.

MODEL 4800-S WITH MULTI-SELECTOR, 110 Volts, 50 or 60 Cycles; Size 10" x 12¾" x 5"; Walnut Finished Hardwood Case; Ship. Wt. 14 lbs. (Specify Frequency).
List Price $99.50. DEALERS NET PRICE.....$59.70

MODEL 4900-S WITHOUT MULTI-SELECTOR, 110 Volts, 50 or 60 Cycles; (Specify Frequency).
List Price $82.00. DEALERS NET PRICE.....$49.20
(220 volts, or 25 cycles types, $3.00 net extra)

MODEL RFO4 OSCILLOGRAPH
MORE THAN TWICE AS USEFUL

SELF-CONTAINED DEMODULATOR AND VIDEO AMPLIFIERS

Use this oscillograph in both RF and IF stages. Single or consecutive stage by stage trouble shooting from antenna post to speaker.

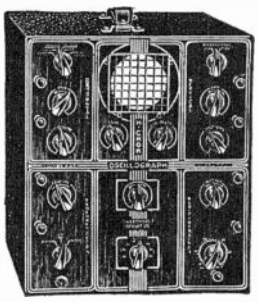
SELF-CONTAINED DUAL SWEEP ELECTRONIC FREQUENCY MODULATOR

Simplifies connections. ● Variable width sweep from 0-30 KC. ● Selectivity measurements. ● Visual alignment at 665 KC or any harmonic thereof to 5 megacycles without the use of an external oscillator. In conjunction with an external oscillator, produces an audio frequency output continuously variable from 0 to 15 KC. Also, visula development of audio frequency response curve.

FEATURES—1. Return trace eliminator. (Simplifies alignment of A. F. and R. F. circuits). 2. Horizontal Amplifier for sweep expansion. 3. High Sensitivity amplifiers. (0.2 volts per inch). 4. Trapezoidal patterns for percent modulation measurements. 5. Calibrated screen. 6. Cathode ray tube rotation adjustable by means of flexible mounting. 7. Easy operation due to simplicity of controls. 8 Dual sweep for development of any type single or double response curve. 9. Video Amplifiers.

UNIVERSAL DESIGN—Every facility for research and laboratory measurements. Model RFO4 is made up of seven different units: Horizontal Panel, Tube Panel, Vertical Panel, Demodulator, Synchronization and Return Eliminator Panel, Sweep Circuit Oscillator Panel and Radio Frequency Modulator Panel. Each section contains the control needed for all oscillographic measurements. Supplied complete with all necessary cables; and concise, practical operating instructions.

HICKOK NEW MODEL RFO4 WITH COMPLETE COVERAGE, 105-125 volts, 50-60 cycles.
List Price $165.00. DEALERS NET PRICE.....$99.00
(220 volt or 25 cycle types—$4.50 net extra)



Model RFO4—Size: 11" x 13" x 15¼". Weight 35 lbs. Etched Aluminum Panel. Steel Case.

MODEL PSG-15 MICROVOLTER SIGNAL GENERATOR
With Calibrated Output in Microvolts on All Ranges

Size Model PSG-15. 13" wide x 10" x 7". Shipping weight 23 lbs. Etched aluminum panel case.

Built in Calibrated Output and Power Level Meter Give More Measurements than Any Other Signal Generator SENSITIVITY, MEASURED MICROVOLTS INPUT, WATTS OUTPUT. ● GAIN PER STAGE. ● SELECTIVITY—All standardized by self-contained vacuum tube voltmeter. ● Calibrated Output Ranges: R.F.—½ microvolt to 100,000 on all ranges. ● A.F.—0 to 1.0 volt. ● DECIBELS, TRIPLE RANGES:—10 to +6 +6 to +22 + 22 to +38 db. ● 100 INCHES OF DIRECT READING FREQUENCY SCALES. ● ACCURACY BETTER THAN 1%. ● Radio Frequency Ranges Calibrated Directly 85 KC to 28 Megacycles.

TECHNICAL DESCRIPTION AND DETAILS OF PSG-15—The radio frequency oscillator covers, in six ranges, from 100 KC to 28 megacycles on fundamentals. The dial is directly calibrated in kilocycles and megacycles and contains over 100" of direct reading scales. A type 6C5 tube is used in an electron coupled oscillator circuit. The 400 cycle modulator supplies the 400 cycle modulating voltage for the radio frequency section and modulates this to approximately 35% throughout the entire range of the radio frequency oscillator. The output from this modulator may also be switched to the attenuator network.

The input to the attenuator serves the dual purpose of attenuating either the radio frequency or audio frequency output to a predetermined level across the attenuator output. The built-in vacuum tube voltmeter is used to standardize the voltage across the attenuator network. Built-in Voltage Regulator. The built-in decibel meter is so arranged that it can be either connected into the vacuum tube voltmeter circuit or switched to an external circuit which provides three ranges of decibels.

RADIO FREQUENCY COILS—All radio frequency coils are wound on ceramic forms and impregnated with special lacquer, making them moisture proof and not subject to inductance change with humidity or temperature. Each coil is individually calibrated for inductance and capacity.

SHIELDING—Each high frequency unit in the signal generator is completely shielded, giving triple shielding on the radio frequency output. Triple filtering is also used in the power supply input. Supplied complete with all cables and instructions.

MODEL PSG-15 MICROVOLTER SIGNAL GENERATOR.
List Price $125.00. DEALERS NET PRICE.....$75.00
(220 volts, or 25 cycle types—$3.00 net extra)

FURTHER TECHNICAL DETAILS ON ANY OF THESE INSTRUMENTS WILL BE FURNISHED ON REQUEST

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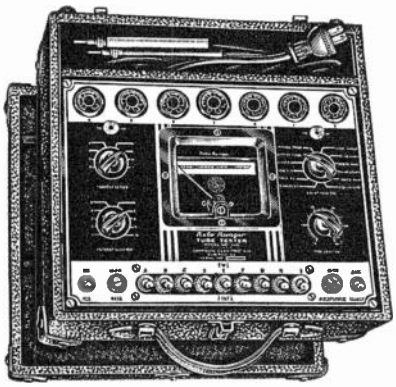
World Radio History

SIMPSON

Roto Rangers

220 TUBE and SET TESTER



The new Simpson Roto Ranger with its ingenious patented roto-dial mechanism does away with the multiple scale with its maze of figures and the necessity of determining which range is connected into the circuit. The selector switches the scale and the circuit simultaneously, providing one scale at a time.

TUBE TESTING—The Model 220 Tube Tester utilizes the very latest circuit which has been adopted as standard by the radio industry. Three "Good" and "Bad" dials have been incorporated; one for Cathodes, one for Diodes and one for Battery Type Tubes. Design features overcome the possibilities of early obsolescence.

LINE VOLTAGE ADJUSTMENT—Upon each of the dials used in tube testing and condenser testing, line voltage may be checked without returning the selector to a fixed position.

SHORT CHECK—Testing for "shorts" is a simple matter with the Roto Ranger. After setting the correct dial in position, toggle switches are manipulated to check each element. The meter sensitivity is correct for locating shorts especially those due to thermal expansion of the elements.

CONDENSER TESTING—Two "Good" and "Bad" dials have been incorporated in the Model 220 for testing condensers. One of these dials indicates the condition of mica and paper condensers and the other is calibrated to show the true condition of electrolytics.

RESISTANCE RANGES—The instrument is provided with three very practical and useable resistance ranges: 0-100 Ohms, 0-100,000 Ohms, and 0-100 Megohms.

VOLTAGE RANGES—Voltage ranges, three in number, include D.C. ranges of 0-8-300-1000 volts. The sensitivity of the meter movement is 400 Microamperes and all voltage ranges are furnished with resistance of 2500 ohms per volt.

GENERAL FEATURES—The handsome metal panel is finished in black and silver by a new process. Carrying case is well built and covered with black "Shark" grained leatherette. Protective leather caps on all corners.

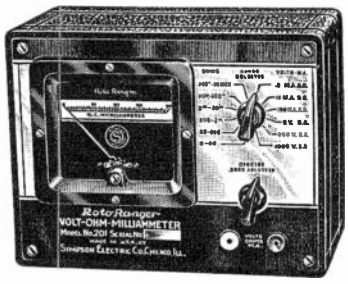
Dimensions, 12½ x 12½ x 6 in.; Shipping weight, 22 lbs.

Dealers' Net Price **$62.75**

201 & 202 VOLT-OHM-MILLIAMMETERS

Another Roto Ranger design incorporating the twelve scale rotary dial. Positively the most useful and practical instrument ever offered for use in the shop or on the job. Model 201 utilizes 6 scales for resistance and covers a complete range from .1 ohm to 20 megohms. Also provides three current ranges, making available the basic range of 200 microamperes; and three voltage ranges to 1000 volts with resistance of 5000 ohms per volt.

MODEL 202—The A.C.-D.C. type is especially adaptable to "Free point" testing and is provided with ranges most suitable for general testing. All voltage ranges are on the basis of 1000 ohms per volt.



RANGES OF MODEL 201 D.C. TYPE

0-20 Ohms	200,000 Ohms to 20 Megohms
20-200 Ohms	0-200 Microamperes
200-2,000 Ohms	0-10-150 Milliamperes
2,000-20,000 Ohms	0-8-300-1000 Volts
20,000-200,000 Ohms	(5000 Ohms per Volt)

Model 201—Dealers' Net Price **$32.50**

A.C.-D.C. VOLT-OHM-MILLIAMMETER MODEL 202

Design and general features identical with Model 201. Ranges:

0-8-130-1000 A.C. Volts	0-100 Ohms (Center scale 5)
0-8-300-1000 D.C. Volts	0-50,000 Ohms (Center scale 1400)
0-1-8-130 D.C. Milliamperes	0-2 Megohms (Center scale 21,000)

Model 202—Dealers' Net Price **$35.75**

275 RADIO SET TESTER

ROTO RANGER—10,000 Ohms per Volt

The same substantially built Roto Ranger mechanism found in other Simpson testers is now incorporated in this new high sensitivity set tester. Drawing current of only 100 microamperes, it does not materially effect present day receiver circuits and more accurate readings result. Also, higher resistance ranges are available. Black and silver modernistic metal panel—black leatherette carrying case and large 4½ inch Roto Ranger instrument.

Ranges: D.C. at 10,000 ohms per volt—A.C. at 1,000 ohms.

D.C. Volts 0/10/50/300/1000
A.C. Volts 0/8/150/1000

OHMS 0/2,000/200,000/20 Megohms
MILLIAMPERES—0/10/100/500
MICROAMPERES—0/100

Dimensions: 12" x 9" x 5½"

Dealers' Net Price **$42.50**

NET

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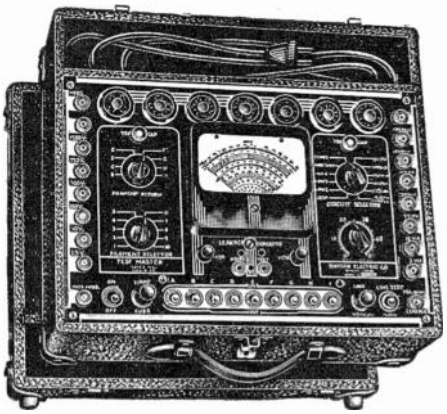
World Radio History

SIMPSON

RADIO INSTRUMENTS AND SERVICE EQUIPMENT

440 TEST MASTER



An all-service Tube and Set Tester for general servicing, auto radio servicing, public address systems, sound equipment and transmitters. More dollar value than any other tester.

Tube testing circuits cover R.M.A. standards, but also incorporate double filament switching, eliminating obsolescence. High sensitivity neon short check and noise test. Also checks "magic eye" tubes and rectifiers of the OZ4 type.

As a set tester, Model 440 is entirely A.C. operated. Wire wound resistors are used throughout except on high voltage ranges where matched metalized resistors are used.

Ranges:

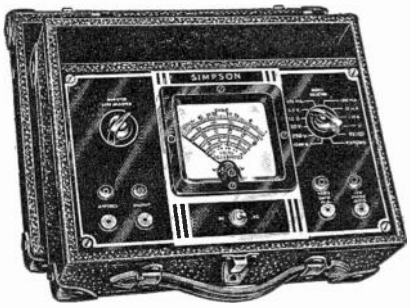
0-7.5-30-150-300-750-1500 Volts A.C. and D.C.
0-3-15-75-300 Milliamperes D.C.
0-1000 Ohms (30 ohms center)
0-100,000 Ohms (1,000 ohms center)
0-100 Megohms (1 megohm center)
—10 to +58 Decibels (6 ranges)
0-15 Amperes D.C. (For Auto Radio)
0-30 Microfarads (Also condenser leakage test)

Dimensions: 14½ x 12½ x 6½ in.

Model 440—Dealers' Net Price.....$59.00

250 RADIO SET TESTERS

20,000 OHMS PER VOLT



The greatest dollar value ever offered in testing equipment of super sensitivity. Practically negligible current draw assures remarkable accuracy on all voltage ranges. All batteries are self-contained, providing resistance readings to 40 megohms. Particularly adaptable to measuring A.F.C. diode balancing circuits, bias of power detectors, high-mu triode plate voltage and many other unusual conditions which cannot be checked with ordinary servicing instruments. Large 4½ inch open faced instrument. Attractive panel and serviceable carrying case.

Ranges: D.C. at 20,000 ohms per volt—A.C. at 1000 ohms.

VOLTS 0-2.5-5-10-50-250-1000	DECIBELS (5 Ranges) —10 to +55.
MILLIAMPERES 0-1-10-100-500	OHMS 4,000 (35 at center)
MICROAMPERES 0-50-100	400,000 (3,500 at center)
AMPERES 0-25	40 Megs (350,000 at center)

Dimensions: 12 x 9 x 5½ in.

Model 250—Dealers' Net Price.....$42.50

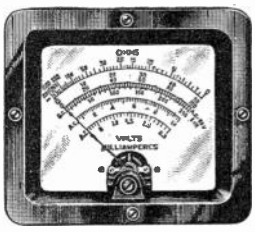
Also available in 10,000 ohms per volt type.

This model is built in the same ranges and to the same high standards as the Model 250 except that resistance ranges are 2,000 ohms—200,000 ohms and 20 megohms, and the D.C. measurements are at 10,000 ohms per volt.

Model 225—Dealers' Net Price.....$32.50

28 FOUNDATION METER

20,000 OHMS PER VOLT



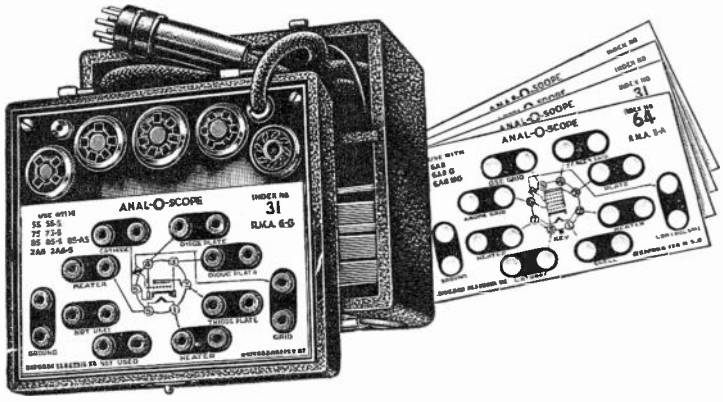
The same 20,000 ohms per volt instrument that is used in the Simpson Model 250, described above, with exactly the same ranges. The finest instrument available for those desiring to assemble their own testing equipment or supplement present equipment with a meter of super sensitivity. Wiring diagram with each instrument.

MODEL 28 A.C.—D.C. FOUNDATION METER—METER ONLY

Dealers' Net Price.....$16.50

Resistor and accessory kit consisting of 2—sub-panels, assembled with rectifier, output condenser, and complete set of matched resistors—mounted.

Dealers' Net Price.....$12.00



100 ANAL-O-SCOPE

A new method of free point testing developed by Simpson engineers to simplify socket analysis. No need to refer to instruction books or complicated tube charts. Individual cards are provided, covering every class of tube. Cards are conveniently carried in the case and indexed to facilitate locating and filing. When a card is in place on the Anal-O-Scope voltage readings may be taken between elements, or the current in any circuit may be read by plugging into the series type jacks which opens the circuit. The ANAL-O-SCOPE MAY BE USED WITH ANY SET TESTER OR VOLT-OHM-MILLIAMMETER.

Supplied complete with cord and plug, set of test prods, full set of adapters and approximately 100 cards covering practically all types of tubes now in use.

Supplementary sets of cards covering new tubes will be available periodically at reasonable prices.

Size: 8" x 7" x 6"
Dealers' Net Price..... $17.50

NET

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World Radio History

SIMPSON

333 TUBE TESTER

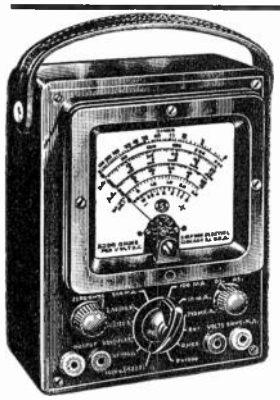
TESTS EVERY TYPE OF TUBE ON THE MARKET

And it has provisions for future tubes. Double filament switching, eliminating obsolescence, is provided for testing such tubes as 5X4G, 5Y4G, 6A5G, 6P7, etc. This is the only low priced tube checker that has this feature. Tests ballast tubes and gaseous rectifiers of the OZ4 type direct in sockets. Also has provision for testing pilot lamps and Christmas tree bulbs.

Model 333 is built to Simpson high standards. It is housed in a substantial leatherette carrying case and all parts are mounted on a new process two tone metal panel. The large 4¾ inch fan shaped meter has an artistic English reading scale. A jack is incorporated for noise tests as well as neon bulb of proper sensitivity for short checking. The R.M.A. standard circuit with line fuse is used and line adjustment is provided from 100 to 130 volts.

Size—7½" x 10½" x 5" **Weight—7 lbs.**

Dealers' Net Price **$26.50**



215 AC-DC VOLT-OHM-MILLIAMMETER

5,000 OHMS PER VOLT

Incorporates all of the essential ranges for modern servicing, both A.C. and D.C. Large 4½ in. meter with its long, easy to read scale permits close reading on all ranges. The first small, low priced instrument to incorporate this large meter, heretofore available only in Simpson set testers at higher prices.

Ranges: D.C. at 5,000 ohms per volt, A.C. at 1,000 ohms per volt.

VOLTS 0-2.5-10-50-250-1000 A.C.-D.C.
MILLIAMPERES 0-10-100-500
MICROAMPERES 0-250
DECIBELS (5 Ranges) —12 to +55

OHMS 0-4,000 (30 at center)
0-400,000 (3,000 at center)
0-4 Megs (30,000 at center)

Molded bakelite case is provided with leather handle. The rectangular meter case is also of molded bakelite. Handsome silver and black durable metal panel offers the rich contrast which is characteristic of Simpson test equipment. Supplied complete with pair of test prods.

Size: Width 5½", Height 7", Depth 3"

Dealers' Net Price **$25.75**

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230 AC-DC VOLT-OHM-MILLIAMMETER

The smallest "Pocket Type" A.C. and D.C. service instrument on the market. Measures only 5¼ inches high, 2⅞ inches wide by 1¾ inches deep, yet it contains a sufficient number of ranges to do a complete servicing job. The case is of molded red bakelite, the panel of metal and a 2 inch rectangular instrument with knife edge pointer completes the ensemble. Supplied complete with test prods.

Ranges: D.C. at 1000 ohms per volt, A.C. at 500 ohms per volt.

VOLTS 0-10-250-1000 A.C.
0-10-50-250-1000 D.C.
MILLIAMPERES 0-10-100-500 D.C.

OHMS 0-1000 (12 ohms center)
0-100,000 (1200 ohms center)

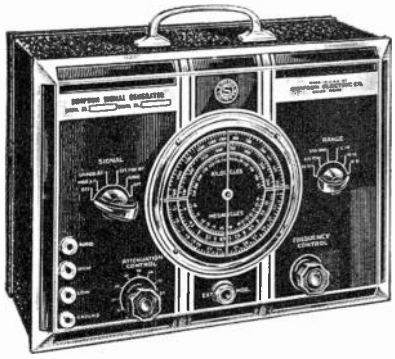
Dealers' Net Price **$14.25**

205 D.C. POCKET VOLT-OHM-MILLIAMMETER

Ranges: D.C. only at 5000 Ohms per volt
VOLTS 0-10-50-250-1000
MILLIAMPERES 0-10-500

OHMS 0-2000 (25 at center)
0-200,000 (2500 at center)
0-2 Megs (25,000 at center)

Dealers' Net Price **$13.25**



210 & 211 SIGNAL GENERATORS

This new modern signal generator is distinguished for its fine workmanship and permanently dependable performance with a high order of accuracy. Heavy aluminum castings are employed throughout to insure proper shielding and to make a low output level possible.
RANGE—Continuously variable from 94 kilocycles to 26 megacycles—ALL ON FUNDAMENTALS. Divided into 6 bands, 94-216, 215-550, 550-1500 kilocycles and 1.5-4.0, 4.0-10, 10-26 megacycles, selected by means of a 6 position rotary switch.
CALIBRATION—Each of the six bands individually calibrated at 6 points with quartz crystal oscillators. Maximum change in original calibration over long periods of time are less than 1%.
ATTENUATOR SYSTEM—A unique ladder type attenuator is used to control the output level. A low inductance tapered potentiometer allows half of the full rotation for the first 10% of the maximum volume, resulting in vernier control at the important low levels.
MODULATION—A separate tube is used to provide modulation of the carrier at 400 cycles. The separate modulating tube in the particular circuit used has resulted in exceptionally good wave form and low harmonic content as viewed on a cathode ray oscilloscope.

Size: Width, 12½"; Height, 9½"; Depth, 6"

MODEL 210 A.C. LINE OPERATED

Dealers' Net Price **$49.00**

MODEL 211 BATTERY TYPE

Dealers' Net Price **$39.50**

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World Radio History

SIMPSON

PANEL INSTRUMENTS

The only low priced instruments incorporating "soft iron pole pieces" and "bridge type" construction, insuring greater accuracy. Simpson Instruments STAY accurate.

3" Round Case
Direct Current—Model 25S
Thermocouple Type Model 35S
Rectifier Type Model 45S
Alternating Current—Model 55S
Flange Diameter 3 1/2 in.
Depth Overall 1 7/8 in.
Body Diam. 2 3/4 in.
Scale Length 2 3/16 in.
Bakelite Case

2" Round Case
Direct Current—Model 125S
Thermocouple Type Model 135S
Alternating Current Model 155S
Flange Diameter 2 5/8 in.
Depth Overall 1 5/8 in.
Body Diameter 2 1/16 in.
Scale Length 1 7/8 in.
Metal case—Rim type
Bakelite Case—Wide Flange

3" Rectangular
Direct Current—Model 27S
Thermocouple Type Model 37S
Rectifier Type Model 47S
Alternating Current Model 57S
Width 3 in. Height 3 1/8 in.
Mounts in round hole
Body diameter 2 3/4 in.
Bakelite Case

2" Rectangular
Direct Current—Model 127S
Thermocouple Type Model 137S
Alternating Current Model 157S
2 1/8 in. Square
Mounts in round hole
Body diameter 2 1/8 in.
Bakelite Case

DIRECT CURRENT VOLTMETERS

Range	Model 25S & 27S
0-3	$4.15
0-5	4.15
0-10	4.15
0-15	4.15
0-25	4.15
0-50	4.15
0-100	4.15
0-150	4.15
0-200	5.07
0-250	5.07
0-300	5.88
0-500	6.55
0-1000	10.47

(1000 ohms per volt)

Range	Model 25S & 27S
0-50	$5.88
0-100	6.38
0-200	6.55
0-300	7.19
0-500	8.01
0-1000	11.60

DIRECT CURRENT MILLIAMMETERS

Range	Model 25S & 27S
0-1	$5.07*
0-1.5	5.07
0-3	5.07
0-5	4.15
0-10	4.15*
0-15	4.15
0-20	4.15
0-25	4.15*
0-50	4.15*
0-75	4.15
0-100	4.15*
0-150	4.15*
0-200	4.15*
0-250	4.15*
0-300	4.15*
0-500	4.15*
0-750	4.15*
0-1000	4.15*
0-15-150	6.55
0-50-250	6.55

DIRECT CURRENT MICROAMMETERS

Range	Model 25S & 27S
0-100	$9.80
0-200	8.68
0-500	6.55

DIRECT CURRENT AMMETERS

Range	Model 25S & 27S
0-1	$4.15
0-1.5	4.15
0-3	4.15
0-5	4.15
0-10	4.15
0-25	4.15
0-50	4.15
30-0-30	4.15

ALTERNATING CURRENT VOLTMETERS

Range	Model 55S & 57S
0-1.5	$4.15
0-3	4.15
0-5	4.15
0-10	4.15*
0-15	4.15*
0-25	4.15
0-50	4.15
0-100	4.15
0-150	5.07*
0-300	5.88
0-500	8.01
0-750	9.15
0-1000	11.60
7.5-15-150	8.34
7.5-150-750	11.60

ALTERNATING CURRENT AMMETERS

Range	Model 55S & 57S
0-1	$4.15
0-1.5	4.15
0-3	4.15
0-5	4.15
0-10	4.15
0-15	4.15
0-25	5.07

ALTERNATING CURRENT MILLIAMMETERS

Range	Model 55S & 57S
0-15	$4.15
0-25	4.15
0-50	4.15
0-100	4.15
0-250	4.15
0-500	4.15

DECIBEL METERS

Range	Model 45S & 47S
-10 to +6DB	$12.90

500 ohm line
6 milliwatts
zero DB 1.73 volts

RADIO FREQUENCY INSTRUMENTS
(Internal Thermocouple)

AMMETERS

Range	Model 35S & 37S
0-1	$7.19*
0-1.5	7.19*
0-2	7.19*
0-2.5	7.19*
0-3	7.19*
0-5	7.19*

MILLIAMMETERS

Range	Model 35S & 37S
0-150	$8.67
0-250	8.67
0-500	8.67

RECTIFIER TYPE AC INSTRUMENTS

MILLIAMMETERS

Range	Model 45S & 47S
0-0.5	$10.95
0-1	9.65
0-2	9.65
0-5	9.65

VOLTMETERS
(1000 ohms per volt)

Range	Model 45S & 47S
0-5	$9.65
0-15	9.65
0-50	9.65
0-100	9.65
0-150	10.47
0-300	10.95

(2000 ohms per volt)

Range	Model 45S & 47S
0-1	$10.95
0-3	10.95
0-5	10.95
0-15	10.95
0-50	10.95
0-100	10.95
0-150	11.76
0-300	12.43

ILLUMINATED DIALS

* Models 27S, 37S and 57S in ranges indicated, are available with illuminated dials. Supplied complete with socket, 6 volt lamp and special translucent dial at 50 cents net above prices shown for the standard instruments.

2 INCH ROUND AND RECTANGULAR INSTRUMENTS

DIRECT CURRENT MILLIAMMETERS

Range	Model 125S & 127S
0-1	$4.25
0-5	3.50
0-10	3.50
0-15	3.50
0-25	3.50
0-50	3.50
0-75	3.50

D.C. VOLTMETERS

Range	Model 125S & 127S
0-5	$3.50
0-10	3.50
0-15	3.50
0-50	3.50
0-100	3.50
0-150	3.50
0-300	4.25

Range	Model 125S & 127S
0-100	$3.50
0-150	3.50
0-200	3.50
0-250	3.50
0-300	3.50
0-500	3.50
0-1000	3.50

D.C. AMMETERS

Range	Model 125S & 127S
0-1	$3.50
0-5	3.50
0-10	3.50
0-15	3.50
0-25	3.50
0-50	4.00

A.C. VOLTMETERS

Range	Model 155S & 157S
0-5	$3.50
0-10	3.50
0-15	3.50
0-25	3.50
0-50	3.50
0-100	3.50
0-150	4.25
0-300	5.25
0-500	7.20

A.C. AMMETERS

Range	Model 155S & 157S
0-1	$3.50
0-3	3.50
0-5	3.50
0-10	3.50

RADIO FREQUENCY AMMETERS

Range	Model 135S & 137S
0-1	$6.20
0-1.5	6.20
0-2	6.20
0-3	6.20
0-5	6.20

Model 125S furnished in wide flanged bakelite case.

Model 125S Rim type is furnished with metal case and mounting rim, when specified.

NET

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World Radio History

RADIO CITY PRODUCTS CO.

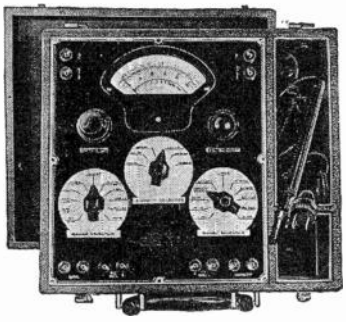
Master - De Luxe Line

RADIO CITY PRODUCTS CO.

MASTER MULTITESTER MODEL 410

A marvelous instrument that outperforms other testers selling for considerably higher prices. Masterful quality in workmanship and materials with a beautiful professional appearance. Compare the many feature and exclusive advantages of this tester.

1. 41 measuring instruments combined into simplicity of a single D'Arsonval 5" Fan Type Meter. Movement 0-500 microamperes with accuracy guaranteed within 2%.
2. All D.C. voltage measurements at sensitivity of 2000 ohms per volts and A.C. voltages at 1800 ohms per volt.
3. Exclusive new method of A.C. measurements eliminates troublesome and inaccurate copper oxide rectifier. Our rectifier has no frequency or temperature error and no wave form errors. A.C. Scales are linear and are the same as D.C. scales. Rectifier is rugged and withstands heavy overloads; is easy and inexpensive to replace.
4. The only instrument in this field which measures current in A.C. — microamps, milliamps and amps.
5. An accurate capacity tester for paper, mica and electrolytic condensers. Five ranges measuring from 0.0001 to 300.0 microfarads. High range is particularly useful for ignition and refrigeration condensers and also for accurate measurements of condensers from 20 mfd. and up. No precautions are necessary for shorted condensers. Line voltage fluctuations are automatically compensated.
6. Six current ranges in D.C. include microamperes, milliamperes and amperes.
7. Six individual ohmmeter ranges enabling measurements of from less than ¼ ohm up to 40 megohms.
8. Inductance measurements can easily be made over a wide range of from 25 millihenries to 10,000 henries.
9. Power level or output measurements ranging from —20 D.B. to +40 D.B. are available. Corrections are given for various impedance lines.
10. Light and compact—weight: 8½ lbs.; size: 10¾"x11¾"x5½".



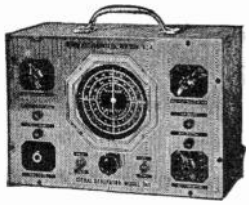
Accuracy 2% on D.C.—5% on A.C.
A.C. and D.C. Voltages: 0-5-25-100-250-1000. A.C. and D.C. Currents: 0-500 microamperes, 0-5-25-100-250 mils., 0-2.5 amp. Capacity: 0-.03-.3-3-30-300 microfarads. Resistance: 0-1000-10,000-100,000 ohms, 0-1-10-40 megohms. Inductance: .25-100-1000-10,000 millihenries, .25-100-1000-10,000 henries. Decibels: —15-+9-+24-+35-+40.

DEALER NET PRICE **$31.50**
Complete ready to operate.
For 220 volt, add $1.50; 25 cycle add $6.00

Master Set Tester—Model 4153

This instrument combines Models 410 and 503 in the same case.
DEALER NET PRICE **$41.25**

Master Signal Generator—Model 701



A.C. operated—all wave continuously variable from 125 Kilocycles to 60 Megacycles. Five bands on fundamentals 125 KC to 15 MC. Harmonics may be utilized to 90 MC.
Full vision, direct reading 4½ inch vernier airplane dial, multicolor calibration for easy, accurate reading at every band. No charts or tables required. Both modulated and unmodulated output. Thirty per cent modulation at 400 cycle sine wave and is also available for external use, 6 volts maximum. Provision also for applying external modulation. Can be used with separate sweep circuit and wobbulator for all oscillographic wave analysis.
Separate shielding of coil assembly, attenuator and R. F. circuits with overall shield of lead coated steel. Automatic shorting of all coils not in use.
Attenuation in approximate microvolt calibration by means of five step, ladder attenuator. Range from 1 microvolt to ½ volt.
Feedback through power line is automatically eliminated—Supply is double fused—instantly replaceable fuses.
Quality construction throughout, exceptionally attractive in appearance. Size: 8"x11¾"x5". Weight: 11½ lbs. **$25.95**
DEALER NET PRICE.....

DEPENDABLE MULTITESTER

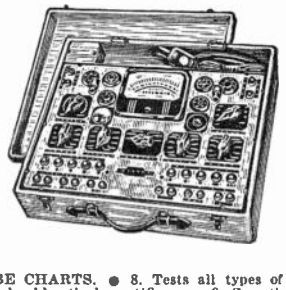
Model 408 AC-DC

Comparison with other similar testers will convince you that here is superior performance at lower cost.
Pocket size 3"x5⅞"x2-3/16". Weight 27 ounces. 2000 ohm per volt sensitivity.
Three range ohmmeter with high range of 1,000,000 ohms with self contained battery. Low Range reads 5 ohms at center of scale and 1/10 ohm for each of first ten divisions; low current drain.
Current ranges include microamperes, milliamperes, amperes.
No test leads required for balancing ohmmeter circuits.
Low A.C. range 0-1 volt for small output measurements.
2¾" Bakelite Case D'Arsonval meter with 2% guaranteed accuracy; attractive design bakelite panel and welded steel morrocco finish case.

A.C. volts: 0-1-5-50-500-1000. D.C. volts: 0-5-50-500-1000. D.C. microamperes: 0-550. D.C. milliamperes: 0-5-50-500. D.C. amperes: 0-5. Ohms: 0-500-50,000-1,000,000.

DEALER NET PRICE:
Complete with batteries ready to use..... **$12.90**

Master Tube and Multitester—Model 321



A precision instrument that contains almost a complete service shop of test equipment.
● 1. All tubes tested under load conditions of R.M.A. with separate function and component tests. ● 2. Large, easy reading 4½" meter with sensitive movement of 2,000 ohms per volt. ● 3. Double floating filaments—free reference selection permits any two terminals to be used as filaments. ● 4. New tube testing circuit provides last word in accuracy and guarantee against obsolescence. Tests all elements for opens—leakage and shorts while tube is hot to 400,000 ohm. ● 5. HUM TEST—the ultimate cathode leakage test. ● 6. Noise test—for each element. ● 7. SIMPLICITY OF OPERATION BECAUSE of minimum number of controls and quick reference PROTECTED TUBE CHARTS. ● 8. Tests all types of metal, glass M.G., spray shield tubes and cold cathode rectifiers. ● 9. Smooth continuous line voltage control, accurate indication on meter. ● 10. Double line fuse protection—instantly replaceable without touching instrument. ● 11. FLEXIBLE FREE POINT SYSTEM PROVIDES FOR FUTURE—SPACE AVAILABLE FOR NEW types of sockets if necessary—spare voltage taps and CIRCUITS are provided to guard against obsolescence. ● 12. A comprehensive Multitester also included with 30 ranges and functions. ● 13. Five A.C. Voltage Ranges 0-5-25-125-500-1250. ● 14. Five D.C. Voltage Ranges 0-5-25-125-500-1250. ● 15. Low Ohm—Back up circuit 0-100 ohms with center of scale reading only 2 ohms for testing shorted turns on voice coils and R.F. coils. ● 16. Two ohm ranges, 0-100 and 0-25000. ● 17. Two Megohm ranges, 0-0-3 megs and 0-30 megs. ● 18. Microammeter 0-500. ● 19. D.C. Milliammeter, three ranges 0-5-25-250. ● 20. D.C. Ammeter—two ranges 0-2.5 and 0-25 permitting tests of vibrators of all types. ● 21. Electrolytic Condenser leakage tests on meter. ● 22. Paper and Mica Condenser leakage tests on neon lamp. ● 23. Five Output measuring ranges, same as A.C. volt ranges. ● 24 Condenser Open and Short test. ● 25. D.B. Measurements from down 15 to up 40. ● 26. Separate meter fuse to prevent meter burn out in addition to fuse protection mentioned in No. 10. ● 27. Fine, sturdy case for combination use, portable or bench. Cover is deep enough to house analyzer unit 503. ● 28. Beautiful in design—one of the finest etched panels that you could desire with highly attractive layout. Light and compact—genuine economy—a high quality instrument with greater performance than other testers.

Size: 15"x13"x5½". Weight: 14 lbs.
DEALER NET PRICE **$49.50**

Master Tube and Multitester — Model 3253

Combines Models 321 and 503 in same case.
DEALER NET PRICE **$59.25**

Multitester—Model 408

This instrument is similar in appearance and size (3/16" less in depth) to the model 408AC-DC but the A.C. voltage ranges are omitted. Otherwise every feature and specification is identical to the AC-DC model.

A handy, pocket size precision test instrument for radio service men, dealers, amateurs, electricians and engineers at a price convenient for everyone. Weight: 22 ounces. Size 3"x5⅞"x2".

DEALER NET PRICE:
Model 408—
Complete with batteries ready to use **$9.95**

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World Radio History

RADIO CITY PRODUCTS CO.

Dependable TESTING EQUIPMENT

RADIO CITY PRODUCTS CO.

A.C.-D.C. Multitester—Model 444

A general test instrument, highly attractive, quality construction. ● Large Multi colored dial, 3¼ inch, D'Arsonval meter, accurate within 2 per cent. ● Four range A.C. Voltmeter 0 / 5 / 50 / 500 / 1000 volts. ● Three range ohmmeter 0/500/50,000/500,000 ohms. ● Low range is low current drain, back up type, reading as low as 0.1 ohm for each of first four divisions. Center of scale only 3 ohms. Marvelous for measuring voice coil, shorted turns, poor contacts, etc. ● Ohmmeter circuit zero adjust is balanced on all three ranges without test probes. ● Four range D.C. voltmeter 0/5/50/500/1000 at sensitivity of 1000 ohms per volt. ● Four Decibel ranges—12 to +8/9-29/28-48/34-54 D.B. (minus 12 to plus 54). ● Four output ranges—same as A.C. volts. ● Three current ranges 0/1/10/100 milliamperes. ● Equivalent of 22 different instruments complete with batteries.

SIZE: 3" x 8½" x 5". WEIGHT: 2¼ lbs.

DEALER NET PRICE $9.95

DEPENDABLE MULTITESTER

Universal Model 409A

This splendid tester has many useful features, making it practically indispensable for shop and portable testing.

Large 5" Fan Type D'Arsonval meter with 2% accuracy guaranteed. Separate high and low ohmmeter scales. Four independent ohmmeter ranges (no external batteries required) with high range of 10,000,000 ohms. Low range has center of scale at 2 ohms with each first 10 divisions reading 1/20 ohm. Low current drain. May be used on both AC and DC supply lines and either 25 or 60 cycle.

A.C. voltages are just as accurate at 20,000 cycles, as at 60 cycles. Rectifier has no frequency, wave form or temperature errors. A.C. voltage scales are linear, same as D.C.

Sensitivity of 2000 ohms per volt D.C. and 1800 ohms per volt A.C.

5 D.C. current scales include micro-amps, milliamps and amps. Complete ready to use including test prods. Size: 5⅞"x 8⅜"x3". Weight: 2¼ lbs. A.C. and D.C. volts: 0-5-50-500-1000. D.C. microamperes: 0-500. D.C. milliamperes: 0-5-50-500. D.C. amperes: 10. Ohms: 0-100-7500-75000-10,000,000.

Open face. **DEALER NET PRICE $17.95**

Portable hinged cover model 409P $19.45

Trouble Shooter—Model 432

The lowest price "legitimate" tester on the market, yet quality has not been sacrificed. Pocket size 5⅞" x 3" x 2". Weight 24 ounces. Multi scale D'Arsonval meter 0-1 mil, accurate within 2%. Has individual low ohm scale as on costlier instruments.

D.C. Volts 0-5/0-50/0-500/0-1000 at 1000 ohm per volt sensitivity. D.C. Milliamperes 0-1/0-10. Ohms 0-500/0-50,000/0-500,000.

Self contained batteries for all ohmmeter ranges. Test probes not required for balancing ohmmeter ranges. Low range has each of first 5 divisions reading as low as 0.2 ohm.

DEALER NET PRICE $5.95

Tester—Model 311

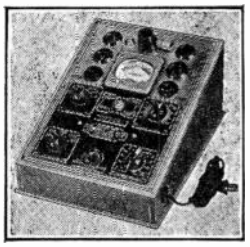
A fine instrument ideal for store use—meter is horizontal giving full view to customer and operator—panel is sloping for attractiveness and ease of operation. Besides accurately testing all tubes, it tests resistors and condensers—direct reading on the meter dial. 4½" rectangular meter with 4 extra long multi-colored scales. Maximum protection against obsolescence—full floating filaments—spare voltage taps on transformer—spare testing circuits. Superflexible hot interelement short and leakage tests. Test circuit in strict accordance with R.M.A. specifications including voltages and loads. Individual tests of each function of multipurpose tubes and of each plate of diode and power rectifiers. Direct reading ohmmeter with self-contained power supply 0-10,000 and 0-1,000,000 ohms. Direct reading capacity meter 0.001-.4 and 0.4-16.0 microforads. Condenser leakage tests neon indication. Size: 10" x 15" x 7". Weight: 13 lbs.

MODEL 311C—Counter Type—DEALER NET PRICE $31.50

MODEL 311P—Combination Counter-Portable $34.50

NEW! DYNOPTIMUM TEST

Dependable Tube Tester—Model 307



These advantages put it far ahead of more expensive testers:—

● Tests ALL the latest tubes as well as old types including new OZ4 and other cold cathode rectifiers. Tests all metal, MG, spray shield and glass tubes. ● Tests all ballast tubes. Separate ballast tube chart included. ● Tests are under R.M.A. specified voltages and loads as approved by all tube manufacturers. ● Hot interelement short and leakage test between ALL INDIVIDUAL ELEMENTS. Hot cathode leakage test. High sensitivity neon indication. ● Individual tests of each section of full wave rectifiers, duo diodes and all multipurpose tubes. ● Accurate calibration checked against our laboratory standard mutual conductance instrument. ● Accurate line voltage indication directly on meter with smooth power control for variation of line voltage. ● Three inch square D'Arsonval meter, 2% accuracy. Direct reading "Good-Bad" multi colored scale. ● Simplest operation. Fewer controls than any other approved circuit tube tester. ● Excellent quality throughout, highly attractive appearance. You will be proud to own model 307 compared to other testers selling up to $30.00. SIZE: 9" x 12" x 5". WEIGHT: 6¾ lbs. net.

MODEL 307C—Counter Type—DEALER NET PRICE $16.95

MODEL 307P—Combination Portable and Counter Type $18.95

Combination Tube and Set Tester Model 800

Ingenious instrument almost "sets up" a service man in business. Embodies all the fine tube testing features of Model 307 with advantages of Model 409 Multitester. Priced extraordinarily low for such a fine instrument. Cable switchboard forms, supply line double fused. Self contained power supply. Long multiple scales in colors, clear readings on 4½" square D'Arsonval meter; accurate within 2%. Size: 12" x 12½" x 6". Weight: 9½ lbs. Unique method of A.C. voltage measurements gives linear scale far superior to copper oxide rectifier. Eliminates frequency, wave form and temperature errors. Attractive, sturdy case with slip hinge cover. Beautiful etched panel.

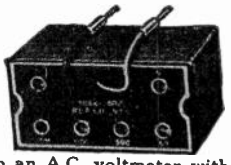
● Tests all new and old tubes. ● Tests all ballast tubes. ● Tests are made at R.M.A. specified voltages and loads. ● Hot interelement short and leakage tests on each individual element. ● Individual tests of each section of multi purpose tubes, full wave rectifiers, duo diodes, etc. ● Line voltage regulation with direct meter indication. ● D.C. Voltmeter: 0-10/0-50/0-500/0-1000 at 1,000 ohms per volt. ● A.C. Voltmeter: 0-10/0-50/0-500/0-1000. ● D.C. Milliammeter: 0-1/0-10/0-100/0-1000. ● D.C. Ammeter: 0-10. ● Ohmmeter: 0-500/0-5000/0-1 Meg/0-10 meg. ● Low ohm range has center of scale at 5 ohms and each of the first ten divisions read 0.1 ohm. ● D.B. Meter: —8 to +15/15-29/29-49/32-55 decibels. ● Condenser Leakage Measurements. ● Output meter—same as A.C. Voltmeter.

Model 800—NET DEALER PRICE $27.95

Combination tube tester and plug in Set Analyzer Model 800A—combines Models 800 and 503 in the same case.

DEALER NET PRICE $37.70

A.C. Converter Unit Model 602



This tiny unit measures only 3" x 1½" and is 2" deep. Can be used together with model 408 to give A.C. voltages exactly the same as model 408AC-DC. Fits snugly alongside of 408 so as to appear like a single continuous instrument. Also available for converting any D.C. milliammeter or multimeter having any range less than 0-2 milliamperes into an A.C. voltmeter with 5 ranges 0-1-5-50-500-1000. Give range and resistance of meter.

DEALER NET PRICE $3.45

Analyzer Unit Model 503

A complete multiple selector circuit system that can be used with any suitable multimeter to make a comprehensive free point, free reference system complete set tester. ● Provides metering at all socket terminals for current, voltage, resistance and capacity measurements. Permits tube testing from radio receiver chassis. All sockets have their terminal numbers clearly etched into panel. Future requirements are provided for by 10 wire cable including a spare wire and spare terminal in the panel. ● Can easily be mounted in cover of model 410 or any instrument of another make—total depth required including below and above panel, 1⅝". Panel dimen: 5½x9½" Complete with latest design toggle latch, bakelite plug and 6 latch lock adapters—no case.

DEALER NET PRICE $9.75

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World Radio History

LITTELFUSE "Quicker than a Short Circuit"

INSTRUMENT *high speed* LITTELFUSES

Designed especially for the protection of delicate test equipment, galvanometers, microameters, milliameters, volt meters, etc.

Glass enclosed; 1"x¼" dia. accurately rated, high speed action, short time lag. Voltage rating up to 250 volts AC or DC. For higher voltages use fuses in series.

($100 protection guaranty against meter burnouts.)

Cat. No.	Amperes Current Rating	Max. Load M.A.	Aver. Resist. 5 M.A. Load	APPLICATIONS: Volt-Meter Ohms Per Volt	All Magnetic Movements	Thermo-Couples Types	List Price
1000]	1/200	5	500	over 1000	Galvonometer	Up to 0- 5	$0.30
1001	1/100	10	110	1000	Up to 0- 1	0- 5 to 0- 10	.20
1002	1/32	25	20	500-1000	0- 1 to 0- 10	0- 10 to 0- 25	.20
1003	1/16	60	5.0	100-500	0- 10 to 0- 25	0- 25 to 0- 60	.20
1004	⅛	100	3.0	20-100	0- 25 to 0- 75	0- 75 to 0- 115	.15
1004L	⅛	100	1.5	.....	0- 25 to 0- 75	0- 60 to 0- 115	20
1005	¼	200	6.2	10-20	0- 75 to 0-150	0- 115 to 0- 200	.15
1006	⅜	300	3.0	5-10	0- 150 to 0-250	0- 200 to 0- 300	.15
1007	½	400	2.5	3-5	0- 250 to 0-350	0- 300 to 0- 400	.15
1007A	¾	600	.40	.....	0- 350 to 0-500	0- 400 to 0- 600	.15
1008	1	1000	.24	.....	0- 500 to 0-750	0- 600 to 0-1000	.10
1008A	1½	1500	.18	.....	0- 750 to 0-1000	0-1000 to 0-1500	.10
1009	2	2000	.14	.....	0-1000 to 0-1500	0-1500 to 0-2000	.10
Spec.[1]	3 to 15	Instrument Littelfuses up to 15 Amps. furnished on Request					.15

MOUNTINGS FOR ABOVE LITTELFUSES

Single Pole Mounting

Black moulded bakelite base, 1⅛" x⅝"x3/16" tinned, Shakeproof Terminals, and extra quality phosphor bronze nickel plated fuse clips. No. 8 F.H. M.S. mounting hole, 1⅞" overall length including soldering terminals, ⅝" high.
Cat. No. 1010 List Price $.15 each

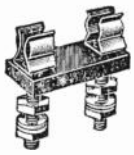
Fusible Binding Post

Beautiful panel type fuse mounting for high class test equipment. Highly polished white essence of pearl knob. Overall length 1¾"—length behind panel 1⅛". Takes panels up to 5/16" thick. ½" dia. mtg. hole. Max dia. knob ¾". Supplied with two .050 extruded insulated washers. Cat. No. 1062 List Price $.75 ea.

Meter Back Mounting

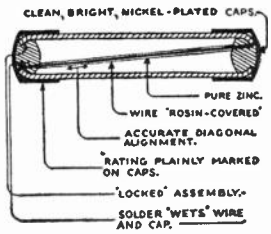
Mounts directly on meter binding post. Will not touch other posts on any standard meter. Linen Bakelite base 1"x1⅛"x 1/16". Length over screw terminals 1½".
Cat. No. 1059 List Price $.20 each

Panel Type Mounting



Used for concealed wiring, black bakelite base 1 3/16" x ½" x 3/16". Height ⅝". Studs 1" long, threaded 6-32 full length. Supplied with four nuts and washers. Cat. No. 1050 List Price $.20 ea.

3AG RADIO AMPLIFIER FUSES



Glass enclosed 3AG type Radio fuses 1¼" x ¼" dia. 250 volt rating, listed and approved by Underwriters Laboratories. These fuses are second to none on the market—why gamble with so called "cheap fuses"? Designed to operate indefinitely on 10% overload, and blow on 150% of rating. Operate accurately in any position. "Locked caps", no cement to loosen. Bright, clean caps.

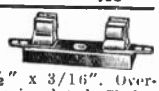
Catalogue Number	Amperes Current Rating	Max. Voltage	List Price Each
1040	1	250	$0.07
1041	1½	250	.07
1042	2	250	.07
1043	3	250	.07
1044	⅛	500	.15
1045	¼	500	.15
1046	½	500	.15
1047	¾	500	.15
1080	5	25	.05
1081	10	25	.05
1082	15	25	.05
1083	20	25	.05

SPECIAL LITTELFUSES AND FUSE MOUNTINGS AVAILABLE ON APPLICATION

FUSE CLIPS

Standard clip for all 3AG and Instrument Littelfuses. Pure high quality Phosphor Bronze. Will not lose its spring under prolonged tension. Cat. No. 1011.
List Price $2.00 per 100

3AG SINGLE POLE OPEN TYPE



Bakelite base 1⅝" x ½" x 3/16". Overall 2⅛". Live parts space insulated. Shakeproof tinned soldering terminals. Mounting hole for No. 6 R H M S.
Cat. No. 1060 List Price $.15 each

Antenna Coupler

Cadmium plated Metal casing, bayonnet lock end. Excellent for connecting auto antennas. Shielding may be soldered directly to casing. Size 1⅜" x ⅜" dia. Used for lines up to 3/16" dia.
Cat. No. 1071 List Price, $.10 each

Fuse Retainer

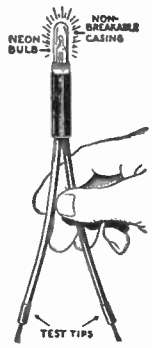
Holds 3 AG type fuses. Excellent for test leads or battery cable for auto sets. Cadmium plated steel shell. Bayonnet lock end takes cable up to 3/16" dia. Size 2½" x ⅜" dia. Cat. No. 1070 List Price $.15 ea.

TESTING

TATTELITE TESTER

● Accurate ● Fast

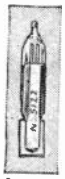
"Quick point to point tests."
—Blown Fuses
—Live Lines
—Polarity
—Shorted & Leaky Condensers
—Radio Frequency
—Spark Plugs



Handy pocket size tester, uses tiny neon lamp. Indicates voltages 90 volts DC or 60 Volts AC to 500 Volts. Both electrodes glow on AC. Negative electrode glows on DC. Pink glow on RF. Draws only 1/1000 ampere. 3000 hour life, no danger of overloads, leads protected with 5000 volt insulation.
Cat. No. 5076 List Price $1.00 each.

neon neon

Beautiful Panel indicator uses small replaceable neon lamp. No live parts exposed. Designed for use on high grade equipment.
Cat. No. 5123



5122

5123

— Panel mounting for panels up to 5/16" thick. No live parts exposed. Built in 100,000 Ohm protective resistor. 90-250 volts. Clear transparent Non-Breakable cap, requires ½" mtg. hole, overall length with cap 2¾".
List Price $1.00 each

Cat. No. 5122—Neon lamp for 5123 mtg. telephone switchboard type base. 1¾" x 9/32" dia.—used on AC, DC and Radio Frequency Circuit. Life 3000 hours at 1 mil. 90-250 Volt Circuits. List Price $.50 each

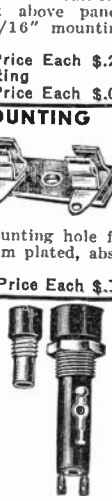
3AG FUSE MOUNTINGS

Metal Shielded 3AG Type Mounting, meets Underwriters requirements. Needs tool for removing casing. Cadmium plated cover. Bakelite base requires 1⅝" x ⅝" knockout hole. Overall size 2½" x ⅞" x ¾" height above panel. Equipped with two 6-32 x 5/16" mounting studs—2⅛" centers.
Cat. No. 1126 List Price Each $.20
Fibre liner for No. 1126 mounting
List Price Each $.05

3AG ECONOMY MOUNTING

1½" long by 9/16" wide by 9/16" high. Bakelite mounting strip with 1/32" fibre insulator on bottom covering all metal parts. Permits mounting on metal panels. Mounting hole for No. 6 screw. All parts cadmium plated, absolutely corrosion proof.
Cat. No. 1128 List Price Each $.10

Extractor Fuse Post



Beautiful black moulded bakelite panel mounting. Meets Underwriters specifications. Designed to hold 3 AG type fuses. Entirely shockproof. Takes panels up to 5/16" thick, ½" dia. mtg. hole. Length 1¾" from front panel, 2⅛" overall.
Cat. No. 1075
List Price $.40 each

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World Radio History

SUNCO SUNDT ENGINEERING COMPANY SUNCO

NEOBEAM OSCILLOSCOPE

(Makes HIGH FIDELITY Easy • Helps Modernize Old Equipment)

- SENSITIVITY 1 M.V. TO 200 VOLTS
- 4 INCH CALIBRATED SCREEN
- COMPLETE POWER SUPPLY AND SWEEP SYSTEM
- SIMPLICITY—JUST CONNECT TO INPUT OF INSTRUMENT

Latest development in oscilloscopes. Uses new Neon Beam Principle with the 6L6 Beam Power tubes. Ideal for adjusting audio equipment. Indicates resonance, locates distortion and hum quickly, checks modulation. Excellent for wave form studies of frequencies within the musical range. Waveform definition clear and clean cut—orange image contrasted against black background very easy to study. Versatile instrument for the layman as well as the technician.

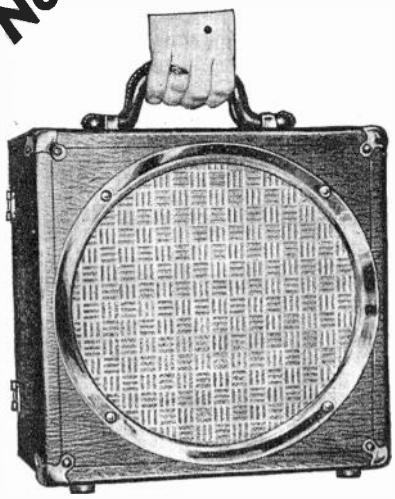
The unit, as illustrated, 8" wide, 10" deep, 13" high. Beautiful etched chrome panel, black crackle case. Durable. Supplied with all tubes and 6 ft. shielded input cable. Net weight 31 lbs. Shipping weight 36 lbs. Fully guaranteed.

Model 150.....Net Price $40.00

SUNCO "SOUNDMASTER"

Highly Compact—Powerful—High Fidelity-Amplifier System With All the Latest Developments

Now!

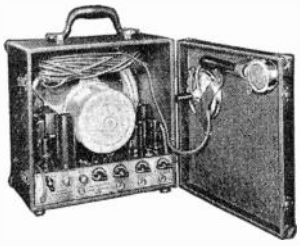


- 12 WATT RATING — 16 WATT PEAKS CLASS A
- THREE INDEPENDENTLY CONTROLLED INPUTS
- TONE COMPENSATION — ADJUSTS FOR ACOUSTICAL VARIATION
- ALL SELF-CONTAINED—12 INCH 15 WATT SPEAKER, CRYSTAL MICROPHONE AND CABLES

Latest all metal tube design, permits use of high gain amplifier in small space. Unit may be operated with amplifier in speaker case, or removed.

Modernistic design chrome and satin grille with Mahogany shark leatherette (Grade 3000 Keratol) casing 14" x 14" x 9". Blends with any type furnishings.

Will mix separately and control individually two crystal microphones and phono pick-up units at once. Reproduces tones without fear of blasting or overloading. Volume sufficient for auditorium of 10,000 sq. ft.



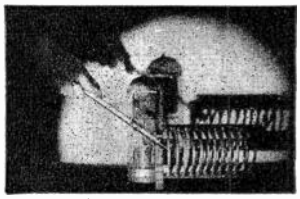
Automatic acoustic compensator, blends base notes perfectly and adjusts for varying room acoustics. Also manual tone control for individualized instrumentation. Requires no technical knowledge for professional results. Just plug in line cord, microphone and turn up the volume.

Supplied complete as illustrated with 12" permanent magnet dynamic speaker, 5 way dual diaphragm crystal microphone (suspension, desk, pulpit, hand, stand), pilot light and fuse protected, 8 and 500 Ohm taps for external speakers, 6 all metal tubes: 2—6J7, 1—6N7, 1—6L6, 1—6C5, 1—5Z4, 50 ft. speaker cable, 25 ft. microphone cable, 35 ft. line cord, operates on 50-60 cycle 105-115 volts. Gain 118 DB—practically zero hum level.

NET PRICE $67.50

Unit less microphone.....Net $51.00
Amplifier only (Less tubes) Net 25.50

SUNCO NEON TUNING WAND



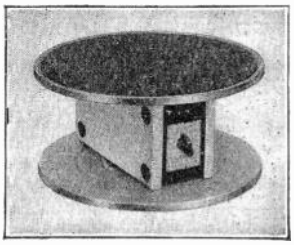
(Current Measurement Type)
GETS MORE WATTS OUTPUT

Sensitive current measuring tube for use with the amateur transmitter. May also be used as receiver or amplifier output meter. The glass body is filled with a special purified neon gas, and measures 8½" x ½" dia. Bright nickel plated caps cover each end, and are connected to the internal electrodes.

Current is indicated by the length of glow along the 6" electrode. Short overloads do not affect operation. The tube measures peak current above 150 volts, operates without lag. Excellent for reasonance indications, neutralization, antenna tuning, and modulation indication. Supplied with two clips for mounting.

Model 5146.....Net Price $1.50

SUNCO VARI-SPEED DISPLAY Turntable

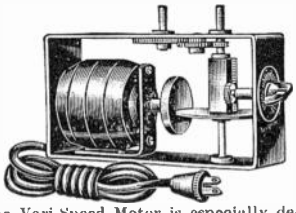


Creates new motion in old displays by a turn of the dial.

Changes any motion instantly by a simple turn of the 0-10 calibrated dial. New and unique effects are easy to create with this quiet running unit. Includes an 0-1000 RPM shaft for switch controls and special effects. May be used for counter or window display. Equipped with special oil-retaining bearings to insure quiet performance over long periods of continuous operation. Supplied as illustrated, Black and Satin finish with 12" felt covered turntable. Safely rated to carry balanced loads up to 50 lbs. Designed for 60 cycle 110 v. operation; will not cause radio interference.

Model A 150-1.....Net Price $16.00

VARI-SPEED MOTOR

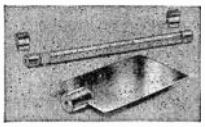


The Vari-Speed Motor is especially designed for use with the Neon Oscilloscope Kit. Constant speeds with less than 1% drift, variable from 0-1000 RPM by turning the small calibrated dial. Ideal for a synchronous scanning system, Stroboscope timer, Laboratory tests, Cathode Ray Sweeps, and "Wobbler" systems. Powered by 1/100 HP motor, 110 volt, 60 cycles.

Net Prices

Model A-150-0.....$9.50
With Extra 0-100 Shaft.....11.50
With Extra 0-10 Shaft.....12.50

NEON OSCILLOSCOPE KIT



Fine for checking modulation, adjusting and neutralizing radio transmitter. The Oscilloscope Kit includes a 6" Neon Oscilloscope Tube, clips, chrome plated metallic mirror and motor-adapter. Any amateur can easily construct a useful oscilloscope for monitoring his Xmitter. Shows your percentage of modulation at all times; the wave form in your report on tone quality and distortion. Get the most from your transmitting equipment by having it in correct tune at all times. Complete with full instructions.

Model 5129.....Net Price $2.00

Net

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World Radio History

TUBE TESTERS

RADIOTECHNIC LABORATORIES

• Precision Checking of Output, Short Circuits, Open Circuits, Leakage, Noise and Emission, Service Tests for Condensers, Impedances, Circuit Continuity and Point to Point.

Model OC

A display type counter tester with crystalline black, chrome trimmed, metal case. The instantly replaceable chart of test settings snaps into a steel slide in the base, where the edge of the case forms a guide line for the settings being used. Base is 15 by 15½ inches; height 12½ inches.

The Radio Tube Stethoscope

Your customer actually hears how noises which are caused by loose elements and intermittent shorts will ruin reception. He listens while you watch the neon. This remarkable test, made with any headphone plugged into the panel jack, not only makes sales, but drives home the fact that your radio testing methods are far in advance of others.

Triple Sensitivity for Shorts

On any and every kind of short circuit the meter reads "Bad", with five-megohm sensitivity. At the same time the neon shows active element shorts with sensitivity far higher than in other instruments, and shows cathode-heater leaks according to tube makers recommendations. All short circuits are checked with but four motions of the same switch that checks output. The order of tests insures that the cathode is really hot.

Open Elements and Bad Welds

Noisy reception due to intermittent open circuits (not shorts) is shown during the output test. This important check is made possible by the exclusive Radiotechnic circuit in which elements are not tied together but in which every one must do its appointed work.

Resistance and Continuity Tests

It is possible not only to measure straight ohmic resistance, but to determine also whether a circuit contains chokes, transformers or condensers in series. A graph allows reading resistance or equivalent impedance from 1000 ohms to one megohm with self-contained power supply; no batteries.

Condenser Tests

Electrolytic condensers are checked for both leakage and forming. Paper and mica types are checked for their ability to take and retain a charge as well as for leakage.

Quality in Every Detail

The Radiotechnic meter contains a "Grade A" movement with solid magnet and soft iron pole pieces accurately formed to insure uniform readings. The magnet is of famous Alnico alloy with extra large section and is fitted with a magnetic calibrating shunt. The armature is carried by double adjustable sapphire bearings.

All rotary switches have double contacts and all adjustable or calibrating resistors are wire wound and sealed. The entire instrument is "laboratory built".

Advanced Tube Testing

Radiotechnic tube testers are first with major improvements, and always have been first because they are engineered and built in a laboratory devoted solely to development of better methods of tube testing.

The "radio tube stethoscope" was first used in the 1936 Model M. The duplex output test appeared first in the 1935 Model L. The short test without false flashes originated in the 1934 Model J. An auxiliary emission test was first developed in the 1934 Model H. Obsolescence safeguards, now time-proven, were introduced in the Model D of 1933.

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World Radio History

RADIOTECHNIC LABORATORIES

TUBE TESTERS

MODEL "O" PROFESSIONAL TUBE TESTERS

Duplex Test for Output

A method exclusively Radiotechnic, in which grid and plate voltages oppose to produce a meter reading affected simultaneously by ability of the grid to control plate current and ability of the cathode to furnish this current. Rejection results either from defective grid control or from spotty and worn out cathodes. A true "twin test" for output.

A New Kind of Tube Analysis

The Radiotechnic meter dial is divided into sections which classify tubes as Bad, Weak, Fair, Doubtful or Good. This allows replacement sales where the old tube is really defective, although still operative under some conditions, and is a vast improvement over the ordinary "Good-Bad" readings.

Dual and Double Tubes

Double tubes are checked separately on each plate. Converters are checked on both mixer and oscillator sections. Weakness in either of twin diodes is positively indicated.

Emission Test

Following the standard output test you may apply a supplementary emission test to all heavy duty tubes by resetting one pointer and pressing a button. This test is not applied to small amplifiers or diodes in which excessive current drain might ruin the small cathode surfaces.

Model OPX

A combination portable-counter tester with sloping panel. In brown grained leatherette case, 5½ by 12 by 11 inches.

Model OP

A portable tester with two large compartments for tools, tubes and parts; 320 cubic inches of space. Case is brown grained leatherette, 5 by 12 by 17½ inches.

Simplicity and Speed

Any single tube is checked by setting only three pointers, compensating for line voltage, then moving but one switch through five positions to get the complete answer—output, short circuits, open elements, leakage and noise. Dual and double tubes are handled with one extra setting and a second check for output. The auxiliary emission test may be used or omitted.

Non-Obsolescence Proven by Time

Year after year the owners of R-T-L tube testers have kept them up to date at no cost simply by following instructions furnished without charge as the need appears. The Radiotechnic system has handled every new tube in a period when more than one hundred new types came into use. It is the only time-tested safeguard against obsolescence. Revised testing charts are issued as often as necessary and are mailed free to all registered users.

WHOLESALE PRICES

Portable tester, Model OP or OPX	$41.00
Counter tester, Model OC	42.50
Single earphone, with cord and plug	90c

NET

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World Radio History

BURTON-ROGERS
Testing Equipment and Aerials

MODEL 60 OSCILLOGRAPH

is a compact self-contained instrument enclosed in a completely shielded, welded steel case. **Built-in Amplifiers** for both horizontal and vertical plates are provided; carefully designed for use with the 1 inch 913 Cathode Ray tube. **Linear Sweep included provides the Service Man** with visual resonance curves with R.F.-I.F. alignment; and a means for complete visual voltage and current analysis of any circuit, when used with any good **frequency modulated** oscillator. **Gives the Radio Amateur** percent of modulation, harmonic analysis, and many other tests. **Excellent Sensitivity. The Linear Timing Circuit** is of the latest design, employing the 885 discharge tube. Supplied complete with tubes: 1-913, 2-6C6, 1-885, and 1-84 rectifier tube.

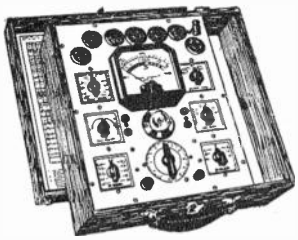
SPECIFICATIONS

Power Supply: Voltage, 110-120 volts A.C.; Frequency, 50-60 cycles; Power Consumption, 50 watts; Fuse Protection, 1 ampere. **Vertical Deflection Sensitivity:** Amplifier ON, 5 RMS volts full scale; Amplifier OFF, 55 RMS volts full scale. **Horizontal Deflection Sensitivity:** Amplifier ON, .6 RMS volts full scale; Amplifier OFF, 60 RMS volts full scale. **Input Impedance to Either Horizontal or Vertical Input Posts:** 1 megohm. **Frequency Range of Vertical Amplifier:** 10-50,000 cycles. **Maximum Signal to Input Posts:** 250 volts RMS.
Size: 8¾" high, 7" wide, 10" deep. Weight: Approximately 11 pounds.
Net Price $39.95

MODEL 51 VOLTOHM OUTPUT METER

Particularly designed for the auto radio service man this instrument is a coat-pocket size Portable D.C. Volt-ohm-meter, milliammeter and output meter. Large 3 inch meter with two color dial, Accurate D'Arsonval movement with knife-edge pointer. All ranges 1,000 ohms per volt. D.C. Volts 0-10, 0-250, 0-1000. Two direct reading ohm scales: LO-OHM from ½ to 500 ohms. HI-OHM from 200 to 500,000 ohms. D.C. Milliampere scales read 0/10/250. 0/10 amp. scale is provided especially for auto radio tests. Two output scales: one for voice coil circuit; one with blocking condenser for direct connection to plate circuit of output tube. Ohm zero adjuster compensates for battery voltage and controls output scale. Bakelite case: 6½x3¾x2⅝ inches.
Model 51 with Battery.....**Net Price $12.75**

MODEL 26 SERVICE ESTIMATOR

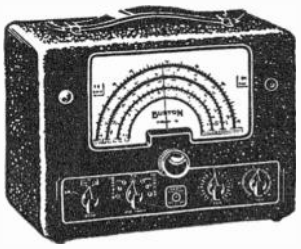


Four instruments in one—only one unit to carry. A complete test unit in one case; light in weight—compact; for diagnosing trouble in any radio receiver. Enables the serviceman to make an intelligent and accurate estimate of repair cost on the first service call. Dynamic Analysis shows true condition of all tubes — glass, metal, and metal-glass; diodes, pentodes, rectifiers are all tested correctly—each element connected to a complete circuit; with condition indicated on a BAD-GOOD dial. Seperate tests for each element in multi-element types is provided. Inter-element, leakage or shorts are indicated—HOT—on a neon tube. A complete resistance analyzer; volt-ohm-milliammeter-D.C. and A.C., is available in eleven ranges through a selector switch and a pair of jacks. Ranges are given below in detail. The large size, long scale, square meter used has a 1 MA movement—all voltage scales are 1,000 ohms per volt. A condenser-leakage test that covers all paper, mica and electrolytic units is available through the jacks at the right of the neon tube.

SPECIFICATIONS

1. A complete Tube Analyzer for ALL tubes—a real dynamic test. 2. Three-range high resistance DC Voltmeter: 0/10/250/1000 volts (1,000 ohms per volt), and three-range AC Voltmeter: 0/25/250/1000 volts. 3. Two-range Milliammeter 0/5/250 M.A. 4. Three-range ohmmeter for resistance analysis: Low: ½ to 2,000 ohms—powered by 4½ V. Battery (Battery not supplied). Medium: 50 to 200,000 ohms—powered by 4½ V. Battery (Battery not supplied). High: 500 to 2,000,000 ohms—powered by AC line and internal rectifier. 5. Case is quartered oak; with removable lid. Size 13x13x6 inches. Test leads are included. Weight: 11 pounds.
Model 26 (116 volt: 50-60 cycle).....**Net Price $44.95**

TEST OSCILLATOR



All wave type 100 kilocycles to 70 megacycles. Direct-Reading Dial. No Chart. ACCURACY: ½ of 1% on all I.F. Bands. 1% on B. C. Band. 2% on all S. W. Bands. **Frequency Calibration** of each Oscillator is carefully standardized with precision crystal controlled frequency standards.
Excellent Circuit Stability. Manufactured and licensed under the approved circuits of the American Telephone & Telegraph Company. **Attenuation** is of the ladder type with two continuously variable controls. Output: ½ to 100,000 microvolts.

Modulation—400 cycle note approximately 35% modulated, is supplied by separate modulator tube.
Two Styles—Battery Operated or 110v. 50-60 cyc. AC Operated.
MODEL II is powered from one 4½ volt C battery and two 22½ volt plate batteries. Two 30 tubes and dummy antenna but NO batteries are supplied.
Net Price $30.95
MODEL III contains specially engineered power-pack for connection to AC 110v. 50-60 cycle lines. One 6J6 oscillator tube, dummy antenna and two 37 tubes—rectifier and modulator—are included. **Net Price**.....$34.95

TUBE TESTER

Counter Type—MODEL 21

This is a real tube tester for the store counter. It makes a **dynamic** analysis of all tubes—glass, metal and octal-glass types.
The sloping panel is finished in an attractive shade of grey, while the case is covered with a leatherette to match. Tube chart supplied. Size 13x11x1 inches (front) and 9 inches (rear). Weight 10 lbs.
MODEL 22 in Portable Oak Case
Each element of the tube tested is connected to its proper circuit—no two elements are tied together as in an emission tester. Tube condition is shown on a sensitive meter having a GOOD-BAD scale so that the public can read it, too. Separate tests provided for multi-element tubes. A leakage test sensitive to 1,000,000 ohms is included — indication on a large 1 watt neon lamp.

Model 21 (115 volt, 50-60 cycle) Counter Case.....**Net Price $33.95**
Model 22 Portable Case .....**Net Price 34.95**

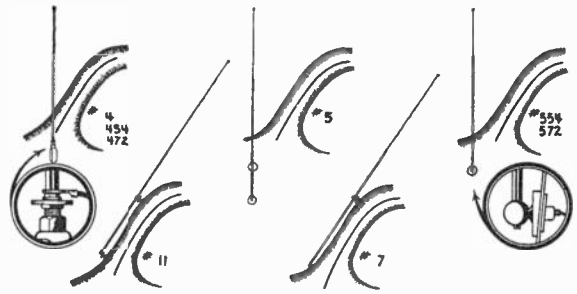
THE HANDIPROBE

For fast accurate testing for open or short circuited condensers—any type. In shooting trouble for low volume or no volume, excessive oscillation or distortion. Also tests: Presence or lack of voltage on filament, plate or screen arteries; open or shorted bleeder or cathode resistors; continuity of any receiver circuits; AC or DC.

Fountain-pen size; made of polished fibre tubing, 8¾" long—just right for hard-to-get-at places. Equipped with ⅛ watt G. E. Neon Lamp, and Special oil-processed 2000-volt D.C. condenser, sealed and baked for long life. Test lead is 20 inches long with insulated Muller alligator clip. **Net Price...$2.25**

TOPS-ALL AUTO RADIO AERIALS

STAINLESS STEEL — ASBOLUTELY RUST-PROOF



MODEL 554. Side Panel Mounting. Double extension aerial mounts on side panel and requires but one 5/16" hole for rigid and solid installation. Secondary suction cup and support is supplied, however, for those desiring two supports. Extremely short shielded lead prevents noise pick-up. Special panel fitting with single lock nut and taper-wedge catalin washer makes a quick, permanent job. Closed only 18"; extended 54".

Construction: Outside telescope section made of hard, drawn brass tubing, heavily chrome plated. First extension tube and second extension rod of stainless steel. Panel mounting base is solid brass, heavily chrome plated, extremely neat and attractive in appearance. Unit is absolutely rust-proof. Complete with shielded lead and standard plug; suction cup and cement for auxiliary support. **Net Price**.....**$4.75**

MODEL 572. Side Panel Mounting. Extra Long. This double extension aerial has the same features as the above, but is longer. Closed 24"; extended, one section, 48"; extended, two sections, 72". Complete with shielded lead, standard plug, suction cup and cement. **Net Price**.....**$5.25**

MODEL 5. Side Panel Mounting. This is a single extension aerial of rust-proof construction. Closed 26"; extended 48". Complete with shielded lead, plug, suction cup and cement. **Net Price**.....**$3.00**

MODEL 4. Door Hinge Type. Special base fitting holds this aerial solidly and permanently to the top of the door hinge. Is quickly and easily installed. Extended 48"; closed 26". Absolutely rust-proof, tubing and fittings of chrome plated brass, extension of stainless steel. Complete with shielded lead and standard plug. **Net Price**.....**$3.00**

MODEL 454. DeLuxe Door Hinge Type. Construction is double telescope type. The greater length extended of 54" gives better sensitivity .Complete with shielded lead and standard plug. **Net Price**.....**$3.50**

MODEL 472. DeLuxe Door Hinge Type. This is the double telescope type, but has tremendous length for the utmost sensitivity. Closed 24"; extended one section 48"; extended two sections 72". Complete with shielded lead and standard plug. **Net Price**.....**$4.00**

MODEL 11. Universal Mounting. Requires no holes or bending and may be placed in any position desired due to the swivel ball and socket joint at the bottom. Solid drawn brass telescope tube and fittings are heavily chrome plated. Extension rod is burnished stainless steel; absolutely rust-proof. Closed 32"; extended 56". Complete with shielded lead and plug.
Net Price **$3.25**

MODEL 7. Wind Shield Mounting for flat and V wind shields. Single extension, telescope type. Extended 48"; closed 26". Easily adjustable. Requires one 5/16" hole in cowl. Chromium finish. Complete with shielded lead and standard plug. **Net Price**.....**$2.50**
Shipping weight of all models approximately one pound each. Cement included with all types using vacuum cups.

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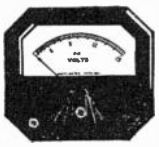
World Radio History

BURTON-ROGERS Meters

SQUARE METERS

Type 579 & 585



TYPE 579 Junior 3½" Moulded Case—An exceptionally rugged D.C. meter built to satisfy the demand for a long scale instrument at a lower price than the standard. The bakelite case is approximately 3½" square, while the rear is circular, fitting a 2 5/16" panel hole, either clamp or stud mounting. Accuracy is 2%; sensitivity 50 MV in the 0/1 MA range.

TYPE 585 Junior 3½" Moulded Case—This A.C. meter is designed to match in appearance the No. 579. The case is the same size but contains a repulsion movement pneumatically damped. Either stud or clamp mounting, through a 2 5/16" panel hole.

Type 5730

TYPE 5730 4½" Moulded Case—This attractive open face D.C. instrument represents the newest thought in meter design. The specially narrow coil form has the movement pivots inside, so that they turn on sapphire jewels set in the core iron. Scale is 3¼" long for easy readability. The semi-flush bakelite case is approximately 4½" wide, while the barrel fits a 2 13/16" panel hole. Accuracy is 2%; sensitivity 80 MV in the 1 MA range.

ROUND METERS

Type 576

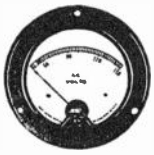
TYPE 576 R.F. Antenna Meter (Hot Wire Type). For measuring the output of transmitters an ammeter that is not affected by frequency changes is necessary. The Hoyt Hot-Wire Ammeter fills this requirement at a reasonable price. It is supplied in three ranges as shown below. The movement is mounted in either the round 3¼" bakelite flush mounting case same as No. 569; 3½" case like No. 582; or the square case like No. 573. An easily accessible "thumb and finger" zero adjuster is provided.

POCKET METERS

For testing A, B and C batteries — hot shots — dry cells—air cells.

Are of the polarized vane type, but are built with an unusually high resistance for this type of meter so that their use does not put an excess load on the batteries under test, no do they become warm and inaccurate when a number of batteries are tested in quick succession. They provide a real indication of battery condition. Good—bad dial for easy reading.

Type 584 A.C.



TYPE 584 A.C. Meters—These A.C. meters have standard repulsion movements operating in jewelled bearings. Damping is accomplished by a fan attached to the pointer moving in a semi-closed chamber. Flush mounting bakelite cases measure 3½" across the flange and mount through a 2¾" panel hole. TYPE 560 is a slightly smaller A.C. instrument, the case measuring 3¼" across the flange and mounting in a 2 9/16" hole. Construction and accuracy the same as the above.

Type 582

TYPE 582 D.C. Meters—This new jewel-bearing, moving-coil meter, has the same rugged time-tested construction of other Hoyt instruments, the same accuracy—2%—of other Hoyt small panel mounting meters. Type No. 582 is made in the popular panel-mounting size: 3½" across the flange, 2¾" across the barrel, flush mounting bakelite case.

Type 569

TYPE 569 is a slightly smaller D.C. instrument, the case measuring 3¼" across the flange. Construction and accuracy the same as the above.

Type 17-2 Two Inch Case—A rugged D.C. meter with jewelled bearings of the moving coil type. Accuracy is 2%; sensitivity 40 MV in the 1 MA range. Flush bakelite case measures 2⅝" across the flange. Mounts through a 2 1/16" panel hole.

Types 566 D.C. and 531 A.C. — These magnetic vane instruments are for use where precise accuracy is not necessary but where a long scale and rugged construction are required. The pneumatic damping brings the pointer quickly and smoothly to rest at the correct reading. Semi-flush bakelite cases measure 2⅝" across the flange and require a 2" panel hole.

"CYCLOPS" METER—TYPE 583

A Volt-Ohm-Milliammeter

This whopping big multimeter, just under 9 inches in size, is for installation over radio test benches. The ohm scale—over 6" long—can be read at a distance of six feet. Due to special construction only a 3" hole is required for mounting. Each amateur or service man can make his own switching arrangements and supply his own resistors according to a simple diagram furnished with each meter.

Type 83—This is a combination of "Cyclops" meter TYPE 583, and a complete control unit containing all necessary switches and resistors. The control unit is housed in a black bakelite case measuring 6½" x 3½" x 2½" and may be placed in any convenient position on the test bench. For combination of meter and control unit order TYPE 83.

LIST PRICES OF HOYT RADIO METERS

D. C. MILLIAMETERS

Range	Model 17-2	569	566	582	573	5730	579
0/½	$6.75	$8.25	.....	$8.75	$10.50	$11.00	.....
½-O-½ (galv.)	.....	6.50	.....	7.00	9.50	10.00	.....
0/1	5.75	6.50	.....	7.00	9.50	10.00	$7.75
0/1 V. O. M. Dial	.....	7.00	.....	7.50	10.00	10.50	8.25
0/5	4.50	5.25	.....	5.75	8.50	.....	6.50
0/10	4.50	5.25	.....	5.75	8.50	9.00	6.50
0/25	4.50	5.25	$1.90	5.75	8.50	9.00	6.50
0/50	4.50	5.25	1.50	5.75	8.50	9.00	6.50
0/100	.....	5.25	1.50	.....	.....	.....	.....
0/150; and 0/200;	4.50	5.25	1.50	5.75	8.50	9.00	6.50
0/300, and 0/500.	4.50	5.25	1.50	5.75	8.50	9.00	6.50

D. C. AMMETERS

Range	Model 17-2	569	566	582	573	5730	579
0/1 0/5 0/10	$4.50	$5.25	$1.50	$5.75	$8.50	$9.00	$6.50
0/25	4.50	.....	1.50	.....	.....	.....	.....
0/30	.....	5.25	.....	6.00	8.50	$.00	6.50
0/50	.....	5.25	.....	6.00	8.50	9.00	6.50

STANDARD D. C. VOLTMETERS 100 ohms per volt

Range	Model 17-2	569	566	582	573	5730	579
0/10	$4.50	$5.25	$1.50	$5.75	$8.50	$9.00	$6.50
0/50	4.50	5.25	1.90	5.75	8.50	9.00	6.50
0/150	5.75	7.00	2.75	7.50	10.00	10.50	8.00

D. C. HIGH RESISTANCE VOLTMETERS 1000 ohms per volt

Range	Model 17-2	569	566	582	573	5730	579
0/150	$7.75	.....	$8.75	$8.75	$11.50	$12.00	$9.00
0/150	$7.75	$8.75	.....	$8.75	$11.50	$12.00	$9.00
0/500	10.00	11.00	.....	11.00	13.50	14.00	12.00
0/750	12.00	13.75	.....	13.75	16.00	16.50	14.00
0/1000	14.25	16.00		16.00	18.50	19.00	17.00

A. C. MILLIAMMETERS

Range	531	560	584	585
0/10	$3.75	.....	$6.00	$7.00
0/25	3.00	$5.25	5.75	7.00
0/50	2.75	5.25	5.75	6.50
0/100	2.75	.....	5.75	.....
0/300	2.75	5.25	5.75	6.50

A. C. AMMETERS

Range	531	560	584	585
0/1	$3.00	$5.25	$5.75	$6.50
0/5 and 0/10	3.00	5.25	5.75	6.50
0/25	3.00	5.25	7.00	6.50
0/50	.....	7.50	9.00	9.50

A. C. VOLTMETERS

Range	531	560	584	585
0/4	$2.75	$5.25	$5.75	$6.50
0/10	2.75	5.25	5.75	6.50
0/15	2.75	5.25	5.75	6.50
0/30	.....	5.25	5.75	6.50
0/50	4.00	5.25	5.75	6.50
0/150	4.50	6.75	7.00	7.75
0/300	5.50	8.00	8.25	9.00

R. F. Antenna Meters (Hot-Wire Type)

	Round Case 576	Round Case 586	Square Case 577
0/15; 0/3; and 0/5	$5.75	$5.75	$7.50

"CYCLOPS" Volt-Ohm-Milliammeter Type 583

Range: 0/1 M.A. Scale: 0/500/500,000 ohms; 0/10/250 M.A.; 0/10/250/1000 volts;
With wiring diagram $25.00
Type 83 with Control Unit $43.00
(Net to Serviceman $25.75)

POCKET METERS

Model 11 0-50 Volts (Special Dial) $2.25
Model 21 0-10, 0-35 amps.....2.00
Model 31 0-50, 0-35 amps 3.25

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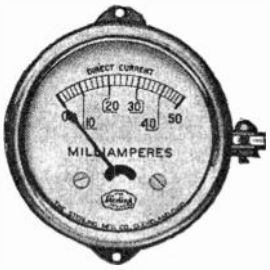
World Radio History

STERLING PANEL METERS

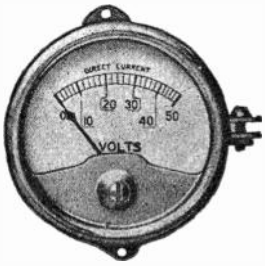
AMMETERS, VOLTMETERS, MILLIAMMETERS

FOR USE ON DIRECT AND ALTERNATING CURRENT



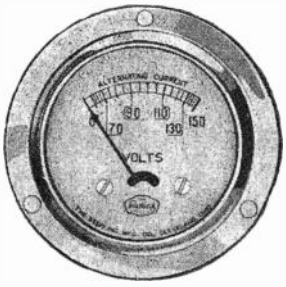
TYPE 80

Flush case, narrow flange, standard finish black enamel or nickel. Circular adjustable back clamp for mounting.
Diameter flange $2\frac{5}{32}$"
Diameter case 2"
Requires hole $2\frac{1}{32}$" in Diameter
Depth case $\frac{31}{32}$"
Length terminals $\frac{7}{16}$"



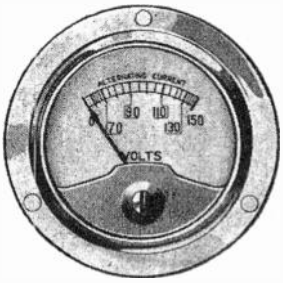
TYPE 88

Flush case, narrow apron flange, designed for ZERO ADJUSTER equipment. Standard finish black enamel or nickel. Circular adjustable back clamp for mounting. Same dimensions as Type 80.



TYPE 70

Flush case, wide flange, standard finish black enamel or nickel. Screw holes in flange for mounting.
Diameter flange $2\frac{5}{8}$"
Diameter case 2"
Requires hole $2\frac{1}{32}$" in Diameter
Depth case $\frac{7}{8}$"



TYPE 78

Flush case, wide flange with apron designed to carry ZERO ADJUSTER equipment. Standard finish black or nickel, screw holes in flange for mounting. Same dimensions as Type 70.

A COMPLETE MODERN LINE

These improved STERLING Panel Meters while retaining the accuracy, beauty and ruggedness which have always characterized STERLING instruments, show a modern trend in the gracefully unique arrangement of the broader and more clearly defined scales. The meters for alternating current and direct current are perfectly matched and therefore suitable for mounting on the same panel. Both the A. C. and D. C. meters are of the permanent magnet, iron vane, solenoid type. The simplicity and unsuspected adaptability of this have been seized upon by STERLING engineers to widen greatly the low-priced meter's field of usefulness. This design permits the use of the high resistance so often essential to the value of voltmeter readings, particularly of alternating current. A positiveness of action and breadth of movement suggestive of those of the D'Arsonval type have been achieved.

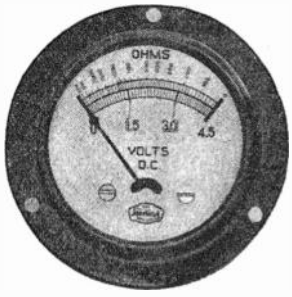
Those engaged in experimental or service work requiring close readings are sure to be especially pleased with the large needle-tipped pointers and wide clearly marked scale divisions of these panel meters. These same qualities make them a boon to a host of manufacturers of electrical apparatus for rural, industrial and professional use whose products must be safeguarded by dependable indicating equipment.

STERLING Panel Meters may be had in any of the types illustrated and also in the Type 90 Projecting Case, 2" in diameter, base $2\frac{3}{16}$" in diameter. Long terminal screws mount through panel. The ZERO ADJUSTER can be supplied for any of the instruments listed, A. C. or D. C. but it can be applied only to those put up in the type 78 or 88 case.

Standard package, 100 meters, shipping weight 30 lbs.

ALL STERLING Panel Meters, A. C. or D. C. are guaranteed accurate within 5%.

DIRECT READING RESISTANCE METERS



No. 901

The 901 Resistance Meter is an excellent instrument for measuring all kinds of resistances up to 10,000 Ohms. It reads up to 4.5 Volts on the lower scale and requires three small flashlight cells for operation. It is ideal for continuity tests. ZERO ADJUSTER supplied if desired. 901 Resistance Meter. **List Price** **$2.75**

The 902 Resistance Meter, similar in appearance to the 901, is probably the most valuable tool a service man could own, considering its adaptability and low cost.

It not only measures accurately resistances up to 100,000 Ohms without the use of external resistors and voltage up to 9 volts, but in addition has a separate milliampere scale with 1/10 milliampere divisions, reading up to 2 milliamperes. It requires 6 small flashlight cells for operation. ZERO ADJUSTER supplied if desired.

902 Resistance Meter. **List Price** **$4.00**

903 Resistor with jack terminals to increase capacity of 901 Resistance Meter to 60,000 Ohms. Requires 22½ volt "B" Battery. **List Price** **$1.75**

904 Resistor with jack terminals to increase capacity of 901 Resistance Meter to 100,000 Ohms. 45 Volt "B" Battery required. **List Price** **$2.25**

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World Radio History

Sterling

STERLING PANEL METERS

Direct Current Meters

D. C. VOLTMETERS

Number	Range	List Price
801	0-1 Volts	$1.00
802	0-3 Volts	1.00
803	3-0-3 Volts	1.00
804	0-5 Volts	1.00
805	0-6 Volts	1.00
806	0-8 Volts	1.00
807	0-10 Volts	1.00
808	0-15 Volts	1.00
809	0-25 Volts	1.00
810	0-25 Volts High Resistance	2.75
811	0-50 Volts	1.00
812	0-50 Volts High Resistance	3.25
813	0-100 Volts	1.50
814	0-100 Volts High Resistance	3.25
815	0-150 Volts	1.75
816	0-150 Volts High Resistance	3.25
817	0-300 Volts	3.25
818	0-500 Volts	4.50
819	0-750 Volts	5.50
820	0-8-160 Volts	2.25

D. C. MILLIAMMETERS

835	0-2 Milliamperes	$3.75
836	0-5 Milliamperes	2.25
837	0-10 Milliamperes	2.00
838	0-15 Milliamperes	1.00
839	0-25 Milliamperes	1.00
840	0-50 Milliamperes	1.00
841	0-100 Milliamperes	1.00
842	0-150 Milliamperes	1.00
843	0-200 Milliamperes	1.00
844	0-300 Milliamperes	1.00
845	0-400 Milliamperes	1.00
846	0-20-100 Milliamperes	2.00
847	0-15-150 Milliamperes	2.00

D. C. AMMETERS

855	0-1 Amperes	$1.00
856	0-3 Amperes	1.00
857	0-5 Amperes	1.00
858	0-10 Amperes	1.00
859	1-0-1 Amperes	1.00
860	3-0-3 Amperes	1.00
861	6-0-6 Amperes	1.00
862	10-0-10 Amperes	1.00
863	20-0-20 Amperes	1.00

Alternating Current Meters

A. C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	$2.50
871	0-6 Volts	2.50
872	0-10 Volts	2.50
873	0-15 Volts	2.50
874	0-150 Volts High Resistance	4.25
875	0-300 Volts	5.20
876	0-600 Volts	6.00
877	0-750 Volts	7.75
878	0-10-140 Volts	4.25

A. C. MILLIAMMETERS

880	0-25 Milliamperes	$2.50
881	0-50 Milliamperes	2.50
882	0-100 Milliamperes	2.50
883	0-250 Milliamperes	2.50
884	0-500 Milliamperes	2.50

A. C. AMMETERS

886	0-1 Amperes	$2.50
887	0-3 Amperes	2.50
888	0-5 Amperes	2.50
889	0-10 Amperes	2.50
890	0-20 Amperes	2.75
891	0-50 Amperes	3.00
898	0-150 A. C. Voltmeter Plug-in type	3.25

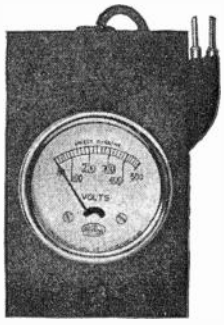
RESISTANCE METERS

Direct Reading

901	4.5 Volts, 10,000 Ohms 3 Flashlight cells required.	$2.75
902	2 M. A., 9 Volts, 100,000 Ohms 6 Flashlight cells required.	4.00
903	Resistor for 901 Meter	1.75
904	Resistor for 901 Meter	2.25

Both A. C. and D. C. meters supplied with ZERO ADJUSTER at an additional list price of 25 cents each.

PORTABLE METERS



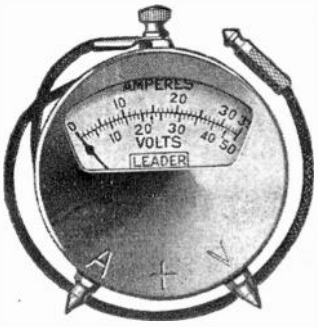
Type 60

Portable Case

Any panel meter may be supplied in No. 60 neat rectangular baked enamel case at $1.75 added to the list price. Leads and tips included.

LEADER POCKET METERS

No.	Range Use	List Price
200	0-35 Amperes—Tests No. 6 Dry Cells	$ .80
203	0-50 Volts—Tests "B" Batteries	1.00
206	0-35 Amperes, 0-50 Volts—Tests No. 6 Dry Cells and "B" Batteries	1.50
212	"A" Battery Tester — Tells when to charge "A" Battery	1.10



Leader Pocket Meters are well suited to the several purposes for which they were designed.

They have clearly marked dials and are accurate and durable. Handsome full nickel finish. Standard Package, 10. Shipping Weight, 2 lbs.

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Weston RADIO INSTRUMENTS

MODEL 776—OSCILLATOR

Complete Frequency Ranges—50–160 kc; 150–600 kc; 550–2100 kc; 1.6–6 mc; 5–19 mc; 9.5–33 mc by fundamentals; 60 mc by harmonics. **Output**—1 microvolt to .1 volt in 4 controllable steps on I.F. and B.C. bands. Strong signal eliminates need for breaking into I.F. circuit. **Audio Signal**—400 cycle note available for audio test—signal controlled through attenuator. **50% modulation** means greater audibility. Good sine wave characteristics. No 60 cycle distortion. **Operation**—110–130 volts, 50–60 cycles. **Hand Calibrated Scales.** Accuracy—½ of 1% on I.F. and B.C. bands; 1% on short wave bands. NO PADDERS OR TRIMMERS. **Two Speed Dial**—1 revolution of the knob covers entire dial. Gives very fine Vernier adjustments. Big, direct-reading dial—6 feet of visible scale. **Automatic Amplitude Control**—New electronic method of Automatic Amplitude Control (AAC) holds signal more constant than hitherto possible, over entire frequency range. Prevents frequency drift commonly experienced by line voltage fluctuations and tube variations. **Band Switch**—All wiring has been eliminated between switch contacts and coils, and properly isolates coils not in use. **Constant Impedance Attenuator** — 100 ohm — elaborate filters — shielded line cord — double shielding—separate attenuator tube—line feedback at a minimum. **Wobbler Jack** is provided for use with frequency modulator for oscillograph tests. **Tubes**—1 No. 6L7; 1 No. 84; 2 No. 76. Stock tubes may be used without special selection. Size: 10" x 16" x 5" — Weight: 13¼ lbs.

Net Price, Model 776 complete.....$65.25

MODEL 692—TEST OSCILLATOR

Battery-driven Test Oscillator designed for adjusting all types of resonant circuits where controlled, modulated or unmodulated signal is required. Portable TRIPLE-SHIELDED ALL-WAVE OSCILLATOR with PLUG-IN COILS to prevent interaction. Very low leakage. A 200 ohm constant impedance special attenuator gives a signal strength from 1 microvolt to 0.2 volt on I.F. and B.C. bands. 50% modulation at all frequencies.

FREQUENCY BANDS: 100–250 kc; 250–550 kc; 535–1600 kc; 1.5–4 mc; 4–10 mc; 10–22 mc by fundamentals. 44 mc by harmonics. Audio signal of 400 cycles available—good sine wave characteristics, 60 cycle distortion impossible.

Pin jacks provided for external modulation. Two type 30 tubes used. Complete with tubes, hand calibrated curves and self-contained batteries. Size: 8¼" x 5½" x 5¾". Weight: 8½ lbs.

Net Price, Model 692, without carrying case.....$51.56

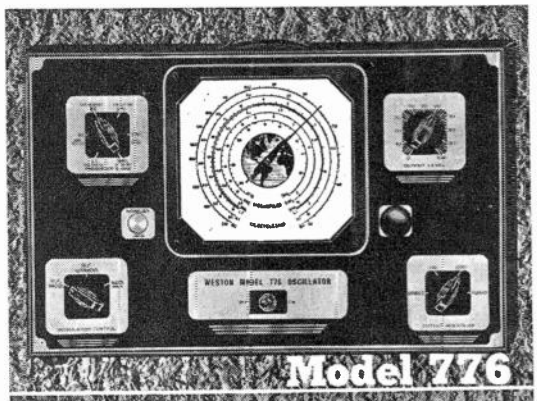
MODEL 669 VACUUM TUBE VOLTMETER

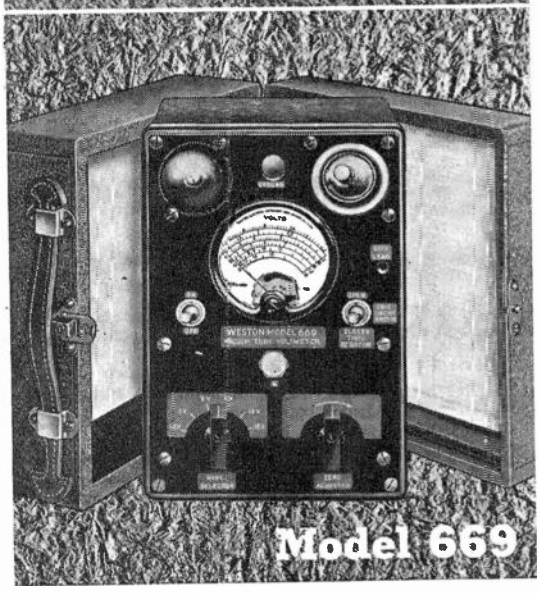
This vacuum tube voltmeter gives measurements of a-c and d-c potentials over extremely broad range of frequencies. Practically infinite resistance in ohms per volt. All ranges have input impedance equal to that of the tube itself, no resistance network being used in the input circuit. A.V.C. circuits are not upset when making measurements. Operation—105-130 volts, 42-60 cycle.

RANGES: 1.2/3/6/8/12/16 volts full scale allowing a.f. and r.f. measurements from 0.1 to 16 volts. Two multipliers supplied, extending ranges to 12/30/60/80/120/160 a-c and d-c. NEON BULB VOLTAGE REGULATOR MAINTAINS CONSTANT OPERATING VOLTAGES. Size: 8¼" x 5½" x 5¾". Weight: 6½ lbs.

Net Price, Model 669, less carrying case.....$50.63

Net Price, carrying case only for Models 669 and 692.....$ 4.13





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Weston RADIO INSTRUMENTS

Model 772

MODEL 772—TYPE 2

Super-Sensitive Analyzer

— The original 20,000 Ohms per volt Analyzer —

The most complete super-sensitive analyzer on the market today Services commercial radio receivers, P. A. systems, vacuum tube and cathode ray equipment, sensitive telephone and telegraph circuits. Measurements of a-c and d-c volts, d-c current, ohms, and decibels over broad ranges, fulfill analyzer requirements for diversified radio servicing. Presents the opportunity of expanding radio activities to include profitable industrial and household appliance fields.

Has 20,000 ohm per volt sensitivity on five d-c voltage ranges. Equipped with a 4½", 50 microampere instrument having a full size movement. A-c readings on a single arc scale. Overall accuracy on a-c ranges is within 3% on normal frequencies due to improved rectifier circuit. Practically no frequency error from 50 to 7000 cycles—.5% error for each individual 1000 cycles. Temperature error is guaranteed to be within 2% from 40° F. to 110° F.

Diode currents in AVC circuits and AFC currents as well as minute photocell currents, etc., are quickly and accurately measured. Five db ranges provide power level measurements from −14 to +54 decibels. Model 772 is ideal for condenser leakage tests—maximum voltage on any range

(Continued top of next column)

MODEL 772—*(continued)*

being 15 volts supplied by self-contained batteries. Equipped for mounting Model 666 Socket Selector unit. Black panel, trimmed in red and chromium. Size: 15⅛" x 5⅛" x 8¾". Weight: 8½ lbs.

Net Price, Model 772 Type 1.....$52.13
Net Price, Model 666 Type 1B Socket Selector.....$15.83

Ranges:

Volts a-c and d-c—2.5/10/50/250/1,000

Current, d-c only—.1 MA/1 MA/10 MA/50 MA/250 MA/1 amp./10 amp.

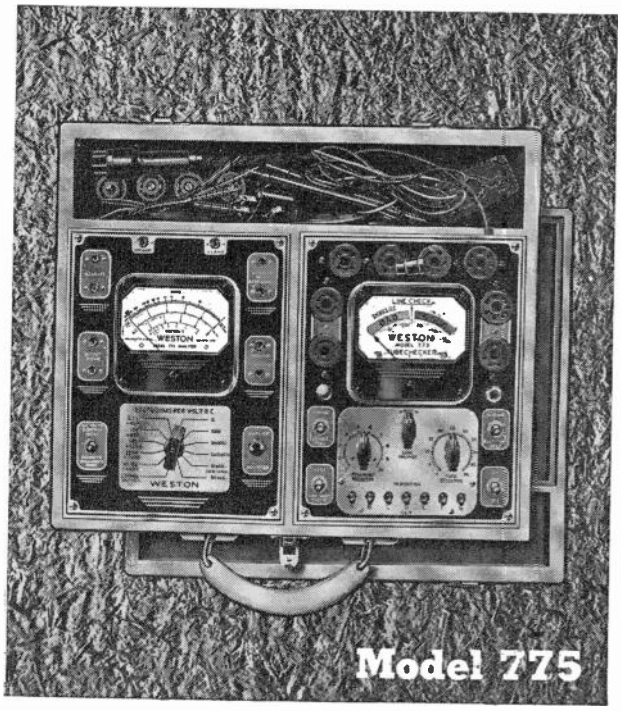
Decibels— −14 to +2/—2 to +14/+12 to +28/+26 to +42/+38 to +54

Ohms—0-3,000/0-30,000/0-3 meg./0-30 meg. full scale.

MODEL 775—SERVISET

This deluxe test set is a complete portable workshop! It contains Model 772 Super-Sensitive Analyzer and Model 773 Type 1 Tubechecker. Ideal for both field and shop use—units are mounted in handy combination case . . . with ample room for Weston socket selector units or tools. Can be quickly mounted on any panel or shop bench—both instruments are identical in size, shape and color—a matched set of accurate radio servicing equipment. If you now own one of these individual instruments, you can complete the set by ordering the remaining unit in the combination case. Size: 5⅝" x 14¼" x 17¼". Weight: 17 lbs.

Net Price, Model 775 less socket selectors.....$104.25



Model 775

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Weston RADIO INSTRUMENTS

MODEL 773 TUBECHECKER
Portable, Type 1

. . . is light in weight—generous compartment for tubes or tools —ideal for checking and selling tubes on the job. Avoid confusion in servicing by locating those defective tubes, with this accurate, convenient tube analyzer. Complete rapid-reference chart in cover. All features . . . TOTAL EMISSION . . . INDIVIDAL ELECTRODE test . . . neon short check . . . CATHODE LEAKAGE . . . NOISE TEST . . . LINE VOLTAGE CONTROL . . . load tests . . . contained in a portable carrying case of the finest construction. Size: 15½" x 8¾" x 5½". Weight: 10 lbs.

Price, Model 773, Type 1 complete.....$53.81
Price, Model 773, Type 1 in combination case.....$58.13

Model 773, Type 1

MODEL 773 TUBECHECKER
Counter, Type 2

Step up your tube sales with this eye-appealing tubechecker, equipped with the new, *TIME-SAVING ROTATOR TYPE* TUBE INDEXER. Rich . . . colorful . . . dignified . . . with a big, sensitive, Weston meter stepped-up from a beautiful red and black panel. Model 773 Counter Type is ideal for promoting effective tube merchandising campaigns. Size: 14½" x 10½" x 7". Weight: 11½ lbs.

Model 773, Type 2

Net Price, Model 773 Type 2 complete.....$58.13

DOUBLE-CHECKING "DOUBTFUL" TUBES!

Model 773 and 771 Tubecheckers make total quality tests, and in addition check each individual element. Separate electrode switches for grid, plate, screen, suppressor, diode or cathode are provided for emission, short and leakage tests. This point-to-point testing feature will be recognized as extremely important whenever "doubtful" tubes are encountered.

Defects in circuit continuity of the electrodes of a tube are a frequent source of trouble. Overall efficiency tests may not disclose these defects but when a tube is given a point-to-point electrode check, they are bound to appear. Model 773 tests every type tube commercially available, for total emission as well as defective operation of any component part.

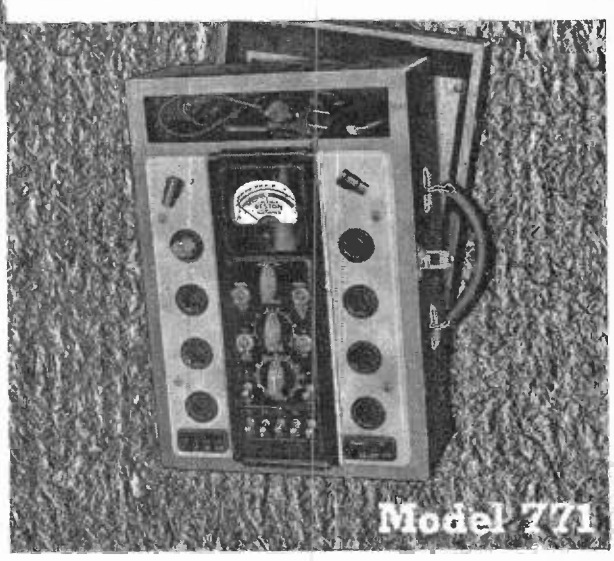
MODEL 771—CHECKMASTER

Equally serviceable in the shop or field, the Model 771 Checkmaster combines the best features of a modern tubechecker with many analyzer characteristics. It is completely self-contained . . . checks tubes . . . measures circuit voltages . . . and makes resistance analysis.

Model 771 is ideal for a quick check-up in the home. Servicemen who want to give an accurate price "on the job" find it invaluable. PROVIDES NEON SHORT CHECKS WHILE TUBES ARE HOT . . . MAKES INDIVIDUAL EMISSION TESTS ON TUBE ELEMENTS . . . LINE VOLTAGE READS DIRECTLY ON METER.

Ranges: Voltage ranges — 10/100/1000 volts d-c. Resistance ranges—0-20,000; 0-200,000; 0-2,000,000 ohms . . . center scale readings: 290/2900/29,000 ohms. Attractively finished in black, cream and red. Size: 14½" x 9⅝" x 6". Weight: 12 lbs.

Net Price, Model 771 complete.....$55.13


Model 771

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Weston RADIO INSTRUMENTS

MODEL 665, TYPE 1—SELECTIVE ANALYZER

With this analyzer, a-c and d-c voltage, direct current and resistance can be measured over a total of 33 ranges—all self-contained within this one instrument. A simplified switching and pin jack arrangement facilitates rapid operation.

All d-c and a-c ranges have a sensitivity of 1000 ohms per volt. The accuracy of a-c readings at various frequencies and wave forms is better maintained by using the more efficient full wave rectifier. Output measurements are made through a self-contained fixed condenser.

All resistance spools are adjusted within ½ of 1%, and are non-inductive. Sustained accuracy is assured under all operating conditions.

Ranges: VOLTS, a-c and d-c, (1000 ohms per volt) 1000/500/250/100/50/25/5/2.5/1
OHMS (full scale) 1000/10,000/100,000/1,000,000
OHMS (center scale) 25/250/2500/25,000
MILLIAMPERES, d-c only—500/250/100/50/25/10/5/2.5/1
A-c output ranges—1 to 1000 volts

Size: 5½" x 8¼" x 3⅞" Weight: 5 lbs.

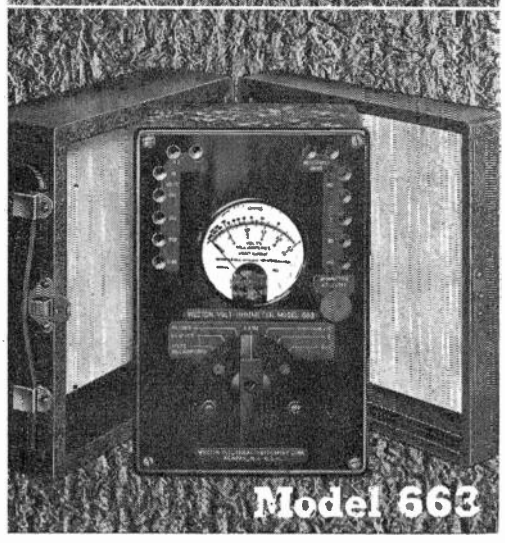
Net Price, Model 665, Type 1, without carrying case $58.50
Net Price, Carrying Case $4.13

MODEL 765—A-C AND D-C VOLT-MILLIAMMETER, DECIBEL METER

High sensitivity plus well-overlapped ranges in D-C AND A-C VOLTAGE, DIRECT CURRENT AND DECIBELS. 4½" rectangular instrument, designed for exceptional readability and scale length. Model 765 has a d-c sensitivity of 20,000 ohms per volt (50 micra.)—ideal for measurements in both high resistance networks and ordinary circuits. D-c accuracy guaranteed to be within 2%. Overall a-c accuracy held within 3% from 50 to 7,000 cycles . . . a new standard for rectifier type instruments. Special rectifier circuit, designed for temperature compensation between 50° F and 110° F, limits temperature errors to 2%. Single line calibrations for all a-c ranges—condenser compensation not used—uniform accuracy at all frequencies. Size: 7½" x 8¼" x 3⅞". Weight: 5 lbs.

Ranges: VOLTS, a-c and d-c (sensitivity): d-c 20,000 ohms per volt, a-c 1,000 ohms per volt, 0-15/3/6/15/30/60/150/300/600/1500
Direct current only—microamps.: 0-150/600
milliamps.: 0-1.5/3/6/15/30/60/150/600
amperes: 0-3/15
Decibels: −18 to +58 in steps of 6 Db.

Net Price, Model 765, less carrying case $64.88
Net Price, Carrying Case only $4.13



MODEL 663—VOLT-OHMMETER

Model 663 is exceptionally suited for radio servicing where a wide range, battery-operated ohmmeter is desired along with d-c voltage and current ranges. All ranges are rapidly selected by the rotary switch and pin jacks. The instrument requires only 50 microamperes for full scale deflection. This low current drain permits resistance measurements in critical circuits without seriously disturbing the circuit characteristics.

Standard self-contained batteries supply energy for resistance readings. A special ohmmeter adjustment compensates for changes in battery potential without any effect on meter accuracy.

Ranges: OHMS, (full scale) 0-200/1,000/10,000/100,000/1,000,000/10,000,000
OHMS, (center scale) 0-5/25/250/2,500/25,000/250,000
MILLIAMPERES, d-c—1/5/25/100
VOLTS, d-c—2.5/10/100/250/500/1,000

Size: 8¼" x 5½" x 3⅞" Weight: 4½ lbs.

Net Price, Model 663 without carrying case $49.13
Net Price, Carrying Case $4.13

Other Weston Instruments

Model 763 Ohmmeter — Direct reading a-c operated ohmmeter. Same style panel and instrument as in Model 765. Ranges in Ohms: Full scale—0-3,000/30,000/300,000/3 megs./30 megs./300 megs. Center scale—0-25/250/2,500/25,000/250,000/2.5 megs.
Net Price, Model 763 less carrying case $55.88
Net Price, Carrying Case $4.13

Model 664 Capacity Meter—Direct reading a-c operated capacity meter. Ranges in mfd.: 0.0001-0.02/.2/2/20/200; Volts a-c—0-4/8/40/200 at 1000 ohms per volt.
Net Price, Model 664 less carrying case $41.63
Net Price, Carrying Case only $4.13

Model 764 Capacity Meter — For capacity measurements in all types of condensers, paper, mica or electrolytic. Readings direct—not a bridge—*low test potential*—no danger of condenser breakdown—current flow of only 50 a-c microamperes—no shocks. Rectangular instrument similar to Model 765. Ranges in mfd.: .00005-01/.1/1/10/100.
Net Price, Model 764 less carrying case $48.38
Net Price, Carrying Case only $4.13

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Weston RADIO INSTRUMENTS

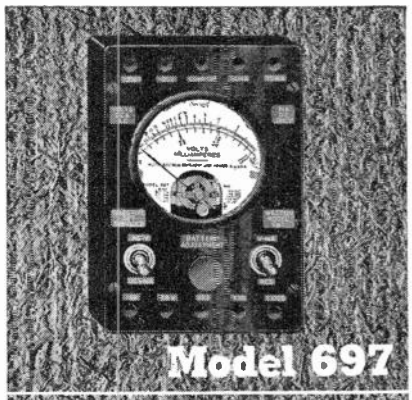
MODEL 697—VOLT-OHM-MILLIAMMETER

Very popular pocket-size device with a-c and d-c voltages, d-c milliampere and ohm ranges. Precision resistors used throughout. Accuracy has not been sacrificed for size. All ranges brought out to pin jacks. Toggle switches protect and connect the meter in the circuit as a voltmeter or ohmmeter. Self-contained 4½ volt battery supplies necessary potential for ohm ranges. Ohmmeter adjustment compensates for changes up to 25% in battery potential without affecting meter accuracy.

Ranges: VOLTS, a-c and d-c—0-7.5/15/150/750 OHMS (full scale)—5,000/500,000
MILLIAMPERES, d-c only—0-7.5/75 OHMS (center scale)—35/3500

Size: 5 9/16" x 3¾" x 3 9/16" Weight: 1¾ lbs.

Net Price, Model 697 ..... $28.80
Complete with pair of test leads.



MODEL 695—POWER LEVEL METER, VOLTMETER, OUTPUT METER

Gives readings in decibels as well as in volts making it ideal for power level measurements in all types of speech equipment and radio receivers. Available in 3 types: Type 3A and Type 11 for medium speed; Type 3B for high speed.

TYPE 3A—Medium speed, moderately damped movement. 2,667 ohms per volt. 11 DB ranges from —8 to +32 DB at zero on the DB scale. 5 a-c•voltage ranges from 1.5 to 150 volts.

TYPE 3B—High speed, highly damped movement. 1,333 ohms per volt. 11 DB ranges and 5 a-c voltage ranges the same as Type 3A.

Type 11—Medium speed, moderately damped movement. Constant impedance of 20,000 ohms. 11 DB ranges from —4 to +36 DB at zero on the DB scale. 7 voltage ranges from 2 to 200 volts. Type 3A and 3B total spread of 56 DB scale —10 —0— +6. Type 11 total spread of 55 DB scale —10 —0— +5.

All three types are calibrated for 500 ohm lines with zero level of 6 milliwatts (.006 watts) or 1.73 volts. Complete with a pair of test leads.

Size: 5½" x 3¾" x 3⅛" Weight: 1½ lbs.

Net Price, Model 695, Type 3A $27.00
Net Price, Model 695, Type 3B $32.63
Net Price, Model 695, Type 11 ..... $32.63

MODEL 564—VOLT-OHMMETER, TYPE 3-C

A fine, Weston quality instrument with a very useful selection of voltage and resistance ranges. A self-contained 4½ volt battery provides the necessary for the ohmmeter ranges. Ohmmeter adjustment compensates for changes in battery potential without any affect on meter accuracy. Ranges are available from pin jacks. A toggle switch connects meter in circuit as a voltmeter. Complete with a pair of 4 ft. test leads.

Ranges: VOLTS, d-c, at 1,000 ohms per volt—0-3/30/300/600
OHMS (full scale)—0-1,000/10,000/100,000/1,000,000

Size: 5½" x 3¾" x 2 9/16" Weight: 1¾ lbs.

Net Price, Model 564, Type 3-C $28.80

MODEL 666, TYPE 1B SOCKET SELECTORS

— for testing 4, 5, 6, 7 and 8 prong base tubes —

With this selector unit you can now make all current, voltage and resistance measurements *at the tube socket* without breaking soldered connection in the receiver, etc.

The selector block of Model 666, Type 1B, is quickly mounted on Models 665, 772 and 775 or any other analyzers, by means of 2 pin terminals.

Net Price, Model 666, Type 1B (for 4, 5, 6, 7 and octal base tubes) $15.83

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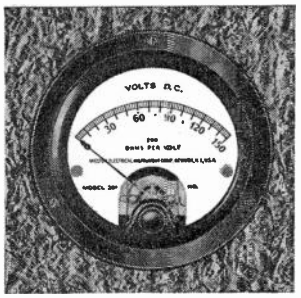
Weston RADIO INSTRUMENTS



Round Style

PANEL INSTRUMENTS

Distinguished for their fine workmanship and permanently dependable performance with exceptional accuracy for their size, Model 301, 425 and 476 round instruments are regularly supplied in flush type 3⅜" bakelite, 3½" bakelite or 3¼" metal cases with black finish. Model 476 can be obtained in surface metal; Model 301 or 425 in surface metal or bakelite cases. Rectangular bakelite cases, flush type only, are also available.

Model 506, 507 and 517 instruments are regularly supplied in flush type, narrow flange, black finished metal cases with a clamp for panel mounting. Wide flange metal or bakelite cases are available at no extra cost. When ordering specify style, and whether metal or bakelite case is desired.

Instruments for use on circuits above 300 volts should be specified with bakelite cases when not possible to connect in grounded side of line. Normally calibrated for use on non-magnetic panels. If they are to be used on steel panels, specify panel thickness when ordering. List prices shown below, are subject to 25% discount. For other instrument prices write to Weston Electrical Instrument Corp., Newark, N. J.

Rectangular Style

3½" PANEL INSTRUMENTS

MODEL 301 D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt—1 to 40 volts, 62; 50 to 150 volts, 200; 200 volts, 250; 250 volts, 300; 300 to 500 volts, 666.

Range	Price	Range	Price	Range	Price
3	$ 9.00	15	$ 9.00	150	$11.25
5	9.00	30	9.00	200	13.00
8	9.00	50	9.00	300	16.50
10	9.00	100	10.00	500	19.50

With Resistances of 1,000 ohms per Volt

Range	Price	Range	Price	Range	Price
50	$12.00	300	$15.00	1500	$36.50*
100	12.50	500	17.25	2000	45.00*
200	14.00	1000	24.50*	3000	61.00*

* Supplied with external resistor. Scale reading in kilovolts.

MODEL 301 D-C MILLIAMMETERS*

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	$10.00	30	1.2	$9.00
1.5	27	10.00	50	2.0	9.00
2	27	10.00	100	1.0	9.00
5	12	9.00	150	0.66	9.00
10	9.3	9.00	300	0.33	9.00
15	2.0	9.00	500	0.2	9.00

* Milliammeters with ranges above 30 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301 D-C AMMETERS*

Single Ranges: 1/1.5/5/10/15/30/50 at $9.00.

* Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV±5%. Ranges above 50 amperes supplied with external shunts.

MODEL 301 D-C MICROAMMETERS

Range	Price	Range	Price
200	$14.25	500	$14.25

MODEL 301 RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms per volt	2000 ohms per volt	Range	1000 ohms per volt	2000 ohms per volt
1	.....	$19.25	50	$17.00	$19.75
1.5	.....	19.25	100	17.50	21.50
3	$17.00	19.25	150	19.00	23.00
5	17.00	19.25	300	20.00	.....
15	17.00	19.25			

MODEL 301 RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	$19.25	2	$15.00
1	15.00	5	14.00

MODEL 301 RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
500	$19.25

MODEL 476 A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20/30/50 at $9.00.

MODEL 476 A-C VOLTMETERS

Range	Price	Range	Price	Range	Price
2	$ 9.00	50	$ 9.00	500	$19.50
5	9.00	100	10.00	750	23.50*
10	9.00	150	11.25	1000	28.50*
30	9.00	250	14.50		

* Supplied with external resistance box.

MODEL 425 THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $16.00.

2½" PANEL INSTRUMENTS

MODEL 506 D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200.

Range	Price	Range	Price	Range	Price
3	$ 7.50	15	$7.50	100	$ 8.50
5	7.50	20	7.50	150	9.75
8	7.50	30	7.50	200	11.50
10	7.50	50	7.50		

MODEL 506 D-C AMMETERS

Single Ranges: 1/1.5/5/10/15/30/50 at $7.50.

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV ±5%.

MODEL 506 D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	27	$8.50	30	1.7	$7.50
1.5	18	8.50	50	1	7.50
2	18	8.50	100	.5	7.50
5	8.5	7.50	150	.33	7.50
10	3.2	7.50	300	.16	7.50
15	1.5	7.50	500	.1	7.50

Milliammeters above 30 MA are shunted—drop approximately 50 MV.

MODEL 507 THERMO AMMETERS

For use on a-c of any frequency, including radio frequency.
Single Ranges: 1/1.5/2/3/5/10/15/20 at $14.50.

MODEL 517 A-C AMMETERS

Range	Approx. Res. in ohms	Price	Range	Approx. Res. in ohms	Price
1	.203	$7.50	15	.0022	$7.50
1.5	.08	7.50	20	.00162	7.50
3	.024	7.50	30	.0007	7.50
5	.01	7.50	50	.00057	7.50
10	.0058	7.50			

MODEL 517 A-C VOLTMETERS

Range	Approx. Ohms per Volt	Price	Range	Approx. Ohms per Volt	Price
1.5	3	$ 7.50	20	26	$ 7.50
2	4	7.50	30	26	7.50
3	6	7.50	50	52	7.50
5	10	7.50	100	110	8.50
8	10	7.50	150	110	9.75
10	14	7.50	250	166	13.00
15	14	7.50	300	166	15.00

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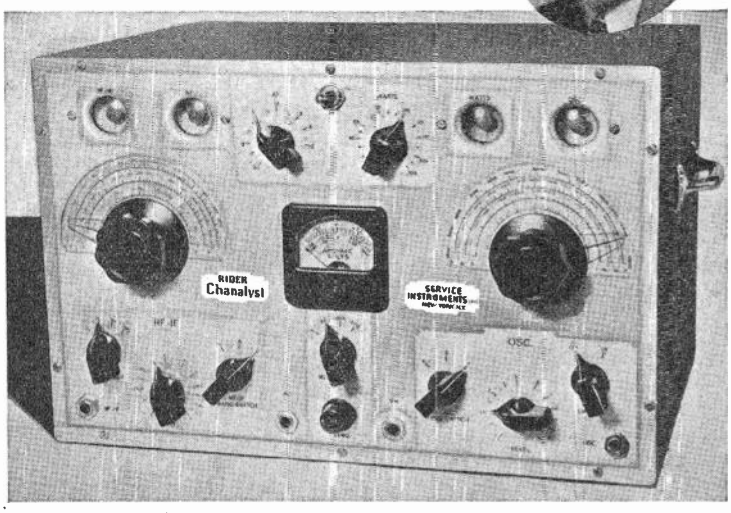
World Radio History

The RIDER Chanalyst

The Greatest Advance Ever Made in the History of Servicing Instruments

Because the Rider Chanalyst is of **fundamental** design, its value to servicemen as a testing instrument is inestimable! Its uses innumerable!

It makes possible, for the first time, receiver testing under ideal conditions! The Rider Chanalyst enables you to localize troubles in a particular stage or part of a receiver or amplifier with greater speed and efficiency than ever before, **no matter how complicated the circuit** and regardless of the number or types of tubes . . . this it does **without** the use of adaptors or plugs!



The Rider Chanalyst can be used to test **all** types of receivers, public address systems, school sound equipment, and all other similar equipment! With the Chanalyst, any serviceman can apply a standard, systematic, time-saving routine of servicing to his work.

The Rider Chanalyst will detect! It will tell! It will show! Its applications are so numerous that it is impossible to list them all here. Below are listed a few of the major tests which you can conduct with the Chanalyst **while the receiver is in operation.**

A Few of the Major Tests You Can Conduct with the Rider Chanalyst While the Receiver is in Operation

1. Trace passage of signal through receiver from antenna to speaker in r-f, i-f or a-f stages, enabling you to establish where it exists, dies, becomes weakened—where it becomes distorted and where it takes on hum—without interfering with the operation of the receiver.

Check gain or loss or noise in r-f, i-f or a-f stages. Possible to break into any part of the signal circuits of the receiver under test in order to examine the character of the signal during operation.

2. Check actual operating voltages at any point in the receiver without loading the circuit.

Because of the unique and original design of the voltmeter in the Rider Chanalyst you can measure operating voltage at tube elements or in high resistance circuits without changing the constants of the circuit and while the signal is passing through the receiver.

3. Accurately check actual control voltages developed by the signal and present at the tube elements—without interfering with the normal operation of the receiver.

Because of special design the voltmeter in the Rider Chanalyst is capable of measuring the actual avc or other control voltages directly at the control grid of a detector, amplifier or oscillator tube during actual operation—that is, with the signal present in the tube circuit.

The avc channel characteristics can be established with the greatest of ease—afc control voltages can likewise be measured whenever present—despite high resistance or balanced networks.

4. Check frequency output of the oscillator section in a superheterodyne.

Constant check of the performance of the oscillator in a superheterodyne with frequency calibrations up to 15 megacycles and check of operation of the oscillator section of the receiver—up to 70 megacycles.

5. Instantly check wattage consumption of the receiver during actual operation.

6. Quickly locates troubles in intermittent receivers.

The test channels available in the Rider Chanalyst provide a means of separating a complete receiver into five basic sections. Each of these sections has its own indicator. When an intermittent condition develops, the indicators show the presence or absence of the signal in the various sections—the change in voltage consumption and operating voltage—if any. By interpreting the indications—you can localize the fault as being in a certain part.

Chanalyst Model A 50-60 cycles 117 volts, complete with tubes . $107.50 net

Model AX 25-40 cycles 117 volts, complete with tubes . 112.50 net

Size 14" x 9" x 9¾" Weight: 26 pounds

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See Other Side

World Radio History

The RIDER Chanalyst

RF-IF CHANNEL

Five tubes are employed in the RF-IF Channel; three as tuned amplifiers, the fourth as a diode rectifier, and the fifth as a cathode-ray tuning eye indicator. The amplifier covers three frequency bands: 600 ks to 1,700 kc; 240 ks to 630 ks, and 95 kc to 260 kc, the amplification being substantially flat over each band. The input circuit is calibrated, thereby making the channel suitable for gain measurements. The sensitivity of the amplifier at the control grid of the first stage for full indication is approximately 60 microvolts and a signal of less than 6 microvolts will show an indication. The pickup for the channel is made through a shielded cable, terminating in a capacitance of less than 1 micromicrofarad. Attenuation of the input circuit over a ratio of 10,000 to 1 is provided by a continuously variable resistive attenuator and a four-step capacitive attenuator.

A three-step switch selects the frequency band. A jack in the indicator circuit permits the output of the amplifier to be fed to headphones or an oscillograph so that the signal can be heard or its waveform examined. The rectifier circuit is so designed that the output depends upon the carrier voltage and not the modulation component; therefore the indication does not depend on the percentage of modulation of the input signal.

THE OSCILLATOR CHANNEL

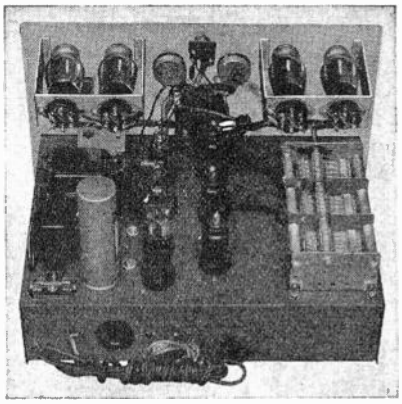
The oscillator channel employs three tubes; a tuned amplifier, a diode rectifier and the cathode-ray tuning eye indicator. Coverage of oscillator operation extends as high as 70 megacycles. The tuned amplifier used in the channel operates over three frequency bands: 600 kc to 1,700 kc; 1,650 kc to 4,950 kc, and from 4,800 kc to 15,000 kc. Pickup to the circuit is through a shielded cable which terminates in a capacitance of less than 1 micromicrofarad. The input circuit is equipped with a gain control.

THE A-F CHANNEL

The a-f channel employs three tubes: an amplifier, a diode rectifier and a cathode-ray tuning eye indicator. It is resistance-capacity coupled and flat over a frequency range of 50 to 50,000 cycles. The sensitivity of the amplifier is .1 volt for full indication and is operative over an input voltage range from .1 to 1,000 volts. A jack is provided in the output circuit of the amplifier so that the signal output can be fed to headphones or to an oscillograph for aural or visual observation. The continuously variable attenuator covers a range from .1 to 10 volts and a switch-controlled, single-step attenuator extends the input voltage range to 1,000 volts.

THE WATTAGE INDICATOR

The wattage indicator employs two tubes: a diode rectifier and a cathode-ray tuning eye indicator. It is calibrated to indicate the power consumption of the receiver under test and covers a range from 25 to 250 watts. This unit is automatically connected into the circuit when the receiver is plugged into the receptacle provided for that purpose.



Interior of the Rider Chanalyst

Tube Complement

3—6K7	4—6E5	1— 76
1—6Q7	1—6H6	1—6X5
	1—1852	

THE ELECTRONIC VOLTMETER

This voltmeter employs a tube and a meter-type indicator. As a result of design, it has a number of special features not found in other instruments. The meter has a center zero and indicates both positive and negative voltages with respect to ground. The range of voltages covered by the meter is as follows: —5 to 0 to +5; —25 to 0 to +25; —100 to 0 to +100; and —500 to 0 to +500. Each range is selected by means of a four-position switch. The input resistance of the instrument on all scales is 10,000,000 ohms, which means that on the low-voltage scale, the resistance is equal to 2,000,000 ohms per volt. The overall accuracy of the voltmeter is approximately 5 percent. of the full-scale deflection. A single probe lead provides contact between the voltmeter and the point being checked. All d-c operating and control voltages may be measured with the instrument, thus making it possible to measure r-f, i-f, a-f, and oscillator voltages directly at the grid and plate without interfering with the operation of the receiver. The voltmeter is thoroughly protected against damage from overload.

THE POWER SUPPLY

The power supply employs a full-wave rectifier and functions as the source of the operating voltages for all the tubes in the Chanalyst. Exceptional care has been taken in the design of the filter so that the hum level is extremely low.

THE PANEL

The panel is of heavy chromium-plated brass. All the calibrations are deeply etched to assure the maximum visibility. The various controls are grouped for greatest ease of operation, the channel and function of each being clearly designated. The cathode-ray tuning eyes are recessed behind the panel enabling easy observation of these indicators.

THE CABLES AND PROBES

Four probe leads are furnished. The cables have low capacity, are shielded, and have an outer covering of braid. The rubber insulation is of high quality and in order to obtain the greatest flexibility the wire is made up of sixteen strands of No. 34. The probe handles contain the coupling capacity for the rf-if and oscillator channels. These probes terminate in pointed prods with shafts which have an outside thread. Four small copper clips, having internally threaded sleeves, can be screwed over the prods when a permanent connection is required to the different points in a receiver, as when an intermittent receiver is being tested.

Chanalyst Model A 50-60 cycles 117 volts, complete with tubes . $107.50 net

Model AX 25-40 cycles 117 volts, complete with tubes . 112.50 net

Size 14" x 9" x 9¾" **Weight: 26 pounds**

See Other Side

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World Radio History

PRECISION TEST EQUIPMENT

Standard of Accuracy

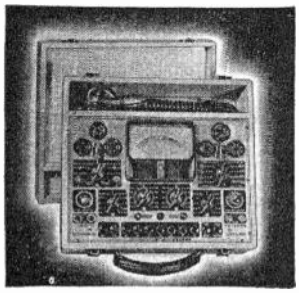
PRECISION TEST EQUIPMENT

SERIES 900

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER — Push Button Operated

combined with

A.C.-D.C. Volt-Ohm-Decibel-Milliammeter and Ampere Ranges



★ **PORTABLE TYPE**

Encased in a very attractive hardwood carrying case with removable cover. Compact in size, only 12¾ x 11½ x 6. Approximate carrying weight 12 pounds.

SET ANALYZING FEATURES

FOUR AC AND DC VOLTAGE RANGES at 1000 ohms per volt: 0-10; 0-50; 0-250; 0-1000 volts. FIVE DC CURRENT RANGES: 0-1; 0-10; 0-50; 0-250 MA; and 0-10 AMPERES. FOUR RESISTANCE RANGES: 0-400 ohms (20 ohms center) SHUNT METHOD. 0-100,000 ohms (800 ohms center). 0-1 MEGOHM (8000 ohms center). 0-10 MEGOHMS (80,000 ohms center). All ohmmeter ranges powered by self-contained supply. A 4½ volt battery powers the low, medium and 1 Megohm ranges. FOUR DECIBEL RANGES FROM —10 to +55DB: ODB; +14DB; +28DB; +40DB. FOUR OUTPUT RANGES: 0-10; 0-50; 0-250; 0-1000 volts. PAPER CONDENSER LEAKAGE TESTS. NEON METHOD. PROVISION for measuring leakages of all types of electrolytic condensers directly on the meter in terms of current.

TUBE ANALYZING FEATURES

A DYNAMIC TUBE TESTER employing an exclusive "PRECISION" engineered circuit, which in one operation, effectively tests all radio receiving tubes for both MUTUAL CONDUCTANCE and EMISSION. Tube merit indications are read directly on a three colored English reading scale. ACCURACY of the tube test circuit is closely maintained by the use of individual calibrating controls, adjusted and sealed against laboratory standards. AUTOMATIC PUSH BUTTON SYSTEM: "PRECISION" designed interlocking push button selector system affords the extreme in flexibility. TESTS ALL TYPES: Glass, spray shield, MG, G and METAL TUBES. SPECIFIC INDIVIDUAL LOADS AND VOLTAGES applied to respective elements of the particular tube under test. VARYING AC SIGNAL applied to control grids. TESTS diodes, triodes, rectifiers, tetrodes, pentodes, multi-purpose tubes and gaseous types OZ3-OZ4. MULTI-SECTION TUBES: Individual tests for each section of multi-section tubes including visible tests of the fluorescent screen and winking effect on cathode ray indicator tubes. OPEN ELEMENTS: Shows up tubes with any open element. HOT CATHODE LEAKAGE TEST. HOT INTER-ELEMENT SHORT TESTS. NOISE TEST pin jacks incorporated for earphone or amplifier connection. BALLAST TESTS: The regular tube test sockets accommodate all ballast unit tests for open and loose elements and leakage between sections of multi-section ballasts.

Net Price $49.95 Complete with Battery, Test Leads and Instructions

SERIES 800

PUSH BUTTON TUBE ANALYZER

COMBINED with BALLAST TEST FACILITIES

The Series 800 Electronometer with modern PUSH - BUTTON operation, makes a very desirable tube analyzer for quick and efficient testing. The highest grade of materials are employed for lasting satisfaction. The large 4⅝ inch square meter is impressive looking and ruggedly designed. It is of the D'Arsonval type, 2% accuracy. All other circuit features are exactly the same as described for the Series 815 on this page.

★ **PORTABLE TYPE.** Encased in a hardwood carrying case with removable cover. Size 12¾ x 11½ x 6.
★ **PANEL TYPE.** Attractively finished in baked black ripple. Completely steel enclosed. Size 22½ x 12 x 5.
★ **COUNTER TYPE.** Attractively finished in baked black shrivel. Steel case, size 18 x 11½ x 6½.

ELECTRONOMETER SERIES 800
Portable, Counter or Panel Type, ... net **$39.50**

SERIES 815

TUBE SELLER WITH LARGE 9" METER

COMBINED with BALLAST TEST FACILITIES

Push Button Operated

★ **SERIES 815 TUBE-SELLER**

Size 23 inches high, 16 inches wide. Bottom depth 10 inches and tapers to 4 inches on top.

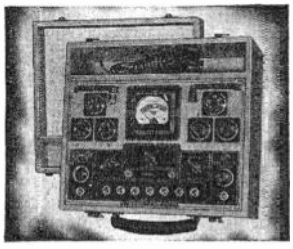
TUBE ANALYZING FEATURES

ELECTRONIC tube merit test strictly in accord with standardized R.M.A. specifications. All electrodes individually tested. LOAD selector incorporated to apply properly rated loads to tube under test. TESTS all types of glass, spray shield. "MG" and metal tubes, regardless of rotating filament pin positions. TESTS gas rectifier tubes Nos. OZ3-OZ4. HOT cathode leakage test. EACH of the electrodes can be neon short checked while tube is in heated condition. "NOISE TEST" pin jacks incorporated for earphone or amplifier connection. INDIVIDUAL tests obtainable for each section of: full wave rectifier tubes; twin triodes; triode diodes; pentode diodes; duo diodes; pentode triodes; frequency converters and pentode rectifiers. EXTREME flexibility for future tube releases accomplished by the use of the PRECISION developed novel automatic inter-locking PUSH-BUTTON system which controls any individual element to produce a complete FREE POINT TUBE ANALYSIS SYSTEM. PAPER condenser leakage tests. Neon method.

Net Price $49.95

SERIES 510

MODERN TUBE ANALYZER



For efficient tube analyzing there are three important factors to be considered: 1—Ability to detect defective tubes. 2—Accuracy in test. 3—Non-obsolescence. All of these points are adequately covered in the design, inasmuch as the same tube analyzing features as incorporated in the 815 series, described on this page, are included in the Series 510, excepting that toggle switches are employed instead of push buttons. The meter is of the modern 3-inch square type with rugged D'Arsonval movement of 2% accuracy.

★ **PORTABLE TYPE.** Encased in a very attractive hardwood carrying case with removable cover; size 12¾ x 11½ x 6.
★ **PANEL TYPE.** Attractively finished in baked black ripple. Completely steel enclosed. Size 22½ x 12 x 5.
★ **COUNTER TYPE.** Encased in an attractively finished, baked, black shrivel heavy gauge steel case. Size 18 x 11½ x 6½.

ELECTRONOMETER SERIES 510
Portable, Counter or Panel Type ..... net **$29.95**

SERIES 830

D.C. Volt-Ohm-Milliammeter

The "Precision" series 830 multi-range meter can truly be called a "HANDITESTER". Though small in size, it incorporates eleven adequate ranges for measuring volts, ohms, and current. The radio technician will find this instrument an invaluable servicer. And . . . though the price is inconceivably low, the well known "Precision" standard of accuracy and high grade materials are incorporated. It includes a rotary selective system, wire wound shunts of 1% accuracy, metallized matched multipliers of 1% accuracy and a large3 inch modern D'Arsonv al typemeter of 2% accuracy.

Five D.C. voltage ranges at 1000 ohms per volt: 0-10; 0-100; 0-250; 0-500; 0-1000 volts. Four D.C. current ranges: 0-1; 0-10; 0-100; 0-250 MA. Two resistance ranges: Low ohms (shunt method) ½ to 500 ohms. High ohms 0-300,000 ohms. Ohmmeter ranges are powered by self-contained supply.

Net Price $10.95

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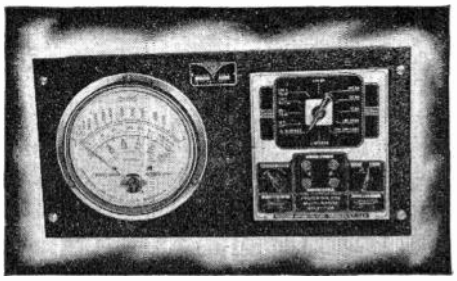
World Radio History

PRECISION TEST EQUIPMENT

SERIES 860

A.C.-D.C. VOLT-OHM-DECIBEL-MILLIAMMETER

A LABORATORY MULTI-RANGE TESTER INCORPORATING A LARGE 9" METER AND REMOTE CONTROL SELECTOR UNIT



The SERIES 860 Multi-range tester can be employed either as a complete panel mount (shown above) or can be used for remote operation since the separately encased selector unit may be removed for bench use.

FIVE AC VOLTAGE RANGES at 1000 ohms per volt. 0-10;50/150/500/1500. FIVE DC VOLTAGE RANGES at 1000 ohms per volt. 0-10/50/150/500/1500. FOUR OHMMETER RANGES 0-400 (20 ohms center); first indication 1/4 of an ohm. 0-100,000 ohms (800 ohms center). 0-1 megohm (8,000 ohms center). 0-10 megohms (80,000 ohms center). All ohmmeter ranges are powered by self-contained battery supply incorporated inside of remote control unit. SIX DC CURRENT RANGES 0-1ma/10ma/50ma/150ma/500ma/ and 10 amperes. FIVE DECIBEL RANGES from —10 to + 59DB. ODB, +14DB, +23.5DB, +34DB, +44DB. FIVE RANGES FOR OUTPUT INDICATIONS (same as AC voltage ranges).

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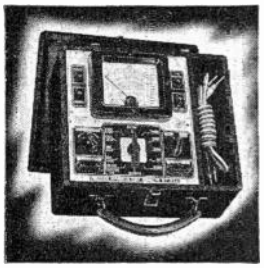

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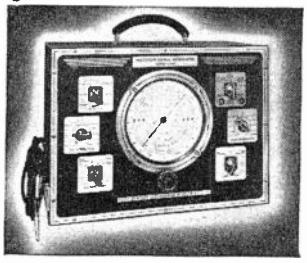

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by

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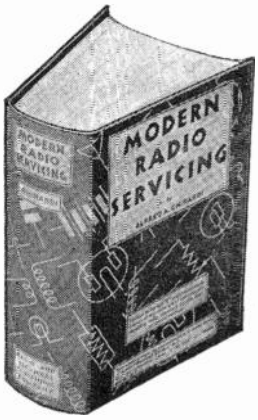

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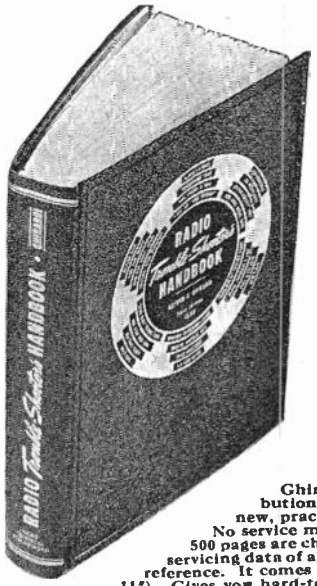

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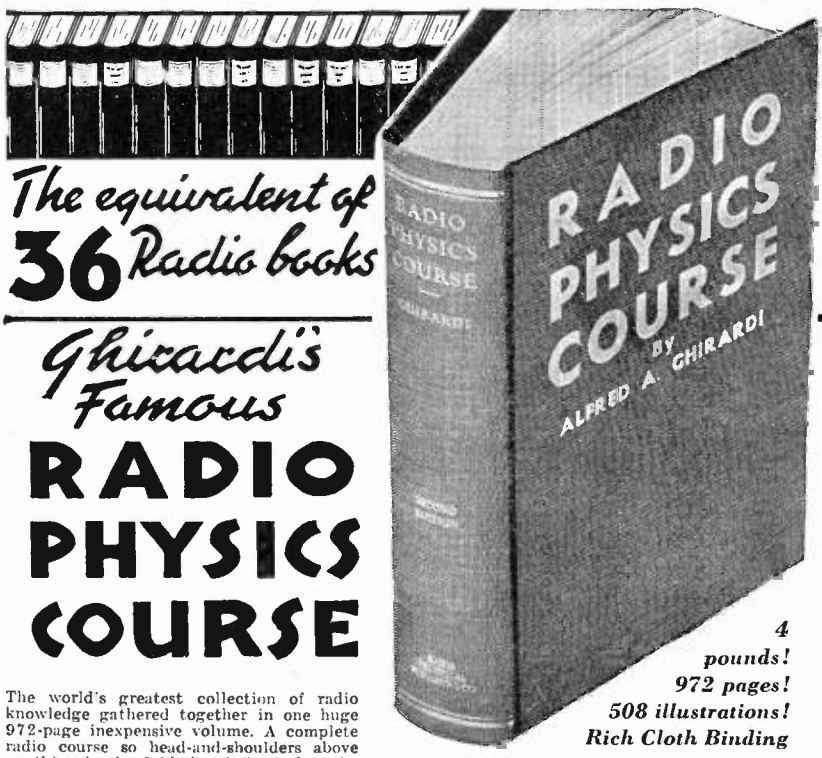

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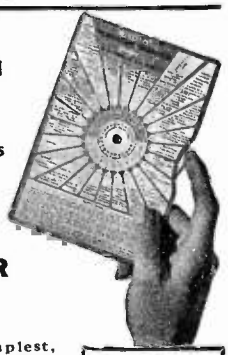

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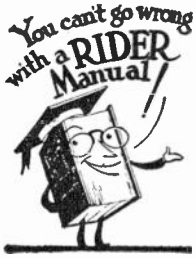

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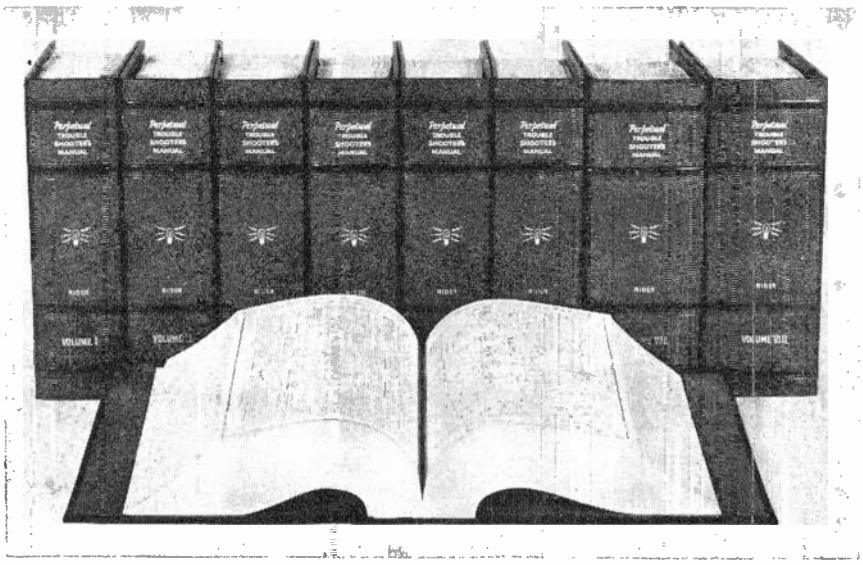

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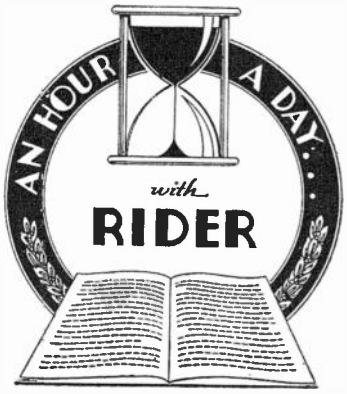

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AUTOMATIC FREQUENCY CONTROL

From the simplest type of A.F.C. circuit to the most complicated push pull control circuit . . . you will find them all clearly explained in Rider's new book. The first part of the book is devoted to a review of the combination of D.C. voltages, the phase relations in inductive, capacitive, and transformer circuits, with particular reference to the manner in which these principles appear in A.F.C. circuits. The remaining chapters cover the operation of all types of discriminator circuits, the operation of the various types of control tube circuits, including the push-pull type, the reflected reactance type, and the mutual inductance type. Let Rider tell you all about A.F.C. in this up-to-the-minute book that combines theory and practice.

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SERVICING RECEIVERS BY MEANS OF RESISTANCE MEASUREMENT

Take the guesswork out of servicing by using an ohmmeter in your trouble shooting. This book tells you how to make and correctly interpret point to point resistance measurements. It will simplify your servicing problems and enable you to use the resistance data furnished in RIDER MANUALS to the best advantage. Now that more and more manufacturers are supplying resistance data, you need this book to speed up your servicing with greater accuracy. Let Rider show you how to use a modern servicing procedure on the complicated receivers—you will find in this book the usual Rider clarity of explanation of how theory is applied to practice.

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ALIGNING PHILCO RECEIVERS

Everything you need for aligning over 8,000,000 Philco receivers . . . I.F. peaks—adjustment frequencies—trimmer and padder locations—complete and detailed information for aligning every Philco model from 1929 up to December, 1936. This invaluable book, prepared with the cooperation of the engineering staff of the Philco Radio & Television Corp., is the authentic source of alignment information and the data are presented in a *brand new way* that makes alignment easier and quicker. You will find all the necessary data arranged so that every step in the alignment procedure is carried out in a definite systematic time-saving manner. The necessity for referring back and forth is eliminated completely in this radically new style of presenting alignment data.

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Radio's OUTSTANDING LIBRARY

To fill **every** need of the amateur radio enthusiast, the Editors of RADIO publish this complete library of information. "RADIO" magazine and the "RADIO Handbook" (see preceding page) present general studies of the whole field of shortwave radio. Each of the following, with the exception of RADIO DIGEST, is a specialized, detailed work covering just one phase of the subject, as will be noted by the respective titles. Each has been the result of intensive research in its particular sphere. All are written for both those amateurs who purchase a large portion of their equipment as well as those who prefer to "roll their own." Intensely practical, well written, fully illustrated, they are all essential to the seriously interested student and to an up-to-date, complete "shack".

"RADIO" ANTENNA HANDBOOK—

Those who break records learned long ago that the antenna is the all-important factor, more important by far than the receiver used or the transmitter's power. A million watts won't get far without an antenna, but with a good antenna it is possible to transmit over long distances with a fraction of a watt. This 100-page handbook includes many diagrams, tables of dimensions for all frequencies (no calculations necessary), information on all practical arrays and directive antennas, noise reducing receiving antennas, and feeders of all types. Several practical multi-band antennas are described. No station is better than its antenna.....Per copy, **$0.75***

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In radio reception it is not the loudness of the signal that counts, but rather its strength with relation to the noise level. This book tells you how to eliminate or greatly reduce practically every form of radio noise except natural static. Particular emphasis is laid on the elimination of the noise at its source, and how to locate the source. When that is impractical, a new, highly effective modification of the noise-balancing method used in commercial work can be used with almost equally good results, a complete description of which is included. When noise does get into the receiver one of the practical noise limiters described will "work wonders" in increasing signal readability.....Per copy, **$0.35***

"RADIO" TELEPHONY HANDBOOK—

The "phone man's bible," this book describes a dozen complete transmitters, from the tiny ten-watt size up to one kilowatt. Each has been laboratory built and tested, then tested on the air. All systems of modulation are covered, also class BC amplifiers, inverse-feedback systems, modulation measuring equipment, and the like. 52 typical questions for the special-privilege Class-A license examinations are answered in detail.....Per copy, **$0.75***

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Starts at beginning and takes you step by step through the process of mastering the principles, learning the code, passing the license examination, building your first simple, yet effective equipment. Contains no formidable mathematics, no "deep" theory, but it does cover thoroughly the elementary theory necessary to "lick" the every-day practical constructional and operating problems encountered in amateur radio. The inexpensive receiver and low-cost powerful transmitter described are simple but thoroughly modern in design. Diagrams are in both pictorial and schematic form, enabling you quickly to learn to "read" the schematic diagrams encountered in other works.....Per copy, **$0.35***

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This complete work includes sections on all types of u.h.f. "gear," for mobile, fixed, amateur, aircraft, television and other services. Transmitters are covered from the lowly transceiver to powerful, crystal-controlled five- and ten-meter transmitters. Micro-wave apparatus is also covered. Other features include parallel-rod oscillators, wavelength measuring devices, "pipe line" oscillators, u.h.f. antenna systems, directivity, wave patterns and many others. Even if your factory-built receiver covers some of the u.h.f. bands (few of them do), a pleasant surprise awaits you when you build up a strictly u.h.f. receiver designed especially for this work.....Per copy, **$0.50***

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"RADIO"

Written by a world-famous staff of eminently practical engineers and amateurs, RADIO (now in its 22d year) is more popular today than ever before.

In amateur and shortwave radio if you stand still you soon fall behind. It is easier to keep up than catch up—and the easiest way to keep up is with "RADIO".

"RADIO" is well-rounded. The advanced man is given the same consideration as his more numerous brothers of lesser experience. It brings you in each issue more practical technical and constructional data than any other magazine catering to the field and is written so you can understand it.

To add pep, sparkle, and variety to its pages "Radio" buys the best "outside" material obtainable to supplement its staff-written articles. In addition to many technical and constructional articles, regular features include DX Department, W.A.Z. Reports, Open Forum, Calls Heard, Postscripts, Question Box, Article and Photo Contests, and the like.

Notice how often you hear "Radio" mentioned on the air; there must be a reason.

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The "Radio" Handbook

In four short years this book has become a tradition in, and the standard text of amateur and shortwave radio. Amateurs, experimenters, schools, C.C.C. engineers, and many others find it indispensible.

No other radio book contains so much hitherto unpublished material nor so much information between two covers. Over 575 pages; it is a library in itself.

It contains the latest theory, simplified, and up-to-the-minute constructional data on receivers and transmitters, from the smallest to the largest. New equipment is shown throughout.

Contents include sections on antennas, tube data and applications, u.h.f., test instruments, exciters, c.w. and phone transmitters, receivers, amplifiers, diathermy, radio law, and many others.

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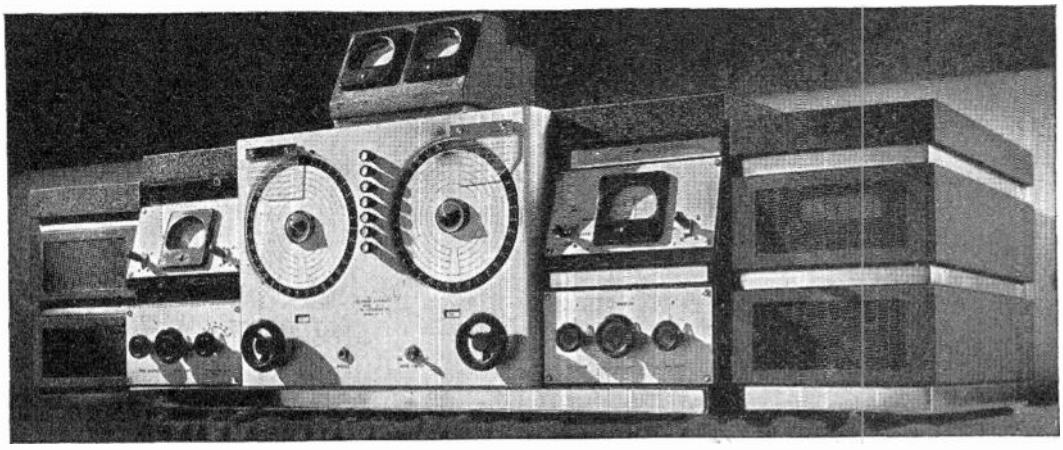
The SKYRIDER DIVERSITY MODEL DD-1



A Dual Diversity Receiving System

Diversity reception is not entirely new to radio engineers. Commercial radio stations have built Diversity Receiving Systems at great expense, with striking improvements in the quality of short wave reception.

Briefly, the advantages of diversity reception is in the practical elimination of fading effects, and a considerably higher average signal-to-noise ratio than can be obtained from any single receiver.

Diversity systems consist usually of individually tuned receivers, each connected to a separate antenna, the second detector outputs of which are tied together across a common load, and the signals combined after rectification with the resulting audio output equalling the average of all receivers. This type of Diversity receiving system is satisfactory for commercial use where reception is mostly on a single frequency for hours at a time—but highly unsatisfactory for amateur communications work, when the individual tuning is entirely too complicated and time consuming to be practical.

In an effort to provide the amateurs with the demonstrated advantages of Diversity reception in practical and easily operable form, Mr. James J. Lamb (Technical Editor QST), Mr. J. L. A. McLaughlin and Mr. Karl W. Miles (Hallicrafters) have spent several years in intensive work on this subject.

The SKYRIDER DIVERSITY is the culmination of their efforts, and offers Diversity reception in practical form for amateur operation for the first time. It is a single control Dual Diversity Receiving System consisting of two complete r. f., i. f. and second detector circuits with a common r. f. heterodyne oscillator, common A. V. C. and one audio amplifier. A block diagram showing the tube functions is shown.

The principal advantages of Diversity Reception as demonstrated by the SKYRIDER DIVERSITY can be summed up as follows:

1. The reduction of fading to negligible proportions.
2. An increase of average signal strength over any single receiver.
3. Improvement of Signal to Noise ratio over any single receiver.
4. Reduction of Heterodyne Beat Note Interference.

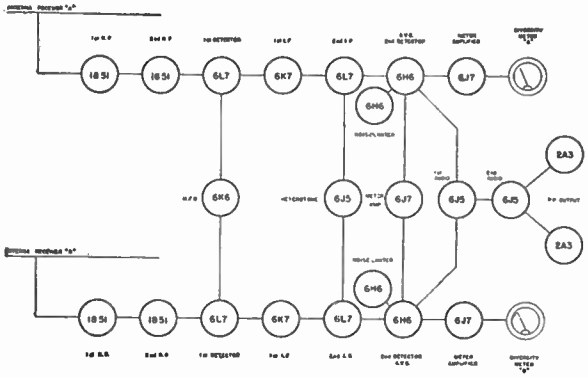
Needless to say, with these advantages, the SKYRIDER DIVERSITY provides a quality of reception that is unequalled in any receiver heretofore available.

Infinite Adjacent Channel Rejection

Another advantage of the SKYRIDER DIVERSITY aside from its Diversity Action, is in the Infinite Rejection Circuit embodied in this system.

It is rather generally understood that selectivity can only be increased to a certain practical degree beyond which phone reception becomes unintelligible. This practical limit of selectivity is not great enough to prevent adjacent channel interference.

However with the Infinite Rejection Circuit, an interfering signal may be completely eliminated. It is so designed that, with a single control, the "rejection slots" may be moved in unison from 20 KC off resonance to within 3 KC of the signal being received, and simply by tuning the rejector to the offending signal, it can be entirely eliminated.



Tube Layout of Skyrider Diversity

In building the SKYRIDER DIVERSITY, the principles of functional design were faithfully adhered to. Every single component received especial attention from the designing engineers, and no expense or effort was spared to bring the SKYRIDER DIVERSITY to a high standard of electrical and mechanical perfection worthy of so advanced a receiving system.

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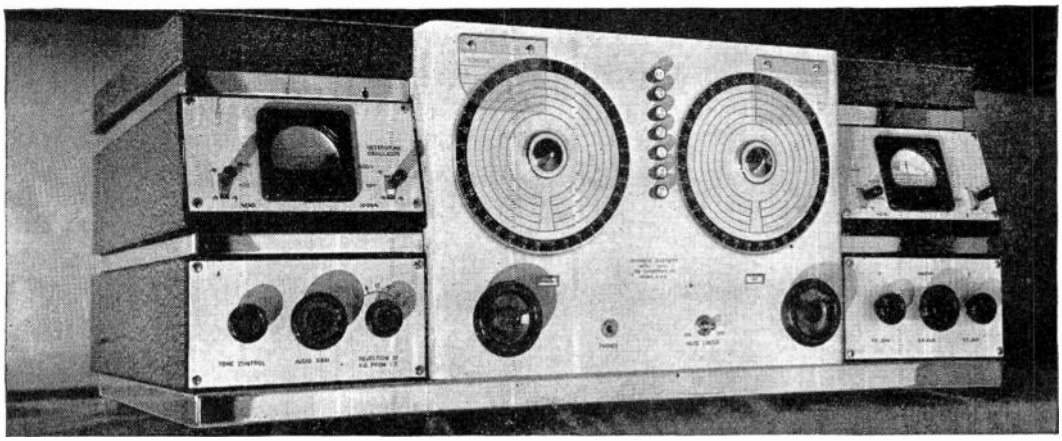
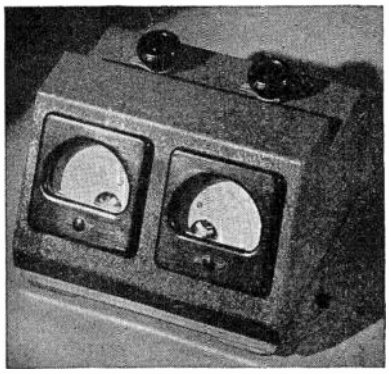
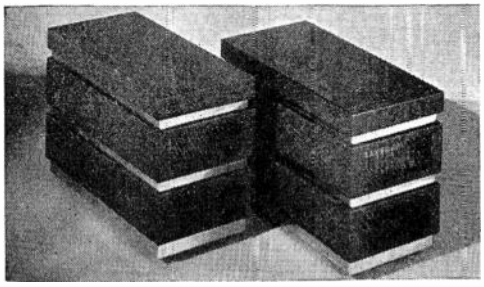
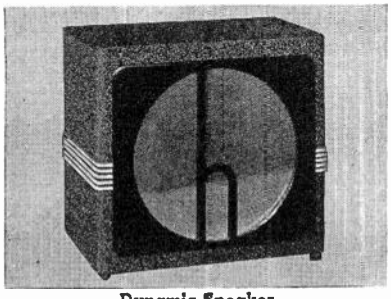




"Diversity Action" Meters
Two Carrier Level Meters mounted in harmonizing black crystal case, indicates strength of signal on the individual receiver circuits.



Audio Amplifier and Power Suppely
Mounted in individual, ventilated, chrome trimmed cabinets for greater convenience and versatility in operation.



Dynamic Speaker
12" PM Dynamic Speaker in matching chrome trimmed cabinet. Built to Hallicrafters' specifications by Jensen.

To provide the maximum flexibility and versatility in operation, the Power Supply and Audio Amplifier are supplied as separate units.

The component parts of the system are constructed of heavy gauge, flame-welded metal, sturdy channel construction, finished in black crystal. The channels themselves are finished in chromium, contrasting with the black crystal. The instrument panels are "alumilited," a satin aluminum finish. The entire unit presents a handsome, thoroughly efficient appearance.

FEATURES

- Diversity Reception throughout its tuning range.
- 6 Bands covering from 545 KC to 44 MC and there are 25 tubes in the complete system.
- Separate "Diversity Action" meters.
- Average sensitivity of better than 1 microvolt.
- 2 stages of RF amplification in each receiving section.
- 500 and/or 1,000 cycle Hetrotone oscillator for CW reception.
- Audio amplifier output of 10 watts. (Tuner only 50 milliwatts.)
- Carrier average output meter.
- Current equalizing meter.
- INFINITE ADJACENT CHANNEL REJECTOR.
- Separate electro-mechanical band spread control.

DESCRIPTION

Unit	Dimension Width	Dimension Height	Dimension Depth	Shipping Weight	Amateurs Net Price
Model DD1 Tuner....	29¾"	11"¾	19¼"	125 lbs.	$300.00
Audio Amplifier	7½"	10¾"	16½"	40 lbs.	50.00
Power Supply	7½"	10¾"	16½"	35 lbs.	40.00
"Diversity Action" Meters with Cable.....	7¼"	4 3/16"	6"	8 lbs.	20.00
12" Dynamic Speaker in Matching Cabinet...	15½"	13"	9¼"	17 lbs.	12.00

Units Above Priced Complete with Raytheon Tubes

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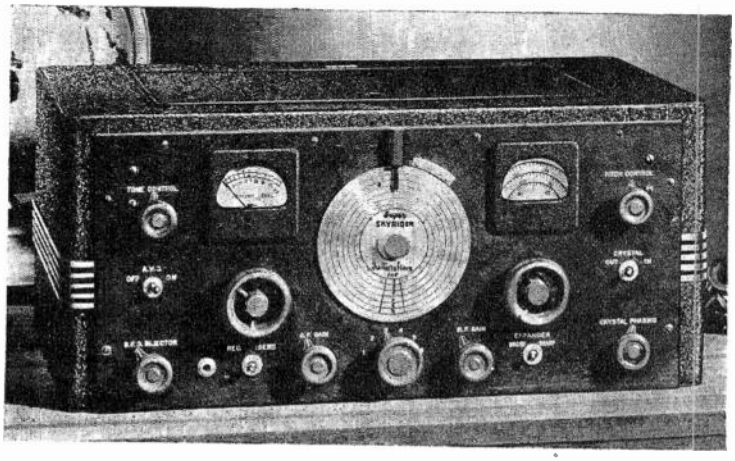
The 1938 SUPER SKYRIDER



America's Leading Communications Receiver

The Super Skyrider has everything any operator could ask for in a single receiver. It tunes from 5 meters to the top of the broadcast band, with an average overall sensitivity of better than 1 microvolt for *all* bands. It has Wide Range, Variable Selectivity with Single Signal razor sharpness to broad high fidelity, a 1000° Band Spread that substantially betters the A.R.R.L. Handbook standards, improved image and signal-to-noise ratio and an "S" meter that works on weak as well as strong signals.

COVERAGE

The Super Skyrider covers a frequency range of 62,000 to 545 KC on 6 bands (all directly calibrated and tuned without charts and tables) as follows: Band 1—545 KC to 1550 KC, Band 2—1550 KC to 4300 KC, Band 3—4.2 MC to 10.2 MC, Band 4—9.8 MC to 20.5 MC, Band 5—19 MC to 36 MC, Band 6—35 MC to 62 MC. All bands are indicated by Band Pointer directly connected to the Band Switch.

SELECTICITY

New and improved Iron Core I. F. transformer circuits provide Wide Range Variable Selectivity (7.5 KC to 25.5 KC band width at 100 times resonant input). With crystal in the circuits, selectivity is better than 1 KC, offering a total ratio of variable selectivity of 30 to 1.

BANDSPREAD

The Super Skyrider Band Spread is unique in design, highly efficient electrically, smooth in mechanical operation. The Band Spread is an integral part of the specially built High Frequency Variable Condenser, thus eliminating extra wiring and parallel insulation losses in the tuned circuits, and providing a more stable and smoother operating unit both electrically and mechanically. Over 1000° of band spread calibration on a unique spiral dial provides better than 2 KC per division on the 20 meter band and 25 KC for a complete turn of the band spread knob. Large controls and inertia tuning mechanisms make the Super Skyrider one of the smoothest, easiest tuning receivers available.
For 110-120 volts, 50-60 cycle current. Can be operated from 12 Volt Battery Current with the addition of Model 501 Electronic Convertor. Ask your dealer.

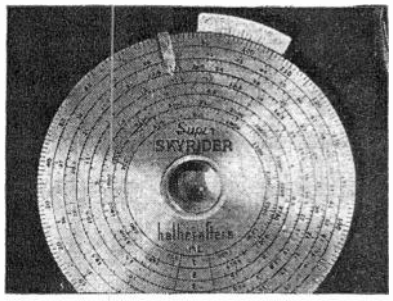
TUBE COMPLEMENT

RF—6K7, 1st Detector—6L7, 1st IF—6K7, 2nd IF—6K7, 2nd Detector, AVC, 1st Audio—6R7, Power Output—PP 6V6G, H. F. O.—6J5, Meter Amplifier—6J7, B. F. O.—6J7, Rectifier—5Z3.

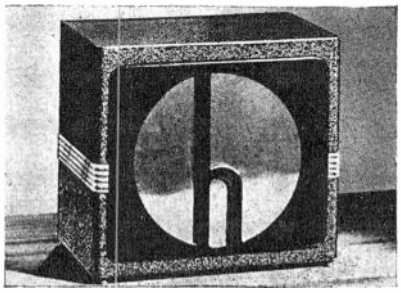
Model S-16 SUPER SKYRIDER, including tubes but less crystal..... **$ 99.00**
Dimensions—21⅛" wide, 9¼" high, 11" deep. Shipping weight 60 lbs.

Model SX-16 SUPER SKYRIDER, including tubes and crystal..... **111.00**

12" PM DYNAMIC SPEAKER in matching cabinet.....$12.00



The Super Skyrider 6 Band Directly Calibrated Dial, characteristic of all Hallicrafters receivers.



12-Inch PM Dynamic Speaker in matching cabinet, built by Jensen to Hallicrafters specifications.

MODEL SX 17 A SPECIAL MODEL Super Skyrider . . . . . .

This model was built by special request of many amateurs who wanted two stages of Pre-Selection instead of the single stage in the standard model Super Skyrider. It also incorporates the Dickert Automaic Noise Limiter, for better reception of Ultra High Frequency signals. Built originally upon special order, this model proved so popular that it was incorporated in the Hallicrafters line. For 110-120 Volt, 50-60 cycle current. Can be operated on 12-Volt Battery Current with addition of Model 501 Electronic Convertor.

The SX17 Special Model Super Skyrider including crystal and 12" Dynamic Speaker in matching cabinet..... **$149.50**

Shipping Weight, including speaker, 82 lbs.

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The SKY CHALLENGER II

AMERICA'S GREATEST COMMUNICATIONS RECEIVER VALUE

This receiver offers the amateur and short wave listener a quality of reception that is far beyond its modest price, incorporating as it does many of the exclusive features found on the higher priced Hallicrafters receivers.

The Infinite Image Rejector is an exclusive Hallicrafters development that contributes largely to its superior performance. Annoying image interference is encountered most frequently on the 10 and 20 meter bands. Until the introduction of the Hallicrafters Infinite Image Rejector, several expensive pre-selectors were required to remove this type of interference. An illuminated rejector scale is calibrated for image interference rejection. Months of intensive research by Hallicrafters engineers showed the way to this revolutionary development, an outstanding and exclusive feature of the SKY CHALLENGER II.

The famous 1000° Spiral Band Spread used on this receiver offers the amateur a Band Spread that equals or exceeds the requirements of the A. R. R. L. Handbook on all bands, mechanically smooth and electrically efficient. An integral part of the main variable condenser, it eliminates extra wiring and parallel insulator losses in the tuned circuits, and provides a more rigid, smoother mechanical construction and more stable electrical operation.

In addition to the new recessed directly calibrated main tuning dial (no charts or tables required) the SKY CHALLENGER II has the following controls:

Tone Control, Send-Receive Switch, A. F. Gain Control, Phone Jack, AVC Switch, Beat Frequency Oscillator, Crystal Filter Circuit, Phasing Control, Pitch Control, R. F. Gain Control.

Facilities are provided for use of either Doublet or Marconi Antenna, and an auxiliary "S" meter.

The SKY CHALLENGER II tunes from 38 MC to 540 KC (7.9 to 557 meters) on five bands, offering complete coverage from the top of the broadcast band through the 10 meter band, with sensitivity and selectivity of a high order.

Tubes used include 6K7 R. F.; 6L7 first detector mixer; 6J5G oscillator; 6K7 first I. F.; 6K7 second I. F.; 6Q7G second detector; 6J7 beat frequency oscillator; 6F6G output tube; 80 rectifier.

Speaker output arranged for both 500 or 5000 ohms. No DC in output terminals.

For operation on 110-120 Volts, 50-60 cycle current. Can be operated with 6 Volt Battery by addition of Model 301 Electronic Convertor.

Cabinet size: 9⅝" high; 21" wide by 11" deep. Shipping weight 40 pounds.

FEATURES

- 9 Tubes.
- Infinite Image Rejector.
- Recessed Main Tuning Dial.
- 1000° Spiral Band Spread.
- 38 MC to 540 KC (7.9 to 557 Meters).
- Iron Core I.F.'s.
- "S" Meter Terminals.
- Doublet or Marconi Antenna.
- Crystal Filter Circuit.

SKY CHALLENGER II—Model S-18 (with tubes but less crystal)	**$77.00**
Model SX-18 (with tubes and crystal)	**$89.00**
8-Inch P. M. DYNAMIC SPEAKER in Cabinet	**$10.00**
MODEL SM18—"S" Meter in matching separate meter housing	**$10.00**

Net

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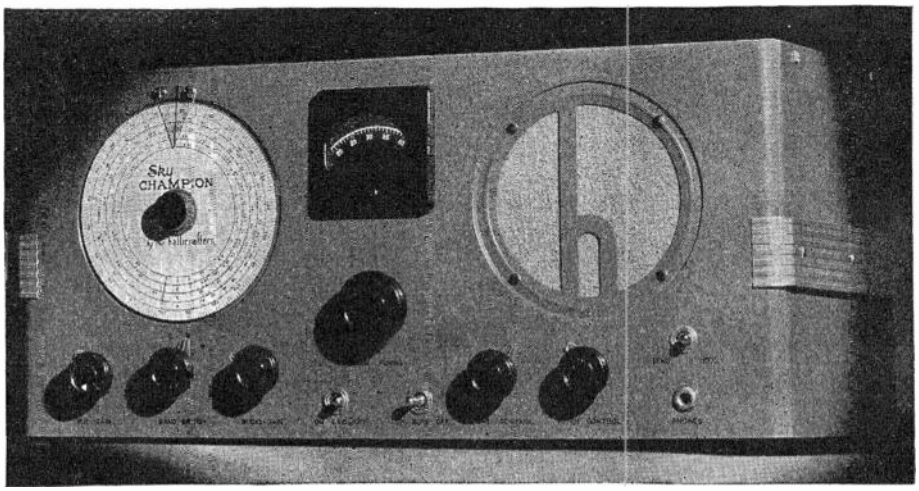
The SKY CHAMPION

FEATURES

- 8 Tubes.
- Complete Coverage (44 MC to 545 KC).
- 4 Bands.
- Separate Band Spread Dial.
- Individual Coils for Each Band.
- Inertia Tuning Mechanism.
- Beat Frequency Oscillator.
- AVC Switch.
- Excellent Sensitivity and Selectivity.
- A. F. Gain Control.
- Band Switch.
- Sensitivity Control.
- "S" Meter Terminals.

Tube Complement

6K7—r. f. stage. 6L7—first detector. 6J5—high frequency oscillator. 6K7—i. f. amplifier. 6Q7—second detector, AVC and first audio. 6F6—power output tube. 80—rectifier. 6J5—B. F. O.



THE SKY CHAMPION is an 8-Tube, A.C. Communications Receiver with Pre-Selection and Built-in Speaker, complete in every respect, offering the amateur a quality of performance never before available at this low price. Its sensitivity and selectivity are only to be compared with communications receivers selling at double its price. Provides full coverage from 44 MC to 545 KC, everything from the 10 meter amateur band to the top of the broadcast band. Band No. 1 (545 KC to 1800 KC). Band No. 2 (1.7 MC to 5.8 MC). Band No. 3 (5.8 MC to 18.8 MC). Band No. 4 (17 to 44 MC). The SKY CHAMPION offers all the essential controls for good amateur reception as follows: R.F. Gain Control, Tone Control, Phone Jack, AVC Switch, Beat Oscillator Switch, Send-Receive Switch, A.F. Gain Control, Band Switch, BFO Switch and Pitch Control. Sensitivity on all bands is extremely good; which is of especial importance on the popular 10 meter band. The separate Band Spread is better on all amateur bands than A.R.R.L. Handbook recommendations for band spread against calibration. Speaker is an integral part of the receiver—nothing else to buy. For operation on 110-120 Volts, 50-60 cycle, AC current only. Easily adapted for battery operation with the addition of Model 301 Electronic Convertor.
Dimensions of Cabinet—18½" wide, 9⅜" deep, 8½" high. Shipping Weight—34 pounds.

THE SKY CHAMPION (Model S-20)—
Including Speaker and Tubes..... **$49.50**

MODEL SM20—"S" Meter in matching separate meter housing.....$10.00

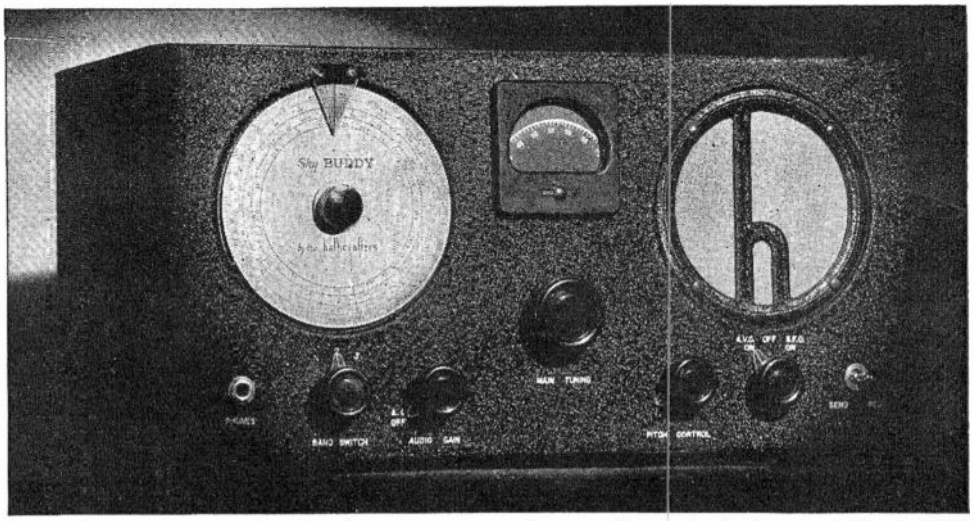
The SKY BUDDY

FEATURES

- 5 Tubes.
- 3 Bands.
- Complete Coverage (18.4 MC to 545 KC).
- Built-in Speaker.
- Phone Jack.
- Send-Receive Switch.
- AVC Switch.
- Separate Band Spread Dial.
- Beat Frequency Oscillator.
- Pitch Control.

Tube Complement

6K8—first detector and oscillator.
6P7—I. F. Amplifier, BFO.
6Q7—second detector, AVC, first audio.
6K6—power output tube.
80—rectifier.



The Sky Buddy is an amateurs' receiver in every respect, covering everything on the air from 18.4 MC to 545 KC including the 20, 40, 80 and 160 meter amateur bands. Band No. 1 (545 KC to 1800 KC). Band No. 2 (1.7 MC to 5.8 MC). Band No. 3 (5.8 MC to 18.40 MC).
The Sky Buddy is an AC set, with conventional Power Transformer Construction. All its components are of the finest quality, and it has sensitivity and selectivity usually found only on communications receivers selling at many times its modest price.
The following controls are incorporated in the SKY BUDDY: AF Gain Control, Band Switch, Combined AVC and Beat Oscillator Switch with AVC on AVC off, and Beat Oscillator on with AVC off positions; Phone Jack, Send-Receive Switch; Pitch Control. The Speaker is an integral part of the receiver, nothing else to buy. Band Spread is better than A.R.R.L. Handbook recommendations for band spread against scale calibration. Equipped for either Doublet or Marconi Antenna. For 110-120 Volt, 50-60 cycle, AC current only. Can be adapted for 6-volt Battery operation with the addition of Model 301 Electronic Convertor.
Dimensions of Cabinet: 17½" long, 8⅝" deep and 8½" high.

THE SKY BUDDY (Model S-19)—
Including Speaker and Tubes..... **$29.50**

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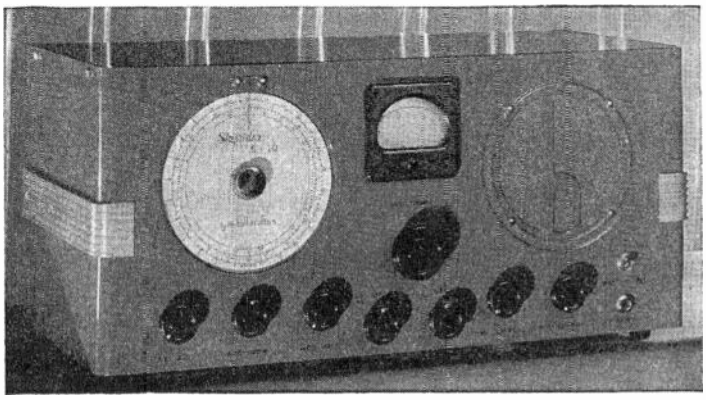
The SKYRIDER 5-10

This receiver is designed for the amateur who needs and wants the exacting performance required for superior ultra high frequency reception.
The Skyrider 5-10 covers the radio spectrum from 68 MC to 27 MC (4.4 to 11.1) in two bands with a degree of sensitivity and selectivity that offers unparalleled reception of the ultra high frequencies.
The recently developed RK 1851 tube, with a gain increase of 6 to 1, is used as an R.F. amplifier through which an ultra high frequency sensitivity of better than 1 microvolt is obtained for this receiver.
The coverage by bands is as follows: Band 1—27 MC to 42 MC, Band 2—40 MC to 68 MC. The separate Band Spread Dial provides easier and more accurate logging, and equipped as it is with an inertia tuning control, makes tuning practically effortless.
1 stage of 1600 KC I.F. amplification is used, providing a band width of 30 KC, at 10 times down. With this selectivity, even frequency modulated 5 meter signals are clearly understandable with the Skyrider 5-10. Mounted in sturdy steel cabinet finished in grey.
For the specialist in ultra high frequency reception there is no finer receiver than the Skyrider 5-10.
For operation on 110-120 Volts, 50-60 cycle current. Can be operated on 6-volt Battery current, with the addition of Model 301 Electronic Convertor. Ask your dealer.

Tube Complement

1851—r. f. amplifier.
6L7—first detector.
6J5—high frequency oscillator.
6P7—I. F. amplifier B. F. O.
6Q7—second detector, AVC, first audio.
6H6—noise limiter.
6F6—power output tube.
80—rectifier.



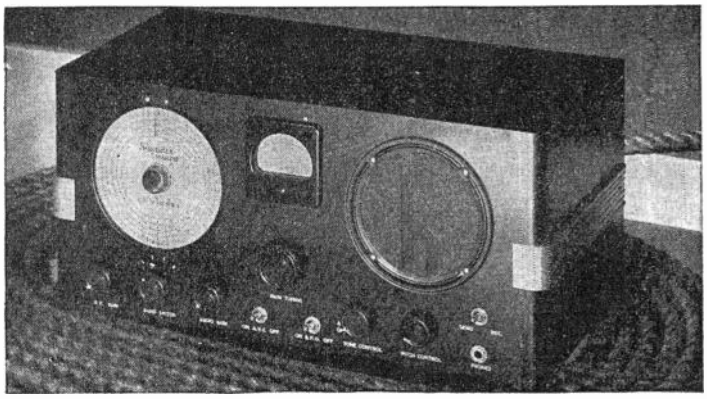
FEATURES

- Noise Limiter.
- Improved Band Spread.
- Built-in Speaker.
- Socket for SM20 Carrier Level Meter.
- Send-Receive Switch.
- 8 Tubes.
- RK 1851 stage of pre-selection.
- Continuous coverage 27 MC to 68 MC on 2 bands.
- 1600 KC I. F. amplification.

SKYRIDER 5-10 (Model S-21), complete with tubes and speaker **$69.50**

SM20 Carrier Level Meter.....$10.00

Overall Dimensions, 18½" wide, 9⅜" deep, 8½" high. Shpg. Wt. 34 lbs.



An 8-Tube receiver designed especially for the commercial frequencies that can be readily adapted for marine work. In its design, especial emphasis has been placed on 600 meter and 700 meter operation. Tunes from 16.2 to 2150 meters (18.5 MC to 140 KC) on 4 Bands as follows: Band No. 1—2150 to 645 meters (140 KC to 465 KC), Band No. 2—645 to 199 meters (465 KC to 1510 KC), Band No. 3—177 to 53 meters (1.7 MC to 5.8 MC), Band No. 4—54.5 to 16.2 meters (5.8 MC to 18.5 MC). Sensitivity and selectivity are excellent. Improved image rejection at the higher frequencies is achieved through the use of 1600 KC—I.F. transformers. The directly calibrated 338° Main Tuning Dial eliminates the use of complicated charts and tables, and an efficient mechanical band spread with separate dial provides easy and simplified tuning. Mounted in sturdy metal cabinet finished in black crystal. For operation on 110 Volt A.C. or D.C. only.

Tube Complement

6K7—r. f. amplifier.
6L7—first detector.
6J5—high frequency oscillator.
6K7—i. f. amplifier.
6Q7—second detector, AVC and first audio.
25L6—power output tube.
25Z5—rectifier.
6J5—B. F. O.

The SKYRIDER MARINE

- Coverage—16.2 to 2150 meters (140 KC to 18.5 MC).
- 4 Bands.
- 8 Tubes.
- Automatic Volume Control.
- Tone Control.
- Heal Phone Jack.
- Beat Frequency Oscillator.
- Built-In Speaker.
- Individual Coils for each Band.
- AF Gain Control.
- Band Switch.
- Sensitivity Control.
- "S" Meter Terminals.

THE SKYRIDER MARINE (Model S-22), for operation on 110v. A.C. or D.C. including tubes & speaker **$64.50**

Net

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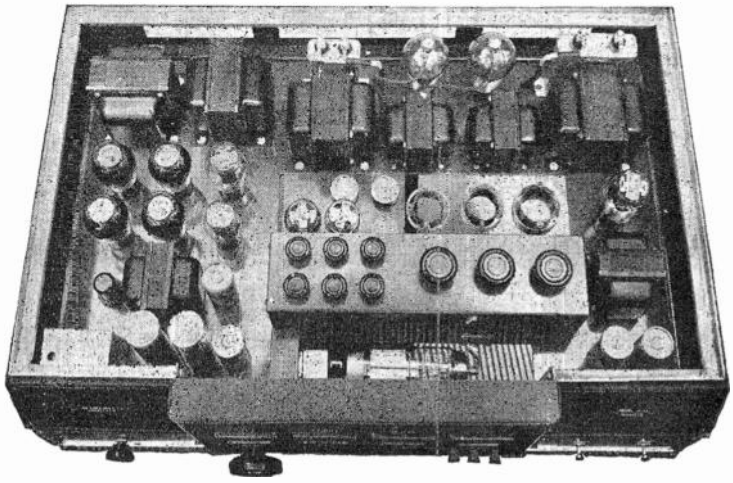
World Radio History

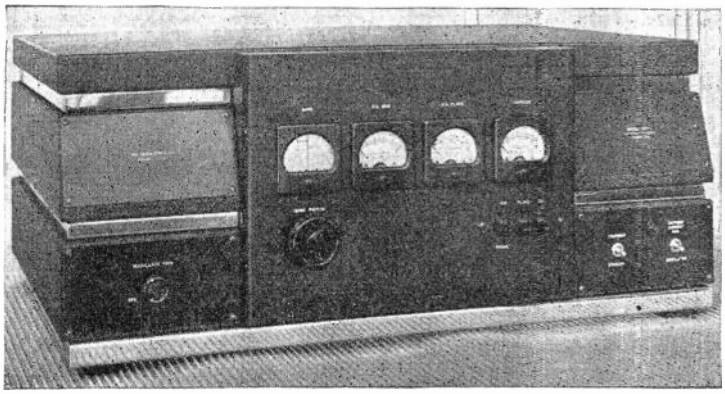
the hallicrafters inc.

MODEL HT HALLICRAFTERS TRANSMITTER



• Amateur transmitters, heretofore, have mostly been built by their owners from their own or suggested designs, or purchased in kit form and assembled. While many of these rigs are models of workman-like efficiency, the home-built transmitter design must suffer from lack of facilities. In building the first and subsequent transmitters of the Hallicrafters' line, our engineers approached their problem from a fresh viewpoint. They visualized an ideal amateur transmitter, so simple that a novice could operate it,—with adequate power at extremely conservative ratings,—ruggedly built in the "commercial" style.

• With this goal constantly in mind they attacked their problem, ignoring conventional transmitter construction and adhering strictly to the principles of functional design. The result of their efforts marks a new departure in transmitter design that no more resembles the conventional "kit" transmitter than the modern streamlined plane can be compared to the wartime "crate," in dependability, in performance, or in appearance. However, at no time have the designing engineers, themselves amateurs, lost sight of the amateur's requirements—on the contrary, they have closely approached the ideal amateur transmitter they set out to build.



• The Model HT Transmitter is conservatively rated at 50 Watts Phone Carrier output and 100 Watts CW, but, in operation is equivalent to the performance of the 75 or 100 Watts "input" kit constructed Phone Transmitter. Its operation has been simplified to a degree that makes it understandable even to a beginner. No detail has been neglected to add to its dependability—generously oversized transformers and other components are used—the design was built around the latest, most advanced type Raytheon Tubes; its designers leaned backward in conservatism to give the amateur the very utmost in dependability.

SPECIFICATIONS

- **MODEL RT-1 Phone CW**
  50 Watts Phone Carrier (slightly reduced at 30 MC). 100 Watts CW output.
  Frequency Range 10-20-40 meters crystal controlled on *one frequency per band.*
  Frequency (Band) Switching by single control in front panel, switching all circuits. Individual Tanks are knob controlled inside the cabinet and adjusted for the particular frequency for that band.
- **TUBES**
  6A6—Crystal Oscillator, 1st Doubler. 6A6—Second Doubler. RK47—Final Stage Power Amplifier.
- **MODULATOR**
  6J7—1st Audio. 6J5—2nd Audio. 4-6L6—(Push-Pull Parallel) running Class AB giving 50 Watts of Audio. Modulation capability 100 per cent. Fidelity—plus or minus 2DB 80 to 8000 cycles.
- **RECTIFIERS**
  2—5Z3 1—80 2—866
- **METERS**
  (1) Cathode Current Exciters (Switched to Modulator Current on Phone). (2) Grid Current, final. (3) Plate Current, final.
- **CONTROLS**
  Filament Switch. Plate Switch. Phone—CW Switch. Band Switch (Interstage Tuning Controls Inside Cabinet). Gain Control.
- **CABINET**
  Flame-Welded, Painted Steel with provision for ample ventilation.
- **OUTPUT TERMINALS**
  From adjustable pick-up coils on separate final plate tank coils. Proper pick-up coil and plate tank automatically selected by Band Switch.
- **EQUIPMENT NEEDED FOR OPERATION**
  Microphone (diaphragm type, down not more than 40 DB, Astatic Model D-104 recommended) Key, Bias Battery, and Antenna. (We will gladly furnish suggestions for antenna design and construction.)
  Dimensions—29¾" wide, 11¾" high, 19¼" deep.

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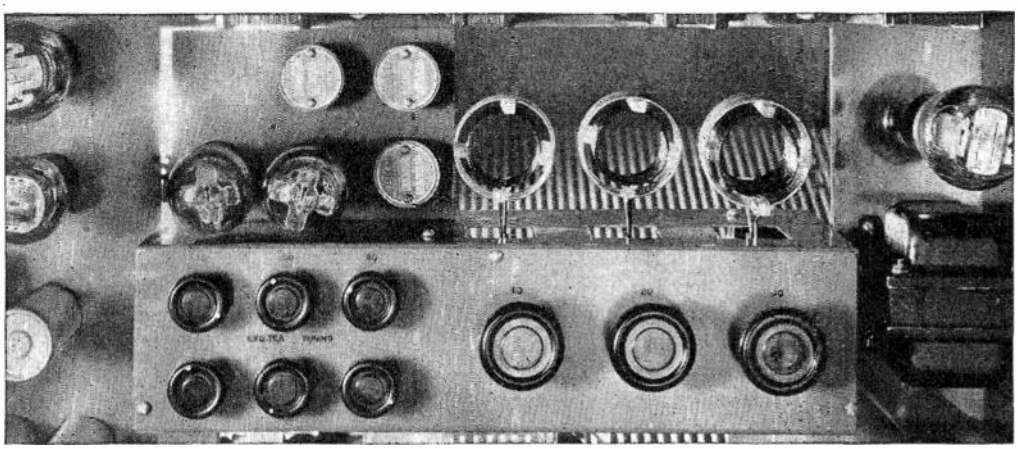


Close-up illustration of R. R. unit of the Model HT transmitter—the "heart" of this efficiently designed transmitter.

A new and efficient method of Band Changing was introduced, offering new simplicity and speed in changing from one band to another with a simple switch.

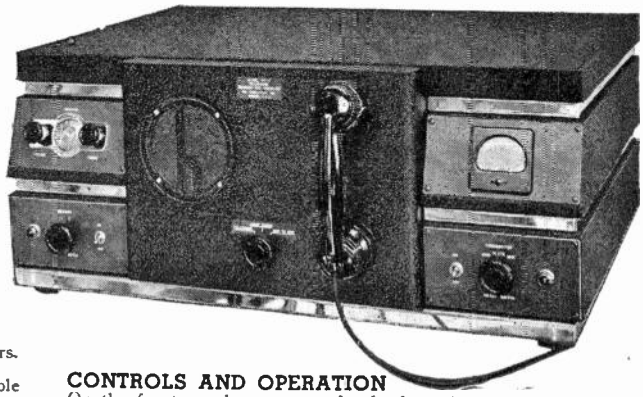
The Model HT Transmitter is available for CW operation only (100 Watts Output) and for both Phone and CW operation (50 Watts Phone Carrier, 100 Watts CW) on 10, 20 and 40 meter bands. (As a matter of fact, operation for any three bands can be supplied between 10 and 160 meters in any arrangement required; as 80-40-20 meters, or 40-20-10 meters, or 160-80-40 meters with single crystal. Where two crystal operation is required as on 80-20-10, or 160-40-10, or 160-20-10, the price will be slightly higher.)

MODEL HT-1—Complete with tubes, coils for 3 Bands and one 40 meter crystal..... **$195.00**
Shipping Weight, 145 pounds.

MODEL HT-2—For CW only, same as above except less Modulator and 1—5Z3 rectifier Tube..... **$175.00**
Shipping Weight, 120 pounds.

MODEL HT3 MARINE TRANSMITTER - RECEIVER

The type HT3 consists of a complete 50 watt radiotelephone transmitter, a sensitive receiver, and necessary power units built into a single cabinet and necessitating only a 12 volt storage battery and an antenna for operation.



General Specifications

TRANSMITTER

Carrier output—50 watts.
Frequency coverage—Any three frequencies in the Marine band 2100-2900 KC.
Frequency control—Low drift crystal controlled oscillator.
Tuning—Tuning adjustments set and locked upon installation. Subsequent choice of frequency by switch on front panel.
Modulation—Substantially complete modulation obtained by high level modulator driven directly from carbon microphone.
Tubes—1—6F6 crystal oscillator. 2—RK39 Class C amplifiers. 4—6L6G Modulators.
Antenna—Provision is made for matching an antenna of reasonable length as encountered in Marine service.
A relay inside the cabinet switches the antenna from receiver to transmitter when operating.

RECEIVER

Tubes used—1—6K7 r. f. stage. 1—6L7 1st detector. 1—6J5 H. F. oscillator. 1—6K7 I. F. stage. 1—6Q7 Second Detector, AVC, and 1st audio.
Frequency coverage—Band 1— Standard Broadcast. Band 2—2100-2900 KC.

OUTPUT

3 watts—normally fed to loud speaker on front panel, but switched to telephone receiver during operation.

POWER SUPPLY

Receiver and transmitter filaments supplied directly from 12 volt battery.
Receiver plate supply furnished by vibrapack operating from 12 volt battery.
Transmitter plate power furnished by 450 volt dynamotor of rugged aircraft construction. Provision made for operation from other d.c. voltages to order.

CONTROLS AND OPERATION

On the front panel are mounted a loud speaker, as well as a telephone handset, so arranged that the output of the receiver is normally connected to the speaker. When the handset is lifted from its hook, the receiver output is transferred to the earpiece of the handset. Transmitting is accomplished by pressing a button in the handle of the handset, which starts the transmitter. A single switch on the front panel places the receiver in operation and turns on the transmitter filaments. Subsequent control is as described above.
One meter is provided for checking the transmitter operation and for tuning purposes. The meter is arranged to be switched into the various circuits. Other panel controls are the receiver volume control and the frequency switch.
Power drain from 12 volt supply—9.5 amps for receiver and transmitter filaments during standby. 35 amps while transmitting.
Current drain from other voltage roughly in inverse proportion.
Dimensions—29¾" wide, 11¾" high, 19¼" deep.
Weight—155 pounds complete.

PRICE—HT3, Complete **$390.00**
(3 crystals for marine channel not included in above price. Frequencies to be determined by service and location of purchaser.)

The Hallicrafters, Inc., are holders of the only license issued by RCA and its associated companies for the construction and sale of amateur radio transmitters, and are independently licensed by A. T. & T. to build transmitters for marine, police, fire department and other municipal and government services. In addition, Hallicrafters, Inc., are holders of RCA and Hazeltine licenses for the manufacture of radio receivers under their patents.

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RAYTHEON RK *Amateur* TUBES

BEAM POWER TUBES*

PIONEERED AND PERFECTED BY *RAYTHEON* FOR HIGH EFFICIENCY WITH LOW DRIVE

RK-49
25 Watts Output
with 0.2 Watts
Driving Power
Price $2.10

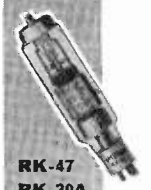
RK-39
35 Watts Output
with 0.26 Watts
Driving Power
Price $3.50

RK-47
120 Watts Output
with 1.0 Watts
Driving Power
Price $17.50

RK-48
250 Watts Output
with 1.2 Watts
Driving Power
Price $27.50

Raytheon engineers developed and perfected for the amateur, a series of Beam Power Tubes which focus electrons directly on the plate, minimizing power losses in the screen. This construction gives you ultra-high efficiency with low driving power. In addition, low inter-electrode capacities eliminate the need of neutralization. The exhaustive research in pioneering this tube has evolved *exclusive* constructional features that safeguard your investment—WHEN YOU BUY RAYTHEONS! For long life, tubes must be gas-free! RAYTHEON uses hard glass (Nonex) bulbs which permit the manufacture of gas-free tubes, and enables these tubes to operate at higher temperatures without developing pin-pricks. Molybdenum plates cost 10 times as much as iron, but RAYTHEON uses this expensive metal because it is gas-free. RAYTHEON has long discontinued the standard mica construction, because mica also develops gas. Get the most watts over the longest period of time. Insist on RAYTHEON tubes. There's a big difference!

These tubes can also be used as Oscillators and R-F amplifiers.



SUPPRESSOR MODULATED TYPE TUBES*

ANOTHER *RAYTHEON* DEVELOPMENT! IMITATED, BUT NEVER EQUALLED

RK-25B
24 Watts Output
Price $3.50

RK-23
24 Watts Output
Price $4.50

RK-25
24 Watts Output
Price $4.50

RK-20A
80 Watts Output
Price $15.00

RK-28
200 Watts Output
Price $34.50

Here is phone modulation at low cost! Suppressor modulation permits high quality phone transmission with a smaller number of tubes, plus savings in other equipment, and power costs. The slightly higher price of these tubes is more than offset by the resultant savings on the over-all cost of your transmitter. Again, RAYTHEON safeguards the amateur's investment by building into these tubes "plus value" that cannot be duplicated. Hard glass bulbs, ceramic insulators, molybdenum plates and high safety factor filaments—all contribute to the longer life of RAYTHEON tubes. Get this extra value for your money. Buy RAYTHEONS!

These tubes can also be used as oscillators and R-F amplifiers.

LOW COST TRIODES*

FOR USE AS POWER AMPLIFIERS, OSCILLATORS, OR FREQUENCY MULTIPLIERS

RK 11, 55 Watts Output

RK-12, 55 Watts Output — Either tube $2.50

RAYTHEON gives you exceptionally long life in these low priced triodes. Extra heavy thoriated filaments are 20% more powerful than other triodes in this price class. Here is higher output and efficiency for a longer time—*plus* the ability to take heavy momentary overloads.

RK-11 is a triode power amplifier having 20 mu. Designed for power-amplifier, oscillator and frequency multiplier. Has excellent R-F characteristics.

RK-12 is a very efficient zero bias modulator tube, offering extremely low distortion—even at 100 watts. This tube has excellent R-F characteristics, and is particularly suited to buffer amplifier frequency applications.

RK-51, 170 Watts Output — **RK-52**, 135 Watts Output
Either tube $8.00

CARBON PLATES, HARD GLASS BULBS ISOLANTITE BASES

Exclusive RAYTHEON design and construction enable RK-51 and RK-52 tubes to give the greatest outputs for a given amount of drive of any tubes in their class—an important factor in their excellent R-F characteristics. Extra large, thoriated tungsten filaments prolong tube life appreciably, and enable these tubes to withstand heavy surges.

RK-51 is a triode type tube designed for use as a power amplifier, oscillator, or frequenty multiplier. The amplification factor is 20.

RK-52 is a high mu zero bias triode tube having very low idling current. Designed for use as a power amplifier, modulator, oscillator or frequency multiplier.

A LOW-COST RECTIFIER OF CHARACTERISTIC *RAYTHEON* QUALITY*

THE 866 AS *RAYTHEON* BUILDS IT!

One dollar and fifty cents never bought so much in a radio tube. Regardless of the price, our engineers had to build real performance into this 866—because it carries the name RAYTHEON. Save with safety. Ask your dealer for RAYTHEONS. They cost no more, but they're worth a lot more to you.

*SEE OTHER SIDE OF THIS PAGE FOR DETAILED DATA

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World Radio History

ULTRA HIGH FREQUENCY TRIODES

ESPECIALLY DEVELOPED BY *RAYTHEON* FOR THE HIGH FREQUENCY BANDS

RK-35, low mu.
75 Watts Output
Price $8.00

RK-37, high mu.
80 Watts Output
Price $7.75

RK-36, low mu.
200 Watts Output
Price $14.50

RK-38, high mu.
225 Watts Output
Price $13.50

RAYTHEON has built these tubes to give you top-notch performance under any conditions. They really stand up! Expensive tantalum plates permit high surges without danger of gassing—even though plates show color. Special Nonex hard glass safely permits operation at much higher temperatures. The plate is brought out at the top of the bulb and the grid out at the side to minimize leakage and to produce the lowest inter-electrode capacities.

The construction of RK-35 and RK-37 permits 100% operation up to 56 megacycles. Can be operated up to 112 megacycles with reduced voltages.

The construction of RK-36 and RK-38 permits 100% operation up to 60 megacycles. Can be operated above 60 megacycles with reduced plate voltages.

IMPORTANT CHARACTERISTICS...RAYTHEON AMATEUR TUBES

No.	NET	TYPE	FILAMENT			PURPOSE	RATED VOLTAGES				POWER	
			Volts	Amps.			Plate	Grid	Ser. G.	Supp. G.	Pl. Diss.	Output
RK-10	$3.50	Triode	7.5	1.25	Thor.	Osc.-Rf. Amp.	450	—120			12W	15W
RK-11	2.50	Triode	6.3	3.0	Thor.	Osc.-Rf. Amp.	750	—120			25W	55W
RK-12	2.50	Triode	6.3	3.0	Thor.	Af. Modulator	750	0			25W	100W*
						Osc.-Rf. Amp.	750	—100			25W	55W
RK-18	10.00	Triode	7.5	3.0	Thor.	Osc. Rf. Amp.	1000	—160			40W	90W
RK-19	7.50	Full W. Rect.	7.5	2.5	K	HIGH VAC 1250v. R.M.S. PER ANODE 600 MA. PEAK						
RK-20A	15.00	Rf. Pentode	7.5	3.25	Thor.	Osc.-Rf. Amp.	1250	—100	300	+45	40W	80W
						Supp. Mod. Phone	1250	—100	300	—45	40W	18W
RK-21	5.00	Half W. Rect.	2.5	4.0	K	HIGH VAC 1250v. R.M.S. PER ANODE 600 MA. PEAK						
RK-22	7.50	Full W. Rect.	2.5	8.0	K							
RK-23	4.50	Rf. Pentode	2.5	2.5	K	Osc.-Rf. Amp.	500	—90	200	+45	10W	24W
						Supp. Mod. Phone	500	—90	200	—45	10W	
RK-24	2.25	Triode	2.0	0.12	Oxide	5 Meter Osc.	180	—45			1.[illegible]W	1.2W
RK-25	4.50	Rf. Pentode	6.3	0.8	K	CHARACTERISTICS SAME AS RK 23						
RK-25B	3.50	Rf. Pentode	6.3	0.8	K	CHARACTERISTICS SAME AS RK 23—BAKELITE BASE						
RK-28	34.50	Rf. Pentode	10.0	5.0	Thor.	Osc.-Rf. Amp.	2000	—100	400	+45	100W	200W
						Supp. Mod. Phone	2000	—100	400	—50	100W	60W
RK-30	10.00	Triode	7.5	3.25	Thor.	Osc.-Rf. Amp.	1250	—180			35W	65W
RK-31	10.00	Triode	7.5	3.0	Thor.	Class B Mod.	1250	0			40W	140W*
RK-32	12.00	Triode	7.5	3.25	Thor.	Ultra H. F.	1250	—225			50W	90W
RK-34	3.50	Dual Triode	6.3	0.8	K	Osc.-Rf. Amp.	300	—36			10W	14W
RK-35	8.00	Triode	7.5	3.25	Thor.	Ultra H. F.	1250	—400			35W	75W
RK-36	14.50	Triode	5.0	8.00	Thor.	Osc.-Rf. Amp.	2000	—360			100W	200W
RK-37	7.75	Triode	7.5	3.25	Thor.	Osc.-Rf. Amp.	1250	—90			35W	80W
RK-38	13.50	Triode	5.0	8.0	Thor.	Osc.-Rf. Amp.	2000	—200			100W	200W
						Class B Amp.	2000	—52			100W	330W*
RK-39	3.50	Beam Type. Rf. Tetrode	6.3	0.9	K	Osc.-Rf. Amp.	500	—60	250		21W	35W
RK-41	3.50	Beam Type Rf. Tetrode	2.5	2.4	K	CHARACTERISTICS SAME AS RK-39 SHOWN ABOVE						
RK-42	1.10	Triode	1.5	.06	Oxide	Af. Amp.	180	—13.5				
RK-43	1.50	Dual Triode	1.5	.12	Oxide	Af. Amp.	135	—3				
RK-44	8.50	Rf. Pentode	12.6	0.7	K	Osc.-Rf. Amp.	600	—75	200	+40	15W	28W
RK-45	5.65	Rf. Pentode	12.6	.45	K	Osc.-Rf. Amp.	500	—90	200	+45	10W	24W
						Supp. Mod. Phone	500	—90	200	—45	10W	5.5W
RK-46	21.75	Rf. Pentode	12.6	2.5	Thor.	CHARACTERISTICS SAME AS RK-20A SHOWN ABOVE						
RK-47	17.50	Beam Type. Rf. Tetrode	10	3.25	Thor.	Osc.-Rf. Amp.	1250	—70	300		50W	120W
RK-48	27.50	Beam Type Rf. Tetrode	10	5.00	Thor.	Osc.-Rf. Amp.	2000	—100	400		100W	250W
						Class B Rf. Amp.	2000	—35	400		100W	50W
RK-49	2.10	Beam Type Rf. Tetrode	6.3	0.9	K	Osc.-Rf. Amp.	400	—50	250		21W	25W
RK-51	8.00	Triode	7.5	3.75	Thor.	Osc.-Rf. Amp.	1500	—250			60W	170W
RK-52	8.00	Triode	7.5	3.75	Thor.	Af. Modulator	1250	0			62.5W	250W*
						Osc.-Rf. Amp.	1500	—120			62.5W	135W
841	3.25	Triode	7.5	1.25	Thor.	Rf. Amplifier	450	—32			12W	14W
842	3.25	Triode	7.5	1.25	Thor.	Af. Modulator	425	—100			12W	3W
864	1.00	Triode	1.1	0.25	Oxide	No Microphonics	135	—9				
866	1.50	Half W. Rect.	2.5	5.0	Oxide	Mercury Vapor	Max. Inverse Peak 7500v.				Peak Current 0.6A.	
866A	4.00	Half W. Rect.	2.5	5.0	Oxide	Mercury Vapor	Max. Inverse Peak 10000v.				Peak Current 1.0A.	
872A	16.50	Half W. Rect.	5.0	10.0	Oxide	Mercury Vapor	Max. Inverse Peak 10000v.				Peak Current 5.0A	

*Indicates value for Two Tubes.

Get this completely new handbook showing latest developments in transmitters including Temperature Color Chart, detailed information on latest tube applications, ultra high frequency, etc. Reserve your copy at your Jobber's, 50c.

You'll want this Pocket Data Book. Contains valuable information on receiving tubes. Your Jobber has it. Only 25c.

RAYTHEON PRODUCTION CORPORATION

445 Lake Shore Drive, Chicago, Ill.
420 Lexington Ave., New York, N. Y.
55 Chapel Street, Newton, Mass.
555 Howard Street, San Francisco, Cal.
415 Peachtree St., N. E., Atlanta, Ga.

RAYTHEON RK

USE RK TUBES FOR THE MOST OUTPUT PER DOLLAR OVER THE LONGEST PERIOD OF TIME

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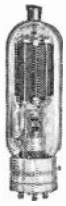
TRANSMITTING AND SPECIAL PURPOSE TUBES

RCA TRANSMITTING RADIOTRONS

AIR-COOLED TYPES

Type	Net Price		Electrodes	Max. Plate Dissipation Watts	Cathode Type	Cathode Volts
203-A	$10.00	R-F Power Amplifier, Oscillator, Class B Modulator	3	100	Filament	10.0
204-A	85.00	Oscillator, R-F Power Amplifier, Class B Modulator	3	250	Filament	11.0
211	10.00	R-F Power Amplifier, Oscillator, A-F Power Amplifier, Modulator	3	100	Filament	10.0
800	10.00	R-F Power Amplifier, Oscillator, Class B Modulator	3	35	Filament	7.5
801	3.45	R-F and A-F Power Amplifier, Oscillator, Modulator	3	20	Filament	7.5
802	3.50	R-F Power Amplifier Pentode	5	10	Heater	6.3
803	28.50	R-F Power Amplifier Pentode	5	125	Filament	10.0
804	15.00	R-F Power Amplifier Pentode	5	40	Filament	7.5
805	13.50	R-F Power Amplifier, Oscillator, Class B Modulator	3	125	Filament	10.0
806	22.00	R-F Power Amplifier, Oscillator, Class B Modulator	3	150	Filament	5.0
807	3.50	Beam Power Amplifier	4	25	Heater	6.3
808	7.75	R-F Power Amplifier, Oscillator, Class B Modulator	3	50	Filament	7.5
809	2.50	R-F Power Amplifier, Oscillator, Class B Modulator	3	25	Filament	6.3
814	17.50	Beam Power Amplifier	4	50	Filament	10.0
830-B	10.00	Class B Modulator, R-F Power Amplifier, Oscillator	3	60	Filament	10.0
831	265.00	Oscillator, R-F Power Amplifier	3	400	Filament	11.0
833	85.00	R-F Power Amplifier, Oscillator	3	300	Filament	10.0
834	12.50	R-F Power Amplifier, Oscillator	3	50	Filament	7.5
835	18.50	R-F Power Amplifier, Oscillator A-F Power Amplifier, Modulator	3	100	Filament	10.0
837	7.50	R-F Power Amplifier Pentode	5	12	Heater	12.6
838	11.00	Class B Modulator, R-F Power Amplifier, Oscillator	3	100	Filament	10.0
841	3.25	R-F Power Amplifier, Oscillator, A-F Voltage Amplifier	3	15	Filament	7.5
842	3.25	A-F Power Amplifier, Modulator	3	12	Filament	7.5
843	12.50	Power Amplifier, Oscillator	3	15	Heater	2.5
844	18.00	Screen-Grid R-F Power Amplifier	4	15	Heater	2.5
845	10.00	Modulator, A-F Power Amplifier	3	75	Filament	10.0
849	120.00	Modulator, A-F Power Amplifier, R-F Power, Amplifier, Oscillator	3	400	Filament	11.0
850	37.50	Screen-Grid R-F Power Amplifier	4	100	Filament	10.0
851	350.00	Modulator, A-F Power Amplifier, R-F Power Amplifier, Oscillator	3	750	Filament	11.0
852	16.40	Oscillator, R-F Power Amplifier	3	100	Filament	10.0
860	32.50	Screen-Grid R-F Power Amplifier	4	100	Filament	10.0
861	295.00	Screen-Grid R-F Power Amplifier	4	400	Filament	11.0
865	12.75	Screen-Grid R-F Power Amplifier	4	15	Filament	7.5


RCA805

RCA814

RECTIFIERS

Type	Net Price		Electrodes	Max. Peak Inverse Volts	Cathode Type	Cathode Volts
217-A	$20.00	Half-Wave, High Vacuum	2	3,500	Filament	10.0
217-C	20.00	Half-Wave, High Vacuum	2	7,500	Filament	10.0
836	11.50	Half-Wave, High Vacuum	2	5,000	Heater	2.5
866	1.50	Half-Wave, Mercury Vapor	2	7,500	Filament	2.5
866-A	2.50	Half-Wave, Mercury Vapor	2	10,000	Filament	2.5
872	9.00	Half-Wave, Mercury-Vapor	2	7,500	Filament	5.0
872-A	11.00	Half-Wave, Mercury-Vapor	2	10,000	Filament	5.0

RCA808

RCA SPECIAL PURPOSE TUBES AND ACCESSORIES

CATHODE-RAY TYPES

Type	Net Price		Electrodes	Max. Anode No. 2 Volts	Cathode Type	Cathode Volts
902	$7.50	2 in., Electrostatic Deflection, Low-Voltage, High-Vacuum	4	600	Heater	6.3
903	86.00	9 in., Electromagnetic Deflection, High-Vacuum	5	7,000	Heater	2.5
904	52.50	5 in., Electrostatic-Magnetic Deflection, High-Vacuum	5	4,600	Heater	2.5
905	45.00	5 in., Electrostatic Deflection, High-Vacuum	4	2,000	Heater	2.5
906	13.50	3 in., Electrostatic Deflection, High-Vacuum	4	1,500	Heater	2.5
907	48.75	5 in., Electrostatic Deflection, High-Vacuum, Short-Persistence Screen	4	2,000	Heater	2.5
908	18.00	3 in., Electrostatic Deflection, High-Vacuum, Short-Persistence Screen	4	1,500	Heater	2.5
909	49.00	5 in., Electrostatic Deflection, High-Vacuum, Long-Persistence Screen	4	2,000	Heater	2.5
910	21.25	3 in., Electrostatic Deflection, High-Vacuum, Long-Persistence Screen	4	1,500	Heater	2.5
911	22.50	3 in., Electrostatic Deflection, High-Vacuum, (Electron gun of low-magnetic material)	4	1,500	Heater	2.5
912	163.40	5 in., Electrostatic Deflection, High-Vacuum, High-Voltage	5	15,000	Heater	2.5
913	4.00	1 in., Electrostatic Deflection, High-Vacuum, Low-Voltage	4	500	Heater	6.3
914	85.00	9 in., Electrostatic Deflection, High-Vacuum	5	7,000	Heater	2.5

RCA906

TYPES FOR EXPERIMENTAL TELEVISION

Type	Net Price		Electrodes	Max. Anode No 2 Volts	Cathode Type	Cathode Volts
1800	$60.00	9 in. Kinescope, Electromagnetic Deflection	5	7,000	Heater	2.5
1801	40.00	5 in. Kinescope, Electromagnetic Deflection	4	3,000	Heater	2.5
1851	2.10	Television Amplifier Pentode	5	....	Heater	6.3

RECTIFIERS — FOR CATHODE-RAY TUBES

Type	Net Price		Electrodes	Max. Peak Inverse Volts	Cathode Type	Cathode Volts
878	$11.00	Half-Wave, High-Vacuum	2	20,000	Filament	2.5
879	3.00	Half-Wave, High-Vacuum	2	7,500	Filament	2.5
884	2.00	Gas-Triode for Cathode-Ray Sweep-Circuit Control	3	300	Heater	6.3
885	2.00	Gas-Triode for Cathode-Ray Sweep-Circuit Control	3	300	Heater	2.5

RCA919

PHOTOTUBES

Type	Net Price	Description	Electrodes	Max Anode Volts.
868	$3.70	Gas Phototube	2	90
917	4.75	Vacuum Phototube	2	500
918	4.50	Gas Phototube (High Sensitivity)	2	90
919	4.75	Vacuum Phototube	2	500
920	5.25	Twin Phototube (Gaseous Type)	4	90
921	$2.00	Gas Phototube (Cartridge Type)	2	90
922	2.00	Vacuum Phototube (Cartridge Type)	2	500
923	2.60	Gas Phototube (High Sensitivity)	2	90

MISCELLANEOUS TYPES

Type	Net Price		Electrodes	Max. Plate Dissipation Watts	Cathode Type	Cathode Volts
840	$6.00	R-F Pentode	5	....	Filament	2.0
864	1.00	Amplifier (Low Microphonic Design)	3	....	Filament	1.1
954	5.00	Detector, Amplifier Pentode (Acorn Type)	5	....	Heater	6.3
955	3.00	Amplifier, Detector, Oscillator (Acorn Type)	3	....	Heater	6.3
956	5.00	Super-Control R-F Amplifier Pentode (Acorn Type)	5	....	Heater	6.3
991	.90	Voltage Regulator (Glow Discharge)	2	....	....	....
1602	2.75	Amplifier, Triode (Low Microphonic Type)	3	15	Filament	7.5
1603	4.75	Triple-Grid Amplifier (Low Microphonic Type)	5	....	Heater	6.3
1608	4.00	Power Amplifier, Oscillator	3	20	Filament	2.5
1609	1.60	Amplifier Pentode (Low Microphonic Design)	5	....	Filament	1.1
1610	2.00	Crystal-Oscillator Pentode	5	6	Filament	2.5
1612	3.25	Pentagrid Amplifier (Low Microphonic Design)	7	....	Filament	6.3

RCA955

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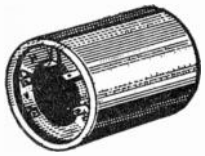
NET

World Radio History

RCA TELEVISION PARTS

FOR KINESCOPE DEFLECTING CIRCUITS

For the amateur or experimenter interested in the designing and development of television circuits, RCA has made available the following basic units. They are designed for use with RCA Kinescopes Nos. 1800 and 1801. An attractive folder containing complete circuit diagrams of these components, together with circuits suitable for their use, is available on request. Ask for Form No. 2853.

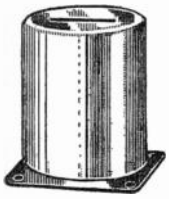


No. 9831

DEFLECTING YOKE

For RCA 1800 and 1801 Kinescopes. Has windings for both horizontal and vertical deflecting circuits. Designed to have uniform flux distribution. Size: Outside Diameter 2½ inches; Inside Diameter to fit RCA 1800 and 1801 Kinescopes; Length 3¾ inches.

NET—Stock No. 9831 ..... **$10.00**



Nos. 9834, 9835

VERTICAL OSCILLATION TRANSFORMER

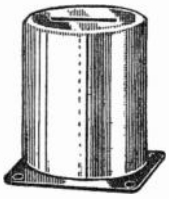
A scientifically designed transformer for low-frequency blocking-oscillator circuit. Gives best efficiency at 60 cycles. Size: H. 2¾", Base 2¼" square, Diameter $2\frac{1}{16}$".

NET—Stock No. 9834 ..... **$3.00**

HORIZONTAL OSCILLATION TRANSFORMER

This transformer is designed for high frequency blocking oscillator circuits. It has high efficiency at frequency of 13,200 cycles. Size: H. 2¾", Base 2¼" square, Diameter $2\frac{1}{16}$".

NET—Stock No. 9835 ..... **$3.00**

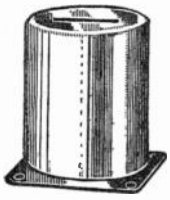


No. 9833

VERTICAL OUTPUT REACTOR

A high-quality auto-transformer for matching the output of deflecting circuits to the deflecting yoke vertical circuit. 120 henries inductance, 3800 ohms d-c resistance. Size: H. 2¾", Base 2¼" square, Diameter $2\frac{1}{16}$".

NET—Stock No. 9833 ..... **$3.00**

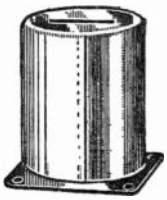


No. 9838

POWER SUPPLY REACTOR

A newly designed high inductance reactor for Kinescope filter circuits. Insures good regulation in power supply circuit when used in conjunction with Stock Nos. 9837 or 9840 Power Supply Capacitor. Size: H. 4" Base 3¼" square, Diameter, $3\frac{1}{16}$".

NET—Stock No. 9838 ..... **$4.75**

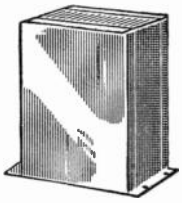


No. 9836

HORIZONTAL OUTPUT TRANSFORMER

Has correct characteristics to supply a 13,200-cycle saw-tooth current wave to deflecting yoke. Core and coil rubber mounted to eliminate noise. Size: H. 3¼", Base $2\frac{13}{16}$" square, Diameter 2⅝".

NET—Stock No. 9836 ..... **$9.50**



Nos. 9832, 9839

POWER TRANSFORMER

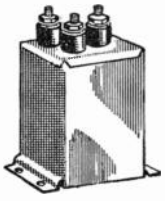
For RCA 1800 Kinescope. Includes all windings necessary for a complete power supply for the anode and heater circuit of the 1800 Kinescope. Plate winding of 4,500 volts and two 2.5 volt heater windings. Entire transformer insulated for high voltage. Size: H. 6⅛", W. $5\frac{9}{16}$", D. 3⅜".

NET—Stock No. 9832 ..... **$12.50**

POWER TRANSFORMER

For RCA 1801 Kinescope. Includes all windings necessary for complete power supply for the anode and heater circuit of the 1801 Kinescope. Plate winding of 2,300 volts and two 2.5 volt heater windings, adequately insulated. Size: H. 6⅛", W. $5\frac{1}{16}$", D. 3⅜".

NET—Stock No. 9839 ..... **$10.00**

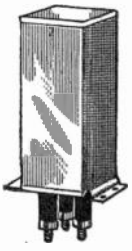


No. 9840

POWER SUPPLY CAPACITOR

For RCA 1801 Kinescope. A high quality capacitor containing one .025 mfd. 4,000 volt unit and one .05 mfd. 3,500 volt unit. Oil-filled construction with high-voltage terminals. Size: H. 3⅛", W. 2⅜", D. $2\frac{1}{16}$", Base 3" x 2⅜".

NET—Stock No. 9840 ..... **$5.50**



No. 9837

POWER SUPPLY CAPACITOR

For RCA 1800 Kinescope. A high quality 6,000 volt unit containing two .03 mfd. capacitors. High-voltage terminals provided for one center and two outside connections. Oil-filled construction to insure long life. Size: H. 6½", W. 2", D. 2⅜", Base 3" x 2⅜".

NET—Stock No. 9837 ..... **$11.75**

Net

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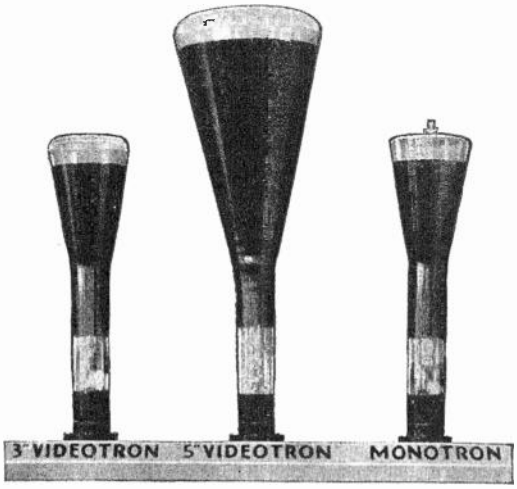
World Radio History

NATIONAL UNION

Television Tube Types



Maintaining a steady pace in the development and production of cathode ray tubes and television type tubes, National Union has made some noteworthy contributions to this field.

All National Union effort, insofar as television is concerned, tends toward the practical angle with an aim to bring these tube types within a price range which will make it possible for amateur and experimenter to work with them.

THESE TUBES DESIGNED BY M. P. WILDER—W2KJL FOR NATIONAL UNION RADIO CORP.

TYPE 2303—MONOTRON PICTURE SIGNAL GENERATOR TUBE

$16.50 NET

1—First satisfactory picture signal source.
2—Spot small enough for 441 line definition.
3—Pattern designed for complete test of transmitter quality.
4—Electro-static focus and deflection.
5—Non-magnetic deflection plates.
6—Constant signal output.
7—Ceramic mounted gun.

TYPE 2003—3" VIDEOTRON TELEVISION PICTURE TUBE

$12.00 NET

1—High brilliance.
2—Non-magnetic deflection plates.
3—Ceramic mounted gun.
4—441 line definition.
5—No defocus along trace.
6—Good modulation characteristics.
7—Constant sensitivity.
8—Interchangeable with Type 906.

TYPE 2005—5" VIDEOTRON TELEVISION PICTURE TUBE

$22.50 NET

1—Designed for television reception.
2—Super quality as an Oscillograph.
3—Non-magnetic deflection plates.
4—Perfect trapizium correction.
5—Trace fine enough for 441 line definition.
6—Good modulation characteristics.
7—Employs screen grid.
8—No defocusing at extremes of sweep.
9—Sensitivity to .56 mm/volt.
10—High brilliance.
11—Extra long life.
12—Clean sharp focus.
13—Ceramic mounted gun.

TYPE 2109—9" VIDEOTRON TELEVISION PICTURE TUBE

$50.00 NET

1—High brilliance.
2—For magnetic deflection.
3—Ceramic mounted gun.
4—Gun is mica spring supported to obviate possibility of knocking it off center.
5—Double getter flashed for highest vacuum, longest life.
6—Fine trace for 441 line definition.
7—Screen material produces black and white pictures.
8—No defocusing at extremes of sweep.
9—Forty degrees of light contrast due to special processing of fluorescent screen.
10—Interchangeable with Type 903.

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NATIONAL UNION TYPE 2203 MONOTRON

3" Electrostatic Deflection Type Picture Signal Generator Tube

National Union Monotron type 2203 is a special cathode ray tube designed primarily for the production of a single television pattern, useful in testing circuits designed to resolve television signals. The Monotron finds a use in all fields where an experimental television signal is desired which can be obtained at will, especially in locations where modern television transmission is not available. This field includes experimental laboratories, schools, colleges, radio clubs, radio experimenters, radio amateurs, and all others, such as radio set manufacturers, radio broadcasting stations, and trade schools, where the principles employed in modern television are under development and study. With the advent of modern television a Monotron signal generator will be found indispensable in servicing television receivers.

The type 2203 Monotron is basically a three inch cathode ray tube in which the customary fluorescent scren on the end of the bulb has been replaced with an aluminum plate on which is printed a special test pattern useful in testing television equipment.

The electrodes in the 2203 provide a focused beam of electrons which impinge upon the signal plate and produce secondary electrons at the point of contact which are collected by the Aquadag coating. This coating is connected to the second anode inside the tube and is normally at ground potential. The amount of secondary emission depends upon the material upon which the beam is incident, the maximum being given off when the electron beam strikes the clear aluminum and the minimum when the beam strikes the ink of the printed pattern—half tones are produced by varying densities of ink.

The position of the spot is controlled by two sets of electrostatic deflection plates as in a normal cathode ray tube (2003). When the Monotron is used for television signal generation, voltages of saw tooth wave form are applied to the vertical and horizontal deflection plates, causing the spot to scan the signal plate, which in turn will give off secondary electrons in proportion to the density of the ink upon which the spot falls.

The picture detail provided by the 2203 is adequate for testing the response of a television receiver up to three hundred lines per picture. The pattern design has been chosen so that the distance out along the wedges which is clearly reproduced will be an indication of the extent of detail which can be resolved.

The spot size in the Monotron is small enough to resolve all the information on the signal plate and if all the detail present is resolved, full three hundred line detail will result.

A three hundred line picture at sixty pictures per second requires approximately the same band width as a four hundred and forty-one line interlaced sixty fields per second to produce thirty complete pictures per second.

The handling of National Union 2203 in transportation and storage requires considerable care because the tube may be broken or damaged if subjected to sudden jars or excessive strain. When the 2203 is transported, the tube should be protected from moisture and in no case should the tube be placed on or slid across a hard surface. Such practice may result in scratches at the signal plate end of the bulb, which might lead ultimately to cracks and subsequent destruction of the tube. The bulb should never be subjected to extreme or rapid temperature changes. When a 2203 is removed from its associated apparatus, it is recommended that the bulb be stored in its original carton.

The base pins of the 2203 fit the standard medium 7 contact socket which can be installed for the operation of the tube in any position. The socket should be made of good insulating material, preferably one of the better ceramics. The heater is designed to operate at 2½ volts. The transformer winding supplying the heater power should be designated to operate the heater at the rated voltage under average line voltage conditions. This transformer should be insulated to stand the full high voltage or a total of 1000 volts. Although the filter requirements are simple, a one microfarad paper condenser either side of a 1000 henry choke is desirable in order to avoid ripple appearing in the picture output.

NATIONAL UNION TYPE 2005 VIDEOTRON

5" Electrostatic Deflection Type Television Picture Tube

National Union Videotron Type 2005 is a cathode ray tube designed primarily for the resolution of television pictures and is used in circuits designed to resolve television signals. The 2005 finds a use in all fields where an experimental television picture signal is available. This field includes experimental laboratories, schools, colleges, radio clubs, radio experimenters, radio amateurs and all others such as radio set manufacturers, radio broadcasting stations and trade schools. Because of its exceedingly fine trace it is also an excellent oscillograph tube.

The Type 2005 is basically a five inch cathode ray tube of the electrostatic type in which the fluorescent screen material is a phosphor suitable for television. Electrodes in the 2005 provide a focused beam of electrons which impinge upon the fluorescent screen, producing an easily modulated pattern.

The picture detail provided by the 2005 is adequate for resolving a modern 441 line interlaced television picture.

The handling of the National Union 2005 in transportation and storage requires considerable care because a tube may be broken or damaged if subjected to sudden jars or excessive strain. When the 2005 is transported, the tube should be protected from moisture and in no case should the tube be placed on or slid across a hard surface. Such practice may result in scratches at the screen end of the bulb which might lead ultimately to cracks and subsequent destruction of the tube. The bulb should never be subjected to extreme or rapid temperature changes. When a 2005 is removed from its associated aparatus, it is recommended that the bulb be stored in its original carton. The base pins of the 2005 fit the standard large octal socket which can be installed for the operation of the tube in any position. The socket should be made of good insulating material, preferably one of the better ceramics. The heater is designed to operate at 2½ volts. The transformer winding supplying the heater voltage should be designed to operate the heater at the rated voltage under average line voltage conditions. This transformer should be insulated to stand the full high voltage or a total of 2000 volts. Although the filter requirements are simple, a one microfarad paper condenser either side of a 1000 henry choke is desirable in order to avoid ripple appearing in the picture output.

It is important to note that the input power to the fluorescent screen should not exceed 10 milliwatts per square centimeter. A power input in excess of this rating may cause serious loss of light output from the screen or partial destruction of the screen itself. The spot should always be kept in motion over a large area of the fluorescent screen by adequate voltage to the deflecting plates.

COMPLETE TECHNICAL BULLETINS WITH CIRCUIT DIAGRAMS ON REQUEST

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NEW TAYLOR TUBES NOW STOCKED:

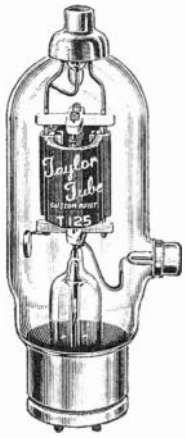
Rectifier 249-B - Net $5.00 Beam Power Tube T-21 - Net $1.95

Taylor HEAVY CUSTOM BUILT DUTY Tubes

"More Watts per Dollar!"

All Taylor Tubes (except 203Z, T20, TZ20 and Rectifiers) use the famous Heavy-Duty Heat-Proof Carbon Anodes. Taylor Carbon Anodes can be run at red heat without injury to filament emission. Taylor Tubes are conservatively rated and are thoroughly guaranteed. Each Taylor Custom Built Carbon Anode Tube is individually processed through each stage of manufacture, insuring uniformity, dependability and performance.

TAYLOR HIGH FREQUENCY TUBES



T-125

125 WATTS PLATE DISSIPATION

Carbon-Tantalum Anode

Fil.—10 Volts—4 Amps.
Plate—2000 Volts—200 M. A.
Amp. Factor—25
Grid to Plate—4.5 mmf.
Max. D.C. Grid Cur.—60 M.A.
PLATE LEAD—TOP
GRID LEAD—SIDE

The TAYLOR T-125 is a radically new and improved Triode having a super size Carbon Anode with Tantalum fins. This gives the T-125 the full advantages of both materials and offers you a Tube that will give outstanding performance and long life.

Net Price

$13.50

T-55

The Fastest Selling Medium Price Amateur Transmitting Tube

55 WATTS PLATE DISSIPATION

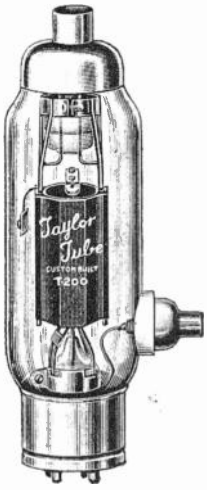
The T-55 is the ideal tube for medium Power Transmitters or Diathermy apparatus work on ultra High Frequencies.

Fil. 7.5 Volts—2.75 amps.
Plate 1500 Volts—150 M.A. Modulated
Amp. Factor—20
Grid to Plate—4 mmf.
Max. D.C. Grid Cur.—40 M.A.
Size—7" x 2⅝"
Isolantile UX Base
Plate Lead—Top

The T-55 is amateur Radio's Favorite Tube due to its outstanding value. Easy to drive—easy to neutralize. In addition to Class C Amplifier, the T-55 makes an ideal buffer or doubler tube for use in high power Transmitters.

Net Price

$6.00



T-200

HEAVY DUTY 200 WATTS PLATE DISSIPATION

The T-200 is a Heavy-Duty High Frequency Tube. Compare the ratings on the T-200 with competitive tubes and you will discover why the Taylor T-200 is leading in sales.

Fil. 10 to 11 Volts—4 Amps.
Plate—unmodulated 2500 v. modulated—2000 Volts —350 M.A.
Amp. Factor—17
Grid to Plate—7 mmf.
Max. D.C. Grid Cur.—80 M.A.
Size—9½" x 3¾"
Plate Lead—Top
Grid Lead—Side

The T-200 is widely used in high-power diathermy apparatus because it can stand up in Heavy Duty operation. The T-200 is the perfect tube for full 1 K.W. Phone Rigs on 20 meters. Easy to drive—Easy to neutralize!

Net Price

$21.50

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Taylor HEAVY CUSTOM BUILT DUTY Tubes

TAYLOR T-20

20 Watts Plate Dissipation. Efficient performance on all bands from 5 to 160 meters.
Fil. 7.5 Volts, 1.75 Amps. Plate 750 Volts. 75 M.A. Amp. Factor 20.

Net $2.25

TZ-20
Zero Bias

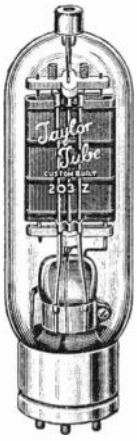
Same general characteristics as T-20 except Amp. Factor is 62. Recommended for Class B Audio and doubler service. Up to 80 Watts Audio Output.

Net $2.25

New! TAYLOR 805
Zero Bias

Standard type Carbon Anode Zero Bias 805. Up to 450 Watts Class B Audio Output. Fil. 10 Volts 3.85 Amps. Max. Plate Volts 1750. Max. Plate Current 210 M.A. Amp. Factor 50. Also is good R.F. Tube.

Net $13.50



TAYLOR 203-Z
Zero Bias

Will work on all Standard 203-A type Transformers. 300 Watts audio in Class B. Fil. 10 Volts 3.85 Amps. Max. Plate Volts 1250. Max. Plate Current 175 M.A. Amp. Factor 85.

Net $8.00

TAYLOR HD203-A

150 Watts Plate Dissipation. Fil. 10 Volts. 4.0 Amps. Max. Plate Volts 2000. Max. Plate Current 250 M.A. Fine for both Class C. Amp. and Class B Audio Work. A favorite among many amateurs.
Amp. Factor 25

NET $14.50

New! Taylor WONDER TUBES

SET A NEW STANDARD IN VALUE AND PERFORMANCE

T-40

40 Watts Plate Dissipation, Carbon Anode. Efficient on all Bands. Fil. 7.5 Volts 2.5 Amps. Plate 1000 Volts 115 M.A. Amp. Factor 25. A really sensational value.

Net $3.50

TZ-40
Zero Bias

Same general characteristics as the T-40 except Amp. Factor is 62. Class B Audio Output 175 Watts. Fine doubler.

Net $3.50

TAYLOR 822

200 Watts Plate Dissipation. 600 Watts Audio in Class B. Fil. 10 Volts, 4 Amps. Max. Plate Volts 2000. Max. Plate Current 300 M.A. Efficient on 10-20-40-80-160 meters. A Super HD-203A.
Amp. Factor 27

Net $18.50

TAYLOR 814

Same general characteristics as the 822 except Amp. Factor is 12. Excellent tube for grid modulated or Class B Linear Amplifier.

Net $18.50

TAYLOR TUBES ARE THOROUGHLY GUARANTEED

Write Us for

TAYLOR TUBES NEW COMBINED CATALOG AND HAND BOOK FREE

TAYLOR 866

Half Wave mercury vapor rectifier. Fil. 2.5 Volts, 5 Amps. Inverse Peak 7500 Volts. Peak Current 600 M.A.
Multistrand filament construction.

Net $1.50

TAYLOR 866 JR

Half Wave Mercury Vapor Rectifier for medium Voltages. Fil. 2.5 Volts, 2.5 Amps. Max. R.M.S. A.C. 1250 Volts. Max. D.C. current per pair (choke input) 250 M.A.

Net $1.00

TAYLOR 203-A

100 Watts Plate Dissipation. Efficient on 20-40-80-160 meters. Fil. 10 Volts. 3.85 Amps. Max. Plate Volts 1250. Max. Plate Current 175 M.A.
Amp. Factor 25

Net $10.00

211-C

Widely used in Diathermy apparatus. Same general characteristics and appearance as standard 211 except has lower interelectrode capacities. Grid to Plate 9 mmf. Amp. Factor 12.

Net $12.50

OTHER TAYLOR TUBES

211—Same general characteritics as 203A except Mu. is lower.
Net $10.00

845—Standard Class A, Amplifier Tube.
Net $10.00

872—Another famous Taylor Heavy Duty Rectifier—Standard characteristics.
Net $9.00

756—High Mu. Triode for Doubling and Class B Audio Service. 40 Watts Plate Dissipation.
Net $4.95

825—Low Mu. Triode.
Net $4.95

841-A—Diathermy Tube. 50 Watts Plate Dissipation.
Net $7.00

We carry a complete stock of Taylor Tubes and always have the New Tubes as soon as they are announced.

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GAMMATRONS ARE USED BY LEADING OPERATORS

GAMMATRON transmitting tubes are used by leading broadcasters, communication companies, diathermy manufacturers and amateurs because of their low first cost, long life and excellent performance characteristics. They operate at high efficiencies because of their ability to withstand large plate potentials. Tube failure due to accidental overload is almost unheard of with GAMMATRON users because of their ample design factors and the use of that superior plate and grid material, Tantalum. GAMMATRONS are universal in application and their use in any service will result in definite saving in tube operating cost.

Heintz and Kaufman Ltd., developed and pioneered the use of Tantalum in transmitting tubes. The 354 GAMMATRON was made commercially available to the amateurs and experimenters early in 1934. This early lead in design has been retained, and at the present time GAMMATRONS are regarded as the foremost by transmitting tube users, whose services are demanding of ruggedness, long life and consistent, trouble-free operation.

GAMMATRONS are of unconventional design which provides that the plate, grid and filament are mounted on their short, rugged high current capacity leads. With this construction it is not necessary to use internal insulators to maintain perfect alignment. The use of Tantalum plates and grids excludes the use of an undesirable "getter," allows safe operation at high element temperatures and maintains the filament at full effectiveness throughout the tube life, because of its clean-up effect Tantalum maintains the extremely high vacuum. Tantalum also makes it possible to manufacture and maintain tubes with crystal clear envelopes. Clean glass radiates the maximum amount of heat. The envelope is Nonex glass. This is a hard glass designed by Corning Glass Company, the leading glass manufacturer, especially for high power transmitting tubes. It will stand extreme temperatures. All GAMMATRON filaments are of the low voltage type—short, rugged and well supported.

Other features which give GAMMATRON tubes a very definite superiority are the specially designed vertical grid construction which gives a high ratio of output to driving power. Low interelectrode capacities provide easy neutralization and extend the usefulness of GAMMATRONS far into the ultra-high frequency spectrum. GAMMATRONS cannot be softened or made gassy through accidental overload because the Tantalum elements and other internal parts are completely de-gassed during assembly and the arduous pumping schedule—there is no available source of gas within the tube.

GAMMATRONS are licensed under the patents of the Radio Corporation of America. They are used by leading operating companies, because they give more watt ouput hours per dollar than any other transmitting tube.

TANTALUM PLATES AND GRIDS GIVE GREATER TUBE VALUE

The GAMMATRON LINE
First With Tantalum!!

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The GAMMATRON LINE
First With Tantalum!!

SUMMARY OF CHARACTERISTICS

TRIODES

TUBE TYPE NO.	24	54	154	254	354A*	354C	354D	354E	354F	654	1554	2054A	3054
Recommended Applications:													
Class 'C' R.F. Amplifier	●	●	●	●	●	●	●	●	●	●	●	●	●
Class 'C' R.F. Multiplier	●	●		●			●	●	●	●	●		
Class 'B' R.F. Linear Amp.	●	●	●	●	●	●	●			●	●	●	●
Class 'B' A.F. Modulator	●	●	●	●		●	●	●	●	●	●	●	●
Grid Modulated R.F. Amp.	●	●	●	●	●	●				●	●	●	●
Class 'A' Audio Amplifier			●		●	●						●	
Crystal Oscillator	●	●											
Diathermy	●	●		●	●	●				●			
Normal Plate Dissipation, Watts	25	50	50	100	150	150	150	150	150	300	750	1000	1500
Aver. Amplification Constant	25	27	6.7	25	9	14	22	35	50	22	14.5	10	20
Maximum Ratings:													
Plate Volts	1500	2000	1500	3000	4000	4000	4000	4000	4000	4000	5000	3000	5000
Plate M.A.	75	150	175	200	300	300	300	300	300	600	1000	800	2000
Grid M.A.	30	30	30	40	50	50	55	60	75	100	250	200	500
Filament:													
Volts	6.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.5	11.0	10.0	14.0
Amperes	3.0	5	6.5	7.5	10	10	10	10	10	15	22	22	45
Maximum Frequency: Full Ratings, Mc.	100	100	60	50	30	30	30	30	30	20	15	15	15
Maximum Power Output: Single Class Tube 'C' R.F.	89	210	200	450	700	750	700	700	700	1400	3000	2000	5300
Maximum Power Output: Two Tubes Class 'B' Audio (2½% Harmonic Distortion)	125	200	280	450	630	650	690	690	725	1350	3500	4000	7000
F.C.C. Broadcast Ratings:													
High Level Modulation	..	50	75	100	250	250	250	250	250	500	1000	750	2500
Low Level Modulation	..	..	25	..	50	50	50	50	50	125	250	500	500
Grid Modulation	..	..	12.5	..	50	50	..	..	..	100	250	..	500
Interelectrode Capacities:													
C g—p u.u.f.	1.7	1.9	5.9	3.4	4	4	4	4	4	5.5	11	18	15
C g—f u.u.f.	2.5	1.9	4.3	3.3	9	9	9	9	9	6.2	15.5	15	25
C p—f u.u.f.	0.4	0.2	1.1	1.1	1	1	1	1	1	1.5	1.2	7	2.5
Physical:													
Length, inches	4⅜	5¾	6¾	7¼	8¼	8¼	8¼	8¼	8¼	10⅜	18	21 11/16	30¾
Diameter, inches	1½	2	2	2⅝	3	3	3	3	3	4	6	6	9
Base	Small UX	STD.UX	STD.UX	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	50 Watt	HK255	W.E.Co.	HK255
Weight, oz.	1¼	2½	3½	6½	9	9	9	9	9	14	56	66	200
NET PRICE	$3.50	$6.75	$12.50	$12.50	$24.50	$24.50	$24.50	$24.50	$24.50	$75.00	$250.00	$300.00	$467.50

* Type 354 is supplied in either high frequency style (grid terminal on side of envelope) or standard style (grid terminal on base). When no specification is made high-frequency style will be supplied.

RECTIFIERS

TUBE TYPE No.	253A	253B	353	653A	653B	753A	753B
BASE	50 Watt	Industrial	STD. UX	50 Watt	Industrial	50 Watt	Industrial
FORM	Half-wave, high vacuum		Half-wave, mercury vapor	Half-wave, mercury vapor		Half-wave, mercury vapor	
MAX. INVERSE PEAK VOLTS	10000		1000	10000		10000	
MAX. PEAK AMPERES	3		..	7.5		20	
AVERAGE AMPERES	.350		2.5	1.5		4	
FILAMENT:							
Volts	5.0		1.25	5.0		5.0	
Amperes	10		13	6.5		11.5	
NET PRICE	$20.00		$12.00	$18.50		$30.00	

HEINTZ AND KAUFMAN LTD

NET

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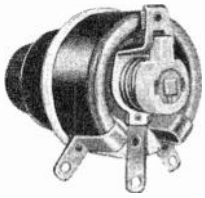
RING TYPE RHEOSTATS

WARD LEONARD



CONSTRUCTION—The core and base of these rheostats are of refractory material. The resistance wire is wound toroidally around the core and coated with vitreous enamel.

The contact arm construction separates the functions of current handling and contact pressure. The contact is a special alloy and of large area to avoid sticking, pitting, local heating, or oxidation when setting remains fixed for any length of time.

STEPS—There are as many steps of resistance as there are turns of wire in the winding. Three terminals provide rheostat or potentiometer connection.

WATT RATINGS—are based on continuous operation in free air with a temperature rise not exceeding 250° C which is within the limits specified by the Underwriters' Laboratories and NEMA.

DEPTH BACK OF PANEL—1105 1 3/16", 1106 1 5/16", 1107 1¾", and 1108 2".

1105 — 25 WATTS — 1½" Dia.

Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
1.0	5,000	45	1105- 2	$4.50
1.6	3,950	45	1105- 3	4.00
2.5	3,160	54	1105- 4	4.00
4.0	2,500	72	1105- 5	4.00
6.4	1,980	90	1105- 6	4.00
10.	1,580	90	1105- 7	4.00
16.	1,250	108	1105- 8	4.00
25.	1,000	103	1105- 9	4.00
40.	791	137	1105-10	4.00
64.	625	137	1105-11	4.00
100.	500	171	1105-12	4.00
160.	395	205	1105-13	4.00
250.	316	240	1105-14	4.00
400.	250	274	1105-15	4.00
640.	198	308	1105-16	4.00
1,000.	158	390	1105-17	4.50
1,600.	125	411	1105-18	4.50
2,500.	100	520	1105-19	4.50
4,000.	79	520	1105-20	4.75

1106 — 50 WATTS — 2¼" Dia.

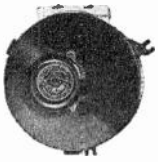
Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	8,850	30	1106- 1	$5.00
1.0	7,070	49	1106- 2	5.00
1.6	5,590	59	1106- 3	5.00
2.5	4,470	69	1106- 4	4.50
4.0	3,535	69	1106- 5	4.50
6.4	2,795	119	1106- 6	4.50
10.	2,235	150	1106- 7	4.50
16.	1,760	150	1106- 8	4.50
25.	1,415	188	1106- 9	4.50
40.	1,120	150	1106-10	4.50
64.	884	188	1106-11	4.50
100.	707	225	1106-12	4.50
160.	559	263	1106-13	4.50
250.	447	300	1106-14	4.50
400.	353	375	1106-15	4.50
640.	279	413	1106-16	4.75
1,000.	223	450	1106-17	4.75
1,600.	176	570	1106-18	4.75
2,500.	141	570	1106-19	4.75
4,000.	112	713	1106-20	5.00
6,400.	88	855	1106-21	5.00
10,000.	70	998	1106-22	5.00

1107 — 100 WATTS — 3" Dia.

Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	12,500	31	1107- 1	$7.50
1.0	10,000	41	1107- 2	7.50
1.6	7,900	41	1107- 3	7.50
2.5	6,320	52	1107- 4	7.50
4.0	5,000	62	1107- 5	7.00
6.4	3,950	72	1107- 6	7.00
10.	3,160	72	1107- 7	7.00
16.	2,500	156	1107- 8	7.00
25.	2,000	196	1107- 9	7.00
40.	1,580	235	1107-10	7.00
64.	1,250	274	1107-11	7.00
100.	1,000	274	1107-12	7.00
160.	790	313	1107-13	7.00
250.	632	313	1107-14	7.00
400.	500	392	1107-15	7.00
640.	395	392	1107-16	7.00
1,000.	316	470	1107-17	7.50
1,600.	250	595	1107-18	7.50
2,500.	200	744	1107-19	7.50
4,000.	158	744	1107-20	8.00
6,400.	125	1041	1107-21	8.50
10,000.	100	1041	1107-22	9.00

1108 — 150 WATTS — 4" Dia.

Total Resis. Ohms	Max. Current m. a.	Approx. No. Steps	Catalog No.	List Price
0.64	15,000	43	1108- 1	$9.50
1.0	12,250	43	1108- 2	9.50
1.6	9,680	54	1108- 3	9.50
2.5	7,750	54	1108- 4	9.50
4.0	6,120	54	1108- 5	9.50
6.4	4,840	54	1108- 6	9.00
10.	3,870	118	1108- 7	9.00
16.	3,060	118	1108- 8	9.00
25.	2,450	204	1108- 9	9.00
40.	1,935	245	1108-10	9.00
64.	1,530	286	1108-11	9.00
100.	1,225	367	1108-12	9.00
160.	968	326	1108-13	9.00
250.	775	408	1108-14	9.00
400.	612	408	1108-15	9.00
640.	484	489	1108-16	9.50
1,000.	387	620	1108-17	9.50
1,600.	306	620	1108-18	10.00
2,500.	245	775	1108-19	10.00
4,000.	193	930	1108-20	10.50
6,400.	153	1085	1108-21	11.00
10,000.	122	1240	1108-22	12.00



300 & 500 Watt Rheostats for Heavy Duty

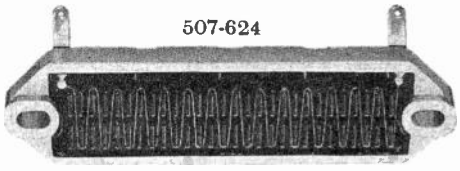
Watt Rating	Available Ohms	Steps	Diam.	List Price
300	1 to 2500	20	6"	$18.00
500	1 to 5000	33	8"	27.00

Pressed steel plate type. The watt rating, based on the minimum current being one-half the maximum current, is the product of the maximum current, minimum current and the total rheostat resistance.

PLAQUE RESISTORS

Non-Inductive — **Non-Capacitive**

507-624



	3⅛"x1¼" 20 Watt	4¾"x1¼" 40 Watt	5 13/16"x3" 125 Watt
Shipping weight	2 oz.	4 oz.	6 oz.
List Price Each	$1.50	$2.00	$3.00

Vitrohm Plaque Resistors are rated 20, 40, 100 watts with full ventilation. In practice it is difficult to achieve this ideal ventilation. However, a single resistor mounted on a panel should operate safely at approximately 80% of the full rating in watts.

These Vitrohm Plaque Resistors are flat in form. The resistance wire is so arranged as to give the lowest obtainable values of inductance and distributed capacitance for a power resistor. Both the inductance at frequencies up to 1000 kilocycles and the distributed capacity up to 5 megacycles are negligible.

Resis. Ohms	20 Watt Cat. No.	20 Watt Cur. m. a.	40 Watt Cat. No.	40 Watt Cur. m. a.	125 Watt Cat. No.	125 Watt Cur. m. a.
0.64	507-600	5,590	507-624	7,910	507-655	14,000
1.00	507-601	4,470	507-625	6,320	507-656	11,200
1.6	507-602	3,540	507-626	5,000	507-657	8,800
2.5	507-603	2,830	507-627	4,000	507-658	7,050
4.0	507-604	2,240	507-628	3,160	507-659	5,600
6.4	507-605	1,770	507-629	2,500	507-660	4,400
10	507-606	1,415	507-630	2,000	507-661	3,500
16	507-607	1,120	507-631	1,580	507-662	2,800
25	507-608	895	507-632	1,260	507-663	2,200
40	507-609	705	507-633	1,000	507-664	1,770
50	507-610	630	507-286	895	507-665	1,580
64	507-611	560	507-635	790	507-666	1,400
100	507-612	445	507-115	630	507-667	1,120
160	507-613	355	507-637	500	507-668	880
250	507-614	285	507-638	400	507-669	705
400	507-615	225	507-639	315	507-670	560
640	507-616	175	507-640	250	507-671	440
1,000	507-617	140	507-641	200	507-672	350
1,600	507-618	110	507-642	160	507-673	280
2,500	507-619	90	507-643	125	507-674	220
4,000	507-620	70	507-644	100	507-675	177
5,000	507-621	65	507-111	90	507-676	158
6,400	.....	....	507-646	80	507-677	140
10,000	.....	....	507-647	65	507-678	112

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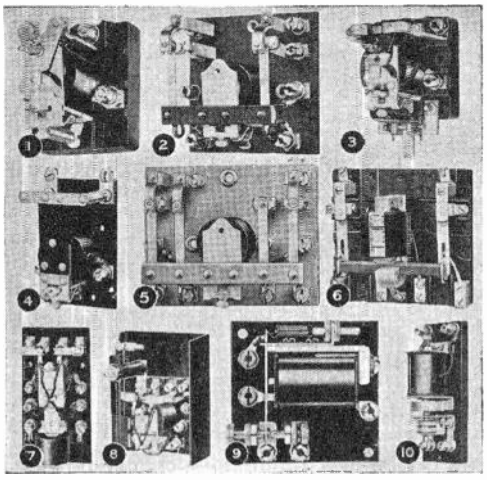
WARD LEONARD RELAYS FOR AUTOMATIC CONTROL



1. REMOTE CONTROL—Can be furnished for light or heavy duty.
2. R. F. ANTENNA CHANGE-OVER—Light Duty Type—For automatic switching from receiving to transmitting position.
3. OVERLOAD—Protects tube while tuning and if excitation fails.
4. KEYING—High voltage type. Bakelite insulation. Used with grid controlled rectifiers. For center-tap or grid bias keying see 1. for type of construction.
   BAND SWITCHING—For automatically changing of frequency. Uses same type construction as 4 but with micalex insulation.
5. BREAK-IN—Commonly called Push-to-talk. Handy on phone work. Midget type. See 6 for heavy duty type construction.
6. R. F. ANTENNA CHANGE-OVER—Heavy duty type.
7. LATCH-IN—Armature is held "in" by a mechanical latch which can be tripped electrically.
8. THERMAL TIME DELAY—Delays application of plate voltage until filament has reached operating temperature.
9. SENSITIVE—High degree of sensitivity. Operates on 0.014 watts D.C. Can be furnished for use on A.C.
10. UNDERLOAD—Protects class "B" modulator tubes and transformers.
    BAKELITE COVERS—Fits relays 507-503 to 507-511 inclusive and 507-518.

Description	Cat. No.	CONTACTS					List Price	COIL DATA				
		Poles	Throw	Break	Normal Position	Amps		Voltage A.C ▲	Voltage D.C.	Resist. Ohms	Current m. a.	Watts
Thermal Time Delay	507-501	Single	Double	Single	.....	4.	$15.00	110	...	....	....	....
Remote Control	507-503	Double	Single	Single	Open	4.	8.00	6	...	2.6	660.	3.0
Remote Control	507-504	Double	Single	Single	Open	4.	8.00	...	6	16.9	350.	2.1
Remote Control	507-505	Double	Double	Single	.....	4.	9.00	6	...	2.6	660.	3.0
Remote Control	507-506	Double	Double	Single	.....	4.	9.00	...	6	16.9	350.	2.1
Low Voltage Keying	507-507	Single	Single	Double	Open	6.	7.00	6	...	2.6	660.	3.0
Low Voltage Keying	507-508	Single	Single	Double	Open	6.	7.00	...	6	16.9	350.	2.1
Crystal Oven	507-509	Single	Single	Double	Open	6.	7.00	...	115	5200.	22.	2.5
Remote Control	507-510	Single	Single	Double	Open	6.	7.00	110	...	1050.	33.	2.5
Remote Control	507-511	Double	Double	Single	.....	4.	9.00	110	...	1050.	33.	2.5
Overload	507-512	Single	Single	Double	Closed	6.	8.50	...	4.2	16.9	250.	....
Overload	507-513	Single	Single	Double	Closed	6.	8.50	...	2.1	4.2	500.	....
Underload	507-514	Single	Single	Double	Open	4.	10.00	...	9	45.	200.	....
Underload	507-515	Single	Single	Double	Open	4.	10.00	...	6	20.	300.	....
High Voltage Keying	507-516	Single	Single	Double	Open	10.	7.50	...	6	6.6	910.	5.5
Midget Latch-In	507-517	Single	Double	Double	.....	6.	14.50	110	...	715.	40.	4.0
Heavy Duty Remote Control	507-518	Single	Single	Double	Open	10.	8.80	110	...	1050.	33.	2.5
Steel Knock-out Box	507-519	.....	.....	.....	.....	...	3.00	...	...	....	....	....
Bakelite Cover	507-520	.....	.....	.....	.....	...	.70	...	...	....	....	....
Heavy Duty — R. F. Antenna Change Over	507-521	Double	Double	Single	.....	15.	25.00	110	...	108.	119.	5.2
Heavy Duty — R. F. Antenna Change Over	507-522	Double	Double	Single	.....	15.	25.00	220	...	425.	76.	5.8
Heavy Duty — R. F. Antenna Change Over	507-523	Double	Double	Single	.....	15.	25.00	...	6	16.	375.	2.3
Heavy Duty—R. F. Break-In	507-526	Four●	.....	Single	.....	15.	27.50	110	...	108.	119.	5.2
Heavy Duty—R. F. Break-In	507-527	Four●	.....	Single	.....	15.	27.50	220	...	425.	76.	5.8
Heavy Duty—R. F. Break-In	507-528	Four●	.....	Single	.....	15.	27.50	...	6	16.	375.	2.3
Midget—R. F. Antenna Change Over	507-531	Double■	Double	Single	.....	4.	10.00	110	...	715.	40.	4.0
Midget—R. F. Antenna Change Over	507-532	Double■	Double	Single	.....	4.	10.00	...	6	10.	600.	3.6
Band Switching	507-533	Single	Single	Double	Open	10.	8.50	110	...	715.	40.	4.0
Midget—R. F. Break-In	507-534	Four♦	.....	Single	.....	4.	12.50	110	...	715.	40.	4.0
Midget—R. F. Break-In	507-535	Four♦	.....	Single	.....	4.	12.50	...	6	10.	600.	3.6
D. C. Sensitive	507-536	Single	Double	Single	.....	2.	12.00	...	0.05	0.19	270.	0.014
D. C. Sensitive	507-537	Single	Double	Single	.....	2.	12.00	...	0.08	0.52	162.	0.014
D. C. Sensitive	507-538	Single	Double	Single	.....	2.	12.00	...	0.013	1.25	105.	0.014
D. C. Sensitive	507-539	Single	Double	Single	.....	2.	12.50	...	0.51	19.2	26.7	0.014
D. C. Sensitive	507-540	Single	Double	Single	.....	2.	12.50	...	1.28	120.	10.7	0.014
D. C. Sensitive	507-541	Single	Double	Single	.....	2.	13.00	...	3.24	765.	4.23	0.014
D. C. Sensitive	507-542	Single	Double	Single	.....	2.	13.00	...	5.17	1950.	2.65	0.014
D. C. Sensitive	507-543	Single	Double	Single	.....	2.	13.50	...	8.07	4750.	1.70	0.014
D. C. Sensitive	507-544	Single	Double	Single	.....	2.	14.00	...	12.40	11300.	1.10	0.014
D. C. Sensitive	507-545	Single	Double	Single	.....	2.	18.00	...	20.20	31000.	0.65	0.014

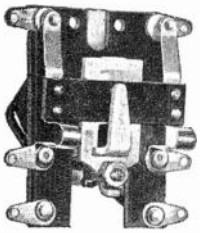
▲ 60 Cycles A. C.
● With D. P., D. T., S. B. contacts insulated for R. F. and two contacts with standard insulation, one N. O., one N. C.
■ Can also be furnished with additional N. O. or N. C. contact not insulated for R. F. Price on application.
♦ With one N. O., one N. C., and two D. T. contacts, all S. B. and insulated for R. F.

World Radio History

DUNCO RELAYS FOR AMATEUR USE

"Dunco Means Dependability"

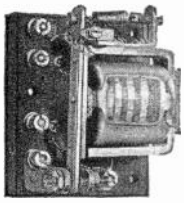
DUNCO RADIO RELAY



These relays have two isolated contacts for operation in low or high voltage circuits at any frequency. For the first time in an inexpensive relay, the two poles are sufficiently spaced and shielded from each other so that the amplifier input may be handled by one pole and the output from the same amplifier may be handled by the other pole without feed back. Similarly 60-cycle power currents may be handled by one pole and voice frequencies by the other without the introduction of hum. Outstanding features include: low contact resistance; single break contacts are used instead of double break to further reduce resistance; extremely fast operation suitable for bug keying; high voltage and current carrying and breaking capacity; resistance to vibration, making the relay suitable for use on autos, trains, planes, elevators, boats, etc.

Type	Operates on	Net Price
RA-1	2.5 volts, 60 cycles, A.C.	$2.00
RA-2	2.5 volts, 25 cycles, A.C.	2.00
RA-3	6.3 volts, 60 cycles, A.C.	2.00
RA-15	115 volts, 60 cycles, A.C.	3.50
RD-1	5 to 6 volts, D.C.	2.00
RD-15	10 to 12 volts, D.C.	3.00

DUNCO VACUUM TUBE RELAY

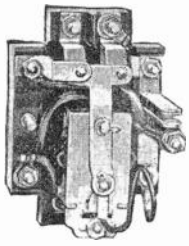


Relay type CXB51 is an ultra sensitive unit designed for direct current in the coil circuit and either direct or alternating current in the contact circuit. It has single pole, double throw contacts, making one circuit when the coil is energized and another circuit when the coil is de-energized. The coil has a resistance of 10,000 ohms and it will safely carry currents up to 18 milliamperes. Adjustments are provided that will cause the relay to operate on any desired current value down to one milliampere. This unit is particularly adapted to operation in the plate circuit of small vacuum tubes. Contacts are rated 2 amperes at 110 volts, A.C.

Size: 2⅞" High x 2¼" Wide x 2" Deep
Dunco Relay, Type CXB51

Net Price **$5.50**

DUNCO TIME DELAY RELAY

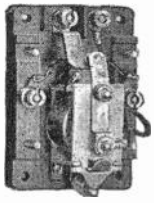


This time delay relay is provided with a snap-on housing and with panel mounting studs for back of panel connections. The input terminals should be connected across the primary of the filament transformer, and the output terminals to the primary of the plate transformer. Power will then be delivered to the plate transformer 30 seconds after the filaments are turned on, greatly increasing the life of tubes, particularly of the hot cathode mercury vapor type. This unit is suitable for use with plate transformers up to 500 watts capacity if the rectifier feeds directly into a condenser or up to 1,000 watts if a choke precedes the first condensers in the filter system.

Size: 3" High x 2⅛" Wide x 2-5/16" Deep
Including Cover
Dunco Relay, Type TD-327

Net Price **$8.80**

DUNCO MIDGET KEYING RELAY

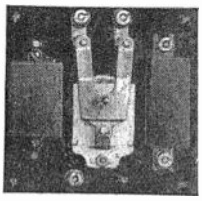


This midget keying relay is suitable for speeds up to 40 words per minute. Contacts are large fine silver buttons assuring long life and may be easily replaced. Coil consumes only 50 milliamperes at 110 volts, 60 cycles, while contacts will interrupt currents of 6 amperes at 110 volts, A.C. The unit is designed for mounting on vertical panel and is recommended for loads up to 660 watts. The contacts are single pole, and close when the coil is energized.

Size: 2¾" High x 1⅞" Wide x 1¾" Deep
Dunco Relay, Type ASBX1

Net Price **$3.85**

DUNCO TEMPERATURE CONTROL RELAY

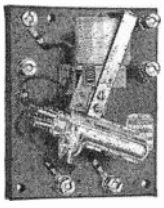


Dunco relay type CS-1022 has been developed for use in conjunction with mercury thermoregulators for accurate temperature control work. For operation on 110 volts, 60 cycles, it will properly control heater units up to 3,300 watts. The resonant circuit employed makes the relay extremely sensitive and resistors are used to limit the current in the thermoregulator to a safe value of about 12 milliamperes and to reduce arcing at the thermoregulator contacts. Relay is designed for vertical mounting.

Size: 5" High x 5" Wide x 3" Deep
Dunco Relay, Type CS-1022

Net Price **$11.00**

DUNCO REMOTE CONTROL RELAY



This power type relay handles loads up to 20 amperes at 220 volts, or 25 amperes at 110 volts. It is of particular service in remotely controlled transmitters, receivers, motors, or other loads of any nature within its rating. Provisions are made so that the mercury contact will make when the coil is energized and break when the coil is de-energized or vice versa. An outstanding feature is that it is completely silent in operation—no humming or chatter occurs when the coil is energized. Another outstanding feature is that due to mercury to mercury contacts there is no sticking or burning of contacts. Sturdy Pyrex enclosed contacts are employed. Standard coils are for operation on 110 volts, 60 cycles, but other coils are available. This unit is designed for vertical panel mounting.

Size: 5" High x 4" Wide x 2⅝" Deep
Dunco Relay, Type CXH-1027 Single Pole

Net Price **$11.00**

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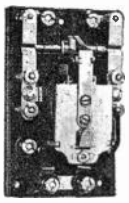
World Radio History

STANDARD DUNCO RELAYS

DUNCO RATCHET RELAY



Energizing the coil of this relay moves a pawl, engaging a rachet which moves cams to open or close the contacts. The contacts remain in the same position until the coil is de-energized and again energized. By factory adjustment of the cams the relay may be made single pole, double break; double pole, single break; or single pole, double throw, single break.

This relay may be used for applications where a number of operations must be performed in a given sequence.

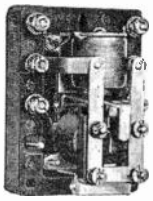
Contacts are rated 20 amperes at 110 volts, A.C., non-inductive or ¼ h.p.

Size: 5" High x 3" Wide x 2¾" Deep

Dunco Relay, Type CX-464

Net Price **$16.50**

DUNCO MECHANICAL LATCH RELAY



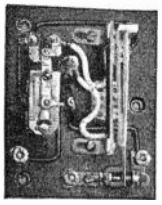
This relay is furnished with two coils. Energizing one coil picks up the armature which latches closed. Energizing the other coil picks up the latch and allows the armature to drop out. This relay may be used with normally open push buttons, thermostats, etc. for the remote control of transmitters, receivers, motors or other loads within its rating of 30 amperes at 110 volts, A.C. Standard coils are for operation on 110 volts, 60 cycles but other coils are available. Designed for vertical panel mounting.

Size: 4½" High x 3¼" Wide x 2¾" Deep

Dunco Relay, Type ABUY5N

Net Price **$8.80**

DUNCO TIME DELAY RELAY



This time delay relay is of the immediate recycling type and is compensated for changes in ambient temperature. The recycling feature is obtained by making use of both the heating and cooling times to make up the total time delay.

The timing is adjustable from 30 to 45 seconds (total).

Coil 110 Volts, 60 Cycles

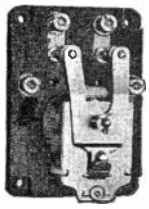
Contacts 110 volts, A.C., 6 Amperes

Size: 5" High x 4" Wide x 1¾" Deep.

Dunco Relay, Type TD-97

Net Price **$12.38**

DUNCO POWER RELAYS



These relays are rated 30 amperes at 110 volts, A.C., or 4 amperes at 115 volts, D.C. (double break types are rated 6 amperes, D.C.) on non-inductive loads. Specify coil voltage and frequency when ordering:

Type	Contact Arrangement	Size	Net Price
ABYT8	SP DB front contact	4¼x3x2⅞	$6.60
ADBT8	DP SB front contact	4¼x3x2⅞	8.80
BBUK8	SP DB back contact	5 x3x3	8.80
BDBK8	DP SB back contact	5 x3x3	11.00
CBBP8	SP DB double throw	6¼x3x3	12.10
CDBP8	DP SB double throw	6¼x3x3	13.20

These relays may be furnished with any desired number of poles.

OTHER DUNCO MIDGET RELAYS

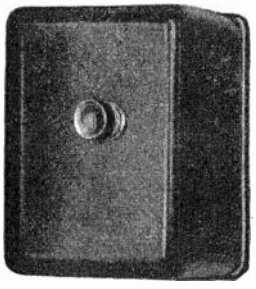
Contacts rated 6 amperes at 110 volts, A.C., 1 ampere at 115 volts, D.C. on non-inductive loads.

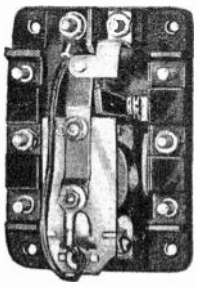
Coils up to 50 Volts D.C. or 135 Volts, 60 Cycles

Size: 2¾" High x 1⅞" Wide x 1⅞" Deep

Type	Contact Arrangement	Net Price
ABTX1	SP DB front contact	$3.85
ABTX1P	SP DB front contact with pigtail	4.40
ADBX1	DP SB front contact	4.95
BSBX1	SP SB back contact	3.85
CSBX1	SP SB double throw	4.68
CDBX1	DP SB double throw	6.60

DUNCO OVERLOAD RELAY





This overload relay is designed to pick up and open its contacts when the current in the coil is 5 amperes or more. When the armature picks up, the latch holds the contacts open, breaking the coil circuit. It is then necessary to trip the latch manually to reclose the contacts.

This relay may be used in any circuit where it is desirable to protect against overcurrent of 5 amperes. It is arranged for switchboard mounting with bakelite cover, mechanical latch, manual reset with the reset button extending through the cover.

Other coils are available. Specify current and frequency.

Size: 3" High x 2⅛" Wide x 2-5/16" Deep

Dunco Relay, Type CXE-1846

Net Price **$7.25**

NET

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World Radio History

EITEL-McCULLOUGH
Inc., San Bruno, Calif.

Eimac TUBES

SOLD BY DEALERS
EVERYWHERE

A NEW CONCEPTION OF VACUUM TUBE CONSTRUCTION

Long filament life, uniformity of characteristics, outstanding performance and complete freedom from failure caused by gas. These, and other features of Eimac tubes, have been the result of patient research, study and extensive experimentation. Old theories have been discarded and an entirely new conception of vacuum tube construction discovered. Fundamentally, Eimac tubes are far in advance of the industry. New design principles and construction methods give them a marked degree of superiority over conventional tube types.

First, Eimac engineers disproved the popular fallacy that high anode temperatures destroy emission. These high temperatures, or overloads, merely release gas from certain types of tube elements. This gas, not heat, is the cause for emission failure. Conventional anode materials and ceramics, as used for internal insulators, are the main sources of this poison gas. Eimac's recognition of this fact blasted many old theories and led the way for an advanced technique of vacuum tube construction. Processes and materials are used which enable Eimac to develop a real vacuum without the use of a chemical agent or "getter." The radical design of Eimac tubes practically eliminates interelectrode capacities.

Both plates and grids are fabricated from completely de-gassed tantalum and mounted into clear glass envelopes without the use of internal insulators. Tantalum is the best suited material to vacuum tube construction because it has the smallest original gas content of any known metal. (1/10 that of Molybdenum and only 1/1000 that of carbon such as commonly used for anodes). This relatively small gas content is entirely removed by an exclusive Eimac process (pat. applied for). Anodes are suspended from the top of the bulb and grids are permanently secured without the use of extra supporting bars. This greatly increases the effective area of the plate and reduces the amount of grid current necessary for top performance.

Certain negative conditions which existed in the old type filament, such as; low ratio of usable to peak plate current, "cranky" filament voltage, tubes going flat for no apparent reason; are practically eliminated with the new Eimac thoriated filament. Specifically this new filament operates at a lower temperature and all forms of "cheating" such as under processing are not attempted. This results in the highest possible thermionic efficiencies plus longer filament life and uniformity. A special support makes displacement impossible, hence characteristics are never altered.

Eimac tubes are conservatively rated as to plate dissipation and are unconditionally guaranteed against failure caused by gas released internally. Momentary overloads of as much as 400% to 600% which is sufficient to cause the anode to become incandescent will positively not release gas.

Spotlessly clean glass bulbs and metal parts, perfect alignment of the elements and uniformity of electrical characteristics attest the skill of the artisans who fabricate Eimac tubes. We welcome your correspondence.

35T

Despite its small physical size this tube has tremendous power capabilities. Excellent electrical characteristics and extremely low interelectrode capacities make it one of the most versatile triodes available today. As a crystal oscillator, frequency multiplier, ultra high frequency oscillator or amplifier, class "C" radio frequency or class "B" audio amplifier no tube can approach it for efficiency and dependability.

CHARACTERISTICS

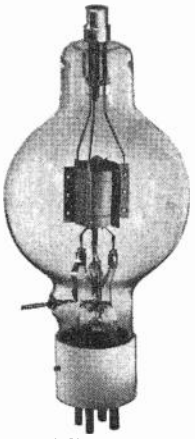
Filament voltage	5 to 5.1 volts
Filament current (approx.)	4 amperes
Amplification factor	30
Base	Standard UX 4 prong
Overall height	5½ inches
Grid plate capacity	1.9 mmfds.
Maximum diameter	1¾ inches
Maximum plate current	150 milliamperes
Maximum plate dissipation	70 watts
Normal plate dissipation	35 watts
Maximum plate voltage	2000

Write for More Complete Data Sheet Covering the Applications Of This Tube

NET PRICE $6.00

100T

100T tubes are available in two ratings. One designated as 100TH and the other designated as 100TL. Look for the identifying mark (HI for the TH tube and LO for the TL tube) on the filament stem of the tube.



CHARACTERISTICS 100TH

Filament voltage	5 to 5.1 volts
Filament current	6.5 amperes
Amplification Factor	30
Grid-plate capacity	2 mmfds.
Grid-filament capacity	2.2 mmfds.
Plate-filament capacity	3 mmfds.
Bulb	GT25 Nonex
Base	Isolantite UX 4 prong
Overall height	7.5 inches
Maximum diameter	3.125 inches
Maximum plate voltage	3000
Maximum plate current	225 milliamperes
Maximum grid current	50 milliamperes
Plate dissipation (normal)	100 watts

CHARACTERISTICS 100TL

Amplification factor	12
Grid-plate capacity	2.3 mmfds.
Grid filament capacity	2 mmfds.
Plate-filament capacity (Otherwise as above)	4 mmfds.
Maximum grid current	35 milliamperes

Write for More Complete Data Sheet Covering the Applications Of This Tube

NET PRICE $13.50

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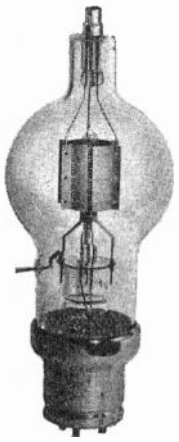
NET

World Radio History



250T

250T tubes are available in two ratings. One designated as 250TH and the other designated as 250 TL. Look for the identifying mark (HI for the TH tube and LO for the TL tube) on the filament stem of the tube.

CHARACTERISTICS 250TH

Filament voltage .....5 to 5.1
Filament current .....10.5 amperes
Amplification factor (average) 32
Grid-plate capacity .....3.3 mmfds.
Grid-filament capacity ....3.5 mmfds.
Plate-filament capacity .. .3 mmfds.
Bulb .....GT30 Nonex
Base .....Standard "50 watt"
Overall height .....9.75 inches
Maximum diameter .....3.75 inches
Maximum plate voltage....3000
Maximum plate current.. 350 milliamperes
Maximum grid current....100 milliamperes
Plate dissipation (normal) ..... 250 Watts

CHARACTERISTICS 250TL

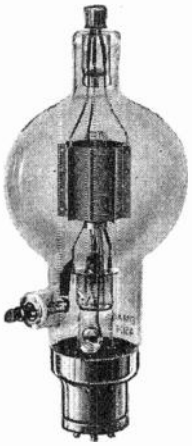
(Otherwise as above)

Amplification factor (average) 13
Grid-plate capacity .....3.5 mmfds.
Grid-filament capacity .....3.0 mmfds.
Plate-filament capacity .....5 mmfds.
Maximum grid current .....50 milliamperes

NET PRICE $24.50

450T

450T tubes are available in two ratings. One designated as 450TH and one designated as 450TL. Look for the identifying mark (HI for the TH tube and LO for the TL tube) on the filament stem of the tube.



CHARACTERISTICS 450TH

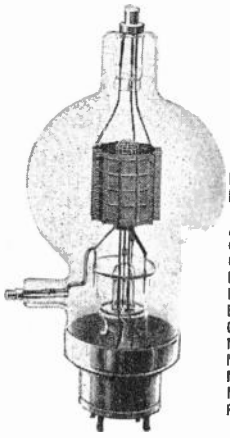
Filament voltage .....7.5 to 7.7 volts
Filament current (approx.) .....12 amperes
Amplification factor 30
Grid-plate capacity .....4 mmfds.
Grid-filament capacity ....4 mmfds.
Plate-filament capacity ..6 mmfds.
Bulb .....GT40 Nonex
Base .....Standard "50 watt"
Overall height .....12½ inches
Maximum diameter .....5 inches
Maximum plate voltage..6000 volts
Maximum plate current..500 milliamperes
Maximum grid current ..125 milliamperes
Continuous plate dissipation .....450 Watts

CHARACTERISTICS 450TL

(Otherwise as above)

Amplification factor 16
Maximum grid current .....75 milliamperes

NET PRICE $75.00



750T

750T tubes are available in two ratings. One designated as 750TH and the other designated as 750TL. Look for the identifying mark (HI for the TH tube and LO for the TL tube) on the filament stem of the tube.

CHARACTERISTICS 750TH

Filament voltage, AC .....7.5 to 7.7 volts
Filament current (approx.) ..... 21 amperes
Amplification Factor 30
Grid-plate capacity .....4.5 mmfds.
Grid-filament capacity ....6.0 mmfds.
Plate-filament capacity .. .8 mmfds.
Bulb .....GT56 Nonex
Base .....Special
Overall height .....16½ inches
Maximum diameter ..... 7 inches
Maximum plate voltage..6000 volts
Maximum grid current...175 milliamperes
Maximum plate current..1000 milliamperes
Plate dissipation (normal) .....750 Watts

CHARACTERISTICS 750TL (Otherwise as above)

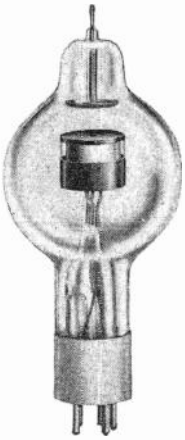
Amplification factor 13.5
Maximum grid current.....125 milliamperes

NET PRICE $175.00

Air Cooled

1000UHF

Designed for high power outputs on frequencies as high as 150 megacycles. This tube operates with forced air draft against the glass bulb, cooling both plate and grid stems. Plate dissipation under this forced cooling is 1000 watts. The tube is physically small in size in order to minimize lead inductance. Prices and full information will be sent on request.



KY21

GRID CONTROLLED (Mercury vapor) RECTIFIER

A mercury vapor rectifier to which has been added, a control electrode, or grid. This control electrode prevents the passage of current through the tube until the negative potential on the grid reaches a certain minimum critical value.

KY21 is used both as a rectifier and as a power control tube. 5 kilowatts of power (3500 volts at 1.5 amperes) may be controlled at the highest possible speeds found in manually keyed transmitters. Very small control power is necessary and can be supplied by means of DC or tone. Properly handled, KY21 tubes will effectively eliminate "key clicks," permitting high power operation in congested areas.

CHARACTERISTICS

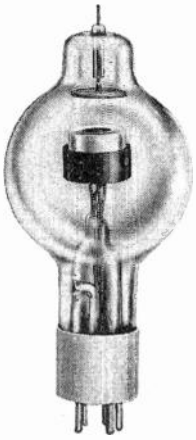
Filament voltage .....2.5 volts
Filament current .....10 amperes
Peak inverse voltage.....11,000 volts
Peak plate current.....3 amperes

NET PRICE $10.00

RX21

RECTIFIER (Mercury vapor)

A mercury vapor rectifier tube having ratings and capabilities that place it in a field that was heretofore covered only by far more expensive tubes. The use of tantalum plate, high vacuum and the unique construction give this tube unusually high inverse voltage capabilities. RX21 is a rectifier for the man who demands the very finest equipment obtainable; yet in cost it is well below the average for tubes of the same ratings.



CHARACTERISTICS

Filament voltage .....2.5 volts
Filament current .....10 amperes
Peak inverse voltage.....11,000 volts
Peak plate current .....3 amperes

NET PRICE $7.50

Write for More Complete Data Sheet Covering the Application of These Tubes

EITEL - McCULLOUGH, INC., SAN BRUNO, CAL.

NET

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World Radio History

HOWARD COMMUNICATION RECEIVERS

MODEL 430
6 TUBES
4 BANDS

Ceramic Coils . . . Separate Band Spread Condenser . . . Excellent 10 meter performance . . . Iron Core I.F. Transformers . . .

● An excellent communication receiver design where price is a serious consideration. In working out this design Howard engineers talked to hundreds of amateurs to be sure to retain those features most desired. Because Howard manufacture more of their own parts than any other manufacturer of this kind of equipment, the resulting economies in price should not be confused with cheapening performance. Look over the features listed, make comparisons and you will be convinced — Howard offers more value.

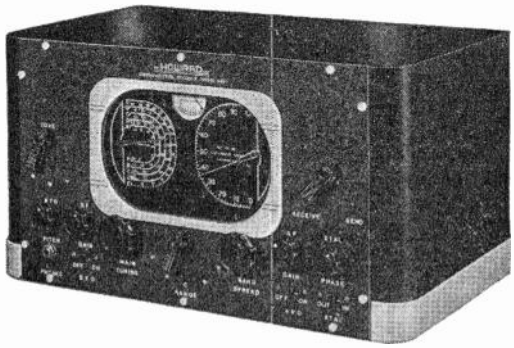
Features: Frequency Coverage—Four Bands: (a) .54 to 1.7 MC, (b) 1.7 to 5.5 MC, (c) 5.5 to 18 MC, (d) 16 to 40 MC. . . . Six Tubes: 6J8G—Oscillator Mixer; 6K7—I.F. Amplifier; 6Q7—Second Detector 1st A.F. Amp.; 41—Output; 80—Rectifier; 6J7—Beat Frequency Oscillator. . . . Horizontal dial having the four main scale calibrations, band spread logging scale, band spread indicator on one end with band-in-use indicator on other end. . . . Excellent sensitivity and selectivity. . . . IRON CORE I.F. transformers. . . . CERAMIC coil forms. . . . Beat frequency oscillator with pitch control. . . . Built-in electro dynamic speaker with external terminals for connecting Howard P.M. Communication type speaker. . . . Headphone Jack. . . . Doublet antennae connections. . . . 2 Watts Power Output. . . . Housed in drawn, welded copper-plated steel cabinet finished in telephone black trimmed in satin silver. . . . CONTROLS: (a) Main Tuning, (b) Band Spread, (c) Audio Level, (d) Band Change, (e) Beat Frequency Oscillator (Pitch Control), (f) B.F.O. On-Off Switch, (g) AVC On-Off Switch, (h) Send-Receive Switch, (i) Power On-Off Switch.

PRICES: Model 430, including tubes with built-in speaker . . . . . $29.95 Net
(Prices slightly higher west of Rockies)

Available for long wave operation, 25 cycle current, or special line voltages.

HOWARD
MODEL 440
9 TUBES
5 BANDS

Ceramic coil forms . . . Ceramic insulated S.L.F. Tuning Condensers . . . Iron Core I.F. Transformers



● A brand new Howard design covering .54 MC to 40 MC (7.5 to 555 meters) in 5 bands. For those advanced amateurs and professionals who want the very best up-to-the-minute design in this range, Model 440 is the outstanding buy. Same high performance hairline selectivity circuit as used in the famous Howard Model 450-A. The fully illuminated edge-lighted dial is calibrated for band spread and STRAIGHT LINE FREQUENCY calibrations for main tuning circuits. The dial also has a finely calibrated band spread RE-SET on LOGGING SCALE. This model is sure to be one of the most talked about designs this year and it's at a price most amateurs can afford.

Features: Frequency Coverage—Five Bands: (a) .54 to 1.2 MC, (b) 1.2 to 2.8 MC, (c) 2.8 to 6.8 MC, (d) 6.5 to 16 MC, (e) 16 to 40 MC. . . . Nine Tubes: 6K7—Signal freq. Amplifier; 6J8G—Oscillator Mixer; 6K7—First I.F. Amplifier; 6K7—Second I.F. Amplifier; 6Q7—2nd Detector—1st AF Amp.; 6V6G—Output; 6J7G—Beat Frequency Oscillator; 6J7G—R Meter Amplifier; 80—Rectifier. . . . Electrical Band Spread. . . . 2 three-gang S.L.F. (STRAIGHT LINE FREQUENCY) CERAMIC insulated tuning condensers. . . . Coils wound on special low loss CERAMIC FORMS. . . . R.F. Coil System coaxially mounted with band switch—all unused coil circuits, including primaries, shorted when not in use. . . . R.F. Stage on all bands. . . . All R.F. circuits are trimmed by AIR TUNED condensers and CERAMIC adjustables are used in oscillator series circuits. . . . Calibrated, tube controlled R meter with zero adjustment. . . . Iron Core I.F. transformers. . . . Stabilized power supply system. . . . Heavy copper-plated chassis. . . . Headphone Jack. . . . Fully illuminated edge-lighted dial calibrated for band spread and STRAIGHT LINE FREQUENCY calibrations for main tuning circuits. The dial also has a finely calibrated band spread RE-SET or LOGGING scale. . . . Beat frequency oscillator having pitch control and extremely stable operation. . . . Equipped with crystal phase control and iron core crystal filter transformer. . . . CONTROLS—(Front of Panel): (a) Main Tuning, (b) Band Spread, (c) Band Range, (d) R.F. Gain (Sensitivity), (e) A.F. Gain (Audio Level), (f) B.F.O. Pitch, (g) Xtal Phase, (h) Xtal In-Out Switch, (i) AVC On-Off, (j) Send-Receive Switch, (k) B.F.O. On-Off, (l) Tone Control. . . . Beautiful cabinet finished in telephone black, trimmed in satin silver. . . . 4½ Watts Beam Power Output.

PRICES: Model 440, including tubes, less speaker, less crystal . . . . . $66.50, net
Model 440, speaker only 7.95
Model 440, equipped with tubes, crystal filter and speaker . . . . 84.45, net
Prices slightly higher west of Rockies

Available for long wave operation, 25 cycle, or special line voltages.

AMERICA'S OLDEST RADIO MANUFACTURER

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Net

World Radio History

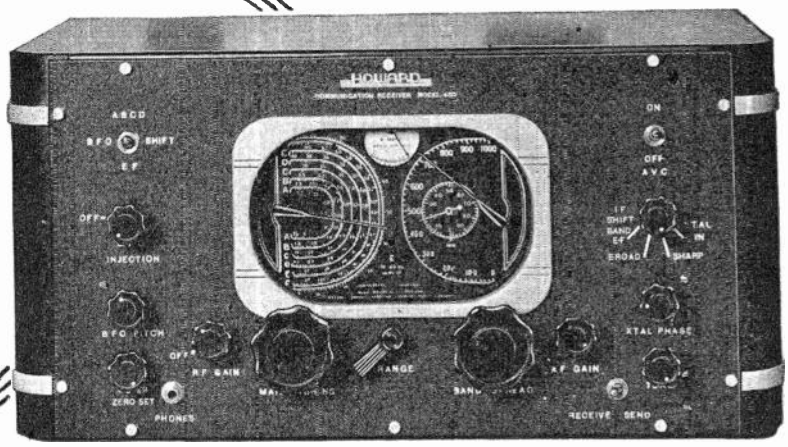
HOWARD COMMUNICATION RECEIVERS

New

MODEL 450-A
12 TUBES
6 BANDS

New Micrometer 47 inches of Band-Spread . . . Ceramic Coil Forms . . . Ceramic S.L.F. Tuning Condensers . . . Dual I.F. Channels . . .

BUILT with *Traditional* HOWARD QUALITY



● New improvements added to the famous Howard Model 450 which was so successful last season, give increased accuracy of logging and improved band-spread. In fact, the ceramic S.L.F. tuning condensers makes possible an absolute logging of stations. Dual I.F. channels permit selection of either 465 K.C. transformers or 1560 K.C. assemblies thus enabling utmost performance with maximum image rejection.

Features: Frequency Coverage 65 MC to 540 KC in Six Bands: (a) .55 to 1.2 MC, (b) 1.2 to 2.8 MC, (c) 2.8 to 6.5 MC, (d) 6.5 to 16 MC, (e) 16 to 40 MC, (f) 32 to 65 MC. . . . Twelve Tubes, eight metal, four glass: 6K7—Signal. freq. Amplifier; 6L7—First Detector (Mixer); 6J5-G—Oscillator; 6K7—I.F. Amplifier; 6K7—I.F. Amplifier; 6Q7G—Second Detector—1st AF Amp.; 6J5G—Phase Inverter: 6V6G—Push-pull Output; 6V6G—Push-pull Output; 80—Rectifier; 6J7G—R Meter Voltage Amplifier; 6J7G—Beat Frequency Oscillator. . . . Electrical Band Spread. . . . Illuminated Dual-Dial accurately calibrated, with new S.L.F. calibrations. . . . Band Spread RE-SET or LOGGING scale finely divided for accurate repeat readings. . . . CERAMIC coil forms of special Howard design. . . . 2 three-gang S.L.F. STRAIGHT LINE FREQUENCY CERAMIC insulated tuning condensers. . . . MICROMETER BAND SPREAD. Band Spread scale has a total length of 47 inches divided in 1,000 divisions. . . . B.F.O. Shift Switch providing beat oscillator on each of the I.F. circuits (1560 KC and 465 KC). . . . Flywheel tuning on both tuning controls. . . . Calibrated R Meter. . . . Band-In-Use Indicator. . . . R.F. Stage on all bands except five-meter band. . . . R.F. Coil system coaxially designed with band switch, eliminating coil secondary leads. . . . AIR-TUNED R.F. and oscillator circuits. . . . Iron Core I.F. Coils. . . . Dual channel, variable selectivity I.F. circuits, providing crystal switching, 1560 KC I.F. for the five-to-ten-meter bands, broad and sharp for other bands all accomplished with one control knob. . . . High Gain antenna coils. . . . High translation mixer circuit. . . . Push-pull Beam Power Output, 9½ Watts. . . . B.F.O. with amplitude and pitch controls. . . . Output terminals for 5 and 500 ohms. . . . Headphone Jack. . . . Terminals for standard and doublet aerials. Separate five-meter antenna connection. . . . Relay connection for break-in work. . . . Send-Receive switch. . . . Full floating tuning condensers. . . . Stabilized Power Supply. . . . Heavy copper-plated chassis. . . . CONTROLS: (a) Main Tuning, (b) Band Spread, (c) Band Change (Range). The position of this control is indicated in dial, (d) A.F. Gain or Audio Level, (e) R.F. Gain or sensitivity and power on and off, (f) Tone. This control serves very effectively in noise suppression by cutting off the upper audio frequency register. (g) Crystal Phase, (h) Selectivity and I.F. Shift, (i) Automatic Volume Control On and Off, (j) Send-Receive, with terminals on rear of chassis for break-in connection, (k) R Meter Zero Adjustment, (l) Beat Frequency Oscillator Pitch Control, (m) Beat Frequency Oscillator On and Off combined, with injection voltage control, (n) Beat Oscillator Shift. To select Beat Oscillator to match I.F. in use. (465 KC or 1560 KC)., (o) Headphone Jack on front of panel. . . . Modern cabinet design, finished in brushed silver and telephone black. . . . Speaker in cabinet to match design of receiver.

NET

PRICES: Model 450-A, including tubes, less speaker, less crystal. . . . $87.50

Model 450-A, speaker only. . . . 7.95

Model 450-A, equipped with tubes, crystal filter and speaker. 105.45

Prices slightly higher west of Rockies

Available for long wave operation, 25 cycle, or special line voltages

AMERICA'S OLDEST RADIO MANUFACTURER

Net

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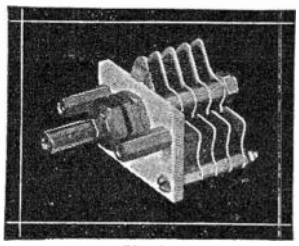
World Radio History

CARDWELL © Quality

"TRIM-AIR" MIDGET CONDENSERS



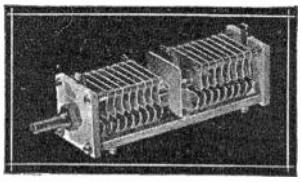
ZT-15-AS

Complete line of single units with New Dual Trim-Air series to match. Universally used for high frequency portable equipment, exciter units and low power transmitters. Detachable shafts on singles leaves screw driver slot and lock provides permanent adjustment for fixed tune. Singles require 1 5/16" x 1 13/32" panel mount space and duals 1 45/64" x 1 13/32" condenser open. All Duals double bearing, shaft extended at rear for coupling and have removable intersection shield except "ganged neutralizer" types. All Trim-Airs have Isolantite insulation, 1/4" nickel plated brass shaft; aluminum plates. All Trim-Air Accessories fit both single and dual units.

★ SINGLE "TRIM-AIRS"

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
ZU-75-AS	75	2.7	15	.020"	1 5/16"	$1.70	$1.02
ZU-100AS	100	3	19	.020"	1 7/16"	1.75	1.05
ZU-140-AS*	140	5	27	.020"	1 7/8"	3.15	1.89
ZR-10-AS	10	1.2	3	.030"	15/16"	1.25	.75
ZR-15-AS	15	1.5	5	.030"	15/16"	1.25	.75
ZR-25-AS	25	2	7	.030"	1"	1.40	.84
ZR-35-AS	35	2.5	11	.030"	1 5/16"	1.50	.90
ZR-50-AS	50	2.8	13	.030"	1 5/16"	1.60	.96
ZV-5-TS†	5	1.8	3	.061"	15/16"	1.25	.75
ZT-15-AS	15	3	9	.070"	1 7/16"	1.55	.93
ZT-30-AS	30	4	17	.070"	2 1/8"	1.85	1.11
ZS-4-SS	4	1.5	5	.140"	1 5/16"	1.85	1.11

* Double bearing; two end plates.
† Supplied with 2 segment stator for 5 meter circuits. Extra plate also supplied; easily installed; makes it 3 plates as listed.



ET-30-AD

★ DUAL "TRIM-AIRS"

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
EU-75-AD	75	2.7	15	.020"	3 5/8"	$3.30	$1.98
EU-100-AD	100	3	19	.020"	3 5/8"	3.40	2.04
EU-140-AD	140	5	27	.020"	4 9/32"	6.00	3.60
ER-10-AD	10	1.2	3	.030"	2 25/32"	2.60	1.56
ER-15-AD	15	1.5	5	.030"	2 25/32"	2.60	1.56
ER-25-AD	25	2	7	.030"	2 25/32"	2.70	1.62
ER-35-AD	35	2.5	11	.030"	3 5/8	2.90	1.74
ER-50-AD	50	2.8	13	.030"	3 5/8"	3.10	1.86
ET-15-AD	15	3	9	.070"	3 5/8"	3.00	1.80
ET-30-AD	30	4	17	.070"	5 3/32"	3.60	2.16
ET-30-ADI	With insulated coupling				5 21/32"	4.10	2.46
ES-4-SD	4	1.5	5	.140"	3 5/8"	3.60	2.16
ES-4-SDI	With insulated coupling				4 3/16"	4.10	2.46

CARDWELL TRIM-AIR CONDENSER ACCESSORIES may be purchased separately as follows:

MOUNTING BRACKET, with two screws and nuts 10c list
Dealers' Price 6c

MOUNTING POSTS, (one pair required per condenser) with screws and locking washers—per pair 13c list
Dealers' Price 8c

EXTRA EXTENSION SHAFTS with setting nut 07c list
Dealers' Price 4c

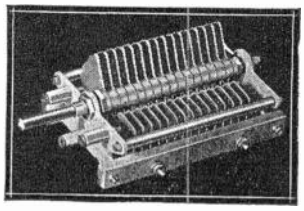
MIDWAY FEATHERWEIGHT CONDENSERS

For low and medium power transmitters and receivers, where light weight and small space are factors. Ideal for portable and aircraft equipment. Panel mounting space only 2 1/8" x 3" condenser open. 1/4" steel shaft; aluminum frame; brass bearings; plates buffed, rounded on all airgaps .070" or over. Supplied with aluminum mounting feet. G. E. Mycalex insulation.

★ SINGLE RECEIVING MIDWAYS

ALSO FOR LOW POWER TRANSMITTERS

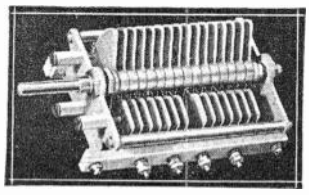
Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
MR-25-BS	25	5	3	.030"	2 17/32"	$2.70	$1.62
MR-50-BS	50	6	5	.030"	2 17/32"	2.80	1.68
MR-70-BS	70	7	7	.030"	2 17/32"	2.95	1.77
MR-105-BS	105	8	11	.030"	2 17/32"	3.05	1.83
MR-150-BS	150	10	15	.030"	2 17/32"	3.15	1.89
MR-260-BS	260	11	25	.030"	3 17/32"	3.30	1.98
MR-365-BS	365	14	35	.030"	3 17/32"	3.80	2.28
MO-165-BS	165	15	25	.050"	3 17/32"	3.30	1.98



MT-150-GS

★ SINGLE TRANSMITTING MIDWAYS

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
MT-20-GS	20	5	5	.070"	2 17/32"	$3.25	$1.95
MT-35-GS	35	6	7	.070"	2 17/32"	3.50	2.10
MT-50-GS	50	8	11	.070"	2 17/32"	3.90	2.34
MT-70-GS	70	10	15	.070"	3 17/32	4.45	2.67
MT-100-GS	100	12	21	.070"	3 17/32"	4.90	2.94
MT-150-GS	150	16	31	.070"	4 15/32"	6.00	3.60
MG-35-NS	35	12	15	.171"	4 15/32"	6.00	3.60



MT-70-GD

★ DUAL MIDWAY CONDENSERS

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
MR-25-BD	25	5	3	.030"	2 17/32"	$4.35	$2.61
MR-50-BD	50	6	5	.030"	3 17/32"	4.70	2.82
MR-70-BD	70	7	7	.030"	3 17/32"	4.90	2.94
MR-100-BD	100	8	11	.030"	3 17/32"	5.10	3.06
MR-150-BD	150	9	15	.030"	3 17/32"	5.30	3.18
MR-260-BD	260	11	25	.030"	4 15/32"	5.50	3.30
MO-180-BD	180	15	29	.050"	6 5/32"	8.00	4.80
MT-20-GD	20	6	5	.070"	3 17/32"	5.55	3.33
MT-35-GD	35	7	7	.070"	3 17/32"	6.00	3.60
MT-50-GD	50	9	11	.070"	3 17/32"	6.35	3.81
MT-70-GD	70	10	15	.070"	4 15/32"	7.00	4.20
MT-100-GD	100	13	21	.070"	6 5/32"	8.00	4.80

NOTE—Capacities and number plates are per section.

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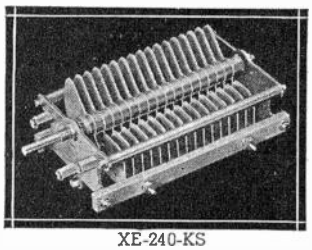
World Radio History

"X" TYPE TRANSMITTING

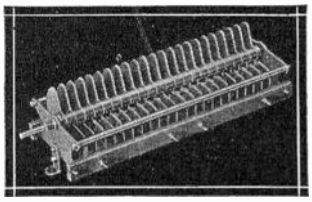


XE-240-KS

STANDARD OF COMPARISON FOR YEARS. Heavy aluminum rounded plates; frames and tie rods nickled brass; ball thrust type rotor bearing; phosphor bronze rotor contact; nickled brass bushings; steel shaft supports rotor plates and spacers. General Electric Mycalex insulation. Frame measures 3⅜" x 4". Supplied with mounting feet. Shafts ¼".

★ "X" TYPE STANDARD SINGLES

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
XT-220-PS	220	20	21	.070"	4"	$4.50	$2.70
XT-440-PS	440	40	43	.070"	5 13/16"	7.70	4.62
XP-90-KS	90	16	11	.084"	2 7/8"	4.50	2.70
XP-165-KS	165	22	19	.084"	4"	6.50	3.90
XP-290-KS	290	35	33	.084"	5 13/16"	9.50	5.70
XP-330-KS	330	37	37	.084"	6 3/8"	10.80	6.48
XE-240-KS	240	30	33	.100"	6 3/8"	10.80	6.48
XG-25-KS	25	8	6	.171"	2 13/16"	3.50	2.10
XG-50-KS	50	15	11	.171"	3 15/16"	6.50	3.90
XG-110-KS	110	26	23	.171"	6 7/16"	9.70	5.82
XC-18-XS	19	8	6	.200"	2 7/8"	5.50	3.30
XC-40-XS	40	15	11	.200"	4"	7.50	4.50
XC-65-XS	65	20	17	.200"	6 13/16"	9.50	5.70
XC-100-XS	100	28	25	.200"	7 7/16"	11.50	6.90

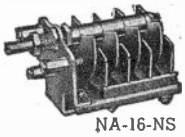


XG-110-KD

★ "X" TYPE STANDARD DUALS

Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
XR-500-PD	500	18	21	.030"	4"	$6.50	$3.90
XT-80-PD	80	11	9	.070"	4"	5.50	3.30
XT-210-PD	210	22	21	.070"	5 13/16"	8.70	5.22
XP-90-KD	95	15	11	.084"	4 1/2"	7.50	4.50
XP-165-KD	165	23	19	.084"	6 1/2"	11.00	6.60
XP-325-KD	325	38	37	.084"	11 1/16"	22.00	13.20
XE-240-KD	240	32	33	.100"	11 1/16"	21.00	12.60
XG-50-KD	50	14	11	.171"	6 7/16"	10.70	6.42
XG-110-KD	110	27	23	.171"	11 1/16"	18.00	10.80
XC-40-XD	40	14	11	.200"	7 7/16"	13.00	7.80
XC-75-XD	75	21	19	.200"	11 1/16"	17.00	10.20
XD-160-XD	160	28	27	.125"	11 1/16"	19.00	11.40

H. F. NEUTRALIZING CONDENSERS



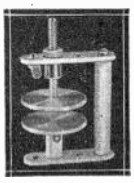
NA-16-NS

High frequency neutralizers for low capacity tubes. Mycalex insulation; heavy buffed plates with rounded edges. 180 degree rotation permits calibration and reset.

Type	Max. Cap.	Min. Cap.	Nr. Plates	Air Gap	Depth Back Panel	List Price	Dealers Price
NA-4-NS	4	2.5	2	adj.	1 3/8"	$3.60	$2.16
NA-6-NS	6	4	3	.218"	1 3/16"	3.60	2.16
NA-10-NS	11	6	6	.218"	2 1/8"	4.50	2.70
NA-16-NS	16	7	8	.218"	2 9/16"	5.00	3.00
NA-12-ND*	12	6	7	.218"	5 25/32	15.00	9.00

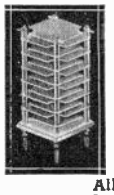
*Ganged neutralizer with insulated coupling; information given is per section.

DISC TYPE NEUTRALIZERS



TYPE ADN, capacity range .5-4 mmf.
List $3.00
Dealers' Price 1.80
TYPE BDN, for high power.
Capacity 2-12 mmf.
List $5.00
Dealers' Price 3.00
Alsimag No. 196 insulation throughout. Satin finish aluminum—fine screw adjustment, no wabble. Knurled thumb nut for easy locking — nickle silver bearing.

TYPE "J" PLUG-IN FIXED AIR CONDENSERS for boosting a tank circuit designed for 20 and 40 meters to 80 and 160. Just plug-in proper "J" unit into Jack Base and load tank to proper "C", for the lower frequencies.

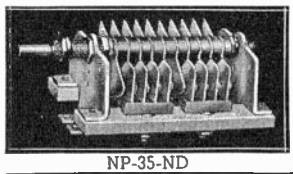


Type	Capacity mmfds.	Air-gap	Length	List	Dealers Price
JCO-50-OS	50	.250"	5 3/8"	$5.50	$3.30
JCO-25-OS	25	.250"	3 3/4"	4.00	2.40
JD-80-OS	80	.125"	4"	5.50	3.30
JD-50-OS	50	.125"	3 3/16"	4.00	2.40
JD-25-OS	25	.125"	2 1/2"	2.80	1.68
JR-750-OS	750	.030"	4"	8.80	5.28

All "J" types are 2¼ inches square.
TYPE JB—Jack Base for "J" fixed units. Alsimag 196—2⅜" x 2⅜" x ¼". Complete with mtg. posts, screws and nuts, list ..... $1.00 Dealers' Price ..... $.60

ULTRA HIGH FREQUENCY DUALS

FOR 5 AND 10 METER TRANSMITTERS AND DIATHERMY MACHINES

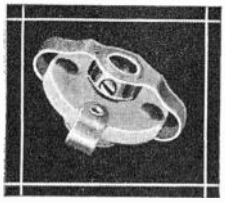


NP-35-ND

Widely used for ultra H. F. power oscillators and amplifiers; 5 and 2½ meter radio transmitters, and 6 meter diathermy sets. No closed metallic loops — lowest losses. Insulation Isolantite.

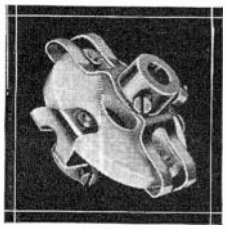
Type	Per Section Mx. Cap.	Per Section Min Cap.	Per Section Nr. Plts	Air Gap	Insulation	Depth Back Panel	List Price	Dealers Price
NP-35-ND	35	6	9	.084"	Isolantite	4 1/8"	$6.00	$3.60
NP-35-DD	Same as above except unbuffed						5.35	3.21

CARDWELL FLEXIBLE COUPLING



TYPE A—Fits all ¼" shafts. Has isolantite insulation with new type nickel plated phosphor bronze springs and reversed brass hubs. Minimum space required. Maximum flexibility with no back lash. A real improvement over existing types. Overall diameter 1½". Overall width outside hub-to-hub ⅝". Packed in standard cartons of one dozen.
List price ..... $.60 each
Dealers' Price ..... $.36 each

TYPE C 15,000 V. Peak Flashover



A heavy duty unit for high power variable air condensers or other rotary R.F. units. Insulation — No. 196 Alsimag disc 2¼" diameter, ¼" thick. Maximum overall diameter, 2⅝"; special steel cup set screws, heavy N.P. brass hubs, permanently staked into thick nickle plated phosphor bronze springs. Removable bushings to fit ¼" shafts. Hubs fit ⅜" shafts with bushings removed.
List Price $2.80
Dealers' Price $1.68

Type B is the same as type A except that the hubs are reversed to give maximum flashover. Price same as "A".
TYPE "D"—Like "E" except hubs turned in. Price same as Type "C".
TYPE "E"—Like Type "C" except smaller. 1½" diam. disc. List $1.50
Dealers' Price ..... .90
TYPE "ENF"—Lo-Flex rigid insulated coupling. ¼" shafts only—10.000 V., 1½" iso. disc. List $1.00
Dealers' Price ..... .60

CERAMIC SPACERS FOR ⅜" CO-AXIAL LINES

Alsimag 196 beads for ⅜" O.D. x .035" Ga. soft copper tubing.
Beads are .295" O.D. with hole for No. 12 B.S. conductor.
Package of 250 beads (enough for 50 ft. of line)
List, per pkg. $2.30
Dealers' Price 1.38

CARDWELL presents G. E. MYCALEX

H.F. insulation in stock bar sizes, you can saw and drill. Make your own special inductance mountings, R.F. terminal blocks, etc., with a real H.F. low loss material. Here are some of the best buys:

Item "ME" 4-5/16" x ½" x ¼". List $.35—Dealers' Net $.21.
Item "MG" 6" x ½" x ¼". List $.55—Dealers' Net $.33.
Item "MH" 6¼" x ½" x ¼". List $.60—Dealers' Net $.36.
Item "MJ" 10⅞" x ¾" x ¼". List $1.65 — Dealers' Net $.99.
Item "MK" 12" x ½" x ¼". List $1.35 — Dealers' Net $.81.
Item "ML" 12" x ¾" x ¼". List $1.75 — Dealers' Net $1.05.
Item "MM" 12" x 1" x ¼". List $1.95 — Dealers' Net $1.17.
Item "MN" 12" x 1" x ⅛". List $.95—Dealers' Net $.57.

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World Radio History

AMPEREX

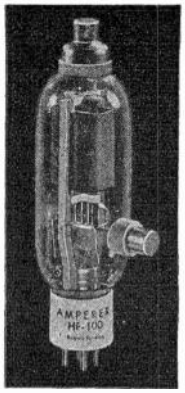
GRAPHITE ANODE TRANSMITTING TUBES

FOR BROADCASTING, DIATHERMY, PHYSIOTHERAPY, AMATEUR AND INDUSTRIAL APPLICATIONS

Even cursory inspection will show how AMPEREX tubes differ from the mere adaptations of conventional tube types . . . Exclusive engineering developments and radical design refinements are incorporated in the structure of these tubes and reflected in their superior performance.

So universal has been the recognition of the merits and efficiency of these tubes that now more than 70% of all diathermy ultra short wave generators are equipped with AMPEREX tubes and thousands more are in operation in almost every country in the world . . . in broadcast, communication, amateur and industrial apparatus where they have replaced more costly or less efficient tubes.

HF-100



An ultra-high, normal R. F. power amplifier and oscillator and class B audio amplifier or modulator.

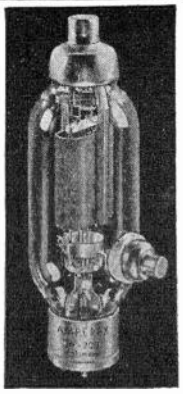
The HF-100 is one of a distinctive group of low voltage high current tubes, an original development of the AMPEREX ENGINEERING LABORATORIES. It is in addition characterized by an extraordinary high ratio of transconductance to interelectrode capacitance, a characteristic which is responsible for its outstanding efficiency in ultra-high frequency circuits.

GENERAL CHARACTERISTICS

Filament: Voltage	10-10.5
Current	2 amperes
Amplification Factor	23
Grid to Plate Transconductance @ 100 ma.	4200
Direct Interelectrode Capacitances:	
Grid to Plate	4.5 uuf
Grid to Filament	3.5 uuf
Plate to Filament	1.4 uuf

Net Price **$12.50**

HF-200



High and normal R. F. power amplifier, oscillator, class B modulator.

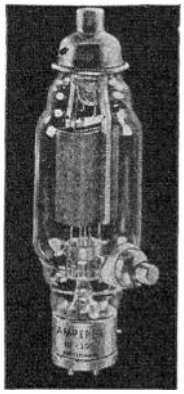
The HF-200 is another of the highly proficient ultra-high frequency generators of original AMPEREX design and development. The outstanding features of low voltage high current and a high ratio of transconductance to interelectrode capacitance are also properties of this tube.

GENERAL CHARACTERISTICS

Filament: Voltage	10-11 volts
Current	3.4 amperes
Amplification Factor	18
Grid to Plate Transconductance @ Plate Current of 150 ma.	5000 micromhos
Direct Interelectrode Capacitances:	
Grid to Plate	5.8 uuf
Grid to Filament	5.2 uuf
Plate to Filament	1.2 uuf

Net Price **$24.50**

HF-300



R. F. power amplifier, oscillator, class B modulator.

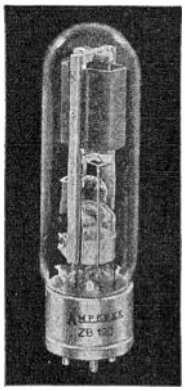
The HF-300 has found favor with many broadcasters and transmitter designers as a substitute for the 204A. A study of the operational data will disclose its superiority, in many classes of service, to the latter tube. It also, like the HF-100 and HF-200, is an efficient ultra-high frequency generator and possesses the characteristic common to AMPEREX designed tubes, of a high ratio of transconductance to interelectrode capacitance.

GENERAL CHARACTERISTICS

Filament: Voltage	11-12 volts
Current	4 amperes
Amplification Factor	23
Grid to Plate Transconductance @ 150 ma.	5600 micromhos
Direct Interelectrode Capacitances (App.):	
Grid to Plate	6.5 uuf
Grid to Filament	6.0 uuf
Plate to Filament	1.4 uuf

Net Price **$35.00**

ZB-120



Low Distortion zero-bias class B amplifier and modulator, high efficiency R. F. frequency multiplying power amplifier, conventional R. F. power amplifier.

The ZB-120 is an exclusive AMPEREX development. In common with other tubes of original AMPEREX design it is a low voltage high current type and possesses a high ratio of transconductance to interelectrode capacitance. Although it approaches nearer the ideal in a zero-bias class B tube it is also a highly efficient performer in many other classes of service.

GENERAL CHARACTERISTICS

Filament: Voltage	10-10.5 volts A.C. or D.C.
Current	2 amperes
Amplification Factor	90
Grid to Plate Transconductance @ 120 ma.	5000 micromhos
Direct Interelectrode Capacitances:	
Grid to Plate	5.2 uuf
Grid to Filament	5.3 uuf
Plate to Filament	3.2 uuf

Net Price **$10.00**

SEE REVERSE SIDE FOR COMPLETE LISTING AND NET PRICES

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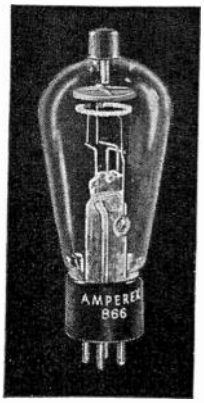
AMPEREX

AIR-COOLED VACUUM TUBES

866



MERCURY VAPOR RECTIFIER

GENERAL CHARACTERISTICS

Filament: Voltage	2.5 volts
Current	5.0 amperes
Type of filament	Exposed (coated)
Maximum inverse volts	7500
Average plate current	0.2 amperes
Peak plate current	0.6 amperes
Tube voltage drop	15

Net Price **$1.75**

801

AUDIO FREQUENCY AMPLIFIER AND MODULATOR

GENERAL CHARACTERISTICS

Filament: Voltage	7.5 volts
Current	1.25 amperes
Class A operation	
D.C. Plate	600 volts
Grid	—55 volts
Plate current	30 mills
Plate Amplif. Constant	8
Plate resistance	4300 ohms
Mutual conductor	1840 micromhos
Undistorted power output	3.8 watts
Class B operation	2 tubes
Max. D.C. Plate	600 volts
Max. D.C. Plate Current	70 mills
Grid	—75 volts
Effective load resistance	10000 ohms
Power output	45 watts

Net Price **$3.25**

AIR COOLED THREE ELECTRODE VACUUM TUBES

TYPE	PRICE		CODE	Fil. Voltage	Fil. Current Amps.	Max. Plate Dis. Watts
203A	$15.00	A	Beech	10.0	3.25	100
205D	5.00	A	Elm	4.5	1.6	15
211	15.00	A	Fir	10.0	3.25	100
211B	17.50	A	Redwood	10.5	3.25	120
211C	17.50	A	Cedar	10.0	3.25	120
211D	15.00	A	Ash	10.0	3.25	100
211H	17.50	A	Oak	10.0	3.25	120
242A	12.50	A	Walnut	10.0	3.25	85
242B	12.50	A	Cypress	10.0	3.25	100
242C	15.00	A	Amber	10.0	3.25	100
261A	17.50	A	Sassafras	10.0	3.25	120

TYPE	PRICE		CODE	Fil. Voltage	Fil. Current Amps.	Max. Plate Dis. Watts
264B	$1.75	A	Cherry	1.5	.3	
800	10.00	A	Holly	7.5	3.25	50
805	15.00	A	Locust	10.0	3.25	125
830	8.75	B	Plum	10.0	2.0	40
830B	10.00	A	Spruce	10.0	2.0	60
838	15.00	A	Currant	10.0	3.25	120
841	3.25	A	Maple	7.5	1.25	20
842	3.25	A	Willow	7.5	1.25	20
845	15.00	A	Hemlock	10.0	3.25	100
852	16.40	A	Dogwood	10.0	3.25	100
864	1.50	A	Tulip	1.1	.25	

MERCURY VAPOR RECTIFIERS

TYPE	PRICE		CODE	Fil. Voltage	Fil. Curr. Amps.	Peak Inverse Voltage	Peak Plate Current Amps.	
249B	$10.00	A	Laurel	2.5	7.5	7500	1.5	Shielded Filament
258B	9.85	A	Bayberry	2.5	7.5	7500	1.5	Shielded Filament
267B	23.00	A	Lily	5.0	6.75	7500	2.5	Shielded Filament
353A	17.50	A	Chestnut	5.0	6.75	10000	2.5	Shielded Filament
575A	35.00	A	Magnolia	5.0	10.0	15000	6.0	Shielded Filament
866A	4.00	A	Basswood	2.5	5.0	10000	1.0	Shielded Filament
872	14.00	A	Cottonwood	5.0	10.0	7500	2.5	
872A	16.50	A	Gum	5.0	7.5	10000	5.0	Shielded Filament

GAS FILLED RECTIFIERS

TYPE	PRICE		CODE	Fil. Voltage	Fil. Curr. Amps.	OUTPUT D. C. Voltage	OUTPUT D. C. Curr. Amps.
2 Amp.	$4.00	S	Moss	2.0	12.0	75	2
6 Amp.	6.00	S	Iris	2.2	18.0	100	6
15 Amp.	13.00	S	Rose	3.0	30.0	75	12

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World Radio History

BLILEY CRYSTAL UNITS

TYPE HF2 MOUNTED CRYSTAL
FOR THE 10 AND 20-METER BANDS

A fully dependable crystal unit for the 10 and 20-meter amateur bands. Engineered by Bliley, this precision-ground crystal simplifies the construction of 5, 10 and 20-meter transmitters by reducing the necessary number of frequency multiplications to a minimum. In use, the HF2 Unit for 20-meters is directly applicable to conventional circuits. With the HF2 10-meter Unit, specifically recommended for 5-meters, certain circuit considerations are necessary for maximum performance —for details, consult Engineering Bulletin E-6.

Type HF2—14.0 to 14.4 MC., drift +20 cycles mc/°C., within 15 KC. of specified frequency*....Net	**$5.75**
Within 5 KC. of specified frequency.....Net	**$10.00**
14.4 to 15.0 MC., drift +20 cycles/mc./°C., within 30 KC. of specified frequency*.....Net	**$5.75**
Within 5 KC. of specified frequency.....Net	**$15.00**
28.0 to 30.0 MC., drift +43 cycles/mc./°C., within 50 KC. of specified frequency.....Net	**$5.75**

*Or choice from dealer's stock.

TYPE BC3 MOUNTED CRYSTAL
FOR THE 40, 80 AND 160-METER BANDS

Thoroughly reliable in every respect, this economically priced crystal unit has found wide favor with amateurs throughout the world. The accurately cut crystal is an active oscillator and has a drift of only 23 cycles/mc./°C. Heat, developed by the crystal during oscillation, is dissipated by the stainless-steel holder cover-plate. This design assures greatest stability by limiting the temperature rise of the crystal.

Type BC3—within ±5 KC. of specified frequency in the 40 or 80-meter bands*. — drift.

NET **$3.35**

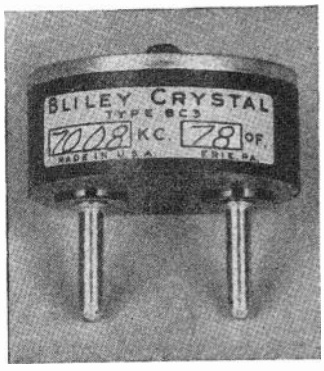
Within ±10 KC. of specified frequency in the 160-meter band. (+) drift.

NET **$3.35**

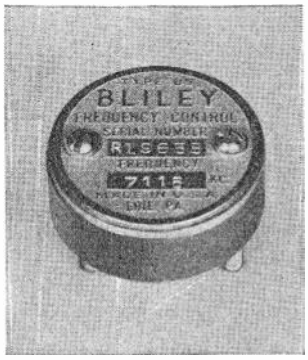
At exact integral specified KC's. in the 40 or 80-meter bands.

NET **$4.95**

*Or choice from dealer's stock.



TYPE B5 MOUNTED CRYSTAL
FOR THE 20 AND 40-METER BANDS



The type B5 low-drift crystal unit offers high frequency stability at a reasonable cost. This complete unit, consisting of the precision-ground crystal and its compact low-loss holder, is thoroughly engineered and has a drift of less than ±4 cycles/mc./°C.

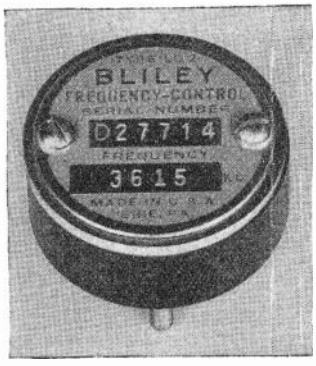
The B5 Unit for 40-meters possesses high activity and a comparatively large power handling capacity. For 20-meters, it has less than 1/5 the frequency drift of the type HF2 Unit with only a small decrease in relative activity and power output.

Type B5—7.0 to 7.3 MC., within 5KC. of specified frequency* .....Net	**$4.80**
Frequency to exact integral specified KC's.....Net	**$5.90**
14.0 to 14.4 MC., within 15 KC. of specified frequency* .....Net	**$7.50**
Within 5 KC. of specified frequency.....Net	**$12.00**
14.4 to 15.0 MC., within 30 KC. of specified frequency* .....Net	**$7.50**

*Or choice from dealer's stock.

TYPE LD2 MOUNTED CRYSTAL
FOR THE 80 and 160-METER BANDS

The type LD2 Unit is a mounted, precision low-drift crystal for the 80 and 160-meter amateur bands. The crystal is carefully cut from selected Brazilian Quartz, lapped to exacting limits, accurately calibrated and rigidly tested. It possesses high activity and has a frequency drift of less than ±4 cycles/mc./°C. The mounting is low-loss molded Bakelite with the crystal held under constant spring pressure between two stainless-steel electrodes. The unit plugs into any standard 5-prong tube socket and may be mounted in any position.



Type LD2—Within 5 KC. of specified frequency or choice from dealers stock.

NET

$4.80

Supplied to exact integral specified KC's.

NET

$5.90

Engineering Bulletin E-6, FREQUENCY CONTROL WITH QUARTZ CRYSTALS, should be read by every engineer, amateur or experimenter interested in frequency control or the measurement of radio frequencies. Price, 10c per copy (Canada 15c).

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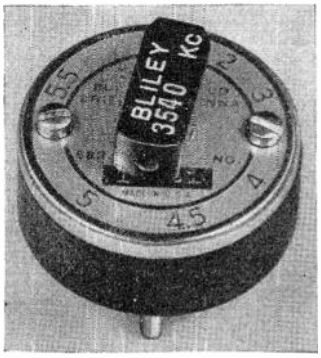
BLILEY CRYSTAL UNITS

VARIABLE FREQUENCY CRYSTAL UNIT

TYPE VF1



Pat. No. 2,079,540

Enjoy clear channels with a variable frequency crystal unit. By a mere twist of the control knob, your station frequency is continuously variable up to 6 KC. with the 80-meter unit or 12 KC. with the 40-meter unit. When frequency multiplying, the variation is proportionately increased.

The specially ground crystal has a drift of less than ±4 cycles/mc./°C. and an activity only slightly less than that of corresponding fixed-frequency crystals. With the average transmitter, no changes in tuning will be required over the entire adjustable range of the VF1 Unit.

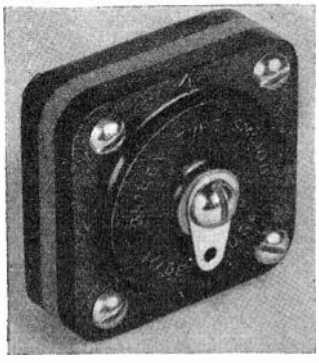
Type VF1—Within 5 KC. of specified minimum frequency in the 80-meter band.....Net	**$7.50**
Minimum frequency at exact integral specified KC's., in the 80-meter band.....Net	**$10.00**
Type VF1—Within 15 KC. of specified minimum frequency in the 40-meter band.....Net	**$7.50**
Within 5 KC. of specified minimum frequency in the 40-meter band .....Net	**$10.00**

CALIBRATOR CRYSTAL UNIT

TYPE SMC100

The type SMC100 Crystal Unit offers a simple means for constructing a flexible, inexpensive frequency standard. Its dual-frequency feature is advantageous for rapidly checking the calibration of radio receivers, test oscillators, signal generators or amateur monitors. Radio servicemen will find a frequency standard using a type SMC100 Unit to be an invaluable servicing instrument.

Each crystal is ground to oscillate within ±.01% of 100 KC. and within ±.05% of 1,000 KC. Either oscillating frequency is available at will. Circuit instructions are furnished with each unit.



Type SMC100—100 KC.—1,000 KC. mounted crystal.

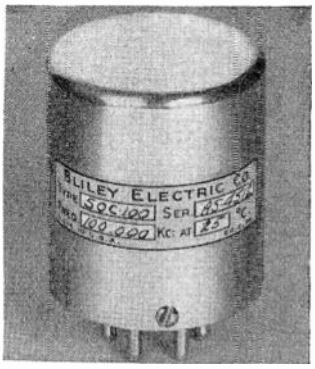
NET

$7.75

STANDARD FREQUENCY CRYSTAL UNIT

TYPE SOC100

A 100 KC. mounted crystal of high precision designed for use in frequency standards. This unit, in a simple circuit, provides reliable accuracy for calibration of frequency meters, test oscillators, radio receivers, or for frequency measurements in general.



The rigidly mounted crystal has a frequency-temperature coefficient of less than ±3 cycles/mc./°C., which value is sufficiently low that temperature control is not necessary for general practice. Included in the aluminum shielded mounting is a tank coil of the proper characteristics for use with this crystal. The complete unit plugs into any standard 5-prong tube socket and may be mounted in any position. Circuit instructions furnished.

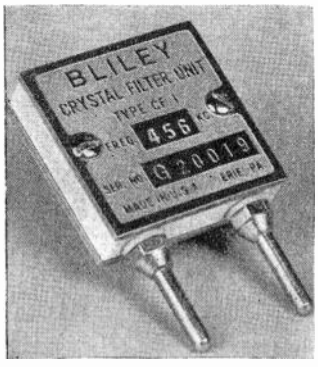
Type SOC100 .....Net	**$15.50**
Type SOC100, calibrated at specified oven temperature ..... Net	**$21.00**
Type SOC100X—Mounted 100 KC. X-cut bar, (no tank coil included) .....Net	**$9.50**

BLILEY CRYSTAL FILTER

TYPE CF1

A high-frequency receiver is not complete unless it incorporates a quartz crystal filter. Only through the use of an effective intermediate-frequency filter is it possible to obtain the high degree of selectivity necessary for modern communications.

The Bliley CFI Crystal Filter Unit, with its high Q and freedom from spurious responses, assures maximum selectivity and minimum signal loss. Each crystal is carefully ground to frequency and rigidly tested in equipment simulating actual receiver conditions. The low-loss Steatite holder plugs into any standard 5-prong tube socket.



Type CF1 — for 456 KC., 465 KC. or 500 KC. I.F.

NET

$5.50

For 1600 KC. I.F.

NET

$9.50

Bliley General Communication Frequency Crystals and Mountings are manufactured for all frequencies from 20 KC. to 30 MC. Quotations or recommendations will gladly be extended upon receipt of detailed information concerning your requirements.

Net

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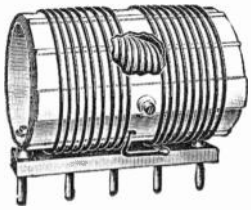
World Radio History

E. F. JOHNSON Company

WASECA, MINNESOTA

NEW ROTATING COIL "HI-Q" INDUCTORS



New Johnson "Hi-Q" Inductors, wire wound on ceramic forms, effectively resist temperature, atmospheric and mechanical conditions which damage coils supported by thermo-plastic material. Dielectric losses are negligible, owing to the high quality porcelain employed, and its ribbed form.

But the biggest feature by far is the rotating coupling coil at the electrical center of the inductor enabling exact adjustment of coupling in interstage or output circuits. All sizes will couple into transmission lines of 75 ohms impedance, and this value increases with the high frequency inductors so that the 10 and 20 meter types will couple into any impedance up to 600 ohms. The coupling coil may be adjusted to the exact degree desired, and thereafter need not be disturbed, even when changing bands.

For capacity coupled stages and for other applications these inductors can be supplied without coupling coil. Inductor forms and mounting strips may also be purchased separately for making up special inductors. Complete inductors are available for all bands 10 to 160 meters inclusive and in two power ratings 250 and 750 watts respectively. Ten to eighty meter inductors inclusive can be tuned with a condenser having a maximum capacity of 100 mmf. and a reasonably low minimum such as the Johnson 100D35, 100D70, 200ED30, etc., smaller capacity condensers being adequate if only the higher frequencies are desired. The 160 meter inductor requires a 150 mmf. condenser or an additional condenser in parallel with that used to tune the higher frequency bands.

With Coupling Coil Cat. No.	Net	Same Less Coupling Coil Cat. No.	Net	Band	O.D.	Length	Watts
660	$1.59	670	$0.66	10	2	4 1/16	250
661	1.65	671	.72	20	2	4 1/16	250
662	1.71	672	.78	40	2	4 1/16	250
663	1.89	673	.96	80	2 1/2	4 1/16	250
664	1.95	674	1.02	160	2 1/2	4 1/16	250

666 form only—no coupling coil—250 watt size for 10, 20 and 40 meter band ..... Net $0.36
667 form only—no coupling coil—250 watt size for 80 and 160 meter band ..... Net .39
668—plug-in strip for 666 and 667 ..... Net .60
669—mounting base for 660 and 670 series ..... Net .60

With Coupling Coil Cat. No.	Net	Same Less Coupling Coil Cat. No.	Net	Band	O.D.	Length	Watts
680	$2.31	690	$0.99	10	2 3/4	6 3/4	750
681	2.37	691	1.05	20	2 3/4	6 3/4	750
682	2.43	692	1.11	40	2 3/4	6 3/4	750
683	2.58	693	1.26	80	3 1/2	6 3/4	750
684	2.67	694	1.38	160	3 1/2	6 3/4	750

686 form only—no coupling coil—750 watt size for 10, 20 and 40 meter band ..... Net $0.57
687 form only—no coupling coil—750 watt size for 80 and 160 meter band ..... Net .60
688—plug-in strip for 686 and 687 ..... Net .90
689—mounting base for 680 and 690 series ..... Net .90

"TUBE SOCKET" HI-Q INDUCTORS

An addition to the "Hi-Q" Inductor line is a series of small inductors for exciter and low power amplifier stages. They are wound on ribbed, low loss, low absorption high grade porcelain, glazed all over, with roughened ribs to prevent wire slipping, and base to fit 5 prong tube socket. Because of the ribbed form practically all the winding is air supported, a factor contributing to the high efficiency of these units.

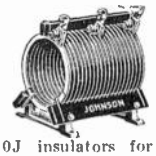
Inductors are supplied complete with coupling winding. In one type the coupling winding is at the center (for all neutralized tubes and those using plate to grid regeneration in multiplier circuits). The other series has the coupling coil at the bottom for circuits having the R.F. ground at one end of the inductor (pentodes or triode doublers where neutralization is not used).

These inductors are available for all bands 10 to 160 meters inclusive all rated at 75 watts. 10 to 80 meter inductors can be tuned by a 100 mmf. condenser, a smaller capacity being adequate if only the higher frequencies are desired. The 160 meter inductor requires a 150 mmf. condenser or an additional condenser in parallel with that used for the higher frequencies. Johnson Type J condensers are designed to fit inside these forms and thus make a very compact LC unit. Provision is made for taking off plate lead at top of coil or at socket.

Link at center Cat. No.	Band	Link at bottom Cat. No.	Net
640	10	650	$0.60
641	20	651	.63
642	40	652	.66
643	80	653	.69
644	160	654	.72

646—4 prong form only ..... .36
647—5 prong form only ..... .45

EDGEWISE WOUND HI-Q INDUCTORS



Johnson Hi-Q Inductors, wound with edgewise copper strip (cadmium plated) and supported by excellent hard rubber insulating strips, have for many years been standard in high quality amateur and commercial transmitters. Available in fixed and plug-in types for all bands. Also available in sizes suitable for coupling coils and for impedance matching networks.

Plug-in units require two 457-6J and three 40J insulators for mounting.

LC-4 Inductor Clips should be used for all connections to Hi-Q inductors Nos. 610 to 627.
LC-4—Inductor Clip. Net Price $0.12

Amateur Band Meters	Tuning Cap. Mmf.	Inductor** Single Unit	Two Units	Cat. No.	Mh.	Dimensions L	x I.D.	Net Price
				STATIONARY TYPES				
160	100	630		610	33	7 3/4"	2 1/2"	$3.24
160	100	620	622	611	14	4"	2 1/2"	2.16
160	200	622		620	88	9"	4"	4.05
80	75	632		622	44	6 1/2"	3 1/4"	3.09
80	50	622	624	624	21	6"	3 1/4"	2.52
80	100	624	626	626	10	5"	2 1/2"	2.10
80	200	626		628	4.4	4 3/4"	2 1/2"	1.80
40	45	634		†619	20	3 1/4"	4"	2.01
40	25	624	626	†623	8.1	2 1/4"	3 1/4"	1.65
40	50	626	628	†627	2.2	1 1/2"	2 1/2"	1.44
40	120	628						
20	30	636						
20	15	626	628					
20	30	628						
10	25	638						
				PLUG-IN TYPES				
				630	74	8"	4"	4.98
				632	27	8"	3 1/4"	3.75
				634	12	8"	2 1/2"	3.30
				636	4.3	8"	2"	3.06
				638	1‡	8"	2"	2.88

** "Two Units" refers to two coaxial inductors in series, usually with a coupling coil between, as in balanced tank circuits.
† Generally used as coupling coils with tank coils of like diameters.
‡ Variable by means of end clips.

JOHNSON R.F. CHOKES

752-754-762

Prolonged and careful work by Johnson engineers has resulted in two series of chokes which by actual comparison are superior to other leading makes.

The "750" series is effective over the wide range of frequencies from 1712 KC to 30 Megacycles inclusive, whereas the "760" series is designed for use at ultra-high frequencies. Ratings are for continuous service and may be increased for intermittent use.

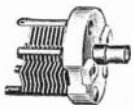
Coils are of enamelled, silk-covered wire, impregnated with high grade R.F. lacquer, and are wound on steatite cores.

Cat. No.	Current Rating	Net
750	150	$0.36
752	500	.75
754	750	1.20
760	250	.21
762	1500	.45

760

750

Type J CONDENSERS



Type J condensers are designed to fit inside "Tube socket" "Hi-Q" Inductors. Brackets supplied for coil form or chassis mounting.

Alsimag 196 insulation. Soldered brass plates cadmium plated. Spacing in all models .025". Fine for use in oscillator and low power buffer-amplifier stages.

Cat. No.	Max.	Min.	Spacing	Net
25J12	25	3.5	.025	$0.81
50J12	50	4.5	.025	.90
75J12	75	5.5	.025	.99
100J12	100	7	.025	$1.08

TUBE CAPS AND SOLDERING TERMINALS

Tube caps of phosphor bronze, cadmium plated, for transmitting use. Provide positive grip and low resistance contact.

Cat. No. 852 medium, for 802, etc. Net Price..... $0.03
Cat. No. 854 large, for 866, etc. Net Price..... .06

Tinned copper soldering terminals for convenience in soldering connections.

Cat. No.	Net per 100
880—5/16" long, 6/32" hole	$0.24
881—13/16" long, 1/4" hole	.32
882—1" long, 3/8" hole	.75
883—15/16" long, No. 10 hole	1.11
884—1" long, No. 10 spade	1.23
885—1 1/16" long, 1/4" hole	1.95

MANUFACTURERS OF *Radio Transmitting Equipment*

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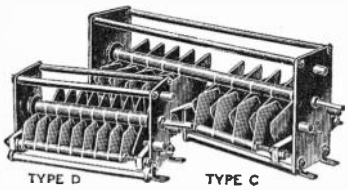
World Radio History

C and D CONDENSERS



Johnson C and D condensers employ only the highest quality materials throughout, yet a comparison of prices will reveal that they are lowest in price of any quality condenser. While value is evident throughout the line, the models for transmitters of higher power are particularly outstanding.

First to use **Alsimag 196** as insulation, additional features include: **Heavy Aluminum plates .051″** thick, edges rounded, and buffed overall; **Long insulation paths**, few in number; **Tie rods 3/16″** diameter for strength and rigidity, insulated to eliminate short circuit loops; **Heavy rotor shaft** extending front and rear permitting ganging or rear drive—**Large laminated rotor brushes** front and rear.

To determine voltage breakdown rating of these condensers multiply the number following the type letter in the catalog number by 100.

Catalog numbers bearing letters "D" or "DD" are type D condensers; those with "C" or "CD" are type C condensers. Panel Space: Type D, 4 1/4″ wide x 4″ high. Type C, 5 1/2″ wide x 5 3/8″ high.

Cap. No.	Capacity* Max.	Min.	Spacing	Net
TYPE D SINGLE SECTION				
50D 35	49	11	.080	$3.00
100D 35	100	14	.080	3.45
150D 35	152	18	.080	3.90
250D 35	257	24	.080	4.80
350D 35	347	27	.080	5.70
500D 35	501	36	.080	7.05
50D 70	51	16	.175	3.90
100D 70	100	23	.175	4.95
150D 70	151	31	.175	6.00
250D 70	244	45	.175	8.10
350D 70	351	62	.175	10.20
50D 90	54	19	.250	4.20
100D 90	99	30	.250	5.40
150D 90	149	43	.250	6.90
250D 90	249	70	.250	9.60
TYPE D DUAL SECTION				
100DD 35	99	12	.080	4.80
150DD 35	151	15	.080	5.40
200DD 35	202	19	.080	6.90
300DD 35	291	23	.080	9.60
70DD 70	72	16	.175	6.30
100DD 70	99	21	.175	7.50
150DD 70	151	31	.175	9.60
200DD 70	200	40	.175	11.70
50DD 90	52	18	.250	6.90
100DD 90	97	29	.250	9.90
TYPE C SINGLE SECTION				
500C 70	496	56	.175	12.60
250C 90	245	45	.250	10.20
350C 90	343	63	.250	12.36
50C 110	51	19	.350	5.40
100C 110	102	30	.350	7.08
250C 110	251	65	.350	12.48
50C 130	50	23	.500	5.94
100C 130	101	41	.500	8.46
TYPE C DUAL SECTION				
200CD 70	198	27	.175	12.60
200CD 90	196	38	.250	15.90
50CD 110	50	18	.350	8.70
100CD 110	103	32	.350	12.90
50CD 130	50	23	.500	10.05
70CD 130	69	30	.500	12.00

*Ratings are per section.

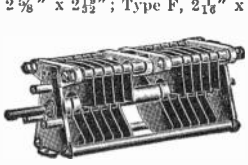
E and F CONDENSERS

Johnson E and F condensers were designed to meet the demand for real transmitting condensers of small physical dimensions. That they have been successful in meeting this demand is evidenced by the popularity they now enjoy.

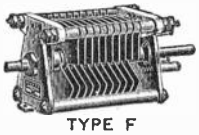
Outstanding features include: **Heavy aluminum plates .032″** thick, edges rounded, and buffed overall; **Heavy tie rods 1/4″** in diameter for strength and rigidity; **Alsimag 196** insulation; **Stator mounted above** to reduce capacity to ground; **Chassis or panel mounting; Rotor shaft extended** front and rear permitting ganging or rear drive; **Heavy cadmium plated** phosphor bronze contact springs.

To determine voltage breakdown rating of these condensers multiply the number following the type letter in the catalog number by 100.

Catalog numbers bearing letters "E" or "ED" are Type E condensers; those with "F" or "FD" are Type F condensers. Panel Space: Type E, 2 5/8″ x 2 13/32″; Type F, 2 1/16″ x 2″.



TYPE E

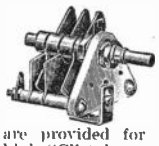


TYPE F

Cat. No.	Capacity* Max.	Min.	No. of Plates*	Spacing	Net
TYPE F SINGLE SECTION					
35F20	35	6	6	.045	$1.74
50F20	48	7	8	.045	1.92
100F20	106	9	17	.045	2.46
150F20	156	12	25	.045	2.97
250F20	255	18	41	.045	4.02
35F30	34	7	9	.075	1.95
50F30	51	8	13	.075	2.19
100F30	102	13	25	.075	2.88
150F30	150	18	37	.075	3.60
TYPE F DUAL SECTION					
50FD20	47	6	8	.045	2.91
70FD20	67	7	11	.045	3.15
100FD20	105	9	17	.045	3.93
200FD20	207	13	33	.045	5.79
50FD30	51	7	13	.075	3.39
70FD30	67	10	17	.075	3.90
100FD30	101	11	25	.075	4.80
TYPE E SINGLE SECTION					
250E20	244	12	23	.045	3.15
350E20	356	14	33	.045	3.78
500E20	495	18	45	.045	4.80
35E30	38	6	6	.075	2.01
50E30	51	7	8	.075	2.36
100E30	100	10	15	.075	2.61
150E30	154	13	23	.075	3.18
250E30	250	19	37	.075	4.44
350E30	350	22	51	.075	5.55
35E45	38	8	9	.125	2.28
50E45	47	10	11	.125	2.43
100E45	101	16	23	.125	3.36
150E45	145	20	33	.125	4.35
250E45	245	30	55	.125	6.18
TYPE E DUAL SECTION					
50ED30	52	7	8	.075	3.21
70ED30	71	8	11	.075	3.69
100ED30	99	10	15	.075	4.35
200ED30	195	15	29	.075	6.54
50ED45	51	9	12	.125	3.84
70ED45	73	11	17	.125	4.77
100ED45	100	15	23	.125	5.94

* Ratings are per section.

Type G CONDENSERS

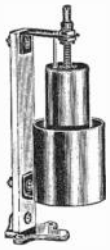


Johnson Type G Condensers use a single end plate of Alsimag 196 which permits an extremely low minimum capacity for a rotating plate condenser. Spacings and capacities are provided for neutralizing both low and high "C" tubes and for plate and grid tuning. They are particularly useful at high frequencies and models are available capable of handling 500 watts input at 5 meters.

Rotor and stator plates are of aluminum, .032″ thick, with edges rounded, and buffed overall. May be mounted on metal chassis or panel without additional insulation. Locking nut permits locking at any setting. Panel space 2″ square.

Cat. No.	Capacity Max.	Min.	Spacing	Net
50G20	52	5	.045	$1.50
25G20	27	3.5	.045	1.35
23G45	23	6.3	.125	1.50
13G45	13	4.3	.125	1.35
8G45	7.5	3	.125	1.26
12G70	12	5.3	.225	2.34
6G70	5.5	3	.225	1.95

Type N CONDENSERS



Johnson Type N condensers for neutralizing low C tubes feature small mounting space, **no change in voltage breakdown rating from minimum to maximum capacity settings**, 4 to 1 capacity ratio accommodating an extremely wide assortment of tube types, and either vertical or horizontal mounting, permitting panel adjustment if desired.

"Plates" are polished aluminum cups supported on an Alsimag 196 frame. Mounting bracket is of cast aluminum. Three models having different spacings accommodate all tubes popular with the amateur.

Cat. No.	Capacity Max.	Min.	Spacing	Net
N125	12	2.5	.125	$1.95
N250	12	2.9	.250	2.70
N375	13	3.4	.375	3.60

HANDLE INDICATORS

Highly attractive solid molded Bakelite controls which enhance the appearance of any equipment. "Window" design makes possible three separate scales if desired. No. 204 has 4″ diameter etched scale with polished figures on black background, and fits 1/4″ shaft. No. 206 is similar, with 6″ scale, fits 1/4″ shaft, and has removable bushing for 3/8″ shaft.

Cat. No.	Net Price
204—Handle Indicator	$0.60
206—Handle Indicator	.75

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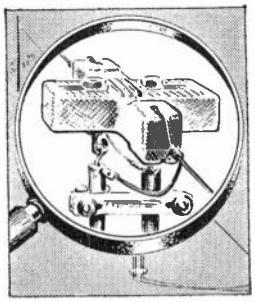
World Radio History

E. F. JOHNSON Company

WASECA, MINNESOTA

THE JOHNSON "Q" *ANTENNA*



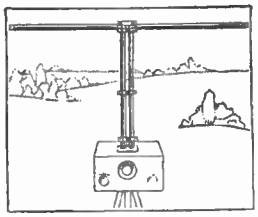
The installation of a Johnson "Q" antenna usually results in a greater increase in radiated power than could be obtained by materially increasing the power of the transmitter alone, as well as effecting a corresponding saving in operating costs. The extremely high efficiency of the "Q" is responsible for the increase in radiated power and is largely due to the accurate match between the transmission line and the antenna, effected by the quarter wave matching section of aluminum tubing. Because the spacing of the quarter wave tubing is adjustable, antenna resistances between approximately 37 and 172 ohms can be matched to lines of approximately 400 to 600 ohms.

The wide range of impedances which it is possible to match with the "Q" system makes it particularly adapted for use with a half-wave doublet, **JOHNSON "Q" BEAM**—the sensational new two band matched impedance beam—two half-waves in phase, harmonic radiator, reflector-director systems, phased arrays, etc. Antenna Bulletin 102 gives complete details of these arrangements.

The system is usually supplied with the tubing coiled (except 5 meter) and enough copperweld wire for 1 half wave at the operating frequency. However, at a slight increase in cost, the 10 and 20 meter units can be supplied in straight lengths with plugs and tools for joining. For a system for other than one half wave operation, order the amount of No. 350 copperweld wire needed in excess of ½ wavelength. Wire will be supplied in one piece.

New improvements include a new universal joint suspension insulator, new plugs for joining the tubing to the suspension insulator and transmission line, preventing breakage at these points, and new spacing insulators permitting adjustment of spacing and attachment of tubing in separate operations.

A special "Q" for 5 meters uses aluminum tubing for the radiating portion as well as for the matching section. It may be used in the conventional manner or mounted directly on the transmitter case being self-supporting when used in this manner. The 5QM is a special model using Mycalex instead of porcelain.



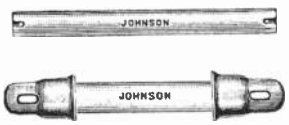
Cat. No.	Band	Net Price	Cat. No.	Band	Net Price
5Q	5	4.20	20Q	20	7.35
5QM	5	6.00	20QS	20	8.70
10Q	10	4.71	40Q	40	13.56
10QS	10	5.19	80Q	80	25.20

"S" indicates straight tubing.

For "Q" Beams order two "Q" antennas for lower frequency of the two desired.

Bulletin 102 completely describes the "Q".

ANTENNA INSULATORS



107
112
120

151
152
153

These insulators are of genuine WET PROCESS porcelain with smooth white glazing. The all-porcelain types are 1" in diameter and will stand 1500 pounds pull. Their long leakage path, low capacity, and freedom from moisture absorption result in exceptional efficiency. The Commercial Type is 1½" in diameter for uses where much greater strength is necessary. The aluminum alloy fittings are non-corrosive.

Cat. No.	Lgth.	Net Price	Cat. No.	Length Net	Length Overall	Net Price
107	7"	$.42	151	8"	15¼"	$5.40
112	12"	.54	152	12"	19¼"	6.45
120	20"	.90	153	18"	25¼"	9.00

STRAIN INSULATORS

The No. 32 Airplane Strain Insulator is also very useful for light guys and receiving antennas. The new No. 38 "Cruciform" Strain Insulator is specially designed for R.F. applications, having low capacity, long leakage path, light weight. Both are 1½" long, of white glazed low absorption porcelain.

	Net Price
No. 32—Airplane Insulator	$0.04½
No. 38—Strain Insulator	.09

TRANSPOSITION INSULATORS

Much used for both receiving and transmitting feed lines. This original Johnson insulator simplifies installation, weighs very little, does not twist the line, and has high insulating value. White glazed low absorption porcelain.

	Net Price
No. 31—Transposition Insulator	$0.09

FEEDER SPREADERS

Every amateur transmitting and receiving need is supplied by these new 2", 4", and 6" feeder spreaders. ⅜" x ½" cross section, of white glazed low absorption porcelain.

	Net Price
No. 132—2" long	$0.09
No. 134—4" long	.12
No. 136—6" long	.15

ENAMELED COPPERWELD ANTENNA WIRE

Johnson Enameled Copperweld Antenna Wire is the ideal material for transmitting doublets, directional antenna systems, and other applications where the wire must not stretch nor sag. It has a steel core, welded to a heavy copper exterior and enameled, combining high R.F. conductivity, freedom from corrosion, and almost three times the strength of ordinary enameled copper antenna wire. Supplied in 100, 150, 200, 500 and 1000 ft. coils, or in special lengths.

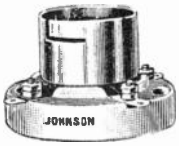
Cat. No.	B&S Ga.	Ft. per lb.	Strength	Net per 100 ft.
346	8	22	1700 lbs.	$2.55
348	10	34½	1130 lbs.	1.65
350	12	54	720 lbs.	1.14
352	14	85	400 lbs.	.75

ANTENNA-FEEDER INSULATOR

Johnson No. 106 antenna insulator permits feeders to be brought off at any angle with uniform tension on both feeder wires at all times. Made of high quality, white glazed, low absorption porcelain, it provides good insulation, convenience and economy.

No. 106—Antenna Insulator. Net Price $0.36

TRANSMITTING TUBE SOCKETS



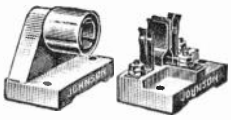
Johnson transmitting tube sockets have been for years the accepted standard. All have heavy sidewiping spring phosphor bronze contacts, cadmium plated. The No. 211 filament springs are double, to handle heavy filament currents.

All have heavy nickeled brass shells, supporting the tube by its base rather than the prongs. Porcelain bases are of excellent quality low absorption material.

"FB" models are for front-of-panel mounting, and are enclosed in lustrous black finished cast aluminum housings.

No. 209 is a new socket for UX base tubes similar to the No. 210 but with greater spacing between contacts and shell providing for higher voltages as in rectifier tubes.

Note in particular the No. 216 socket, for "giant" 5 prong bases such as on RCA803 and RK28 tubes.



No. 215 "250 watt" socket for 204A, 849 and similar tubes, has a "Safety cup" plate terminal which prevents accidental dislodgement of the tube. White glazed, low absorption porcelain insulation.

Nos. 209, 210, 211 and 216 are available with beryllium copper springs and all but No. 210 with steatite bases at additional cost.

Cat. No.	Type of Base	Diameter	Ht.	Code Word	Net Price
209	"UX"	2 13/16"	1 15/16"	SONIJ	$.57
210	"UX"	2½"	1⅞"	SOLUS	.51
210FB	"UX"	3"	2⅛"	SOOT	1.50
211	"50 watt"	3 7/16"	2 5/16"	SOLE	.75
211FB	"50 watt"	4"	2 13/16"	SORRY	2.10
215	"250 watt"			SOLIF	2.10
216	5 prong	3¾"	2⅜"	SOAR	1.50

ALSIMAG 196 WAFER AND ACORN SOCKETS

Johnson wafer sockets are insulated with Alsimag 196 making these units excellent for use at high and ultra-high frequencies. Contacts are of cadmium plated phosphor bronze, recessed in the form to prevent movement. All metal parts countersunk to permit mounting on metal surfaces without shorting. Sockets are 1⅝" wide and 2⅜" long. Mounting holes are slotted, providing 1 13/16" to 1 27/32" mounting centers.

The No. 235 acorn socket is also insulated with Alsimag 196. Contacts are beryllium copper silver plated and mounted on bosses, providing long leakage path between adjacent contacts. Mounting holes are standard 1⅜" between centers.

Cat. No.	Net Price
224—4 Prong	$0.33
225—5 Prong	.33
226—6 Prong	.33
217—7 Prong, small	.33
227—7 Prong, large	.33
228—Octal	.33
235—Acorn	.75

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World Radio History

E. F. JOHNSON Company

WASECA, MINNESOTA

PORCELAIN CONE INSULATORS

New porcelain cone insulators combine the excellent insulating qualities of other Johnson porcelain pieces with the convenience of single hole mounting. A wide range of sizes is offered filling practically every stand-off insulator need in transmitter construction. Cushion washers are included, as well as machine screws both top and bottom, and in four jack types. The three smaller jack types use the Johnson 74 jack and the largest size, the Johnson 76. Finished in white glaze overall, they present an extremely attractive appearance.

Cat. No.	Ht.	Diameter Top	Diameter Bottom	Thread	Net Price
600	5/8"	7/16"	5/8"	6-32	$0.07
601	1"	1/2"	3/4"	8-32	.08½
601J	1"	1/2"	3/4"	Jack	.11½
602	1 1/2"	1/2"	1"	8-32	.11
602J	1 1/2"	1/2"	1"	Jack	.14
603	2"	5/8"	1 1/8"	10-32	.15
603J	2"	5/8"	1 1/8"	Jack	.18
604	3"	3/4"	1 1/2"	10-32	.21
604J	3"	3/4"	1 1/2"	Jack	.30

THRU-PANEL INSULATORS

E

F

The carefully worked out line of Johnson Thru-Panel Insulators reflect the same qualities possessed by the Stand-Off types. Low absorption porcelain (highly important in R.F. circuits); smooth glazing; solid brass nickel plated hardware with milled nuts; cushion washers, flat, large area mounting surfaces; longer bottom sections with extended leakage path; soldering terminals on jack types—are features of Johnson design.

Cat. No.	Body Height Top	Body Height Bottom	Hardware	Style	Net Price
40	1 1/4"	1/2"	10-32	E	$0.15
40J	1 1/4"	1/2"	74 Jack	E	.18
42	7/8"	5/8"	10-32	E	.12
42J	7/8"	5/8"	74 Jack	E	.15
44	5/8"	3/16"	6-32	F	.10
45	1 3/8"	11/16"	10-32	F	.21
45J	1 3/8"	11/16"	74 Jack	F	.24
4576J	1 3/8"	11/16"	76A Jack	F	.33
46	2 3/4"	1"	1/4-20	F	.39
46J	2 3/4"	1"	76 Jack	F	.48
47	4 1/2"	1 1/2"	1/4-20	F	.57
47J	4 1/2"	1 1/2"	76 Jack	F	.66

45, 45J and 4576J are Style E, others Style F.

FLEXIBLE SHAFTS

Phosphor bronze flexible shafts are available in two lengths. When used with suitable couplings, control of units at angles up to 90 degrees with the panel is permitted.

Cat. No.	Hub. Diam.	Length	Net Price
253	1/4"	3"	$0.21
254	1/4"	6"	.30

PANEL BEARINGS

No. 255 is a cadmium plated brass panel bearing for panels up to 3/8" thick. Furnished separately or with 3" or 6" cadmium plated brass shafts.

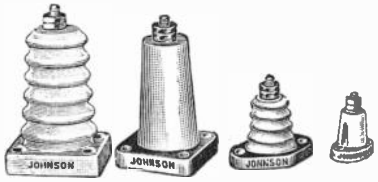
Cat. No.	Net Price
255—Panel bearing	$0.09
256—Panel bearing with 3" shaft	.18
257—Panel bearing with 6" shaft	.24

ALSIMAG 196 CONES

The new cone shaped insulators of Alsimag 196 have numerous applications in transmitter construction. The extremely low loss-factor of this material makes them particularly useful in mounting coils, condensers, tube sockets, etc. for high frequency applications. Furnished complete with screws top and bottom and with cushion washers. Sizes are available from 5/8" to 3" inclusive, thus covering a wide field of application. Strongly constructed and designed to withstand rough usage.

Cat. No.	Ht.	Diameter Top	Diameter Bottom	Thread	Net Price
500	5/8"	7/16"	5/8"	6-32	$0.12
501	1"	1/2"	3/4"	8-32	.18
502	1 1/2"	1/2"	1"	8-32	.24
503	2"	5/8"	1 1/8"	10-32	.30
504	3"	3/4"	1 1/2"	10-32	.51

STAND-OFF INSULATORS



A B C D

The original Johnson Stand-Off Insulators are characterized by perfection of ceramic design, logical proportions and range of sizes, accuracy, and, most important, a very superior quality of porcelain and hardware. Styles B and C have unbreakable cadmium plated drawn steel bases and as usual mount in very little space. Jack types are available in most sizes.

Cat. No.	Body Height	Hardware	Style	Net Price
20	1 5/16"	10-32	D	$0.08
20J	1 5/16"	74 Jack	D	.10
22	1"	8-32	D	.05½
22J	1"	74 Jack	D	.07½
24	5/8"	6-32	D	.04½
60	4 1/2"	1/4-20	A	.39
62	2 3/4"	1/4-20	A	.21
65	1 3/8"	10-32	C	.12
65J	1 3/8"	74 Jack	C	.15
66	2 3/4"	1/4-20	B	.21
66J	2 3/4"	76 Jack	B	.30
67	4 1/2"	1/4-20	B	.33
67J	4 1/2"	76 Jack	B	.42

FLEXIBLE COUPLINGS

Flexible Coupling units insulated with Alsimag 196 are available in two sizes, No. 250, 1 3/8" diameter and No. 251, 2 1/4" diameter. Flexibility is obtained by cadmium plated phosphor bronze spring with no backlash.

No. 250 —1/4" shaft, 1 3/8" dia.....Net 0.48
No. 251 —3/8" shaft, 2 1/4" dia.....Net .84
No. 251A—1/4" shaft, 2 1/4" dia. Net .84
No. 251B—1/4" and 3/8" shaft, 2 1/4" dia. Net ..... .84

SOLID INSULATED COUPLING

No. 252 is a solid insulated coupling of Alsimag 196 for use where high quality insulation is desirable. Takes 1/4" shaft at either end. So designed to have extremely long leakage path in proportion to length.

Length .....1 3/32"
Diameter .....11/16"
Leakage Path .....1 1/8"
No. 252 Coupling .....Net $0.45

COMPRESSION SHAFT COUPLING

No. 258 is a cadmium plated brass compression shaft coupling. Will not burr shaft. Much stronger than set screw type.

No. 258 Shaft Coupling, 1/4".....Net $0.09

NEW LEAD-IN BUSHINGS

50, 51, 52

54

55

53-90

Used either as panel or antenna lead-in bushings or in other applications such as in mounting of heavy equipment. Strong, well made and designed with long leakage paths in proportion to size. Nos. 53 and 54 are sold without hardware. Threaded 1/4" brass rod may be obtained for various applications. Metal mounting flanges also available. 50-54 are of porcelain. 55 is of Alsimag 196.

Cat. No.	Ht.	Diam.	Length	Net Price
50	1/2"	3/4"	2"	$0.12
51	13/16"	1 1/4"	2 7/8"	.18
52	1 1/8"	1 3/4"	4 1/4"	.27
53	1 3/4"	2 1/2"	.....	.18
54	4"	3 1/2"	.....	.42
55	1/4"	3/4"	1 1/4"	.18
90	Mounting Flange for No. 53.....			.15
91	Mounting Flange for No. 54.....			.18
240	Threaded Brass Rod 1/4"x 8" long			.15
241	Threaded Brass Rod 1/4"x10" long			.18
242	Threaded Brass Rod 1/4" 15" long			.24

PLUGS AND JACKS
"BANANA SPRING" TYPE

74 75 75A 76 76A 77 77A

Nickel-silver springs, and high grade nickeled brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs. 77A plug has long screw for mounting on ceramic coil forms, etc.

75C is a tapped plug with 3/8" 6-32 machine screw in head. 75D is designed for riveting or soldering. Spring is of beryllium copper.

75C 75D

Cat. No.	Length	Thread	Net Price
74 Jack	11/16"	1/4-28	$0.04
75 Plug	3/4"*	6-32	.04½
75A Plug	3/4"*	6-32	.04½
75C	1"	6-32	.05
75D	5/8"	†	.05
76 Jack	1 3/8"	3/8-24	.15
76A Jack	1 3/8"	1/4-20	.15
77 Plug	1 1/8"*	1/4-28	.12
77A Plug	1 1/8"*	10-32	.15

* Lengths do not include screw thread.
† Hollow rivet shank .140" diam. x 3/32" long.

70 71

"SPRING SLEEVE" TYPE

72 73 73A

Strong, low resistance plugs and jacks, no "wobble." Made of brass, brightly nickeled, with phosphor bronze spring. Plugs will fit into copper tubing of same size as body, and have holes in threaded ends for soldering leads. 73A plug has long screw for mounting on ceramic coil forms, etc.

Cat. No.	Length*	Thread	Net Price
70 Jack	1 1/2"	1/4-20	$0.21
71 Plug	1 1/8"	1/4-28	.08½
72 Jack	1 1/8"	10-32	.15
73 Plug	1"	10-32	.04½
73A Plug	1"	10-32	.04½

* Lengths do not include screw thread.

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RME RECEIVERS PRE-SELECTORS NOISE-SUPPRESSORS

THE RME-69 SUPER COMMUNICATION RECEIVER

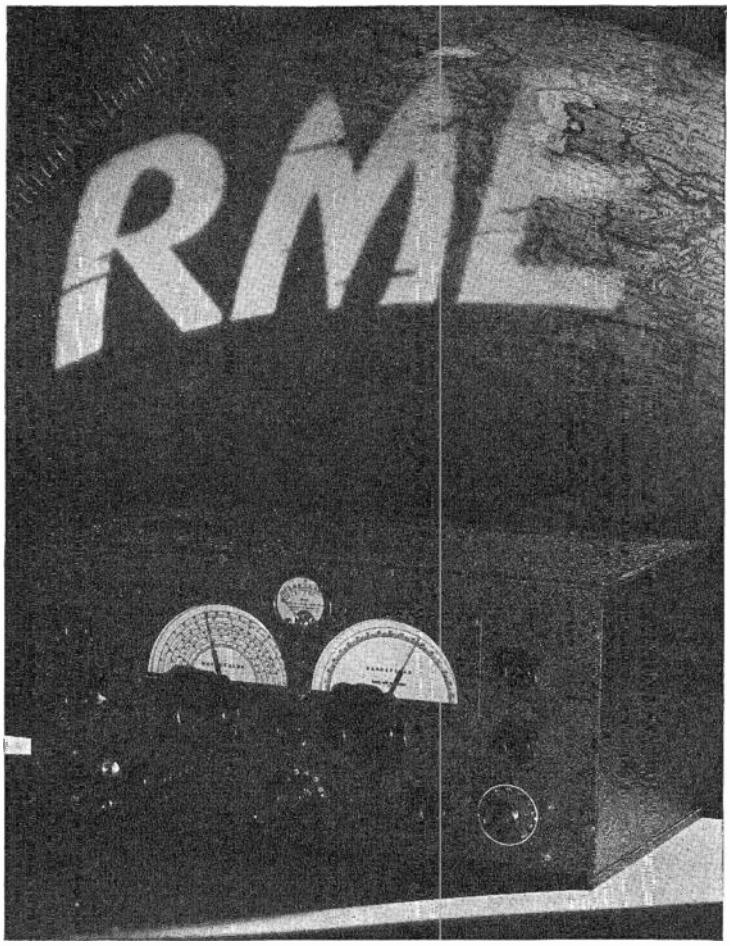
The RME-69 Single Super Receiver was designed as a modern instrument for amateur and communication use. It is characterized by low background noise, exceptionally high over-all gain, finger-tip control mechanism and inclusion of such individual devices which are usually not found on ordinary receivers.

A variety of optional features are available on the RME-69 for individual requirements (if desired). These include a four tube manually operated noise suppressor circuit, break-in contacts provided on monitor switch, additional widening of band-spread scale, substitution of lower frequency range for regular broadcast band (170 KC to 450 KC), combination battery and AC operation, etc. This extreme flexibility obtainable in the 69 Model more than satisfies the operator in choosing a receiver.

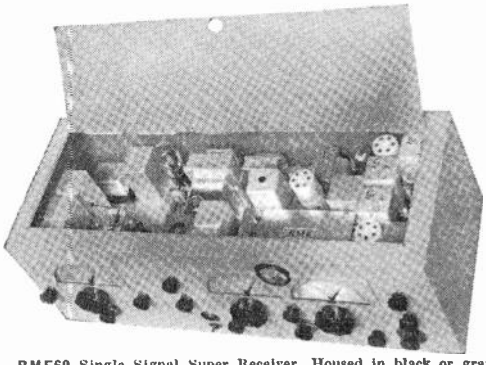
Standard on all RME-69's:

1. Planetary vernier dial drive.
2. Full electrical bandspread.
3. Six bands tuning range
4. Calibrated decibel R meter.
5. Built in monitor circuit.
6. Air-core I.F. transformers.
7. Complement of nine tubes.
8. Variable phasing crystal filter circuit.

All operating controls are adjustable from the front. Phone jack is found on the front panel, loudspeaker outlet on the rear chassis apron. Provision is made for either single wire or doublet type antenna connections. Chassis is built of cast aluminum, solid, rigid, holding critically adjusted circuits in calibration.



COMBINATION RME-69 and DB-20



RME69 Single Signal Super Receiver. Housed in black or gray crinkle steel cabinet, with 465 KC crystal, set of tubes, and 8" PM dynamic speaker in black or gray crinkle finished baffle. 110 volt, 60 cycle model. Shipping weight 55 pounds. **CODE—BABEL** ..... **Net $152.88**

Combination RME-69 Single Signal Super Receiver with 465 KC Crystal, set of 9 tubes, and DB-20 preselector with 4 tubes, including antenna change-over switch mounted side by side in one cabinet 28½" long, 18½" wide, 9" high. Either gray or black crinkle finish. With speaker.
CODE—MIDAS & COMBS ..... **Net $196.05**

LS-1 noise silencer unit built into RME-69 Single Signal Super Receiver, any model, including one each 6L7, 6J7, 6H6 tubes.
CODE—DINAR ..... **ADD Net $11.40**

RME-69 Super equipped with extra pair of binding posts on rear of chassis apron and wired to open B-supply circuit when working break-in.
CODE—COLOR ..... **ADD Net $1.20**

RME-69 Super equipped with extra pair of binding posts on rear of chassis apron and special relay control contacts provided on monitor switch for special break-in operation to control transmitter. **CODE—CENTS** .... **ADD Net $2.70**

The 510X Frequency Expander

This unit extends the operating range of any good communication receiver from 27.8 to 70 megacycles in one continuous spectrum. This range is covered in three scale divisions equivalent to approximately 21 inches of linear travel of the pointer.

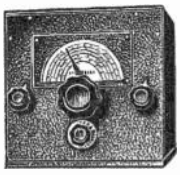
In using the expander the receiver is definitely set at 10 megacycles (30 meters) and the expander control is used for all tuning.

The unit has sensitivity of better than 1 microvolt over its entire range when used in conjunction with the RME-69 receiver. Self contained power supply. The input circuit is designed for either single wire or doublet type antenna. Output impedance approximately 300 ohms making possible direct connection to the input of the RME-69 or equivalent receiver. Equipped with by-pass switch to remove instrument from antenna circuit when the receiver is used for regular operation. Equipped with planetary drive and available in either gray or black crinkle finish.

510X Frequency Expander in gray or black crinkle finish cabinet, over-all dimensions 9¼" high, 9½" wide, 10½" deep; equipped with change-over switch, interconnecting plug and cord; 110 volt, 60 cycle model; less tubes.
CODE—EDANE ..... **Net $42.00**

Complete set of matched and tested tubes for Expander units listed; 1-6K7, 1-6L7, 1-6C5, 1-80. **CODE—ETUBE** ..... **Net $3.10**

The DB-20 Preselector and R. F. Amplifier



A two stage R.F. amplifier with self contained power supply and having an average gain between 20 to 25 db. when used in conjunction with the RME-69. Over-all image ratio averaging 50,000 to 1. Input circuit designed for either single wire or doublet type antenna. Output impedance approximately 300 ohms permitting direct coupling to the RME-69 or equivalent receiver. The frequency coverage is from 550 to 32,000 KC, the range being covered through six band positions (the same as on the RME-69 receiver). Rigidly built, carefully tested and meeting all operating requirements of a fine preselector.

DB-20 Preselector, gray or black crinkle finish cabinet, overall dimensions 9¼" high, 9½" wide, 10½" deep, including two 6K7 and one 80 tested tubes, interconnecting plug and cord. Antenna change-over switch included. Shipping weight, twenty-two pounds. 110 volt, 60 cycle.

CODE—MONEL ..... **Net $42.60**

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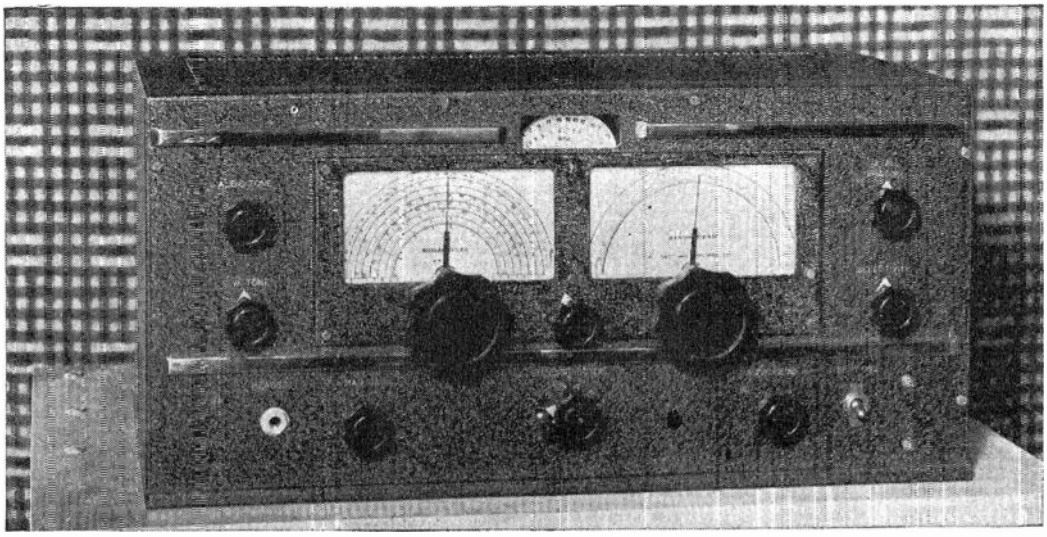
RME RECEIVERS PRE-SELECTORS AMATEUR EQUIPMENT

THE NEW 70 SERIES



REAL RME-70 QUALIFICATIONS...

1. **New illuminated DB-R meter**
2. **Three new iron core IF transformers**
3. **Improved automatic Noise Suppressor**
4. **Variable phazing crystal filter circuit**
5. **Break-in and relay control**
6. **Frequency range from 550 to 32,000 Kc**
7. **Extreme selectivity**
8. **Streamlined cabinet design**
9. **Controls designated with lettering**
10. **Total complement eleven tubes**
11. **One stage of RF amplification**
12. **Sturdy construction, detailed engineering and exceptional quality throughout.**

The RME-70 series receiver is a modification to the RME-69. Several features heretofore optional in the 69 have been incorporated as standard in the RME-70. Relay control and break-in, automatic noise suppressor, iron-core mica trimmed IF transformers—all are standard on this new instrument.

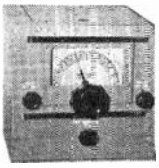
The price is made possible through the elimination of all optional features which are only available in the RME-69 series instruments. Standardizing on this one model, it has been possible to set a low price and still keep the performance high.

Equipped with green dial scales, green illuminated R meter scale; variable phasing crystal filter circuit of the latest type; a truly effective, fully automatic, noise suppressor; head phone jack; variable audio beat oscillator; manual-automatic volume control—this instrument incorporates positively everything that could be desired by an operator. The noise suppressor may be cut in and out of the circuit from the front of the panel through the stand-by and volume control knob. The cabinet size and other major points of merit are identical to those found in the RME-69.

RME-70 Single Signal Super Receiver—Housed in steel cabinet, gray or black crinkle finish, 465 Kc crystal, set of 11 tubes, 8" dynamic speaker, housed in gray or black crinkle finish baffle, 110 volt, 60 cycle model. Code BILAN..... **Net $138.60**

RME-70 Receiver—With tubes, less speaker, otherwise same as above. Code BICEP..... **Net $126.75**

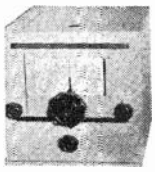
THE 510x70



This unit was introduced by RME to popularize the five meter band and to give amateurs an opportunity to obtain exceptional results at moderate expenditure instead of buying a complete superheterodyne receiver for this purpose. This unit is to be used ahead of a good, stable, superheterodyne receiver to produce the best results. Transmitted signals to which the 510X is tuned must be crystal controlled.

The 510X70 covers the range from 27.8 to 70 megacycles. It is a good image rejector on the ten meter band. It is equipped with changeover switch, self contained power supply, and built on cast aluminum frame. In outward appearance it matches the RME-70, being equipped with chrome trim. No change in cost over the regular 510X as listed on the previous page.

THE DB-2070



A two stage, three circuit, radio frequency amplifier unit covering the frequency range from 550 to 32,000 Kc in six bands. Designed to be used ahead of any good superheterodyne receiver to give added selectivity and considerable signal increase on all frequencies. The unit comes standard with antenna changeover switch incorporated supplied with three tubes and built in power supply, in either black or gray crinkle finish.

The DB-2070 matches in outward appearance the RME-70 series receiver, being provided with rectangular dial opening and chrome trim. The price remains identical to the standard DB-20 as listed on the previous page.

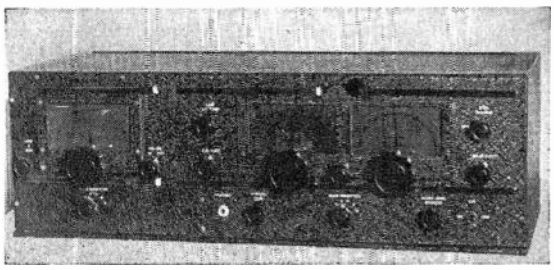
THE COMBINATION RME-70 AND DB-2070

In many instances the combination cabinet which houses the receiver and the DB-20 preselector as one unit has been requested. Although the RME-70 has been completely standardized in every way yet the arrangement to house the combination preselector and receiver in one cabinet was made available in the RME-70 series because of the great demand for such a unit. Either gray or black crinkle finish with the fine appearance now available in this new series permit many stations to dress modern and utilize the combination as shown.

RME-70 Single Signal Super Receiver—With 465 Kc crystal, set of eleven tubes, and DB-2070 preselector with three tubes including antenna changeover switch, mounted in one cabinet 28½" long, 10½" wide, 9" high, either gray or black crinkle finish, with speaker.

Code MIOLA & CELON..... **$181.65**

Same as above but less speaker. Code MIOLA..... **$169.80**



Net

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HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

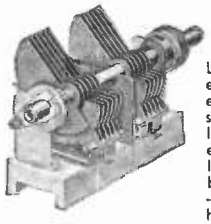
"MC" MIDGET CONDENSERS

Ideal variable for ultra-short wave and short wave tuning, laboratories, etc. Isolantite insulation. All contacts riveted or soldered. Vibration proof. New improved Hammarlund split type rear bearing, and noiseless wiping contact. Cadmium plated soldered brass plates. Shaft—1/4".

Code	Capacity	List
MC-20-S	20 mmf	$1.40
MC-35-S	35 mmf	1.50
MC-50-S	50 mmf	1.60
MC-50-M	50 mmf	1.60
MC-75-S	80 mmf	2.00
MC-75-M	80 mmf	2.00
MC-100-S	100 mmf	2.25
MC-100-M	100 mmf	2.25
MC-140-S	140 mmf	2.50
MC-140-M	140 mmf	2.50
MC-200-M	200 mmf	2.75
MC-250-M	260 mmf	3.00
MC-325-M	320 mmf	3.50

"M"—Midline Plates "S"—Straight Line Cap. Plates

"MCD" SPLIT-STATOR CONDENSERS



Like single midgets, these incorporate every requirement imperative to highest quality. Specifications identical to single types except that shield plate is located between stator sections. Also equipped with new Hammarlund noiseless wiping contact and split type rear bearing. Overall length behind panel —3 3/8". Strong Isolantite base. Single hole panel mount.

Code	Capacity	List
MCD-50-M	50 mmf. per sect.	$3.00
MCD-50-S	50 mmf. per sect.	3.00
MCD-100-S	100 mmf. per sect.	3.50
MCD-100-M	100 mmf. per sect.	3.50
MCD-140-M	140 mmf. per sect.	4.00
MCD-140-S	140 mmf. per sect.	4.00

"M"—Midline Plates "S"—Straight Line Cap. Plates

"MCB" BAND SPREAD CONDENSERS

For perfect band spreading or for amateur band frequency meters. Tank section may be set and locked to any desired capacity. Tuning sections spreads narrow frequency range over entire dial regardless of range of bands or coils used. Tank capacity—100 mmf., Tuning cap. type "120-B"—20 mmf., type "150-B"—50 mmf. Isolantite insulation at front and rear. Plates rigidly held in place.

Code	List
MC-120-B	$3.00
MC-150-B	3.25

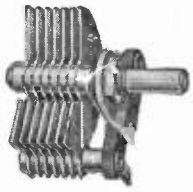
"SWM" SHORT WAVE MANUAL

ENTIRELY NEW!

Contains up-to-the-minute constructional data on short and ultra-short wave receivers — power supplies — transmitters — preselectors — converters — tuning hints and SW station list. All sets were built in the Hammarlund labortories and thoroughly tested. Illustrated with photographs and wiring diagrams. Ideal for the beginner and old-timer alike.

Code	List
SWM-39	$0.10

"SM" STAR MIDGET CONDENSERS

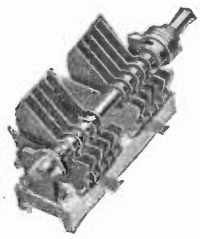


For receiving and transmitting, for short wave tuning, regeneration, antenna coupling, vernier, etc. Low loss, natural bakelite insulation. Non-corrosive aluminum plates. Phosphor bronze spring plate affords proper tension and smooth control and also provides perfect contact. Single hole mounting. 1/4" shaft. 5/16" mounting bushing. 1-9/16" wide x 1 3/4" high. Depth behind panel from 11/16" to 1 7/8" depending on capacity. Exceptionally light in weight and strong and compact in construction. Tinned soldered lugs on the front end are supplied to simplify wiring. Plates of straight line capacity types.

Code	Capacity	List
SM-15	15 mmf	$0.85
SM-25	25 mmf	.85
SM-50	50 mmf	.90
SM-100	100 mmf	1.00
SM-140	140 mmf	1.25
*SM-35-X	35 mmf	1.00
*SM-50-X	50 mmf	1.25

* Double Spaced Transmitting Types

"MCDX" DOUBLE SPACED CONDENSERS

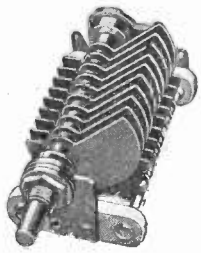


Identical to split stator condensers except that plates are widely spaced—actual air gap between rotor and stator plates—.0715". No shield between stators. Equipped with new Hammarlund noiseless wiping contact, and split type rear bearing. Condenser ideal for ultra-high frequency transmitters using up to 245's or 210's in push-pull.

Code	Capacity	List
MCD-35-MX	31 mmf. per sect.	$3.50
MCD-35-SX	31 mmf. per sect.	3.50

"MX"—Midline Plates "SX"—Straight Line Cap. Plates

"MCX" DOUBLE SPACED CONDENSERS



Exceptional unit for ultra-s.w. receivers and transmitters particularly compact transmitters. Plate spacing — .0715". Great for tuning crystal controlled transmitter amplifier stages or for neutralizers up to 210's and 50 watters. In midline (MX) and straight line cap. types (SX).

Code	Capacity	List
MC-20-SX	20 mmf	$2.00
MC-20-MX	20 mmf	2.00
MC-35-MX	32 mmf	2.25
MC-35-SX	32 mmf	2.25
MC-50-MX	50 mmf	2.75
MC-50-SX	50 mmf	2.75
MC-100-SX	100 mmf	3.50

"APC" MICRO CONDENSERS

For S.W. and ultra-S.W. For I.F. tuning, trimming R.F. coils or gang condensers, general padding, etc. Constant capacity under any conditions of temperature or vibration. Size 100 mmf. 1-7/32" x 15/16" x 1-7/32". Islantite base. Cadmium plated soldered brass plates.

Code	Capacity	List
APC-25	25 mmf	$1.30
APC-50	50 mmf	1.50
APC-75	75 mmf	1.70
APC-100	100 mmf	1.90
APC-140	140 mmf	2.25

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World Radio History

HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

"CF" ISOLANTITE COIL FORMS

Popular coil forms so many fans are using today. Black enameled wooden knob. Removable paper indicating disc protected by celluloid. Surface "non-skid". Plenty of holes—eliminates drilling. Slotted bottom for primary or tickler. Four, five, and six prong types. 1½" diameter. 2½" long exclusive of knobs and prongs.

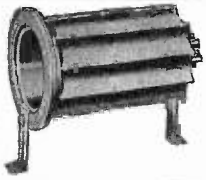
CODE	LIST
CF-4 (four prongs)	$1.25
CF-5 (five prongs)	1.25
CF-6 (six prongs)	1.25

"XP-53" COIL FORMS AND KITS

Outstanding forms using new low loss insulation material—XP-53. Natural coloring eliminating losses. Groove-ribbed for air spaced windings. Flange grips, meter indexes. Moulded threaded shelf in form. 1½" diameter and 2⅞" long exclusive of prongs. Kits with wound coils for MC-140-M condenser also available.

CODE	LIST
SWF-4 (four prongs, coil form only)	$.35
SWF-5 (five prongs, coil form only)	.35
SWF-6 (six prongs, coil form only)	.40
No. 40 coil (wound coil, 4 prongs, 10-20 meters)	1.00
No. 41 coil (wound coil, 4 prongs 17-41 meters)	1.00
No. 42 coil (wound coil, 4 prongs 33-75 meters)	1.00
No. 43 coil (wound coil, 4 prongs, 66-150 meters)	.75
No. 44 coil (wound coil, 4 prongs, 135-270 meters)	.75
BCC-4 (wound coil, 4 prongs, 250-560 meters)	1.25
No. 60 coil (wound coil, 6 prongs, 10-20 meters)	1.25
No. 61 coil (wound coil, 6 prongs, 17-41 meters)	1.25
No. 62 coil (wound coil, 6 prongs, 33-75 meters)	1.25
No. 63 coil (wound coil, 6 prongs, 66-150 meters)	1.00
No. 64 coil (wound coil, 6 prongs, 135-270 meters)	1.00
BCC-6 (wound coil, 6 prongs, 250-560 meters)	1.50
SWK-4 (kit—4, four-prong coils, 17-270 meters)	3.00
SWK-6 (kit—4, six-prong coils, 17-270 meters)	3.75

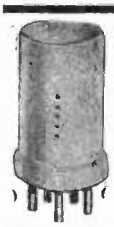
"TCF" COIL FORM



A transmitting coil form of XP-53 dielectric is also available. This may be permanently mounted on special brackets supplied, or in plug-in coil fashion. 2¼" diameter. 3⅞" long exclusive of prongs.

CODE	LIST
TCF-4 (4 prongs)	$.70
TCF-5 (5 prongs)	.70

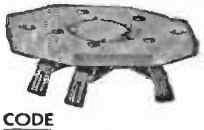
"CF-M" ULTRA S. W. FORMS



Unusual coil form for maximum efficiency at ultra-high frequencies or within the 28-56 megacycle band. Isolantite with correct form factor and resultant minimum high frequency resistance guaranteeing absolute stability. Plenty of holes to facilitate any inductance desired and any type of wiring. Form is 1⅛" in diameter and 2" long exclusive of prongs.

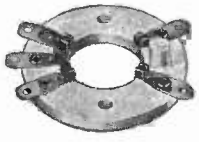
CODE	LIST
CF-5-M	$1.00

"S" ISOLANTITE SOCKETS



Standard socket at left. Lowest losses. Constant resistivity. Gripped prongs—cannot shift. Guide groove. Rust-proof side gripping contacts. Glazed top and sides. Sub-panel or base mounting. 2¼" x 1⅝".

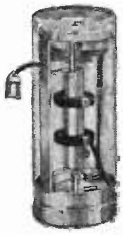
CODE	LIST
S-4 (4 prongs)	$.60
S-5 (5 prongs)	.60
S-6 (6 prongs)	.60
S-7 (large base, 7 prongs)	.60
S-7-B (small base, 7 prongs)	.60
S-8 (8 prongs)	.75



Acorn socket at right. Isolantite. For new high frequency acorn tubes—954 or 955. 1⅞" diameter. Five double grip silver plated phosphor bronze prongs. Top, sides, and plug glazed.

CODE	LIST
S-900	$1.50

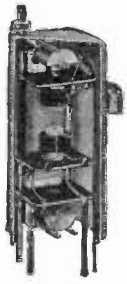
"ATT" AIR TUNED I. F. T.



Air tuned primary and secondary units with plate and grid coils of Litz wire. Exceptional "Q" of 115. Coupling co-efficient 0.77%. Gain in excess of 200 per stage together with unequalled selectivity. For 57's, 58's, 24's, 35's, etc. Center tapped units also for split input tubes. Shield 2 3-32" x 5" high.

CODE	FREQUENCY	LIST
ATT-175	175 kc.	$4.50
ATT-465	465 kc.	4.50
ATT-175-CT	175 kc. (center tapped)	4.50
ATT-465-CT	465 kc. (center tapped)	4.50
ATO	465 kc. (beat oscillator)	4.50

"VT" VARIABLE COUPLING I. F. T.



Outstanding transformers with new variable coupling feature. Approximate range of variation from ⅓ critical coupling to over 3 times critical coupling with circuit constants unaffected. Continuous variation between these limits controllable from panel where continuous variation is not required. Impregnated 3-pie Litz windings on Isolantite core. Exceptionally high "Q" of 130. 2" x 2" x 5". Transformer without variable coupling feature (minimum coupling) also available. Same size as model just described known as VTF. A beat oscillator type to match this fixed type also available, known as VTO. CT types—center tapped.

CODE	FREQUENCY	LIST
VT-465	465 kc.	$5.50
VT-175	175 kc.	5.50
VTC (variable coupling mechanism for panel control of up to 4 transformers)		2.50
VTF-465	465 kc.	4.50
VTF-175	175 kc.	4.50
VTO-465	465 kc.	4.50
VTF-465-CT	465 kc.	4.50
VTF-175-CT	175 kc.	4.50

"T" AND "ST" I.F.T.

For experimental and replacement in superheterodyne midgets, automobile sets, etc. "T" and "ST" type with tuned grid, tuned plate, lattice wound impregnated coils. "ST" type—2¾" high x 1 7/16" square. Type "T" model—2⅛" diam. x 3⅛" high. Type "ST" illustrated at left. Litz wire in 465 kc. type.

CODE	FREQUENCY	LIST
ST or T-465	465 kc.	$1.65
ST or T-175	175 kc.	1.65
ST or T-465-CT	465 kc. (center tapped)	1.65
ST or T-175-CT	175 kc. (center tapped)	1.65
ST-262	262 kc.	1.65
TBO-465	465 kc. (beat oscillator)	1.65

ALUMINUM TUBE AND COIL SHIELDS

Complete isolation afforded by this tube shield shown at left, for full use of enormous amplification available from new high gain 2.5 and 6.3 volt R.F. pentodes. Special drawn-in neck completes shielding between control grid and plate. Removable top entirely shields control grid cap. Body, cap, and base all of heavy aluminum and designed for maximum cooling. Measures 4⅝" high x 1⅝" diameter. Mounting center 1 27/32".

CODE	LIST
TS-50	$.40

The Hammarlund coil shield shown at right is a very effective housing for coils. It is constructed of heavy aluminum and is a 2-piece affair. It is 3" in diameter. Base has mounting holes.

CODE	LIST
CS-3	$.50

World Radio History

HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

"EC" AND "MEX" EQUALIZERS

Standard type illustrated at left, popular model for neutralizing, balancing and trimming. Mica dielectric—phosphor bronze flexible plates, bakelite base 1¼" x $\frac{11}{16}$".

Code	Capacity	List
EC-35	3-35 mmf	$0.30
EC-80	25-80 mmf	.40

The midget equalizer shown at right is an extremely small condenser designed expressly for trimming R.F. coils, but useful, of course, for many other purposes. Self-supporting in wiring. Isolantite base—⅝" x ¾". Mica dielectric, phosphor bronze spring plates.

Code	Capacity	List
MEX	3-30	$0.30

"MICS" PADDING CONDENSERS

New improved type — with Isolantite base. Most expensive imported mica used. Tested for capacity, power factor and breakdown at 500 V. D.C. 1" x 1⅝". Base mounting centers 1¼".

Code	Capacity	List
MICS-70	10- 70 mmf	$0.50
MICS-140	70- 140 mmf	.60
MICS-220	140- 220 mmf	.70
MICS-1000	600-1000 mmf	1.00

"CTS" PADDING CONDENSERS

Compact Isolantite base padder or trimmer for use in all R.F. and oscillator circuits. Metal parts plated to eliminate corrosion. Base is treated against moisture absorption. Heavy India ruby mica insulation for 500 volts. Dimensions $1\frac{3}{16}$" x $1\frac{1}{16}$". Mounting centers $\frac{15}{16}$.

Code	Capacity	List
CTS-85	25-135 mmf	$0.50
CTS-160	45-260 mmf	.60
CTS-230	65-350 mmf	.60
CTS-380	175-550 mmf	.75
CTS-525	230-800 mmf	.80

"QTD" DUAL R.F. TRIMMERS

Same precision construction as CTS. Designed especially for tuning I.F. transformers but sections can be connected in series or parallel for a wide range of capacities and voltages. Mounted on moisture-proof Isolantite. Size is $1\frac{13}{32}$" x $1\frac{11}{32}$"; mounting centers ⅞". Also single hole mounting.

Code	Capacity	List
QTD-100	20-100 mmf	$0.70
QTD-250	55-250 mmf	.80
QTD-450	100-450 mmf	.90
QTD-600	170-600 mmf	1.00

"FC" FLEXIBLE COUPLINGS

This coupling permits tandem operation of any number of independent units without requiring exact shaft alignment. A great convenience and time saver. The sides of the coupling are insulated from each other, allowing instruments in gang to be operated as independent electrical units. Bakelized canvas with brass bushings for ¼" shaft. Four rust proofed and hardened steel set screws provide against shaft slipping. Overall diameter 1½".

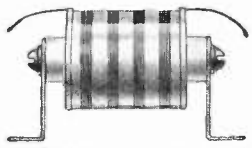
Code	List
FC	$0.60

"CH-500" TRANSMITTING CHOKES

For parallel feed in high powered transmitters—20- 40- 80- and 160-meter amateur bands. High equivalent impedance more than 500,000 ohms. Effective from 1,500 to 15,000 kc. with exception of frequencies between 5,300 and 6,400 and between 8,000 and 9,000. Six thin universal pies. Isolantite core. Insulated mounting brackets secured to Isolantite core with short machine screws. Brackets removable and choke mounted with a single machine screw. Ind.—2.5 mh. Dist. cap. less than 1.5 mmf. D.C. res.—8 ohms. Max. recommended D.C. (continuous) 500 ma. Overall size, less brackets—$1\frac{13}{16}$" x 2½".

Code	List
CH-500	$1.75

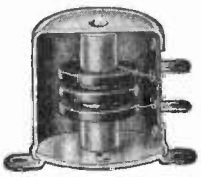
"CH-8" ISOLANTITE R.F. CHOKES



For S.W. and ultra-S.W. receivers and transmitters. Effective over broadcast band too. Recommended as grid choke for multistage transmitters. Isolantite spool. Four sectionalized windings, moisture proofed, protected by radio frequency lacquer and cellophane covering. Choke 1⅜" x ⅞". Flexible leads. Removable brackets. Ind.—8 mh. D.C. res.—70 ohms. Dist. cap.—3 mmf. Current carrying cap.—125 ma.

Code	List
CH-8	$1.10

"CH-10-S" R.F. SHIELDED CHOKES



For use in high gain circuits. Universal impregnated wound pies enclosed in an aluminum shield 1½" high x 1⅜" in diameter. Mounting legs on $1\frac{15}{16}$" center. Connections to terminal are on one side of the can properly indicated. Inductance—10 mh. D.C. resistance—65 ohms. Current carrying cap.—100 ma.

Code	List
CH-10-S	$1.00

"RFC" HIGH IMPEDANCE CHOKES

Popular R.F. choke with special impregnated helical winding enclosed in bakelite case, $1\frac{13}{16}$" high and $1\frac{9}{16}$" in diameter. Ideal for detector plate circuit and R.F. filtering systems in general. Two types—85 mh. with dist. cap. of 3 mmf. and D.C. res. of 215 ohms, and 250 mh. with dist. cap of 2 mmf. and D.C. res. of 420 ohms. Current carrying cap. of both types 60 ma.

Code	List
RFC-85	$2.00
RFC-250	2.25

"CH-X" R.F. MIDGET CHOKES

Invaluable item where space is at a premium. It is so small in size and light in weight that it can be supported by own leads. Five impregnated universal wound pies ¼". Impregnated Isolantite core insuring ruggedness and stability. Ind.—2.1 mh. D.C. res.—35 ohms. Dist. cap.—1 mmf. Current carrying cap.125 ma. Length across caps 1½". Dia. ½".

Code	List
CH-X	$0.60

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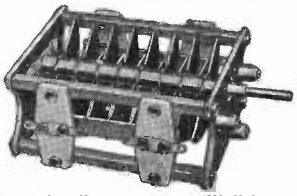
HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

"TC" TRANSMITTING CONDENSER



An entirely new moderately priced, heavy duty transmitting condenser, featuring heavy aluminum end plate, Isolantite insulation, non-inductive, self-cleaning silver plated beryllium contacts, full floating rotor bearing, non-magnetic rotor assembly, polished heavy aluminum plates accurately spaced. All, except type "L," have round edge plates of .040" thickness. Type "L" has .025" plates with plain edges. Type "F" has .230", 7500 V. air gap. Type "G," .200", 6750 V. Type "H," .171", 6000 V. Type "J," .100" 4250 V. Type "K," .084," 3750 V. Type "L," .070", 2000 V. air gap.
Available in a wide variety of capacities and working voltages, these condensers are ideal for modern up-to-date transmitters with power outputs ranging from 200 watts to 1 kw.

Type	Capacity	Overall Length	List
TC-220-L	220 mmf.	4 1/16	$ 4.50
TC-440-L	465 mmf.	5 7/8	7.70
TC-90-K	95 mmf.	2 15/16	4.50
TC-165-K	170 mmf.	4 1/16	6.50
TC-220-K	225 mmf.	4 5/8	8.00
TC-290-K	300 mmf.	5 7/8	9.50
TC-330-K	340 mmf.	6 1/2	10.00
TC-240-J	250 mmf.	6 1/2	10.20
TC-25-H	25 mmf.	2 15/16	3.50
TC-50-H	53 mmf.	4 1/16	6.00
TC-110-H	115 mmf.	6 1/2	9.00
TC-18-G	20 mmf.	2 15/16	5.20
TC-40-G	45 mmf.	4 1/16	7.00
TC-65-G	72 mmf.	5 7/8	8.80
TC-100-G	110 mmf.	7 1/2	11.20
TC-150-G	165 mmf.	10 5/8	14.80
TC-55-F	60 mmf.	5 7/8	8.00

"TCD" SPLIT STATOR TYPES

These split-stator transmitting condensers are identical to the singles shown above, except that the stator sections are individual. Ideal for push-pull power amplifiers ranging in power up to 1 kw. They are of convenient size and lend themselves to construction of compact apparatus. Overall dimensions in back of panel are given in the accompanying table. The capacity values listed are for each section. The last letter in the code represents plate spacing and voltage rating. These are identical to those given above. Type "M"—plain plates, .030" air gap.

Type	Capacity	Overall Length	List
TCD-500M	505 mmf.	4 1/16	$ 6.50
TCD-80-L	88 mmf.	4 1/16	5.50
TCD-210-L	215 mmf.	5 7/8	8.25
TCD-90-K	95 mmf.	4 5/8	7.50
TCD-165-K	170 mmf.	6 1/2	11.00
TCD-325-K	335 mmf.	11 1/16	20.50
TCD-240-J	250 mmf.	11 1/16	19.00
TCD-50-H	53 mmf.	6 1/2	9.80
TCD-110-H	115 mmf.	11 1/16	16.00
TCD-40-G	48 mmf.	7 1/2	10.50
TCD-75-G	82 mmf.	11 1/16	14.50
TCD-55-F	60 mmf.	11 1/16	13.50

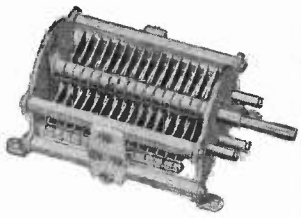
"HF" MICRO CONDENSERS

For tuning or trimming on high frequencies. Cadmium plated soldered brass plates. Isolantite. Base mounting, single hole panel mount, or panel mounting with bushings. 140 mmf. size 1 9/32" high x 17/32" behind panel.

Code	Capacity	List
HF-15	17.5 mmf.	$1.25
HF-35	35 mmf.	1.50
HF-50	50 mmf.	1.60
HF-100	100 mmf.	1.90
HF-140	140 mmf.	2.25
*HF-15-X	15 mmf.	1.60
*HF-30-X	30 mmf.	1.85

* Double spaced

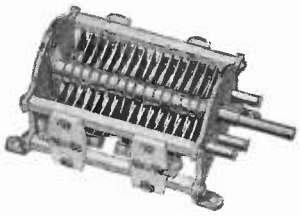
"MTC" TRANSMITTING CONDENSERS



Compact types, Isolantite insulation. Base or panel mounting. Polished aluminum plates. Stainless steel shaft. Size of 150 mmf. with .070" plate spacing only 4 5/8" behind panel. "A" model has .040" plate thickness, all others .025". "A" and "B" models — rounded plates. "C" types —plain plate edges. Self-cleaning wiping contact.

Code	Capacity	List
MTC-35-A	35 mmf.	$6.00
MTC-20-B	20 mmf.	3.25
MTC-35-B	35 mmf.	3.50
MTC-50-B	50 mmf.	3.90
MTC-100-B	100 mmf.	5.00
MTC-150-B	150 mmf.	6.10
MTC-50-C	50 mmf.	2.80
MTC-100-C	100 mmf.	3.05
MTC-150-C	150 mmf.	3.20
MTC-250-C	260 mmf.	3.60
MTC-350-C	365 mmf.	4.00

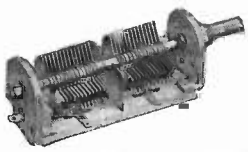
"MTCD" SPLIT-STATOR TYPES



Same outstanding features as MTC singles except that stator sections are separate. Model 110-B with .070" plate spacing, only 5 3/4" behind panel. "B" models — rounded plates "C" models—plain plate edges.

Code	Capacity	List
MTCD-20-B	20 mmf. per sect.	$5.25
MTCD-35-B	35 mmf. per sect.	5.75
MTCD-50-B	50 mmf. per sect.	6.50
MTCD-100-B	100 mmf. per sect.	8.75
MTCD-50-C	50 mmf. per sect.	4.50
MTCD-100-C	100 mmf. per sect.	5.00
MTCD-150-C	150 mmf. per sect.	5.25
MTCD-250-C	265 mmf. per sect.	6.00

"HFD" MICRO DUAL CONDENSERS



A compact dual—ideal as a high frequency tuning condenser, for tuning and neutralizing low-powered short wave and ultra-short wave transmitters, etc. Heavy Isolantite base. Equipped with new outstanding Hammarlund split rear bearing and individual noiseless wiping contact for each section. Rotor contacts variable to several positions for shortest leads. Shield between sections for grounding. The 140 mmf. size is only 1 1/2" high x 3 3/4" long behind panel. 1/4" shaft. Cadmium plated soldered brass plates.

Code	Capacity	List
HFD-50	50 mmf. per sect.	$2.75
HFD-100	100 mmf. per sect.	3.25
HFD-140	140 mmf. per sect.	3.75
*HFD-15-X	15 mmf. per sect.	3.00
*HFD-30-X	28.5 mmf. per sect.	3.25

*Double-Spaced

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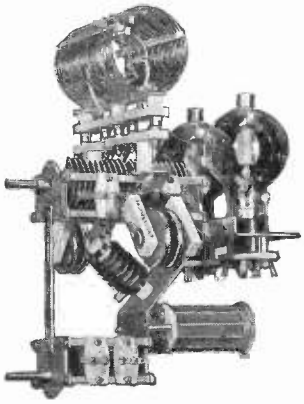
World Radio History

HAMMARLUND

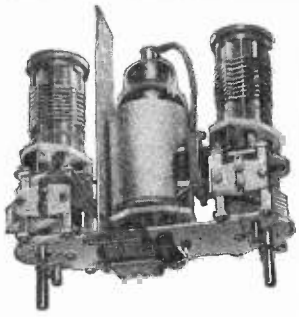
PRECISION PRODUCTS FOR BETTER RADIO



PA-300 FOUNDATION UNIT

This foundation kit is designed to make it easier for the amateur to build his own transmitter. The entire unit is self-supporting and can be bolted to the front panel of the transmitter. No chassis is required; thus the difficult task of drilling and machining is eliminated. The only tools necessary to put the PA-300 together are a screw-driver and soldering iron. The parts are placed so that connecting leads are short and direct, making the amplifier extremely efficient. It can be used with any of the popular triodes, such as 808's, RK-37's, 35-T's, T-55's, HK-54's, and many others. The output varies between 100 and 300 watts depending upon the type of tubes employed. The PA-300 consists of all brackets, screws, nuts, lockwashers, etc., and is packed complete with instructions and drilling template. Other Hammarlund parts needed: 1—MTCD-100-B; 1—MTCD-100-C; 2—N-10; 1—CH-500; 2—S-4; 1—S-5; 4—SWF-5.

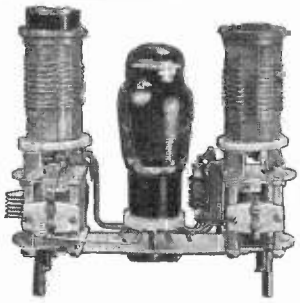
Code	List
PA-300—Foundation Unit	$3.25



BD-40 BUFFER-DRIVER

The BD-40 is a driver unit intended for use with the PA-300 but can also be used as a low power output stage in a beginner's transmitter. Employs either an 807 or RK-39 beam tube. The output in either case is approximately 40 watts. A multistage transmitter can be constructed around these units providing an economical compact all-band transmitter. All brackets are drilled for standard Hammarlund parts. Holes for mounting the by-pass condensers and other parts such as R.F. choke and plate blocking condenser are provided. The BD-40 includes all hardware such as brackets, shield plate and tube shield, screws, nuts, lockwashers, instructions and drilling template. Other Hammarlund parts needed: 2—MTC-100-C, 2—S-4, 1—S-5, 1—CH-X, 8—SWF-4. Overall dimensions 8¼" x 7½" x 3¾".

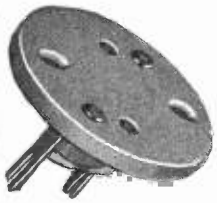
Code	List
BD-40—Foundation Unit	$3.60



OD-10 OSCILLATOR-DOUBLER

This unit is essentially the same as the BD-40 except that it uses a 6L6-G tube has no tube shield, and no vertical coil shield. Has the same overall dimensions and the same panel mounting specifications. This is a "tri-tet" crystal oscillator and doubler. This unit also employs a special crystal holder socket which fits into the top of the cathode coil form. Both coil and crystal are changed in one operation. OD-10 consists of all brackets, screws, nuts, lockwashers, instructions and drilling template. Other Hammarlund parts needed: 2—MTC-100-C; 2—S-4; 1—S-8; 1—CH-X; 2—SWF-4; 1—XS-2. Size 8¼" x 7½" x 3¼".

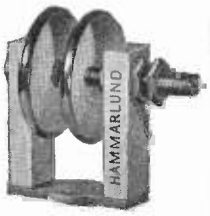
Code	List
OD-10—Foundation Unit	$2.80



XS-2 CRYSTAL SOCKET

A very compact crystal socket designed to mount inside SWF coil form for changing coil and crystal in one operation. This is suitable for all tri-tet circuits and is used in our "OD-10" oscillator doubler unit. Two special re-inforced socket clips insure perfect electrical connection. Isolantite base. Can be used with SWF coil forms or separately in apparatus where space is at a premium. Ideal for portable equipment. Measures only 1⅜" in diameter. Two hole mounting centers 15/16".

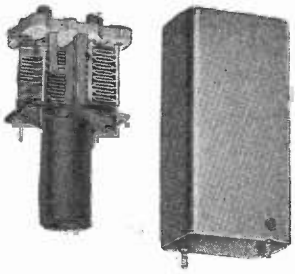
Code	List
XS-2	$0.50



"N" NEUTRALIZING CONDENSERS

Improved neutralizing condensers with heavy polished aluminum plates. Rounded edges. Isolantite. Fine adjusting screw. Positive lock. Horizontal adjustment. Type "N-10", 2⅝" high x 1-3/16" deep. "N-15" 4-15/16" high x 3½" deep. "N-20", 5-11/16" high x 4" deep.

Code	List
N-10—(2.1—10 mmf.)	$3.00
N-15—(3.2—14 mmf.)	6.00
N-20—(3.8—14 mmf.)	6.50



ETU EXCITER TUNING UNIT

These handy exciter tuning units are ideal for constructing high frequency I.F. transformers for U.H.F. superhets and for use in transmitter exciter units. Has two 25 mmf. HF type condensers mounted on an Isolantite block. These are double spaced and have a heavy shield plate between them. The blank coil form is of low loss material ⅞" in diameter and 2" long. Supplied complete with heavy shield can. Measures 2" x 1-7/16" x 4".

Code	List
ETU	$4.00

PTS POWER TUBE SHIELD

This tube shield is used in the BD-40. It is designed for transmitting pentodes and tetrodes such as the 807, RK-39, 804, RK-20, and many other similar tubes which require an external shield for best results. Constructed of heavy aluminum, this shield is drilled for standard Hammarlund sockets and has silver-like satin finish. Size 2¼" diameter x 3" high.

Code	List
PTS	$0.40

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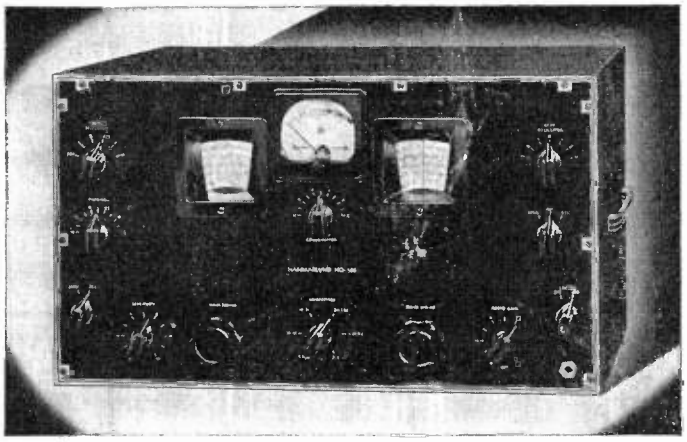
World Radio History

HAMMARLUND

PRECISION PRODUCTS FOR BETTER RADIO

NEW HQ-120 AMATEUR RECEIVER

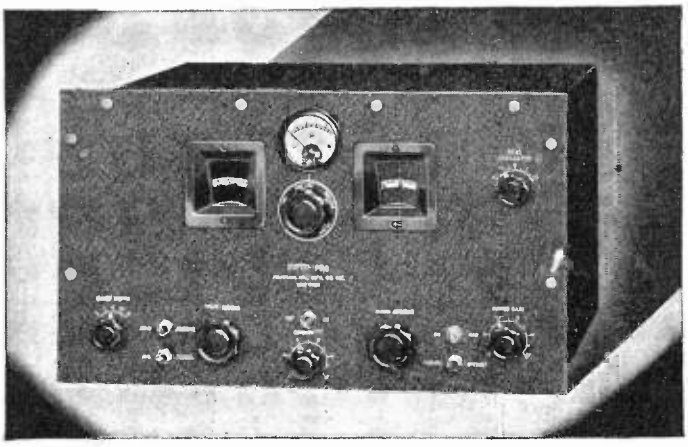


THE NEW HAMMARLUND "HQ-120" and "HQ-120-X" are designed to meet the most critical demands of amateur and professional operators. Hammarlund engineers have gone beyond ordinary practice in designing this new and outstanding receiver. This ultra-modern 12-tube superheterodyne covers a continuous range of from 31 to .54 mc. (9.7 to 555 meters) in six bands, taking in all important amateur, communication, and broadcast channels. The "HQ-120" is not to be confused with modified broadcast sets. Two years were required to develop it. This is a special receiver with special parts throughout. Every wave range is individual—that is, each range has its own individual coil and a tuning condenser of proper value for maximum efficiency; thus, including the broadcast band does not decrease efficiency at high frequencies. Besides having all the necessary features for perfect short wave reception, such as A.V.C., beat oscillator, send-receive switch, phone jack and relay terminals, the "HQ-120" also includes a new and outstanding crystal filter circuit which is variable in six steps from full band-width to razor edge selectivity. This permits the use of the crystal filter for the reception of both voice and music. It is no longer necessary to contend with serious heterodyne interference. These annoying disturbances can be phased out with the phasing control on the panel. Other features include a new and accurate "S" meter circuit for measuring incoming signal strength; antenna compensator to compensate for various antennas, and 310 degrees band-spread for each amateur band from 80 to 10 meters. The band spread dial is calibrated in megacycles for each of these amateur bands. The main tuning dial is calibrated in megacycles throughout the entire range of the receiver.

Prices Include Speaker and Tubes

Code	Type	Tuning Range	Speaker	Net Price
HQ-120	Standard	31 — .54 mc.	10" P.M. Dyn.	$117.00
HQ-120-X	Crystal	31 — .54 mc.	10" P.M. Dyn.	129.00
Speaker cabinet (metal) 12½" x 12½" x 7 inches				3.90

Send for Descriptive Booklet



SUPER-PRO

THE HAMMARLUND "SUPER-PRO" has long been an outstanding receiver in the communications field. Engineers, as well as more advanced amateurs continue to express their appreciation of this fine receiver. The "Super-Pro" is a 16-tube superheterodyne including such outstanding features as, self-contained tuning unit with unusual 5-band silver plated cam switch; 20 individually laboratory adjusted tuning coils on Isolantite bases; a complete four-gang tuning condenser and 12-gang band-spread condenser. For low noise level and high sensitivity, the "Super-Pro" has electrostatically shielded input, 2 R.F. stages on all bands, three stages of high gain I.F. amplification with variable band width from 3 to 16 kc. Available in several models covering a wide range of frequencies. Standard models are listed below. All models have calibrated tuning dial, wide band-spread, beat oscillator, send-receive switch, ear-phone connection with switch on panel for cutting the speaker in and out, and tuning meter. Sensitivity of the "Super-Pro" is better than 1 microvolt with a signal-to-noise ratio of 6 to 1. Available in rack mounting type at slight extra cost.

Code	Type	Tuning Range	Speaker	Net Price
SP-110	Standard	15 to 560 meters	8" dynamic	$243.00
SP-110-X	Crystal	15 to 560 meters	8" dynamic	261.00
SP-110-S	Standard	7½ to 240 meters	8" dynamic	243.00
SP-110-SX	Crystal	7½ to 240 meters	8" dynamic	261.00

Special Models Covering Other Wave Ranges Available On Order

Write for Circular!

All prices on this page are NET—no further discount

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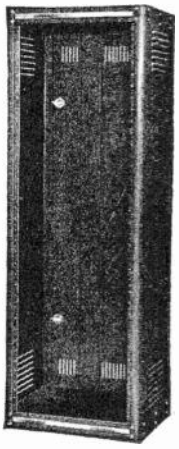
World Radio History

PAR-METAL

RACKS—PANELS—CABINETS

TYPE "A" DELUXE

Enclosed Relay Racks



New streamlined styling with rounded corners at front features this rack. Top and bottom trimmed with chrome mouldings. Standard finish is slate grey ripple, black is optional. Panel mounting holes on 1¾" centers, tapped 10/32 thread. Panels fit into recess to conceal edges. Shipped "knocked-down" with all necessary bolts for easy assembly.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER-213	42 x22¼x16½"	36¾"	75	$25.20
ER-215	66½x22¼x16½"	61¼"	120	32.40
ER-217	82¼x22¼x16½"	77"	160	39.00

Rack Shelf: Made to fit above racks. Is 12" deep and 1" high. Finished same as racks.

ER-2112—Shpg. wt. 9 lbs.....Net, $2.25

TYPE "A"

Enclosed Relay Racks

Constructed of heavy steel finished in black ripple enamel. Holes drilled for standard 19" panels every 1¾". Holes have 10-32 thread. Sides have louvres to provide ample ventilation. Back panel in form of a door with heavy latch; has two screen sections for additional ventilation. Comes knocked down, with all necessary nuts, bolts and washers. Easy to assemble. Ideal for the professional type amateur transmitter.

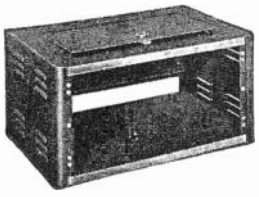
Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER203	42 x21x16½"	36¾"	75	$20.10
ER205	66½x21x16½"	61¼"	120	26.70
ER207	82¼x21x16½"	77"	160	33.00

Rack Shelf: Made to fit above racks. Is 12" deep and 1" high. Finished same as racks.

ER2012—Shpg. wt. 9 lbs. Net, $1.80

TYPE "C" DELUXE

Steel Cabinets for Rack Panels



These cabinets are similar to the "All-Purpose" cabinets listed on this page, but have been made more attractive in design having rounded corners at the vertical front edges and chromium finished trim at the top and bottom. They will accommodate standard 8¾" x 19" panels, except No. DL-1210 which requires a single panel 10½" x 19". Finished in black ripple enamel.

No. DL-128—Cabinet for single 8¾" x 19" panel. Has door in top only. Cabinet size 10½" x 20½" x 13½" deep. Shpg. wt. 22 lbs. Net Price.....$7.95

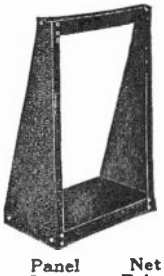
No. DL-1210—Cabinet for single 10½" x 19" panel. Has door in top only. Cabinet size 12¼" x 20½" x 13½" deep. Shpg. wt. 24 lbs. Net Price.....$9.30

No. DL-1713—Cabinet for two 8¾" x 19" panels. Has door in top and door on rear panel. Cabinet size 19¼" x 20½" x 13½" deep. Shpg. wt. 37 lbs. Net Price.....$12.60

No. DL-2613—Cabinet for three 8¾" x 19" panels. Has door on rear panel only. Cabinet size 28" x 20½" x 13½" deep. Shpg. wt. 46 lbs. Net Price.....$13.50

No. DL-3513—Cabinet for four 8¾" x 19" panels. Has door on rear panel only. Cabinet size 36¾" x 20½" x 13½" deep. Shpg. wt. 55 lbs. Net Price.$16.50

Table Type Relay Racks



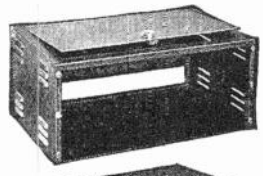
Intended for table mounting. Mounting holes are accurately tapped on 1¾" centers. Finished in black ripple enamel, and shipped knocked-down. Fit all standard rack panels.

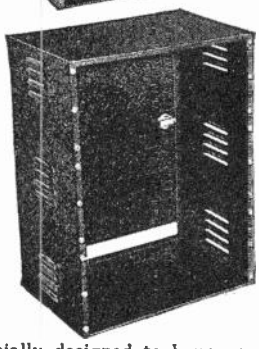
Shpg. Wt. 30 lbs.

Cat. No.	H. W. D.	Panel Space	Net Price
TR2520	25x20x12"	21x19"	$3.90
TR3220	32x20x12"	28x19"	5.10

TYPE "A" "ALL-PURPOSE"

Steel Cabinets for Rack Panels





Especially designed to house receivers, transmitters, P.A. systems, etc. Afford neat, professional appearance. All take standard 19" panels. Constructed of 1/16" steel with black ripple enamel. Have doors with heavy latch for access to chassis. Sides and back have louvres for ventilation. Comes complete with panel mounting screws and washers. All cabinets 19" wide.

SC128—Cabinet for single panel. Has door in top. 8¾" high and 13½" deep. Shpg. Wt. 20 lbs. Net Price, Each $5.04

SC1210—Cabinet for single panel. Door in top. 10½" high. 13½" deep. Shpg. Wt. 22 lbs. Net Price, each $6.24

SC1713—Cabinet for two panels. Has door in top and door on rear panel. 17½" high and 13½" deep. Shpg. Wt. 34 lbs. Net Price, Each.....$9.00

SC2613—Cabinet for three panels. Has door on rear panel. 26¼" high and 13½" deep. Shpg. Wt. 42 lbs. Net Price, Each $9.75

SC3513—Cabinet for four 8¾x19" panels. Has door on rear panel only. Cabinet size 35x19x13½" deep. Shpg. Wt. 50 lbs. Net Price, Each.....$11.40

TYPE "A"

Standard Relay Racks

These sturdy steel racks are constructed of ⅛" steel, with spot welded corners. Finished in black ripple enamel. Racks are for use with standard 19" long panels, and are accurately drilled for mounting holes every 1¾". Holes tapped for 10-32 thread. Substantially braced base to prevent wobble and to keep units in corrent alignment. Ideal for use with all types of Transmitters or for Public Address Systems.

No.	Dimensions H. W. D.	Panel Space	Shpg. Wt.	Net Price
RR195	73¼x20x16"	71¾"	60 lbs.	$12.00
RR193	38¼x20x13"	36¾"	40 lbs.	9.75

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World Radio History

PAR-METAL

RACKS—PANELS—CABINETS

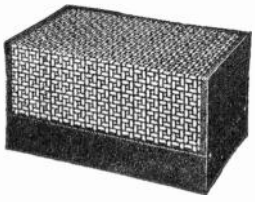
Amplifier Foundation Units

DELUXE

Modern professional type. Rounded corners on screen cover. Chrome mouldings and handles. Cover finished in slate gray, with black ripple chassis.

Cat. No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
DF510	5x10x3"	5¾"	9 lbs.	$2.55
DF615	6x14x3"	5¾"	10 lbs.	3.00
DF717	7x17x3"	5¾"	11 lbs.	3.45
DF1012	10x12x3"	5¾"	11 lbs.	3.45
DF1017	10x17x3"	5¾"	13 lbs.	4.05

STANDARD TYPE

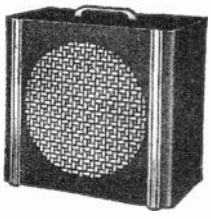


With new modern grille on screen cover. Finished in black ripple enamel.

Cat. No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
AF510	5x10x3"	5¾"	9 lbs.	$1.53
AF615	6x14x3"	5¾"	10 lbs.	1.80
AF717	7x17x3"	5¾"	11 lbs.	2.25
AF1012	10x12x3"	5¾"	11 lbs.	2.25
AF1017	10x17x3"	5¾"	13 lbs.	2.70

Loud Speaker Cabinets

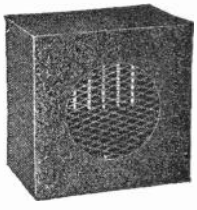
DELUXE



To match streamlined metal equipment. Rounded corners with chrome mouldings and handles. New modern grille. Finished in slate gray ripple enamel. Removable back cover.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
SC1060	4¾"	6"	10x10x6"	8 lbs.	$3.45
SC1270	6½"	8"	12x12x7"	9 lbs.	4.20
SC1480	9"	10"	14x14x8"	15 lbs.	5.70
SC1680	11"	12"	16x16x8"	20 lbs.	7.35

STANDARD TYPE

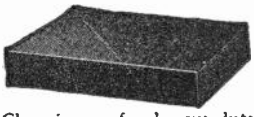


Made from sheet steel, with removable back cover. Finished in black ripple enamel. With welded grille to protect speaker.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
SC 996	4¾"	6"	9x9x6"	8 lbs.	$2.25
SC1170	6½"	8"	11x11x7"	9 lbs.	2.76
SC1380	9"	10"	13x13x8"	15 lbs.	3.90
SC1580	11"	12"	15x15x8"	20 lbs.	5.25

HEAVY DUTY TYPE

Blank Steel Chassis Bases



These Chassis are for heavy duty jobs. Made from 1/16" steel with welded corners and reinforcing flanges at bottom. Furnished with removable bottom plates and necessary screws.

BLACK RIPPLE ENAMEL

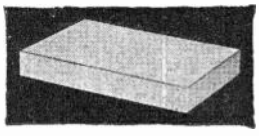
No.	Dimensions W. L. D.	Shpg. Wt.	Net Price
15280	8x17x2"	14 lbs.	$1.62
15281	8x17x3"	15 lbs.	1.80
15282	11x17x2"	19 lbs.	1.80
15210	11x17x3"	20 lbs.	1.95
15212	13x17x2"	21 lbs.	2.10
15213	13x17x3"	22 lbs.	2.31
15216	13x17x4"	24 lbs.	2.55

CADMIUM PLATED

No.	Dimensions W. L. D.	Shpg. Wt.	Net Price
15208	8x17x2"	14 lbs.	$1.62
15209	8x17x3"	15 lbs.	1.80
15211	11x17x2½"	18 lbs.	1.89
15214	13x17x2"	21 lbs.	2.10
15215	13x17x3"	22 lbs.	2.31
15217	13x17x4"	24 lbs.	2.55

STANDARD TYPE

Blank Steel Chassis Bases



These chassis are intended for all purposes where a heavy duty chassis is not required. Stamped from one piece of No. 20 gauge cold rolled steel; four solid sides with welded corners. Bottom edges folded in to provide additional reinforcement.

CADMIUM PLATED

Cat. No.	Size	Shipping Wt.	Net Price
C4500	5½x9½x1½"	2 lbs.	.45
C4508	5 x10 x3"	3 lbs.	.66
C4509	6 x14 x3"	4 lbs.	.78
C4510	7 x 7 x2"	2 lbs.	.54
C4511	7 x 9 x2"	3 lbs.	.60
C4512	7 x11 x2"	3 lbs.	.66
C4513	7 x13 x2"	4 lbs.	.72
C4514	7 x15 x3"	4 lbs.	.90
C4518	4 x17 x3"	4 lbs.	.78
C4515	7 x17 x3"	5 lbs.	.96
C4525	10 x12 x3"	5 lbs.	.96
C4524	10 x14 x3"	5 lbs.	1.02
C4526	10 x17 x3"	6 lbs.	1.08
C4527	10 x23 x3"	7 lbs.	1.38
C4516	12 x17 x2"	5 lbs.	1.26
C4517	12 x17 x3"	6 lbs.	1.38
C4530	12 x17 x4"	7 lbs.	1.56

BLACK RIPPLE ENAMEL

Cat. No.	Size	Shipping Wt.	Net Price
B4500	5½x9½x1½"	2 lbs.	$ .45
B4508	5 x10 x3"	3 lbs.	.66
B4509	6 x14 x3"	4 lbs.	.78
B4510	7 x 7 x2"	2 lbs.	.54
B4511	7 x 9 x2"	3 lbs.	.60
B4512	7 x11 x2"	3 lbs.	.66
B4513	7 x13 x2"	4 lbs.	.72
B4514	7 x15 x3"	4 lbs.	.90
B4518	4 x17 x3"	4 lbs.	.78
B4515	7 x17 x3"	5 lbs.	.96
B4525	10 x12 x3"	5 lbs.	.96
B4524	10 x14 x3"	5 lbs.	1.02
B4526	10 x17 x3"	6 lbs.	1.08
B4527	10 x23 x3"	7 lbs.	1.38
B4516	12 x17 x2"	5 lbs.	1.26
B4517	12 x17 x3"	6 lbs.	1.38
B4530	12 x17 x4"	7 lbs.	1.56

TYPE "A"

Steel Rack Panels

Made in accordance with standard specifications. They are 19" long and will fit the relay racks described. Constructed of ⅛" steel with black ripple enamel. Available in slate grey at same price.

No.	Width	Shpg. Wt. Lbs.	Net Price
3600	1¾	2	$0.45
3601	3½	5	.51
3602	5¼	7	.63
3603	7	8	.69
3604	8¾	9	.87
3605	10½	10	1.05
3606	12¼	12	1.20
3607	14	13	1.38
3608	15¾	14	1.56
3609	17½	15	1.74
3610	19¼	16	1.86
3611	21	17	2.10

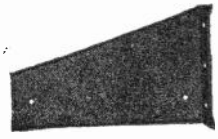
Meter Panels

Of steel, with black ripple finish. Fit the standard racks. All 19" long and 5¼" high. For 3 or 5 meters, 2" and 3" type. Shpg. Wt. 7 lbs.

No.	No. Holes	Meter Size	Net Price
MP32	3	2"	$0.99
MP52	5	2"	1.47
MP33	3	3"	.99
MP53	5	3"	1.47

NOTE: The above sizes of panels are available in ⅛" aluminum.

Steel Brackets



Used to re-enforce racks and panels. Of 1/16" steel with black ripple enamel. Panels must be at least 7" high. Mounting holes drilled to match H.D. Type Chassis Bases. Shpg. Wt. 3 lbs.

SB78—For 8" base per Pair...$0.60
SB711—For 11" base. per Pair... .84
SB713—For 13" base. per Pair... 1.05

Hinged Utility Steel Cabinets

These cabinets are excellent for housing monitors, oscillators, etc. They have full piano-hinged doors at the top; the front panels are removable. Finished in black ripple enamel. Shipped knocked-down.

Cat. No.	H. L. D.	For Chassis	Net Price
HC788	7x 8x8"	7x 7x2"	$1.80
HC7108	7x10x8"	7x 9x2"	2.10
HC7148	7x14x8"	7x13x2"	2.40
HC9151	9x15x11"	10x14x3"	3.00
HC1218	12x18x11"	10x17x3"	3.60

Net

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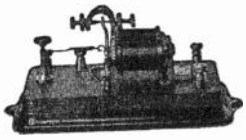
112-K • KEY

This key is designed for learners who want something that is scientifically correct but moderate in price. Has black enamel metal base and is mounted on a mahogany finished wood base. Key lever is nickel plated. Contact points are platinor.

List $2.25



PONY RELAY

All the metal parts on this pony relay are brass with lacquer finish, excepting armature which is polished and plated steel. Magnets are non-adjustable. Mounted on a mahogany finished wood sub base and cast iron black enamel base.

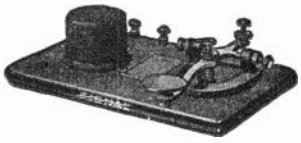
	List
M-104—4 Ohm	$5.50
M-105—20 Ohm	5.75
M-106—50 Ohm	6.00
M-107—75 Ohm	6.50

R-48 KEY

The beginner in the field of wireless approves this ¼ K. W. Key for its desirability and inexpensiveness. It is well made with polished key lever and lacquered parts. Contact points are platinor.

List $2.80

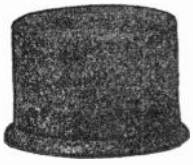
R-68 PRACTICE SET



Designed for those who want a well made instrument to learn the code. Set consists of a key and high frequency buzzer mounted on a mahogany finished wood base equipped with binding posts. The code is printed on a plate and fastened to the base between the key and buzzer. Buzzer is adjustable.

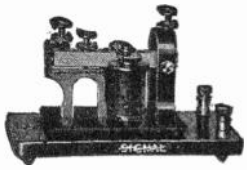
List $3.40

R-60 BUZZER



The R-60 high frequency buzzer is the same type used on the R-68 Wireless Practice Set. It is adjustable and has a standard resistance of 2 Ohms. Finish is black crystallized lacquer.

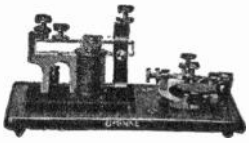
List $1.40



SOUNDER

The tone quality and instant action of this correctly designed sounder are well and widely known. All adjustments are simple and accurate. Bar frame is black enamel and has an aluminum sounding bar, brass bridge and black lacquered steel sounder plate. It is mounted on a mahogany finished wood base equipped with binding posts.

	List
112-S—4 Ohm	$3.00
113-S—20 Ohm	3.50



LEARNER SET

On city, private and short lines learners will find this instrument easy to handle and having a clear, distinct tone. Bar frame and key base are black enamel, the bridge is brass, sounding bar is aluminum with black lacquered steel sounder plate. Key lever is nickel plated. Sounder and key are mounted on a mahogany finished wood base.

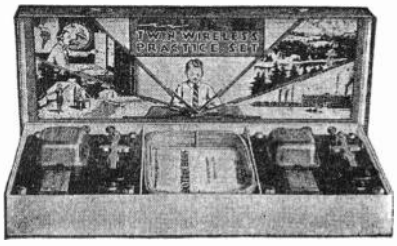
	List
M-110—4 Ohm	$5.00
M-111—20 Ohm	5.50

STANDARD KEY

This standard wireless key is designed to carry heavy currents. All brass construction with lacquer finish. Furnished with 3/16, ¼ or ⅛-inch coin silver contacts. Navy type key knob.

	List
R-62—3/16" contacts	$3.85
R-63—¼" contacts	4.00
R-64—⅛" contacts	4.25

R-70 TWIN PRACTICE SET



In this practice set is represented value that appeals to the beginner. Set includes two R-69 instruments, 75 feet of wire and instruction manual packed in an attractive, illustrative box.

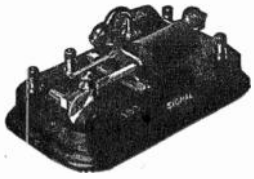
List $3.50

M-100 KEY

For rapid transmitting this key is preferred by skilled operators and beginners. The base, equipped with binding posts, is brass with a lacquer finish. Key lever is nickel plated. Furnished with platinor contact points.

List $3.00

COMMERCIAL RELAY



The commercial relay is well designed and constructed for long, continuous service on commercial lines. Heel iron and armature are made of Norway iron. Has rubber covered adjustable coils. Mounted on mahogany finished wood sub base and cast iron black enamel base.

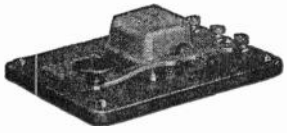
	List
916—150 Ohm	$12.50
917—250 Ohm	12.75

KEY R-50

For the amateur who wants an inexpensive, high grade wireless key, here is the proper instrument. It is equipped with a heavy, cast, well insulated base in a black finish, coin silver contacts, composition knob and nickel parts.

List $1.50

R-69 PRACTICE SET



The R-69 Practice Set is for those who want an inexpensive instrument. Consists of a key lever, non-adjustable buzzer and code plate mounted on a metal base equipped with binding posts and rubber feet. Has maroon finished base and gold lacquered key lever and buzzer cover.

List $1.75

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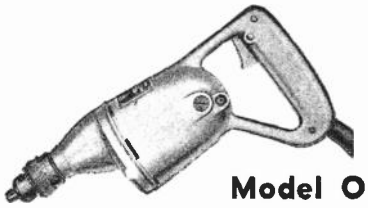
ELECTRIC • SIGNAL • DRILLS

¼" Light Duty

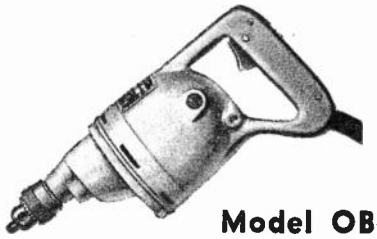


Model OB-8

$19.50 List

The OB-8 light duty drill is designed for intermittent service. It is a good, high quality product, properly balanced, with an air-cooled handle having a comfortable grip. Light in weight, it is especially adaptable for radio repair work, wood and metal assembly, airplane construction, boat building and kindred applications.

¼" Standard Duty

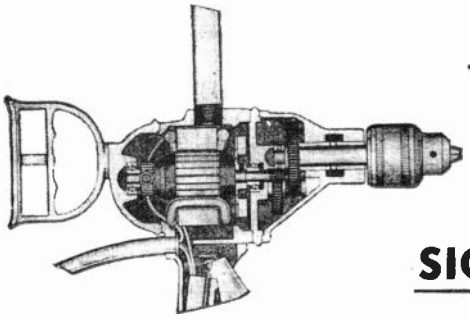


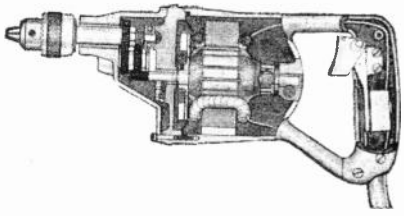
Model OB-4

$24.50 List

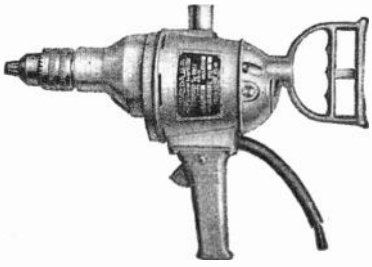
For general maintenance, construction and building work the OB-4 standard duty drill will give dependable service. It is popular with electricians, carpenters, machinists and repairmen. It has an abundance of power developed by a smooth-running universal motor. It is well balanced, has a comfortable grip and air-cooled handle.

Inside Views of SIGNAL DRILLS





½" Standard Duty



Model OB-5

$47.50 List

This standard duty half-inch drill has everything a good drill should possess—lots of power, proper speed, light weight, durability, high quality construction and correct balance. For general production, garage, machine shop and maintenance work where a drill receives hard use, it is recommended. Contractors, plumbers, electricians, and others will find it can be depended upon to give efficient service at all times. Attractively priced, this drill has established for itself a fine reputation that is recognized by users and distributors alike.

SPECIFICATIONS

Motor: Universal for direct or alternating current, 110-120 volts, 25-60 cycles.

	OB-8	OB-4	OB-5
Code Word	SEMED	SEMEB	SEMEC
List Prices (110-120 volts)	$19.50	$24.50	$47.50
Special Voltages	10 percent addition list.		
Overall Length	12"	12⅜"	16½"
Bearings	Bronze wool packed with thrust ball spindle bearing.		Armature and spindle thrust high grade ball.
Capacity	¼"	¼"	½"
Speed (No load R.P.M.)	2950	1700	400
Amperes (No load)	1.0	.9	1.8
Switch	Trigger type with lock for continuous operation.		
Cord Length	8 feet	8 feet	15 feet
Net Weight	5½ lbs.	7¼ lbs.	14 lbs.
Shipping Weight	7 lbs.	8 lbs.	16 lbs.
Pipe Handle			Detachable
Cord	Heavy duty, rubber covered with rubber cord protector.		
Plug	Rubber.		
Brushes	Accessible from outside.		
Gears	Special alloy, heat treated.		
Housing	Durable aluminum alloy.		
Chuck	Almond, 3-jaw, with key.		

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THE "JUNIOR" INSTRUCTOGRAPH

The "Junior" Model is for those who want the advantage of perfect machine sending, for constant practice at a small cost. It is an exceptionally efficient Code Machine, equipped with a high-grade spring motor; inclosed in a fabrikoid covered cabinet with a suitable top of the same material; and with an opening in the back for the convenient installation of an oscillator unit, if desired. This machine may also be used to operate a telegraph instrument for learning wire telegraphy.

The "Junior" equipment includes your choice of any five (5) of our Tapes and the Standard book of instructions. Unless otherwise ordered, the first five tapes of the standard set in the code selected will be sent.

This Machine operates as efficiently as the Standard Instructograph, differing mainly in lighter construction, size and fewer tapes.

Junior Instructograph (without oscillator) 5 Rolls of Double Perforated Tapes 1 Book of Instructions	Net Price, Complete **$12.00**

OSCILLATOR EQUIPMENT

The Oscillator Equipment consists of a Thordarson audio transformer and tube socket, mounted on a wooden base and wired all ready to be installed inside of either the Standard or Junior Instructograph; a "Signal" Key, connecting cord and a set of Trimm "Dependable" Head Phones. Net Price, $6.50

THE INSTRUCTOGRAPH COMPANY **CHICAGO, ILL.**

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THE INSTRUCTOGRAPH

CONTINENTAL (Wireless) TAPE MATERIAL

Following is a synopsis of the matter contained in the Continental Morse (Wireless) set of ten tapes that form part of the Instructograph unit. Each of the ten tapes is perforated with two rows of characters, approximately 100 feet in length, the set aggregating some 2,000 feet of characters.

No. 1—Letters of the alphabet, numerals and conventional signals, in alphabetical and numerical order, with sufficient space between each to enable the student to repeat them on the telegraph key after the machine.

No. 2—First Side: Letters of the alphabet, numerals and conventional signals, not in order, but mixed.
Second Side: Two and three letter words, made very slow.

No. 3—Larger words than contained on Tape No. 2, and some faster.

No. 4—Four letter code words or combinations.

No. 5—Five letter code combinations, slightly faster than Tape No. 4.

No. 6—This tape consists of figures only. Five figure combinations, some faster than Tape No. 5, which makes the student progress without realizing it.

No. 7—This is a "Mixed" code tape. Five letter and figure combinations mixed, still some faster than No. 6, and affords splendid practice.

No. 8—First Side: Typical U. S. Weather Bulletins, such as are sent out daily from coast stations to be picked up by vessels at sea.
Second Side: Disconnected sentences, making it impossible to determine the matter following.

No. 9—Typical radiograms, such as are handled daily between wireless stations on land and sea. This makes excellent and practical practice.

No. 10—Miscellaneous and disconnected mixed matter, very fast, and such as given in the Government Examination to applicants for a Commercial Radio Operator's License.

The Standard set of ten CONTINENTAL" tapes, described above usually provides ample material for the average person to acquire this code, but if for any reason, other practice material is desired, we have a large assortment of additional tapes and a synopsis of them, such as that above, may be had upon request.

10 Rolls of Double Perforated Tapes
1 Book of Instructions
Net Price, Complete $8.50

Tapes—Net Price, Each $1.00

THE QUICKEST, EASIEST AND MOST PRACTICAL WAY TO LEARN CODE

We claim, and without fear of successful contradiction, that our automatic code transmitter, the Instructograph, and our Book of Instruction, afford the quickest, easiest and most practical method of teaching the code that has yet been devised.
The Instructograph is a scientifically constructed machine that sends telegraphic characters perfectly at any desired speed.
By so doing it literally takes the place of an operator-instructor, and enables anyone to learn either the Morse or Continental codes without any further assistance.

WHAT THIS MACHINE WILL DO

FIRST:—It teaches you to receive telegraph symbols, words and messages.
SECOND:—It teaches you to send perfectly.
THIRD:—It increases your speed of sending and receiving after you have learned the code.

INSTRUCTOGRAPH (without Oscillator)
10 Rolls of Double Perforated Tapes
1 Book of Instructions
Net Price, Complete $20.25

THE INSTRUCTOGRAPH COMPANY **CHICAGO, ILL.**

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LO-LOSS TRANSMITTING INDUCTORS

COTO offers a very complete line of highly efficient inductors for All-Band operation. These inductors are wound with bright copper wire, protected from oxidation by a coating of colorless baked enamel and cemented in SLOTS in narrow strips of Cellulose Acetate, (not celluloid). The use of clear enamel, allows the skinning of the wire for taps without marring the appearance of the inductor. Note the "Q" data of each inductor, indicating its high efficiency.

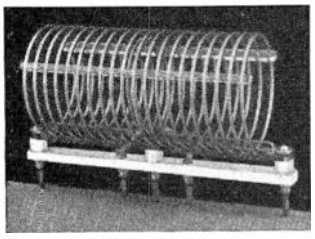
Inductors are available in eight types, covering the Amateur bands from 160 to 10 meters. The "T", "TL" and "TVL" series are designed to handle the output of a one kilowatt amplifier. The "B", "BT", "BTL" and "BTVL" series are intended for oscillator, buffer and low powered stages, not exceeding 300 watts. They are also suitable for constructing Pi-Section networks. The "A" series inductors are for antenna coupling.

LINK COUPLING TYPES

The TANK and Center-Tapped BUFFER types are available with three turn, internally mounted, fixed or rotatable variable link coils. The internal method of mounting, affords mechanical protection for both type links and obviates altering the optimum coupling adjustment in the latter type when band-changing. The advantages of variable coupling over those of fixed coupling are obvious.

All link type inductors are mounted on STEATITE bars, equipped with plugs to complete necessary connections, when inserted in proper mounting base listed below.

Standard mounting centers for the various groups of inductors, permit the inter-changing of units for All-Band operation.

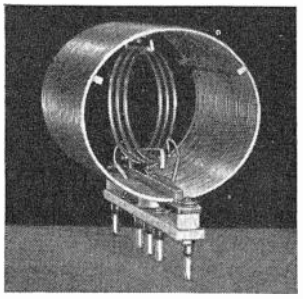


TYPE 40TL

"Maximum" Condenser Capacity Recommended

160M types 75 Mmf.

All others 35 Mmf.



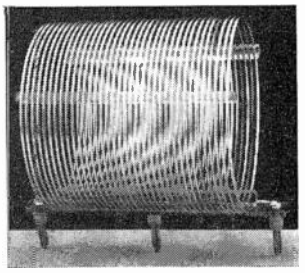
TYPE 80TVL

Mounting Centers

T, TL, & TVL 7½"

B, BT, BTL, BTVL 5¼"

A-4"



TYPE 160BT

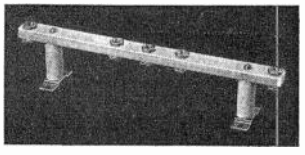
Type	Wire Size	No. Turns	Dia.	"Q"	Net
HI-PWR. TANKS					
160T	12	42	5"	480	$2.34
80T	10	30	4"	500	1.98
40T	10	20	3"	300	1.74
20T	10	10	3"	175	1.38
10T	10	6	2¾"	210	1.32
HI-PWR. TANKS (with Fixed Link)					
160TL	12	42	5"	480	$3.30
80TL	10	30	4"	500	2.94
40TL	10	20	3"	300	2.70
20TL	10	10	3"	175	2.34
10TL	10	6	2¾"	210	2.28
HI-PWR. TANKS (with Variable Link)					
160TVL	12	42	5"	480	$3.90
80TVL	10	30	4"	500	3.54
40TVL	10	20	3"	300	3.30
20TVL	10	10	3"	175	2.94
10TVL	10	6	2¾"	210	2.88
ANTENNA					
160A	12	16	5"		$1.38
80A	10	12	4"		1.23
40A	10	8	3"		.99
20A	10	5	3"		.87

Type	Wire Size	No. Turns	Dia.	"Q"	Net
LO-PWR. TANKS — C.T. BUFFERS					
160BT	14	36	4"	400	$1.80
80BT	14	34	2¾"	390	1.71
40BT	14	22	2¾"	270	1.44
20BT	14	10	2¾"	200	1.23
10BT	14	6	2¾"	180	1.17
LO-PWR. TANKS — C.T. BUFFERS (with Fixed Link)					
160BTL	14	36	4"	400	$2.76
80BTL	14	34	2¾"	390	2.67
40BTL	14	22	2¾"	270	2.40
20BTL	14	10	2¾"	200	2.18
10BTL	14	6	2¾"	180	2.13
LO-PWR. TANKS — C.T. BUFFERS (with Variable Link)					
160BTVL	14	36	4"	400	$3.36
80BTVL	14	34	2¾"	390	3.27
40BTVL	14	22	2¾"	270	3.00
20BTVL	14	10	2¾"	200	2.79
10BTVL	14	6	2¾"	180	2.73
LO-PWR. TANKS — STRAIGHT BUFFERS					
160B	14	36	4"	400	$1.65
80B	14	34	2¾"	390	1.59
40B	14	22	2¾"	270	1.29
20B	14	10	2¾"	200	1.08
10B	14	6	2¾"	180	1.02

HONEYCOMB COILS

Turns	Ind. Mh.	Nat. W. L.	W. L. with .001 Mf.	Net
25	.03781	60.0	370	$ .30
35	.07810	92.5	532	.30
50	.1519	140.0	748	.33
75	.3160	179.0	1062	.36
100	.5614	268.0	1438	.39
150	1.2915	312.0	2160	.42
200	2.219	385.0	2838	.48
250	3.450	528.0	3570	.51
300	6.792	672.0	5015	.57
400	9.00	742.0	5720	.69
500	14.45	940.0	7220	.78
600	24.18	1280.0	9380	.87
750	32.31	1445.0	10880	.96
1000	60.50	1700.0	14600	1.14
1250	96.18	2295.0	18730	1.32
1500	143.00	2825.0	22860	1.50

STEATITE MOUNTING BASES



These units offer an accurate and convenient jack assembly for receiving COTO Inductors. The bar and insulators are of Steatite. All hardware is of nickel plated brass. Available in 2, 3 and 5 jack combinations.

Type	For Ind. Type	Jacks	Net
CI-8TM	T	3	$1.14
CI-8TLM	TL, TVL	5	1.20
CI-6BM	B	2	1.08
CI-6BTM	BT	3	1.14
CI-6BTLM	BTL, BTVL	5	1.20

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World Radio History

RADIO Coto SINCE 1917 PRODUCTS

CONTROL WHEELS

In presenting these CONTROL WHEELS, 'Coto' establishes a new vogue in dial and indicator design for Radio Transmitter and Commercial applications where frequent and accurate adjustments must be made. Created to combine the advantages of both the dial and pointer type controls, it has that professional appearance, so lacking in the former types.

The Control Wheel proper is moulded of genuine mirror-black bakelite and fitted with a polished nickel plated brass pointer mounted unobtrusively under one of the wheel struts.

The dial scale is made of 20 guage aluminum with black anodized finish. Dial markings and border are of polished aluminum, creating a striking contrast. A unique feature is the provision for interchangeable name plates designating the purpose of each control. The name plates are attached to the scale by two escutcheon pins, which also serve to hold the scale to the panel. Name plates are available in the titles listed below, choice of any one plate being included with each complete assembly.

For some applications the complete control with scale may not be required, therefore the wheels with pointers only, are available as listed.

The wheels are equipped with heavy brass inserts for ¼" shafts. However, the 3¼" wheels can be supplied for ⅜" and ½" shafts on special order.

DIMENSIONS:
- Bakelite Wheel 3¼" Dia., Height 1⅝"; Pointer Radius 1⅞"; Scale Width 5¼"
- Bakelite Wheel 2¼" Dia., Height 1¼"; Pointer Radius 1¼"; Scale Width 3⅝"

COMPLETE CONTROL WHEELS

CI-40 (3¼" size) NET $1.50
CI-45 (2¼" size) NET $1.20

CONTROL WHEELS ONLY

CI-41 (3¼" size) NET $1.20
CI-46 (2¼" size) NET $ .90

INDICATOR PLATES

For use with the Control Wheels listed above, although these indicator plates may be mounted above 3¼" and 2" round meters. Available only in titles listed.

1. Oscillator
2. Osc. Plate
3. Buffer
4. Buffer Plate
5. Doubler
6. Doubler Plate
7. Buf. Dblr. Plate
8. Grid
9. Plate
10. Tank
11. Neutralize
12. Pwr. Amp. Grid
13. Pwr. Amp. Plate
14. Mod. Grid
15. Mod. Plate
16. Class B. Mod.
17. Sp. Amp. Plate
18. Fil. Voltage
19. Plate Voltage
20. % Modulation
21. Gain Control
22. Antenna

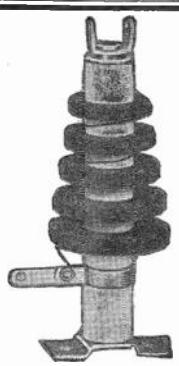
CI-42 (For CI-40) size 1 9/16"x7/16" NET 9c
CI-47 (For CI-45) size 1 1/16"x5/16" NET 9c

STAND-OFF INSULATORS

Made in two sizes, these genuine STEATITE insulators are suitable for mounting apparatus clear of absorbing surfaces. Heavy nickel plated brass fittings attached at both ends by 6-32 machine screws. They may be readily removed for special mounting on the core.

CI-30 Core size 3"x½"—Overall lgth. 3⅝" NET $.18

CI-31 Core size 1¼"x½"—Overall lgth. 1⅞" NET $.12



RF TRANSMITTING CHOKE

A compact heavy-duty choke for the high power stage. Particularly suited to the 160, 80, 40 Meter bands. Wound with five continuous universal tapered pies on a one-half inch core, three inches long. The effective impedance is high enough to make parallel plate feed practical. The current carrying capacity is conservatively rated at .6 amp. continuous and .8 amp. intermittent service.

Inductance, 3.6 mh.; D. C. resistance, 11 ohms; Size 3⅝ in. x 1⅜ in.

CI-20 NET $.75

RF TRANSMITTING CHOKE

Designed especially to offer maximum impedance at frequencies in the 80, 40, and 20 Meter bands. The pies are universal HONEYCOMB wound for low distributed capacity. This feature together with a unique winding method for obtaining a balanced distributed capacity between pies has resulted in a choke unparalleled in efficiency. STEATITE core and current ratings similar to the CI-20.

Inductance, 1.1 mh.; D. C. resistance, 6 ohms; Size 3⅝ in. x 1¼ in.

CI-21 NET $.75

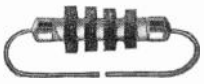
MIDGET RF CHOKE

A popular choke applicable to high frequency receiver construction and low power transmitter stages. Wound on a STEATITE core with four continuous pies, TAPERED to provide maximum impedance and minimum distributed capacity. Fitted with nickel plated caps, permitting either grid leak mounting or soldered connections.

Inductance, 2.5 mh.; current carrying capacity .125 amp.; D. C. resistance 40 ohms; Size 1½"x½".

CI-11 NET $.36

MASTER RF CHOKE



This unit meets a demand for a choke capable of carrying more current than the popular 125 ma., type. Retaining all the features of the CI-11, it will pass 250 milliamperes without heating. Fine for high frequency transmitter work.

Inductance 2.2 mh.; D. C. resistance 18.5 ohms; size 1½"x⅝".

CI-12 NET $.45

FIVE METER CHOKE

This choke is extremely efficient at the specified frequency. A very compact unit for transceivers, etc., where space is at a premium. Single layer winding on STEATITE capped and pigtailed similar to the CI-11 and CI-12.

CI-13 NET $.24

SHAFT COUPLINGS

Useful wherever controls must be isolated from high voltage. STEATITE insulation provides ample insulation against flashover. Exact alignment of apparatus, not necessary due to slight flexibility of couplers. Absolutely no backlash. Made for ¼" shafts only.

CI-32 Overall lgth. 3 15/16" NET $.48

CI-33 Overall lgth. 2 3/16" NET $.45

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World Radio History

PRACTICE SETS
BUZZERS

SPEED-X

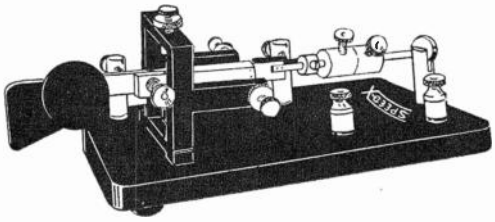
TRANSMITTING KEYS
HI-SPEED KEYS

THE COMPLETE LINE OF TELEGRAPH KEYS

SPEED-X "HI-SPEED" SEMI AUTOMATIC KEYS

Our "HI-SPEED" models are of standard, time-tested design and construction that have met the approval of experienced amateurs and commercial users throughout the world. They are fully adjustable from lowest to highest speeds—ruggedly built to hold adjustment at all speeds—pure coin silver contacts. They are unconditionally guaranteed to meet the requirements of the most exact user. Furnished in 4 distinct attractive models. Left hand keys in all models $2.00 List extra.

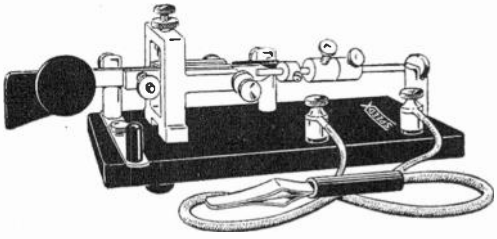
AMATEUR MODEL No. 515 . . . . . LIST $9.25



The Speed-X model 515 was designed for the amateur who demands a durable, heavy-duty Speed Key. The parts are finished in statuary bronze and the brown wrinkle on the base and casting make this an outstanding key in appearance. The same standard construction used on all of our speed keys is one of the features of this key. No switch or plug.

Base 3"x6¼"x⅜" Weight 2½ lbs.

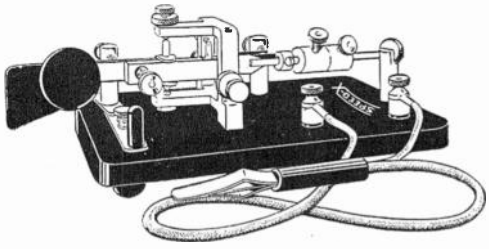
JUNIOR MODEL No. 510 . . . . . LIST $10.75



A small model Hi-Speed Key—adjustable to give plenty of pep and life. Black wrinkle base and casting—all machine parts nickel plated. Complete with switch, cord and plug. This key is the favorite of the Amateur who prizes his clean cut sending. It will increase the speed of any operator after he has used it a short while.

Base 2½"x6¼"x½" Weight 2¾ lbs.

STANDARD MODEL No. 500 . . . . . LIST $13.50



Satisfied users all over the world and is rapidly becoming the universal Hi-Speed Key, used by amateurs and professionals alike. Adjustable from 8 words per minute to as high a rate as is desired. It has standard construction used throughout. Solid coin silver contacts. Heavy construction will hold adjustment at all speeds. Black wrinkled base and casting. All machine parts nickel plated. Complete with switch, cord and plug.

Base 3½"x6¼"x½" Weight 3½ lbs.

PROFESSIONAL MODEL No. 501 . . . . . LIST $17.50

Heavy Duty Hi-Speed Key, ¼ inch coin silver contacts, pigtail connections to the vibrator arm, no current through the bearings. Vibrator arm extra fast and Dot U spring designed for heavy duty work. Polished Chromium on all machine parts and base.

CONSTANT FREQUENCY BUZZER No. 400 . . LIST $1.25

Entirely new, improved design, durable construction with Moulded base and top. Will hold adjustment under all conditions. Ideal for practice sets—Resistance 2 Ohms, requiring two dry cells 2 to 6 volts.

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World Radio History

PRACTICE SETS
BUZZERS

SPEED-X

TRANSMITTING KEYS
HI-SPEED KEYS

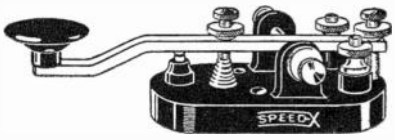
THE COMPLETE LINE OF TELEGRAPH KEYS

SPEED-X MOULDED BAKELITE MANUAL KEYS

Practice Type 300

The practice key is well built and inexpensive for the beginner. The base is moulded of Walnut Bakelite, all machine parts are finished in statuary bronze, this makes a very attractive combination. Perfect action—Simple adjustments, Coin Silver Contacts.

No. 300—Practice Key ..... List $1.50

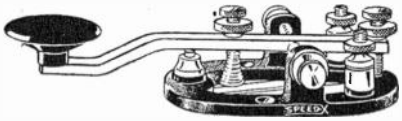


Amateur Type 301

A new and outstanding development—a general purpose type—**moulded Bakelite** base—pigtail connections eliminates insulation problems — no current on bearings — coin silver contacts — all metal parts nickel plated.

No. 301—Bakelite Key ..... List $2.15
No. 301S—Bakelite Key with Switch..... List $2.50
No. 302—Model 301 with 1/4-in. Contacts... List $2.40
No. 302S—With Switch ..... List $2.75

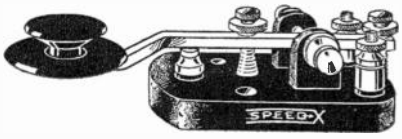
SPEED-X MANUAL KEYS



Standard Type 310

Has provisions for plugging in our Hi-Speed models when desired. Black Wrinkle base all other parts nickel plated. 1/8" pure silver contacts.

No. 310—Black Base ..... List $2.50
No. 310S—With Switch ..... List $3.00
No. 310L—1/4-inch Contacts ..... List $3.00

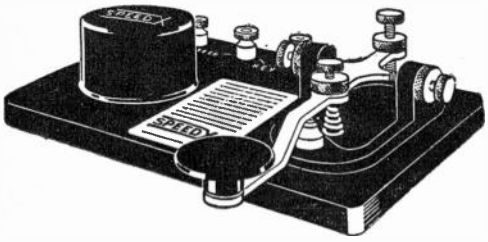


Heavy Duty Type 320

The last word in appearance and performance. 1/4" coin silver contacts—well insulated for heavy current work. All parts chromium plated —choice of black wrinkle or chromium base.

No. 320—Black Base ..... List $3.25
No. 321—Chrome Base ..... List $3.50

No. 450—PRACTICE SET . . . . . LIST $3.25



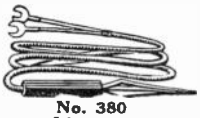
Model 450 Practice Set

The ideal practice set for the beginner, Moulded entirely of Walnut Bakelite this unit is compact, well designed and beautiful. The Hi-Frequency buzzer is the model 400 and the key is a special "type 310" key. The best results are usually obtained with two or three dry cells. The international code is on a card mounted on the base. Not just a toy but a practical, sturdy built, scientific instrument.

REPLACEMENT PARTS

No. 330—Weights ..... $ .25
No. 335—Key Springs ..... .10
No. 340—Set 1/8" Contacts. 1.00
No. 341—Set 1/4" Contacts. 2.00
No. 345—(2) 1/8" Contacts. .20

No. 360
List 25c



No. 380
List 75c

No. 370
List 25c

No. 346—(2) 1/4" Contacts. $ .50
No. 350—Knob ..... .20
No. 360—Navy Knob ..... .25
No. 370—Paddle Bakelite .. .25
No. 380—Plug for Hi-Speed Key ..... .75

No. 444—KIT . . . . . LIST $20.00

Assortment of the best selling parts for all makes of Keys. Packed in beautiful display box.

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World Radio History

WORLD'S BEST RADIO TELEGRAPH APPARATUS

Manufactured by

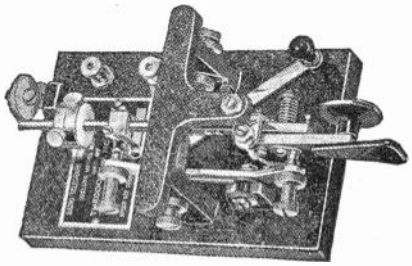
THE WORLD'S CHAMPION RADIO TELEGRAPHER

T. R. ("Mac") McELROY

TRANSMITTING KEYS

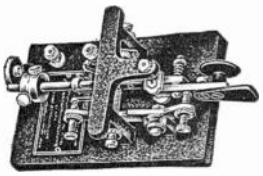
"I've designed and built my semi-automatic and hand radio-telegraph keys in accordance with principles of balance and ease of operation that I've learned in 25 years as an active radio, cable and telegraph operator. Nearly anywhere in the world wherever dots and dashes are used, operators move more traffic with less effort with MAC brand keys." . . .T. R. McElroy.

De Luxe MAC KEY at $9.50 Net



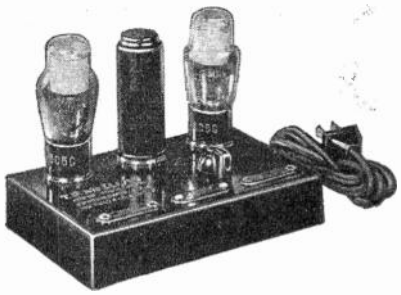
A semi-automatic transmitting key employing carefully selected and tested springs which partially take the place of the wrist and fingers. Faster and better Morse with less effort by the operator. Heavy, one-piece casting with permanent beautiful marbleite finish. Beautifully chromed parts. ¼" adjustment screws. $\frac{3}{16}$" contacts. Bakelite paddles, button and insulation throughout. Pigtails carry current.

Standard MAC KEY at $7.50 Net



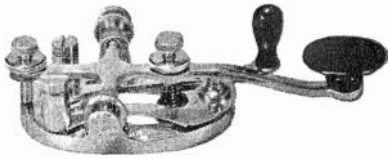
Same design and construction as the deluxe. Black crackle finish base and polished nickle parts. Not equipped with dot stabilizer or circuit closer. 10 x 32 screws and 3/32 contacts. These economies lower cost but don't effect operation. Same oversized, case hardened pins and bearings.

MAC OSCILLATOR at $5.95 Net



New and improved audio oscillator, at a price within the reach of the average operator. A real quality instrument. Beautiful molded bakelite case. Binding posts for key terminals and for the 200-ohm output for matching mike input. Tip jacks for the operator's phones. Three-position switch for tone selection. 600, 800, 1000 cycles. Comes complete in mailing package, with 1 metal ballast tube and two McElroy branded, 6C5G carefully tested glass tubes. A.C.-D.C.

De Luxe HAND KEY at $2.25 Net

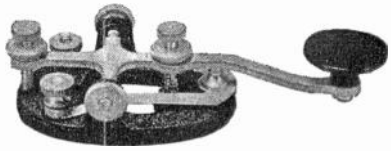


Prettily designed and beautifully balanced lever, coupled with "MAC"-designed coil spring. The action will positively thrill any operator. Case hardened steel bearing screws, heavily chromed. Carefully machined and very heavily chromium plated throughout. Heavy $\frac{3}{16}$" contacts.

Professional HAND KEY at $1.80 Net

Same base and same case hardened steel bearings as all "MAC" Keys. Beautifully polished brass-composition casting, lacquered for permanency of finish. Main lever designed to give everything in balance that one needs for anything from the lowest to the extreme high speeds.

Commercial HAND KEY at $1.50 Net

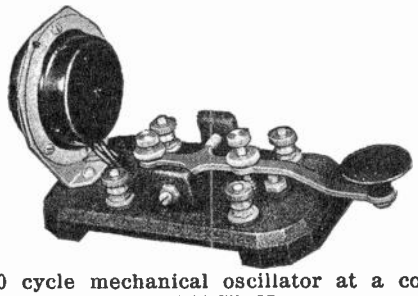


Same base, lever and spring that delight the operator and make excellent sending so easy. Black crackle base, chrome parts above. Case hardened steel bearing screws. Heavy $\frac{3}{16}$" contacts.

Amateur HAND KEY at $1.20 Net

Same key as Commercial Model above, perfectly designed and balanced, but priced within the reach of the beginner who hesitates to spend much money until certain of continuing as an operator. Black crackle base, with other metal parts cadmium plated.

MAC PRACTICE SET at $2.95 Net



A 1,000 cycle mechanical oscillator at a cost that will amaze anyone. "MAC" Hummer mounted on "MAC" Straight Key. Result is an instrument that is within the price range of the beginner, yet may be used by the best of the commercial operators. One of the most ingenious little gadgets in the entire radio-telegraph industry.

Hummer $1.50. Heavy Base "Straight Key" $1.50.

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World Radio History

WORLD'S BEST RADIO TELEGRAPH APPARATUS

Manufactured by

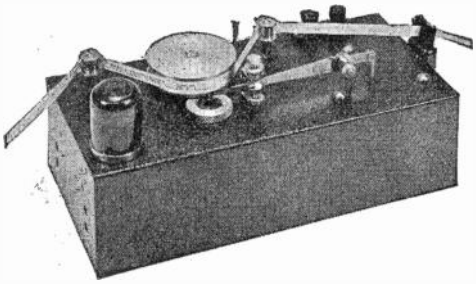
THE WORLD'S CHAMPION RADIO TELEGRAPHER

T. R. ("Mac") McELROY

AUTOMATIC EQUIPMENT

"I've employed recent developments in the field of electronics to produce simply designed, ruggedly built and low cost completely automatic transmitting and receiving equipment. Trouble-free photo-electric cell circuit supplants intricate and costly mechanical principles. High speed ink recording direct from receiver output by application of newly discovered, economical means of signal rectification and positive pen action resultant from use of cast NIPERMAG magnets and special bobbins." . . . T. R. McElroy.

MAC RECORDER at $29.75 Net

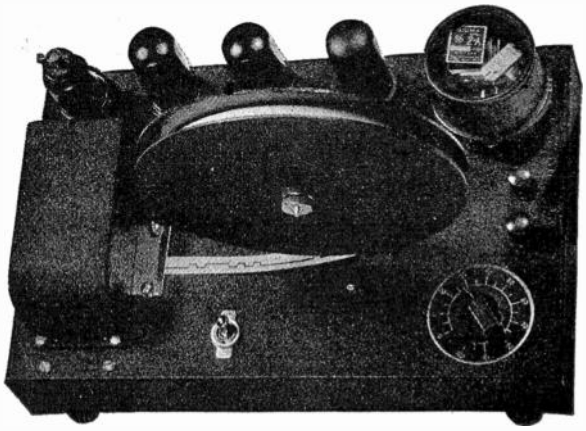


Designed for direct coupling to the output of any popular radio communication receiver. Complete with input transformer and rectifier. Produces the conventional inked slip as used by government services and communication companies. *"I consistently record 100 wpm from a Hallicrafter receiver and in tests have recorded perfect slip at 300 words per minute."*

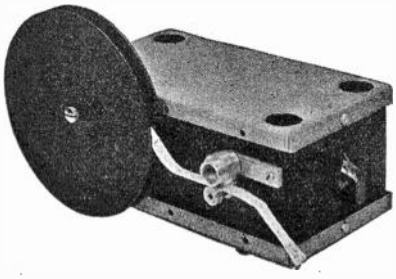
. . . T. R. McElroy

MAC AUTO at $29.75 Net

Light from exciter lamp onto photo-cell is interrupted by inked dots and dashes on ordinary recorded slip. Impulse is amplified to actuate the sensitive relay which delivers keying output to work local oscillator or transmitter. Not guaranteed for more than 75 wpm, although I've tested them at 100 wpm. Because of simple and rugged construction and low cost and easy availability of limitless supply of slip, it is ideal for training operators.



TAPE PULLER at $12.00 Net



An extra heavy AC induction type motor that runs silent and creates no interference. Tachometer type speed governor. Constant speeds as desired up to 100 wpm. Designed especially for my AUTO or RECORDER but desirable for any application where a good variable speed tape pulling arrangement is needed.

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World Radio History

RECEIVERS

$150.00

NC-510
(TABLE MODEL)

Net, complete with tubes, coils, speaker, and power unit

***Note:* Receiver prices are approximate, exact price to be announced on Sept. 1st.**

This specialized communication receiver is a superheterodyne covering 28 to 64 MC. in three ranges, each being calibrated in megacycles on a straight-line, full-vision dial.

A meter-type mirror for eliminating parallex, adjustable frequency markers for accurately logging stations directly on the dial itself, a range indicator mounted on the dial, and an inertia-type tuning drive with a 60:1 ratio are features making tuning unusually convenient. A new rotary system of automatic coil changing combines the unequalled performance of plug-in coils with the convenience of a coil switch. The coils are mounted radially in a cast aluminum turret which is easily turned into position by a knob on the front panel. Directly above the coil turret is a three gang straight-line-frequency tuning condenser, unique in that the RF circuit and tubes are completely built inside the condenser frame thus making a compact assembly with the shortest possible leads from coils to condensers to tubes.

The use of acorn tubes (the 956 in the RF, the 954 in the First Det., and the 955 in the HF Oscillator) together with the National 1560 KC IF channel provides "HRO performance" on 5 to 10 meters for the first time. All RF and IF circuits are air dielectric tuned. The crystal filter is in the 3rd IF stage and has continuously variable selectivity from 300 cycles to 7 Kilocycles. The range of the phasing circuit (heterodyne elimination) is also extended. The filter can be switched out of the circuit at will. The 6V6G beam power tube delivers an undistorted output of 2 watts and provision is made for either speaker or head phone operation. Other circuit details include a CW Oscillator, a new AVC circuit, a vacuum tube voltmeter calibrated in "S" units and many other important features (such as the stabilized HF Oscillator) which are not found in any other receiver operating at these high frequencies. Although not standard, these receivers can be supplied on special order with Inter-channel Noise Suppression for quiet standby operation.

Shipping Weights: NC-510, 62 pounds — NC-510B, 62 pounds — Power Supply, 17 pounds.

NC-510 — Receiver, table model complete with tubes, coils covering from 28 to 64 MC., 8" speaker with cabinet but no power supply, for 6 volt A.C. operation, — black finish. **Net Price, $150.00**

NC-510B — Receiver, table model same as above but for 6 volt battery operation. **Net Price, $150.00**

Relay Rack models of above receivers. **Net Price, $162.00**

5856 — Power Supply, less tube, for A.C. model. **Net Price, $17.70**

RRA — Relay Rack Adapters designed for mounting table model receivers in a standard relay rack. **Net Price, per pair, $1.50**

NATIONAL NC-FIVE-TEN

The new NC-44 Communication Receiver combines capable performance with low price. It employs seven tubes in a superheterodyne circuit. The 6K8 first detector and oscillator has exceptional stability and conversion gain. Other circuit features are: Two 456 KC IF stages, second detector and AVC tube, CW oscillator and 25L6G beam power tube with 2 watts output. There are separate controls for RF and AF gain, and on and off switches for the AVC and CWO circuits. The self contained power supply operates on 105–130 volts AC or DC. A six volt battery model is also available.

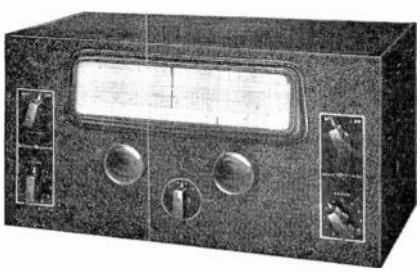
A straight-line-frequency condenser is used in conjunction with a separate band spread condenser. This combination plus the full vision dial calibrated in frequency for each range covered and a separate linear scale for the band spread condenser, makes accurate tuning easy. Both condensers have an inertia-type drive. A coil switch with silver plated contacts selects the four ranges from 550 KC to 30 MC. Provision is made for either head phone or speaker operation.

Shipping Weights: NC-44, 45 pounds — NC-44B, 45 pounds.

$49.50

NC-44

Net, complete with tubes, coils and speaker



NC-44 — Receiver, complete with tubes, coils covering from 550 KC to 30 MC., and speaker chassis, for 105–130 volts AC or DC operation — black finish. **Net Price, $49.50**

NC-44B — Receiver, same as above but for 6 volt battery operation, less batteries. **Net Price, $49.50**

RRA — Relay Rack Adapters designed for mounting these receivers in a standard relay rack. **Net Price, $1.50**

NATIONAL NC-44

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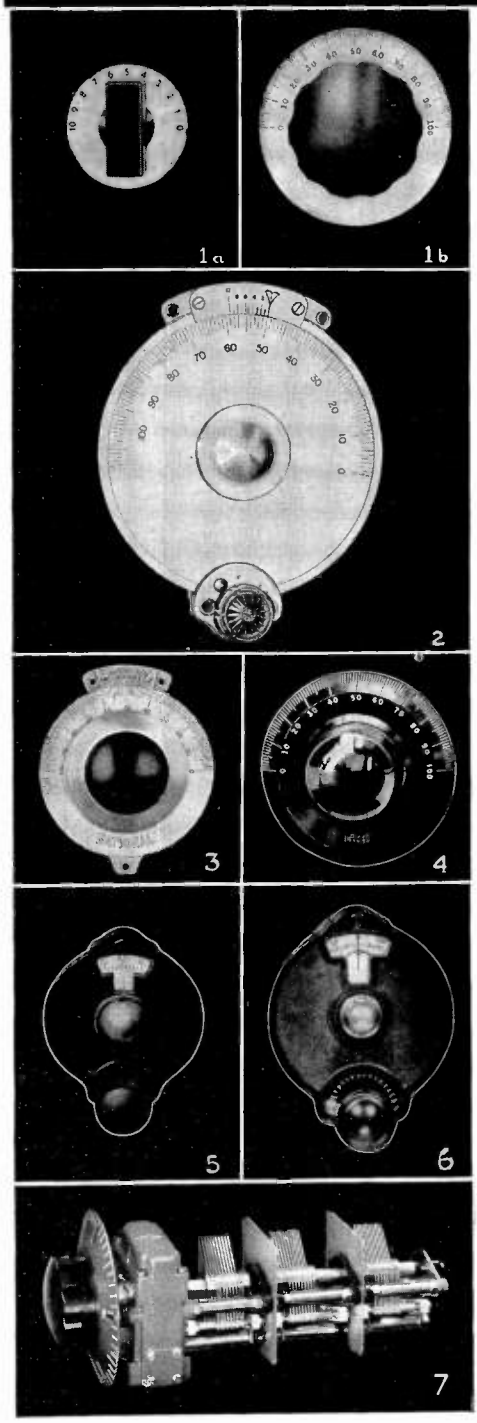
DIALS



NATIONAL "HRO" & "O" DIALS — FIGS. 1a & 1b

The 1⅝" dia. HRO dial (Fig. 1a) is etched nickel silver and fits ¼" shafts. Reads from 0 to 10 over 180°. **Net Price, each $.45. Knob alone, Net Price, $.15**

The insulated 3½" dia. O dial (Fig. 1b) is circular-grained German Silver and fits ¼" shafts. Available with No. 2 scale. **Net Price, each $.90**

The type HRK Knob used on the O dial is also available alone. Fits ¼" shafts. **Net Price, $.51**

The type ODL locking device with thumbscrew control is available for use with the type "O" dial. Ideal for transmitter applications. **Net Price, each $.30**

NATIONAL "N" & "NW" DIALS — FIGS. 2 & 3

Precision Dials, Type N, have engine divided scales and verniers of solid German Silver. The Verniers are flush, eliminating errors from parallax.

The four-inch Type N dial (Fig. 3) employs a smooth and powerful planetary mechanism with a 5 to 1 ratio. No. 2, 3, 4 or 5 scale. **Net Price, each $4.05**

The six-inch Type NW dial (Fig. 2) has a variable ratio drive that is unusually powerful at all settings. It is recommended for use on large transmitters and precision instruments. No. 2, 3, 4 or 5 scale. **Net Price, each $9.00**

NATIONAL "A" DIAL — FIG. 4

The original "Velvet Vernier" Dial, Type A, is still an unchallenged favorite for general purpose use. It is exceptionally smooth and entirely free from backlash. The mechanism is contained within the bakelite knob and shell. Ratio 5 to 1. No. 2, 4 or 5 scale in 4" diameter. No. 2 scale in 3⅜" diameter. **Net Price, each $1.80**

NATIONAL "B" & "BM" DIALS — FIGS. 5, 6

"Velvet Vernier" Dial, Type B (Fig. 6) provides a compact variable-ratio drive that is smooth and trouble free. The mechanism is inclosed in a black bakelite case, the dial being read through a window. No. 1 or 5 scales. **Net Price, each $1.65. Illuminator $.30 extra**

The Type BM Dial (Fig. 5) is a smaller version of the Type B Dial for use where space is limited. It is similar to the Type B Dial in appearance and mechanism, but does not have the variable-ratio device. No. 1 or 5 scales. **Net Price, each $1.50**

NATIONAL MICROMETER DIAL AND PRECISION CONDENSER

The Micrometer dial reads direct to one part in 500. Division lines are approximately ¼" apart. The dial revolves ten times in covering the tuning range, and the numbers visible through the small windows change every revolution to give consecutive numbering by tens from 0 to 500. The condenser is of extremely rigid construction, with four bearings on the rotor shaft. The drive, at the mid-point of the rotor, is through an enclosed preloaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact, of the multi-fingered brush type. Stator insulation is Steatite.

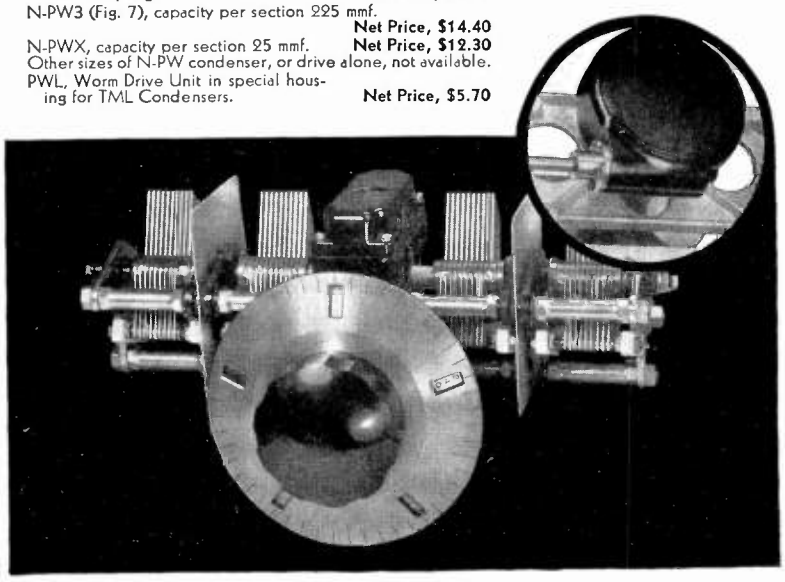
PW Ganged Condensers are available in 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied. The single-section PW condenser is supplied in capacities of 150, 200, 350 and 500 mmf, single spaced. Capacities up to 125 mmf can be supplied double spaced. The rotor is not insulated on the single section model. Plate shape is straight-line-frequency when the frequency range is 2:1.

PW condensers and drives are all with rotor shaft parallel to the panel, as in the HRO receiver. N-PW units are also available, as used in original type NC-100 and NC-101X receivers, with rotor shaft perpendicular to panel, as listed below:

PW-1, Single Section.	**Net Price, $9.00**
PW-2, Two Section.	**Net Price, $12.00**
PW-3, Three Section.	**Net Price, $14.40**
PW-4, Four Section.	**Net Price, $16.50**
PW-0, Dial and Worm Drive, only, with TX-9 Coupling.	**Net Price, $8.10**
N-PW3 (Fig. 7), capacity per section 225 mmf.	**Net Price, $14.40**
N-PWX, capacity per section 25 mmf.	**Net Price, $12.30**

Other sizes of N-PW condenser, or drive alone, not available.

PWL, Worm Drive Unit in special housing for TML Condensers.	**Net Price, $5.70**



DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0–100–0	180°	Either
2	0–100	180°	Counter Clockwise
3	100–0	180°	Clockwise
4	150–0	270°	Clockwise
5	200–0	360°	Clockwise
6	0–150	270°	Counter Clockwise

Net

World Radio History

RECEIVING CONDENSERS

NATIONAL Type ST and SS

The ST Condenser has 180° Straight-Line-Wavelength plates. General construction is the same as the SE Condenser although its overall height is less. For minimum overall length, a single bearing model — the STHS — is offered. All other models are double bearing. Two split-stator models are available.

The SS Condenser has 180° Straight-Line-Capacity plates and except for this detail is the same in all other respects as the ST Condenser. When ordering, substitute SS for ST under the catalog symbol column in the listing at the right.

NATIONAL Type SE

The SE Condenser has 270° Straight-Line-Frequency plates. Insulation is Isolantite. All models have two rotor bearings, the front bearing being insulated to prevent noise. The rotor contact is through a constant impedance pigtail. The SEU models are suitable for high voltages as their plates are thick polished aluminum with rounded edges. The other SE models do not have this feature.

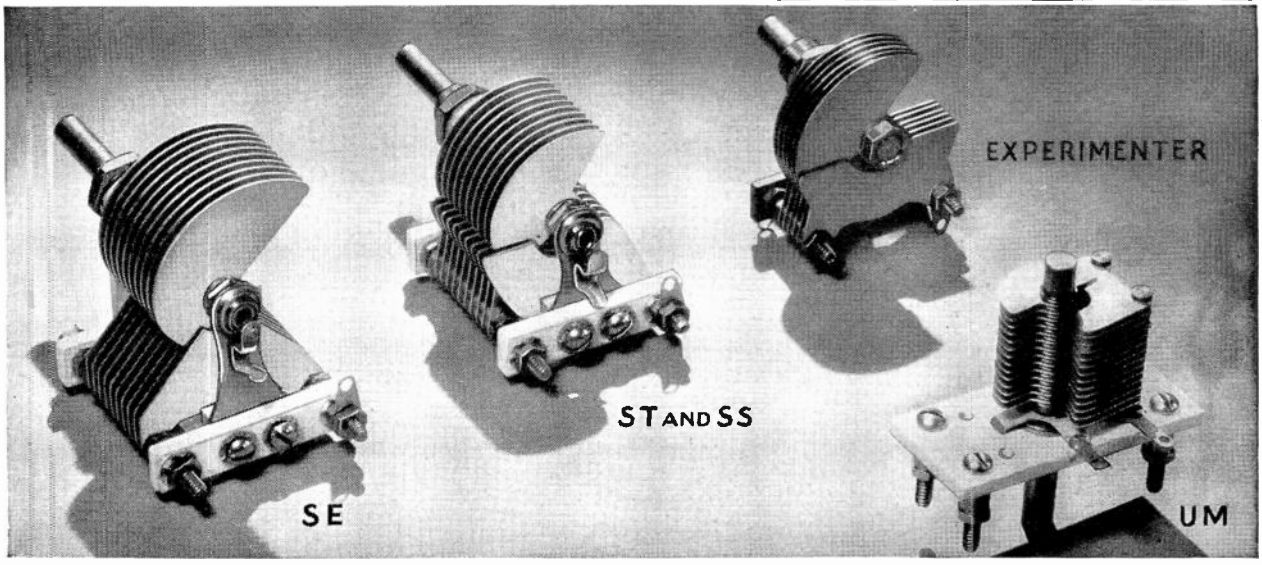
NATIONAL Type UM

The UM Condenser is designed for ultra high frequency use and is small enough for convenient mounting in our square shield cans. They are particularly useful for tuning receivers, transmitters and exciters. Shaft extensions at each end of the rotor permit easy ganging when used with one of our flexible couplings. The UMB-25 Condenser is a balanced stator model, two stators act on a single rotor. The UM can be mounted by the angle foot supplied or by bolts and spacers.

NATIONAL "Experimenter" Models

The National "Experimenter" Type Condensers are low-priced models suitable for general experimental work. They are of all-brass construction, except for the Bakelite insulation. The rotor has only one bearing. Plates can be removed without difficulty if desired.

Capacity	Air Gap	Plates	Cat. Symbol	Net Price
15 Mmf.	.018"	3	STHS- 15	$ .84
25	.018"	4	STHS- 25	.90
50	.018"	7	STHS- 50	.96
35	.026"	8	ST- 35	.90
50	.026"	11	ST- 50	1.08
75	.026"	15	ST- 75	1.20
100	.026"	20	ST-100	1.35
140	.026"	28	ST-140	1.50
150	.026"	29	ST-150	1.50
200	.018"	27	STH-200	1.65
250	.018"	32	STH-250	1.80
300	.018"	39	STH-300	1.95
335	.018"	43	STH-335	2.10
50–50	.026"	11–11	STD- 50	2.10
100–100	.018"	14–14	STHD-100	2.70
15 Mmf.	.055"	6	SEU- 15	$1.50
20	.055"	7	SEU- 20	1.65
25	.055"	9	SEU- 25	1.65
50	.026"	11	SE- 50	1.80
75	.026"	15	SE- 75	1.95
100	.026"	20	SE-100	2.10
150	.026"	29	SE-150	2.25
200	.018"	27	SEH-200	2.25
250	.018"	32	SEH-250	2.40
300	.018"	39	SEH-300	2.40
335	.018"	43	SEH-335	2.55
15 Mmf.	.017"	6	UM- 15	$ .75
35	.017"	12	UM- 35	.90
50	.017"	16	UM- 50	.96
75	.017"	22	UM- 75	1.02
100	.017"	28	UM-100	1.14
25	.050"	14	UMA- 25	1.11
25	.017"	4–4–4	UMB- 25	1.11
15 Mmf.	.045"	5	EX- 15	$ .51
25	.045"	7	EX- 25	.51
35	.045"	10	EX- 35	.60
50	.017"	6	EX- 50	.54
100	.017"	12	EX-100	.60
140	.017"	15	EX-140	.75



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TRANSMITTING CONDENSERS

Capacity	Peak V.	Plates	Cat. Symbol	Net Price
100 Mmf.	1,000	10	TMS-100	$1.50
150	1,000	14	TMS-150	1.65
250	1,000	23	TMS-250	1.80
300	1,000	27	TMS-300	2.16
50–50	1,000	5–5	TMS-50D	2.25
100–100	1,000	9–9	TMS-100D	2.70
35	2,000	8	TMSA-35	1.80
50	2,000	11	TMSA-50	1.95
50–50	2,000	11–11	TMSA-50D	2.40
50 Mmf.	3,000	7	TMC-50	$2.40
100	3,000	13	TMC-100	2.70
150	3,000	21	TMC-150	3.15
300	3,000	39	TMC-300	3.90
100–100	3,000	13–13	TMC-100D	4.50
300 Mmf.	3,000	23	TMA-300	$7.20
200–200	3,000	16–16	TMA-200D	9.00
50	6,000	8	TMA-50A	3.90
100	6,000	17	TMA-100A	6.00
150	6,000	23	TMA-150A	7.20
230	6,000	35	TMA-230A	9.60
50–50	6,000	9–9	TMA-50DA	6.60
100–100	6,000	15–15	TMA-100DA	10.50
100	9,000	23	TMA-100B	8.10
150	9,000	35	TMA-150B	10.20
60–60	9,000	15–15	TMA-60DB	11.10
50	12,000	13	TMA-50C	4.80
100	12,000	27	TMA-100C	8.70
40–40	12,000	11–11	TMA-40DC	8.10
75 Mmf.	20,000	17	TML-75E	$15.60
150	15,000	27	TML-150D	15.90
100	15,000	19	TML-100D	14.10
50	15,000	9	TML-50D	9.90
245	10,000	35	TML-245B+	17.10
150	10,000	21	TML-150B+	15.60
100	10,000	15	TML-100B+	15.00
75	10,000	11	TML-75B+	10.80
500	7,500	49	TML-500A+	21.00
350	7,500	33	TML-350A+	16.80
250	7,500	25	TML-250A+	15.60
30–30	20,000	7–7	TML-30DE	15.90
60–60	15,000	11–11	TML-60DD	17.10
100–100	10,000	15–15	TML-100DB+	18.90
60–60	10,000	9–9	TML-60DB+	16.50
200–200	7,500	21–21	TML-200DA+	21.00
100–100	7,500	11–11	TML-100DA+	17.10

NATIONAL Type TMS

Type TMS is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators.

Insulation is Isolantite. Voltage ratings listed are conservative.

NATIONAL Type TMC

The TMC is designed for use in the power stages of transmitters, where peak voltages do not exceed 3000. The frame is extremely rigid and arranged for mounting on panel, chassis or standoff insulators. The plates are aluminum, with buffed edges. Insulation is Isolantite, located outside of the concentrated electrostatic field. The stator in the split stator model is supported at both ends.

NATIONAL Type TMA

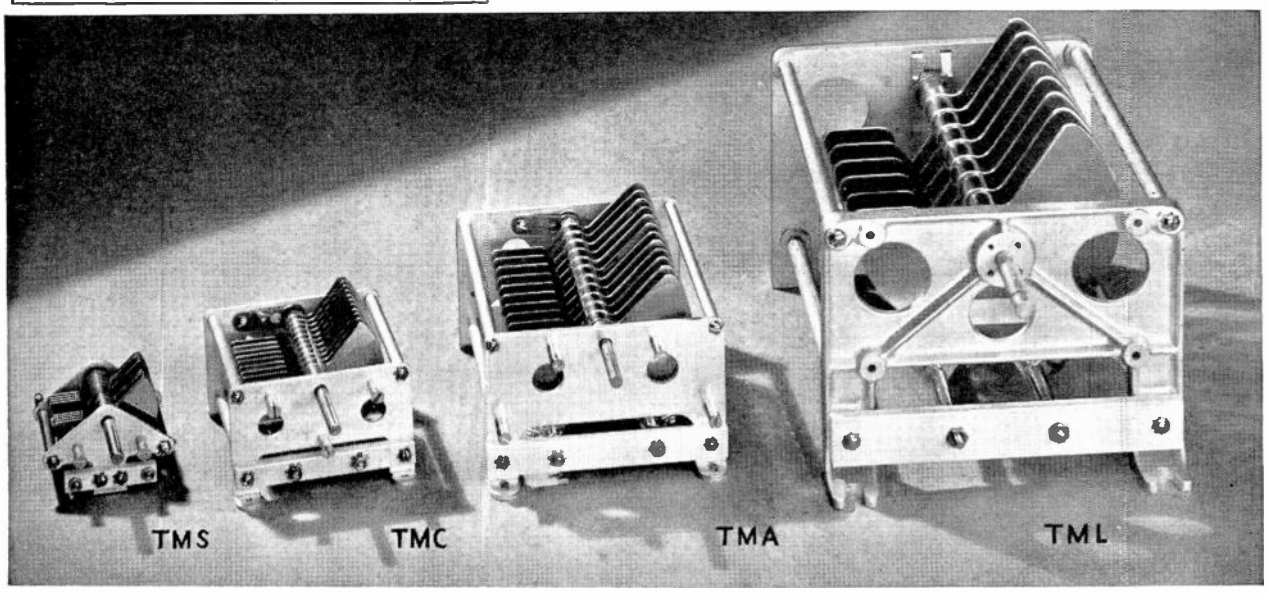
The TMA is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or standoff insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is Isolantite, located outside of the concentrated field.

NATIONAL Type TML

The TML condenser is a 1 KW job throughout. Isolantite insulators, specially treated against moisture absorption, prevent flashovers. A large self-cleaning rotor contact provides high current capacity. Thick capacitor plates, with accurately rounded and polished edges, provide high voltage ratings. Sturdy cast aluminum end frames and dural tie bars permit an unusually rigid structure. Precision end bearings insure smooth turning and permanent alignment of the rotor. End frames are arranged for panel, chassis or standoff mounting.

PLATE SPACINGS

Peak Volts	Spacing	Peak Volts	Spacing
1000	.026″	9000	.265″
2000	.065″	10000	.344″
3000	.077″	12000	.359″
6000	.171″	15000	.469″
7500	.219″	20000	.719″



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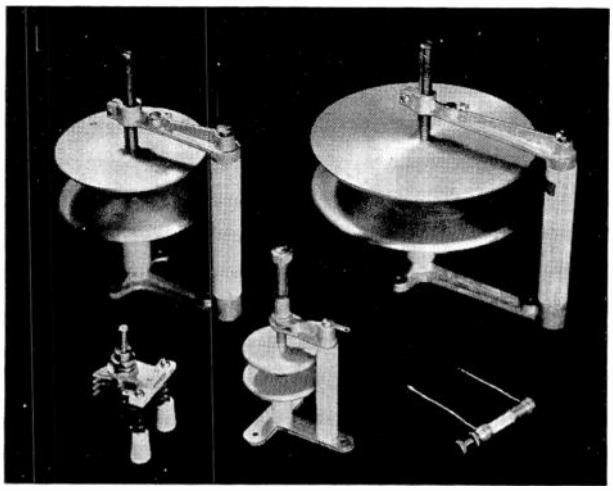
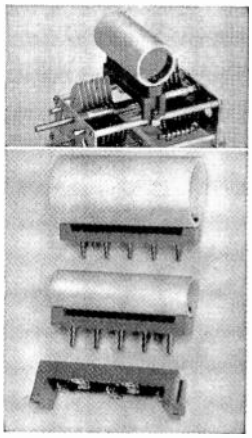
TRANSMITTING COILS



BUFFER COIL FORMS

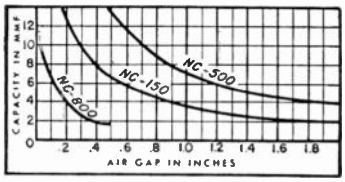
Two Isolantite Buffer Coil Forms are now available. In addition to the XR-13 (1¾" x 3½") the new XR-13A form (1" x 3½") is now listed for the first time. Both are drilled for leads and both fit the PB-5 Plug. The XB-5 Socket makes a convenient plug-in mount that attaches readily to the tie bars of a TMC Condenser. Plug and Socket are of molded R-39.



Type XR-13 Coil Form only	**Net Price, $ .66**
Type XR-13A Coil Form only	**Net Price, $ .36**
Type PB-5 Plug only	**Net Price, $ .45**
Type XB-5 Socket only	**Net Price, $ .45**
Type UR-13 Buffer Coil Assembly	**Net Price, $1.50**
Type UR-13A Buffer Coil Assembly	**Net Price, $1.20**

NATIONAL Neutralizing Condensers

In the group above, the Type NC-600 is shown at the lower right. It is suitable for 6L6's and similar beam tubes and has a range of adjustment from ½ mmf to 5 mmf. Type STN, lower left, has a capacity of 18 mmf (3000 V) making it suitable for tubes such as the 10, 45 and 47. Of the disk type condensers, the smallest is the NC-800 with micrometer type thimble and clamp, suitable for the RCA-800. The medium sized model, Type NC-150, is for the HK-345, RK-36, 300T and 852. Type NC-500 is the largest, and is for the WE-251A and similar tubes. The capacity of these disk type condensers is given in the chart below. In addition, the Type TCN, similar to TMC on the preceding page, is available for the 203A, 852, 204A, etc. (Max. Cap. 25 mmf., 6000V) All National Neutralizing Condensers have Isolantite insulation.

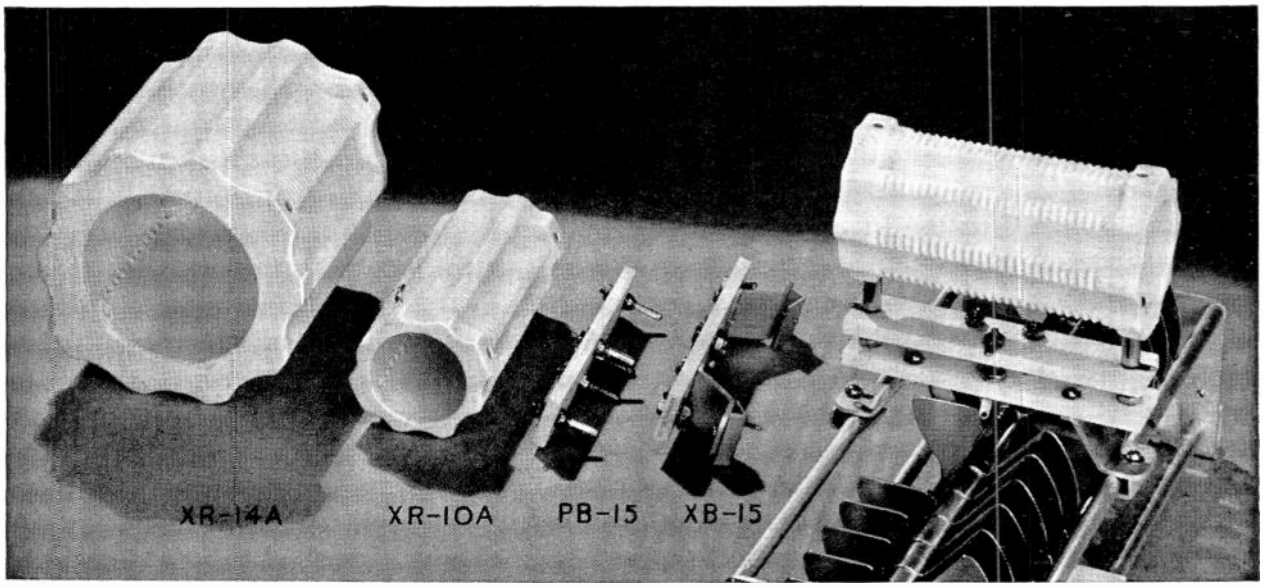


Type NC-600	**Net Price, $ .27**
Type STN	**Net Price, $1.20**
Type NC-800	**Net Price, $1.80**
Type NC-150	**Net Price, $3.90**
Type NC-500	**Net Price, $7.50**
Type TCN	**Net Price, $2.40**

TRANSMITTER COIL FORMS

Two Transmitter Coil Forms are now available to fit the PB-15 Isolantite Plug and the XB-15 Socket. The XR-10A Form (2½" winding dia. x 5" long) is intended for the 20 and 40 meter bands. The new XR-14A Form (5" winding dia. x 5" long) is for the 80 meter band. The XB-15 Socket clamps on the tie bars of a TMA Condenser.

Type XR-10A Coil Form only	**Net Price, $ .90**
Type XR-14A Coil Form only	**Net Price, $2.10**
Type PB-15 Plug only	**Net Price, $ .81**
Type XB-15 Socket only	**Net Price, $1.05**
Type UR-10A Coil Form Assembly	**Net Price, $2.76**
Type UR-14A Coil Form Assembly	**Net Price, $3.76**



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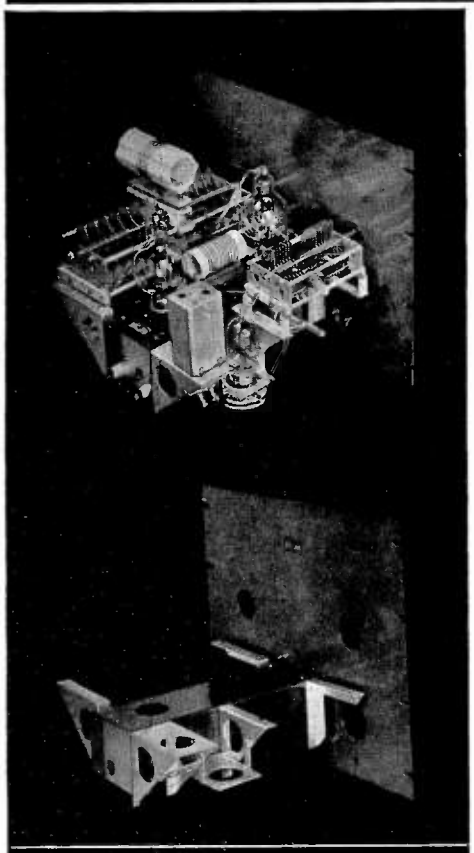
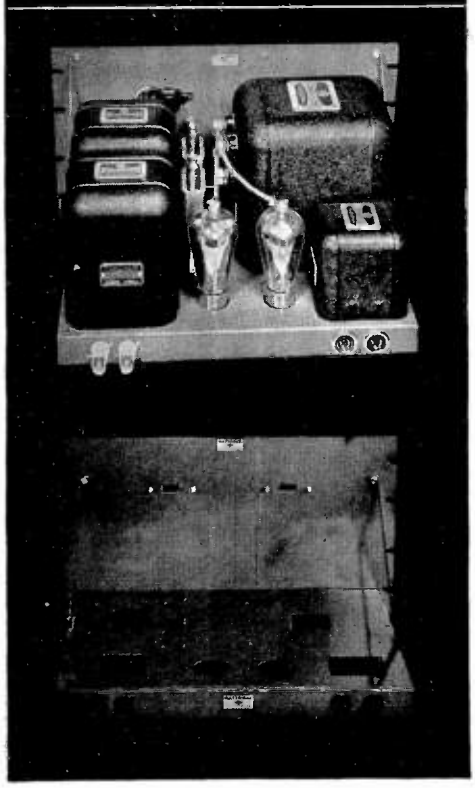
TRANSMITTER FOUNDATION UNITS





NATIONAL FINAL AMPLIFIER UNIT

The National Final Amplifier Foundation Unit features a compact, open construction that results in short leads, symmetry of the push-pull output circuit, easy wiring, and complete accessibility. It was originally described in *QST* using RK-38's, and because of the great many inquiries received was later sold in kit form as the NT-38PC. More recently it has become a basic unit in the new transmitter featured in the Thordarson Transmitter Guide, in which Eimac 100TH's in the final are driven by a single Eimac 35T. Complete information is given in the booklets listed on the last page of this catalogue.

Final Amplifier and Buffer Foundation Unit, Type NT-100PC.
Net Price, $9.60

National Parts (as marked with an asterisk in the listing on Page 7) for construction of the Type NT-100PC. **Net Price, $47.64**

NATIONAL MEDIUM VOLTAGE POWER SUPPLY UNIT

This power supply foundation unit is for use with the buffer stage described at the top of this page, and the modulator described at the top of the following page. It is a thoroughly engineered power supply, but is sold only in kit form. The chassis is supplied either completely drilled and punched for use with Thordarson CHT Components, or with only socket holes, terminals, etc., for use with other types of transformers and chokes.

Medium Voltage Power Supply Foundation Unit for Thordarson CHT Components, Type NT1200PC. **Net Price, $7.20**

Medium Voltage Power Supply Foundation Unit for use with various types of transformers and chokes, Type NT1200PU.
Net Price, $7.20

National Parts (as marked with an asterisk in the listing on Page 7) for construction of above units. **Net Price, $2.04**

NOTE. The illustrations above and to the right show the assembled units, and immediately below each assembled unit the corresponding foundation unit. Mounting screws, grommets, spacers, brackets, lockwashers and similar hardware are furnished with each foundation unit. For convenience in shipping foundation units are packed disassembled. Panels are of 1/8" steel finished in black moire. Aluminum panels 3/16" thick, finished in either black leatherette or gray enamel, are available at an additional net price of $4.80 for the NT100PC, and $4.50 for the NT300PC, NT1200PC and NT2000PC.

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TRANSMITTER FOUNDATION UNITS

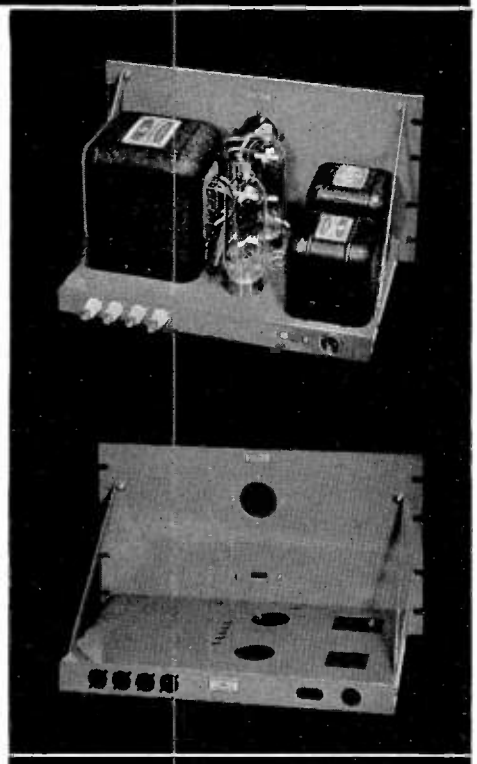
NATIONAL CLASS B MODULATOR UNIT

The National Class B Modulator Foundation Unit employs a pair of "zero-bias 203's" in Class B, which are driven from the output of the National NTE Exciter-Speech Amplifier and which plate-modulate the final described at the top of the preceding page. Though primarily designed for use with Thordarson CHT Components, it is available also with only the socket holes, meter hole, etc. ready punched, for use with other types of transformers.

Class B Modulator Foundation Unit, for use with Thordarson CHT Components, Type NT300PC. **Net Price, $7.20**

Class B Modulator Foundation Unit, for use with various types of transformers, Type NT300PU. **Net Price, $7.20**

National Parts (as marked with an asterisk in the listing below) for construction of above units. **Net Price, $3.06**



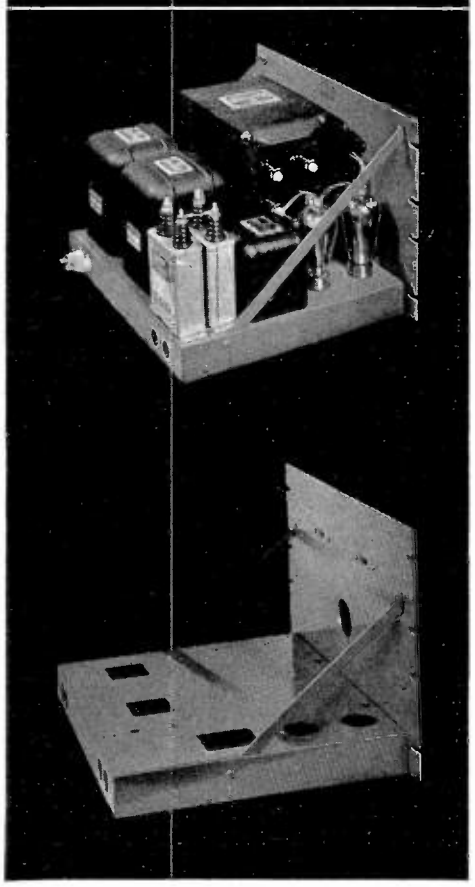
NATIONAL HIGH VOLTAGE POWER SUPPLY UNIT

The High Voltage Power Supply Foundation Unit is designed to power the final amplifier described at the top of the preceding page. As in the case of the units previously described, it is designed for Thordarson CHT Components, but is available partially drilled and punched for use with other types of transformers and chokes.

High Voltage Power Supply Foundation Unit, for use with Thordarson CHT Components, Type NT2000PC. **Net Price, $7.20**

High Voltage Power Supply Foundation Unit, for use with various types of transformers and chokes, Type NT2000PU. **Net Price, $7.20**

National Parts (as marked with an asterisk in the listing below) for construction of above units. **Net Price, $2.04**



PARTS FOR TRANSMITTER FOUNDATION UNITS

BUFFER AND FINAL AMP.

★ 2 National Type O dials
★ 1 National FXTB unit with PB-10 base
★ 1 National TMC-100D condenser
★ 1 National TMA-40DC condenser
★ 2 National NC-150 neut. condensers
★ 1 National NC-800 neut. condensers
★ 1 National UR-10A coil assembly
★ 1 National XR-10A coil form with PB-15
★ 1 National XR-14A coil form, for 3.5 or 7 mc. with PB-15
★ 1 National UR-13 coil assembly (for each band)
★ 1 National 6-prong Square coil socket
★ 3 National XM-10 sockets
★ 4 National GS-1 standoffs
★ 4 National GS-8 standoffs
★ 3 National R-100 chokes
★ 1 National T-8 Filament transformer
1 Yaxley Pilot Lamp assembly
2 Yaxley Plugs
4 Carter Jacks
1 General Radio Jack Terminal
1 AC Toggle Switch, Receptacle and Terminal Panel
4 Aerovox .01-mfd. Mica condensers
2 Aerovox .001-mfd. Mica condensers, 5000 v.
1 Triplett D.C. Milliammeter — 100 ma.
1 Triplett D.C. Milliammeter — 300 ma.
1 2-watt Fixed Resistors, 20,000 ohms
1 10-watt Fixed Resistors, 5000 ohms

MODULATOR

★ 2 National XM-50 sockets
★ 4 National GS-8 standoffs
★ 2 National No. 12 grid grip clips
1 Thordarson Transf. T-11F51
1 Thordarson Transf. T-15D82
1 Thordarson Transf. T-11M77
1 AC switch — Arrow — No. 1301
1 AC outlet — Arrow — No. 754 and MB
1 Triplett 0-500 milliammeter
7 ½" Rubber grommets
4 ⅜" Socket spacers
1 Terminal panel

MODULATOR & BUFFER POWER SUPPLY

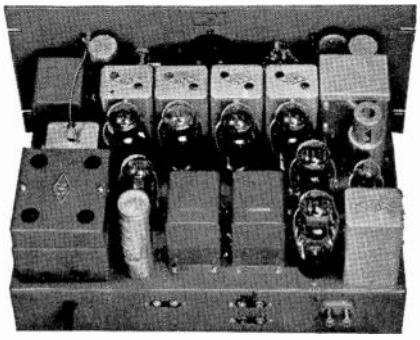
★ 2 National XM-10 sockets
★ 2 National No. 12 grid grip clips
★ 2 National GS-8 stand-offs
1 Thordarson Transf. T-11F53
1 Thordarson Transf. T-15P15
1 Thordarson Choke T-15C46
1 Thordarson Choke T-15C37
2 Aerovox 2 mfd. 1500v. Type 1509
2 AC outlets — Arrow — No. 754 and MB
2 AC switches — Arrow — No. 1301
7 ½" Rubber Grommets
4 ⅜" Socket spacers

FINAL AMP. POWER SUPPLY

★ 2 National XM-10 sockets
★ 2 National No. 12 grid grip clips
★ 2 National GS-8 standoffs
1 Thordarson Transf. T-11F53
1 Thordarson Transf. T-15P19
1 Thordarson Choke T-15C46
1 Thordarson Choke T-15C37
2 Aerovox 2 mfd. 2500v. Type 2509
2 AC outlets — Arrow — No. 754 and MB
2 AC switches — Arrow — No. 1301
7 ½" Rubber Grommets
4 ⅜" Socket spacers
1 Triplett 0-3000 Voltmeter

World Radio History

UNIVERSAL EXCITER SPEECH AMPLIFIER



NATIONAL NTE EXCITER AND SPEECH AMPLIFIER

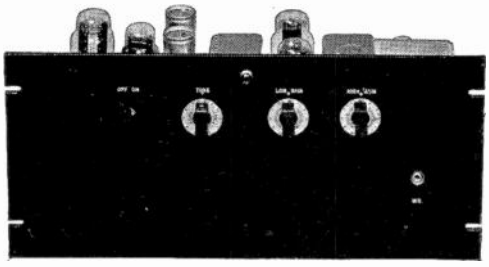
The new National Combination Exciter and Speech Amplifier is the ideal answer to transmitter control at the operating position. It includes a versatile multi-band exciter unit with a choice of frequencies in each band, and a high-gain speech amplifier. The exciter can be used with either a conventional single crystal, a National "Vari-gap" variable frequency holder, or a National four-crystal multiple holder, although the multiple holder is usually supplied. The crystal oscillator is followed by three frequency-multiplier stages using 6L6's. The crystals can be controlled from the front panel, and the same is true of the frequency-multiplier stages which are selected by a convenient interlocking push switch of special low-loss design. The four stage amplifier delivers 15 watts output from PP 2A3's with an input of .005 Volts. Although the power supply is entirely self-contained, the hum level is exceedingly low. A meter is provided for circuit adjustments.

Table models are furnished in black wrinkle-finish steel cabinets to match the NC-101X Receiver, at prices listed. Relay rack models can be supplied at an increased price of $6.00 net for black wrinkle-finish steel panels 1/8 inch thick, or at an increase of $9.00 net for black leatherette or gray enamel panels of aluminum 3/16 inch thick.

Type NTE Exciters are available in three models as follows:

Exciter-Speech Amplifier, for 5, 10, 20 and 75 meters, table model, Type NTE-A.	**Net Price, $129.00**
Same as NTE-A, but for 10, 20, 40 and 75 meters, Type NTE-B.	**Net Price, $129.00**
Same as NTE-B, but without speech amplifier, Type NTE-C.	**Net Price, $ 93.00**

Shipping Weight Approx. 70 Lbs.



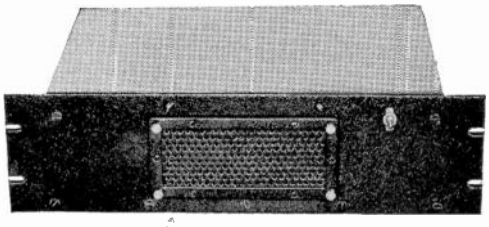
NATIONAL NSA SPEECH AMPLIFIER

The new National Speech Amplifier has two input channels with an electronic mixer. One input circuit provides an over all gain of 125 db, and is suitable for crystal microphones, etc. The other input circuit has one less amplifier stage and is intended for high level sources such as phonograph pickups, etc. The frequency characteristic is flat within less than 1 db from 25 to 10,000 cycles. A separate rectifier supplies bias voltage for the PP 2A3's, which deliver 15 watts output. A tone control is provided.

Speech Amplifier, table model, in wrinkle-finish steel cabinet, including tubes, Type NSA.	**Net Price, $69.00**
Extra for relay rack mounting, with black wrinkle-finish steel panel 1/8 inch thick.	**Net Price, $ 6.00**
Extra for relay rack mounting, with black leatherette or gray enamel aluminum panel 3/16 inch thick.	**Net Price, $ 9.00**

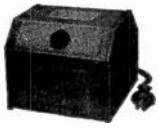
Approx. Shipping Weight 50 Lbs.

NATIONAL POWER SUPPLIES



These Power Units have exceedingly low inherent hum as a double section filter, using high quality chokes and condensers, is employed. The transformer primary is shielded from other windings and "tunable hums" are eliminated by a built-in R.F. filter. These units are equipped with a receptacle for plugging in the power cable from the set and special filament windings compensate for power cable voltage drop. At the left is shown a rack-mount pack; at the right is a table-model pack.

Type GRSPU Single Pack for rack mount can be supplied with same characteristics as 5897, 5886 or 5880.	**Net Price, less tube, $29.70**
Type GRDPU Double Pack for rack mount, same characteristics as GRSPU but with two complete and separate power supplies built in.	**Net Price, less tubes, $47.70**
Type 5897 Table Pack — for 2½ volt tubes, 220 volts, 60 mils. (for use on 110-volt 60 cycles)	**Net Price, less tube, $15.90**
Type 5886 Table Pack — for 6 volt tubes, 180 volts, 35 mils. (for use on 110-volt 60 cycles)	**Net Price, less tube, $17.70**
Type 5880 Table Pack — for 2½ volt tubes, 180 volts, 35 mils. (for use on 110-volt 60 cycles)	**Net Price, less tube, $17.70**



For other voltages and frequencies, prices slightly higher

Net

World Radio History

AUXILIARY EQUIPMENT

NATIONAL OSCILLOSCOPES

Cathode Ray Oscilloscopes are available in two models. The Type CRR, which is listed for the first time, is mounted on a standard 3½" relay rack panel and employs a two-inch screen RCA-902 and 80 rectifier. Type CRM is mounted in a small steel cabinet (4⅛" x 6⅛" x 8") and uses a one-inch screen RCA-913 with 6X5 rectifier. Both models are self contained and power supply and input controls are built in. A panel switch permits use of built in 60 cycle sweep or external audio sweep for securing the familiar trapezoid pattern, which is more convenient for modulation measurements.

Type CRR Oscilloscope, 2" screen, less tubes.
Net Price, $19.50

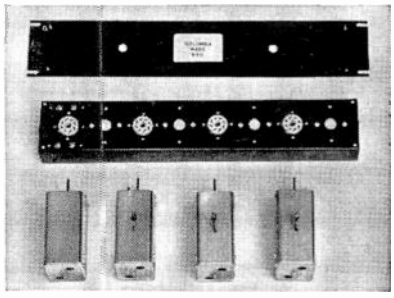
Type CRM Oscilloscope, 1" screen, less tubes.
Net Price, $11.10

MOUNTED "S" METER

For use with the NC 80X or 81X Receivers which do not have built-in "S" meters, a meter of the same type as that used in the HRO is now available in a desk mounting. The necessary resistor network is built into all receivers of the NC-80 series, and it is only necessary to connect two wires to install the meter. Complete directions are given in the receiver instruction book. Specify whether gray or black wrinkle finish.

Mounted "S" Meter, Type SM-80 **Net Price, $6.00**

HIGH FIDELITY TRF UNITS



For broadcast reception of the highest possible tone quality, the simplest circuit gives the best results. The new National Tuners are based on a high performance TRF circuit reduced to its simplest terms. Similar in construction to an IF Amplifier, each chassis provides a three-stage RF Amplifier tuned to one station only. A group of four or more separate chassis are usually used in each installation to receive a like number of stations. A push switch, relay system, etc., is used to select the desired station.

Each RF Transformer has an individual coupling adjustment and is tuned both primary and secondary (8 tuned circuits). The coupling is adjustable to include 10 KC with less than 1 db variation in the audio range. Sensitivity is adjustable from 5 microvolts to one volt. For best efficiency, three models have been made available covering ranges of 540–875, 740–1230, and 1100–1700 KC. Complete filtering eliminates regeneration which causes lop-sided resonance curves. The triode power detector is linear and capable of handling large percentages of modulation. For circuit simplicity, there is no AVC. The chassis fits a standard 3½" relay rack panel.

Drilled and formed chassis, Type DLC. **Net Price, $1.50**

As above, but with sockets and terminals rivetted in place, Type DLCA. **Net Price, $2.76**

Steel ⅛" panel. Type DLPS. **Net Price, $ .90**

Aluminum 3/16" panel. Type DLPA. **Net Price, $3.00**

RF Transformer, set of four required. Type DLT.
Net Price, each, $3.90

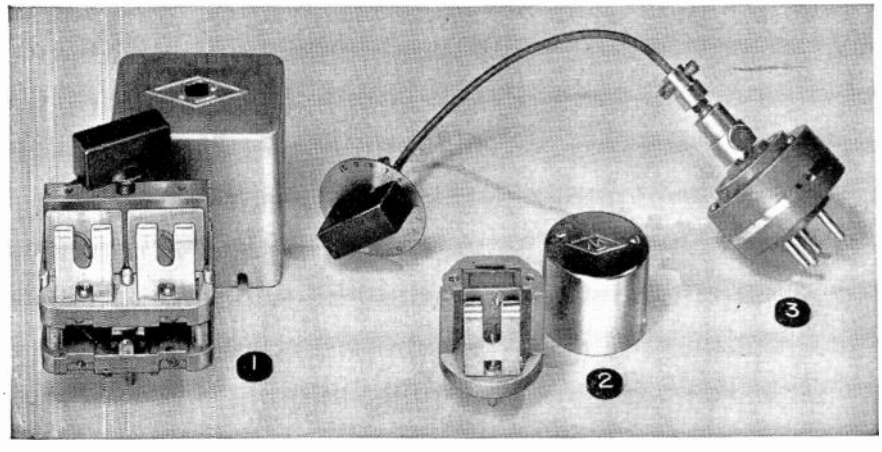
(Specify approximate operating frequency)

CRYSTAL HOLDERS

These crystal holders are moulded of low-loss R-39 and have prongs moulded in for easy plug-in mounting.

1 is a new type holder that will accommodate 4 crystals and has a built-in low-capacity switch for selecting frequencies. It accommodates crystals up to 1" square and is very convenient when an immediate choice of frequencies is desirable.

Type 4 in 1 — pressure type. **Net Price, $4.50**



2 is a holder for a single crystal in which crystals may be changed readily.

Type CHR — for use in receivers, resonator type.

Type CHS — for use in transmitters, Pressure Constant Air-Gap, type.

Type CHT — for use in transmitters, Pressure type, no air gap.

Net Price, less crystal, of $1.50 each

3 is a novel holder permitting front-of-panel tuning of the crystal over a range of one part in 600 without loss in output. Only specially selected crystals should be used.

Type CHV (less crystal)
Net Price, $5.70

Type CHV (with 80 meter Hollister crystal that will double into the 20 meter phone band)
Net Price, $19.50

World Radio History

RECEIVERS

$209.70

HRO

(TABLE MODEL)
Net, complete with tubes, coils, speaker and power unit

The two preselector stages give remarkable image frequency suppression, weak signal response and high Signal-to-Noise Ratio. The two high gain I.F. stages employ Litz-wound coils and are tuned with air condensers. The useable sensitivity and selectivity are exceptional. Other circuit details are automatic and manual volume control, a vacuum tube voltmeter calibrated in "S" units for carrier intensities, a phone jack, a Send-Receive switch and a Lamb Single-Signal crystal filter. This filter makes selectivity adjustable over a wide range and the circuits are so precisely balanced that heterodyning signals may be completely phased out.

When Standard HRO coils are used for general coverage, each of the 4 coils includes two amateur bands and the spectrum between. A simple switching device is provided which makes these same coils band-spread their respective amateur bands (except 160) over a span of 400 divisions on the dial.

For those who require the high performance of the Standard HRO but do not need its extreme versatility, the HRO Junior is offered. The circuit and mechanical details of both receivers are identical in every respect, but the lower priced model has been greatly simplified by omitting the Lamb Single-Signal crystal filter, the "S" meter, and by designing coils for continuous band spread only.

Shipping weights: HRO, 62 lbs. — HRO Jr., 42 lbs. — No. 5897 AB, 15 lbs.

STANDARD HRO Receiver, table model, complete with tubes and four sets of coils covering range 1.7 MC to 30 MC, but no speaker or power supply — 2½ volt A.C. or 6 volt battery model.
(Not illustrated) **Net Price, $179.70**

STANDARD HRO Receiver, relay rack model — 2½ volt A.C. or 6 volt battery model.
(As illustrated) **Net Price, $192.00**
Specify Grey or Black finish.

Additional sets of coils are available only as listed below.

50–100 KC	**Net Price, $22.50**
100–200 KC	**Net Price, 18.00**
175–400 KC	**Net Price, 16.50**
500–1000 KC	**Net Price, 12.00**
900–2000 KC	**Net Price, 12.00**

HRO JUNIOR RECEIVER table model, complete with tubes and one set of coils, 10 to 20 meters (2 amateur bands) but no speaker or power supply — 2½ volt A.C. or 6 volt battery model.
Net Price, $108.00

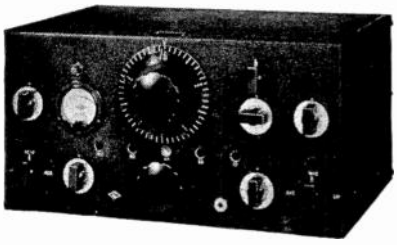
Additional HRO Junior Coils (2 amateur bands per coil). **Net Price, $9.90**

MCS Table-model Metal Cabinet and 8" Dynamic Speaker (P.M. type — requires no power supply) with impedance matching transformer for a single Class A Pentode (7000 ohms). **Net Price, $14.10**

5897 AB Power Supply — less tube — for above receivers. **Net Price, $15.90**

Inquire of dealer about special accessories, such as combination power unit, speaker, and coil-storage panel, illustrated on Page 12.

NATIONAL HRO



$120.00

NC-100A

Net, complete with tubes, speaker

These 11 tube superheterodyne receivers are self-contained (except for the speaker) in a table model cabinet that is readily adapted to relay rack mounting. One stage of RF and two stages of IF are used. Low loss insulation and high-Q coils give ample sensitivity and selectivity. Separate RF and Audio Gain Controls and a signal strength meter are mounted on the panel. Other controls are Tone, CW Oscillator, AVC with amplified and delayed action, a B+ switch, and a phone jack. A self contained power supply provides all necessary voltages including speaker field excitation. The range changing system is unique in that it combines the mechanical convenience of a coil switch with the electrical efficiency of plug-in coils.

The **NC-100A**, illustrated above, covers the range from 540 KC to 30 MC. The large full vision dial is calibrated directly in megacycles and a separate high speed vernier scale provides high precision in logging. The NC-100XA is similar but equipped with a crystal filter.

The **NC-101X**, illustrated below, is built strictly for the amateur bands and covers only the following ranges: 1.7–2.05 MC, 3.5–4.0 MC, 7.0–7.3 MC, 14.0–14.4 MC, and 28.0–30.0 MC. The NC-101X is equipped with a crystal filter, S-meter, and the PW type instrument dial.

The battery models use 9 tubes. Power output of AC model 10 watts, battery model 2 watts.

Shipping weights: NC100A, 70 lbs. — NC100XA, 71 lbs. — NC101X, 71 lbs.

NC-100A — complete with tubes.
AC model — 10" speaker chassis. **Net Price, $120.00**
Battery model — 8" speaker chassis. **Net Price, $110.50**

NC-100XA — complete with tubes and crystal filter.
AC model — 10" speaker chassis. **Net Price, $142.50**
Battery model — 8" speaker chassis. **Net Price, $133.00**

NC-100SA — complete with tubes.
AC model — 12" Rola G-12 Speaker. **Net Price, $133.50**

NC-100XSA — complete with tubes and crystal filter.
AC model — 12" Rola G-12 Speaker. **Net Price, $156.00**

NC-101X — complete with tubes.
AC model — 10" speaker chassis. **Net Price, $129.00**
Battery model — 8" speaker chassis. **Net Price, $120.00**

DCS-10 — Metal Cabinet for 10" speaker, same finish as receiver. **Net Price, $5.10**

DCS-8 — Metal Cabinet for 8" speaker, same finish as receiver. **Net Price, $4.80**

Note: Cabinets for 12" speaker chassis cannot be supplied.

RRA Relay Rack Adapters, designed for mounting any of the above receivers in a standard relay rack.
Net Price, per pair, $1.50

Note: 230 volt 50 cycle and 115 volt 25 cycle models of above receivers available at slightly higher price.

NATIONAL NC-100XA

World Radio History

RECEIVERS

This inexpensive receiver has exceptional operating characteristics. Ten tubes are used in a high gain superheterodyne circuit. The IF amplifier is of entirely new design, operating at a frequency of 1560 KC, and providing a high order of image suppression, better, in fact, than that obtainable in many receivers having elaborate preselectors.

$99.00

NC-80

Net, complete with tubes, coils, speaker

The crystal filter (2nd IF stage) has *continuously variable* selectivity from 400 cycles to 5 KC. The range of the phasing circuit (heterodyne elimination) has been similarly extended. The crystal filter remains in the circuit at all times. The 25L6G beam power tube delivers an undistorted output of 2 watts when using either AC or DC, 115 volt supply.

The tuning system, likewise entirely new, employs a multiple scale dial of the full-vision type, accurately calibrated in megacycles. Several unusual features are incorporated, such as the mirror for overcoming parallax, and the adjustable frequency markers, by means of which any particular stations, or frequencies, such as band limits, may be "logged" on the dial itself. All RF and IF circuits are air dielectric condenser tuned.

Automatic plug-in coils are used, controlled by a knob on the front panel, as in the NC-100. The frequency coverage is continuous, except for a small gap at 1560 kc., from 550 kc. to 30 mc., in four ranges.

The NC-81X is a special amateur model covering the following bands only: 1.7–2.05 mc., 3.5–4.0 mc., 7.0–7.3 mc., 14.0–14.4 mc. and 28–30 mc. The dial is calibrated in megacycles.

The NC-80X receiver can be furnished at $6.00 net additional price with either a special high frequency (30–45 mc.) range or a low frequency range (200–550 kc.) in place of one of the standard ranges. When ordering, specify which standard range is to be omitted for the special range.

NC-80X — complete with tubes, crystal filter, 8" PM speaker, etc. for 115v. AC or DC. **Net Price, $99.00**

NC-81X — Amateur Model, complete with tubes, crystal filter, 8" PM speaker, etc. for 115v. AC or DC. **Net Price, $99.00**

Note: Either of the above receivers can be supplied modified for Battery Operation 6v. heater, 135v. B-supply. To order, add "B" to symbol number. List prices are the same as the corresponding AC-DC model.

Shipping Weights: NC-80X, 44 lbs. — NC-81X, 45 lbs. — Speaker in cabinet, 15 lbs.

NATIONAL NC-80X

AVAILABLE IN THREE MODELS — ACSW-3 for AC operation — 6DCSW3 for 6 volt DC operation — 2DCSW3 for 2 volt DC operation. AC Models use "60" Series Coils. DC Models use "10" Series Coils.

Shipping Weights:
Receiver, 17 lbs. — No. 5880 AB pack, 18 lbs.

The SW-3 Receivers employ a circuit consisting of one R.F. stage transformer coupled to a regenerative detector and one stage of impedance coupled audio. This circuit provides maximum sensitivity and flexibility with the smallest number of tubes and the least auxiliary equipment. The single tuning dial operates a precisely adjusted two gang condenser; the regeneration control is smooth and noiseless, with no backlash or fringe howl; the volume control is calibrated from one to nine in steps corresponding to the R scale.

Tubes required — 2 Volt AC Model; two 58, one 27 — 6 Volt DC Model; two 36, one 37 — 2 Volt DC; two 32, one 30.

SW-3, any model, without coils, phones, tubes or power supply. **Net Price, $21.00**

5880-AB Power Supply, 115 V, 60 cycle, without 80 Rectifier. **Net Price, $17.70**

General Coverage Coils

Catalog Number	*Range*	*Net Price Per Pair*
10 or 60	9. to 15.	**$3.00**
11 or 61	13.5 to 25.	**3.00**
12 or 62	23. to 41.	**3.00**
13 or 63	40. to 70.	**3.00**
14 or 64	65. to 115.	**3.00**
15 or 65	115. to 200.	**3.00**
16 or 66	200. to 360.	**3.30**
17 or 67	350. to 550.	**3.30**

Five additional sets of coils are available to cover up to 3000 meters.

Band Spread Coils

10A or 60A —	10 meter	**$3.00**
11A or 61A —	20 meter	**3.00**
13A or 63A —	40 meter	**3.00**
14A or 64A —	80 meter	**3.00**
15A or 65A —	160 meter	**3.00**

NATIONAL SW-3

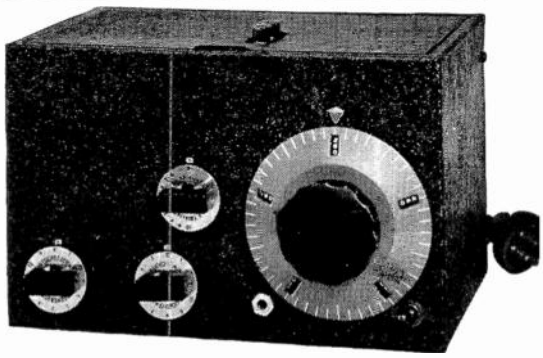
Designed chiefly for the experimenter, the One-Ten Receiver fulfills the need of the experimenter for an adequate receiver to cover the field between one and ten meters.

A four tube circuit is used, composed of one tuned R.F. stage, a self-quenching super-regenerative detector, transformer coupled to a first stage of audio which is resistance coupled to the power output stage. Tubes required: 954-R.F.; 955-Detector; 6C5-1st Audio; 6F6-2nd Audio.

Type 110 Receiver and 6 sets of coils, without tubes, speaker or power supply. **Net Price, $51.00**

Type 5886 Power Supply for above receiver, less tube. **Net Price, $17.70**

Shipping Weights: Receiver, 16 lbs. — No. 5886 AB pack, 17 lbs.

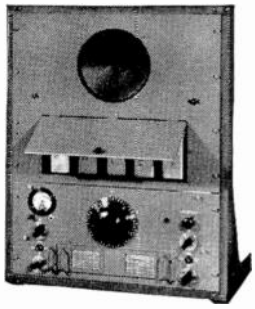


NATIONAL ONE-TEN

World Radio History

PARTS

RELAY RACKS

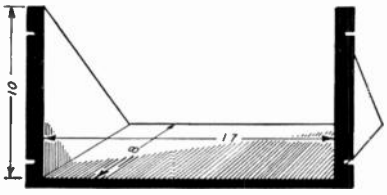


These steel relay racks are drilled and tapped to accommodate, up to their capacities, standard relay rack panels of all sizes. At the right is a Type MRR table model rack featuring the HRO Receiver.

Type RR Relay Rack built to government specifications, panel capacity 63", black finish.
Net Price, $39.00

Type MRR Relay Rack, panel capacity 24½", gray or black finish. **Net Price, $13.50**

RELAY RACK SHELF



This recessed shelf will fit any standard relay rack, and is particularly useful for supporting portables, instruments, test equipment, etc.

Type RRS.
Net Price, $2.40

RELAY RACK PANELS AND CHASSIS

Undrilled standard relay rack panels are available in both 1/8" steel and 3/16" aluminum. The steel panels are finished in black wrinkle, and the aluminum panels in either black leatherette or gray enamel.

Width	Shipping Weight Steel	Shipping Weight Aluminum	Net Price Steel	Net Price Aluminum
1¾"	——	⅝ lbs.	——	$1.95
3½"	5 lbs.	1¼ lbs.	$ .60	2.70
5¼"	7 lbs.	1¾ lbs.	.69	3.45
7"	8 lbs.	2½ lbs.	.72	4.20
8¾"	9 lbs.	3 lbs.	.96	4.95
10½"	10 lbs.	3¾ lbs.	1.17	5.70

Larger sizes available on special order.

Gray enamel blank chassis of 1/16" steel are available in the following sizes:

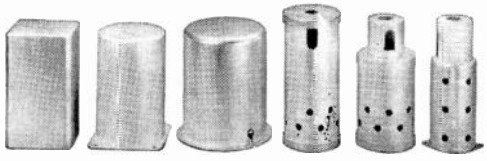
Size	Net Price
4 x 17 x 3"	$1.50
6 x 17 x 3"	1.65
8 x 17 x 3"	1.89
10 x 17 x 3"	2.10
12 x 17 x 3"	2.70

TUBE AND COIL SHIELDS

The Aluminum Shields shown are from left to right:

Type	Net Price
HRO coil shield, 2" x 2⅜" x 4⅛" high	$.21
J30 coil shield, 2½" dia. x 3¾" high	.21
B30 coil shield, 3" dia. x 3¾" high	.21
B30 coil shield, with mounting base	.30
TS Tube Shield, with cap and mounting base	.24
T58 Tube Shield, with cap and mounting base	.24
T78 Tube Shield, with cap and mounting base	.24

The T58 and T78 fit such tubes as the 57, 58, 77, 78, etc.



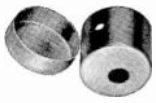
CODE PRACTICE OSCILLATOR

This small audio oscillator is suitable for either code practice, or as an audio signal source for ICW on the Ultra High Frequency Bands.

A type 30 tube is used, and four flashlight cells in the case provide filament and plate current.

Type CPO, without batteries or tube.
Net Price, $3.60

JACK SHIELD

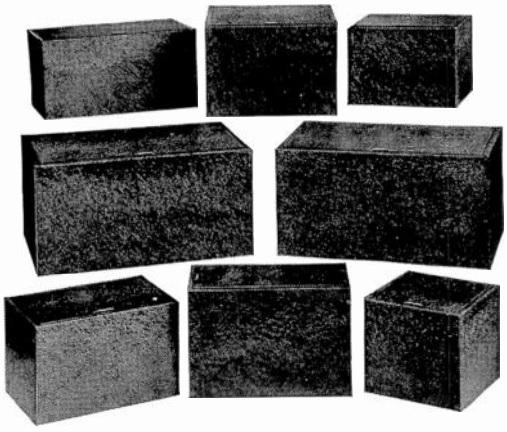


High gain speech amplifiers require a completely shielded input circuit. The new National Jack Shield accommodates small standard jacks and provides a convenient shield. It is primarily designed for mounting behind the panel, where it is held in place by the bushing of the jack. A removable cover gives access to terminals. The shield may also be used for shields on the ends of extension cords, etc.

National Jack Shield, Type JS-1 **Net Price, $.21**

SCREEN GRID DETECTOR COUPLING UNIT. This impedance coupling unit, when employed to couple the output of a screen grid detector to an audio amplifier tube, will give from two to three times as much amplification as resistance coupling. Plate choke, 700 henries. Coupling condenser, .01 mfd. Grid leak, 250,000 ohms.

Type S-101. **Net Price, $3.60**



STANDARD CABINETS

The National Receiver Cabinets illustrated above, are for use in constructing special equipment. List Prices include sub-bases and bottom covers. Reading left to right:

Top Row	Width	Height	Depth	Net Price
Type C-HWR	13½"	7"	7¼"	$3.00
Type C-FB7	11½"	8"	12"	4.20
Type C-SW3	9¾"	7"	9"	3.30
Middle Row				
Type C-NC100	17¼"	8¾"	11¼"	5.10
Type C-HRO	16¾"	8¾"	10"	5.10
Bottom Row				
Type C-One-Ten	11"	7"	7¼"	2.70
Type C-PSK	6"	8"	12"	3.60
Type C-SRR	7½"	7"	7½"	2.10

Net

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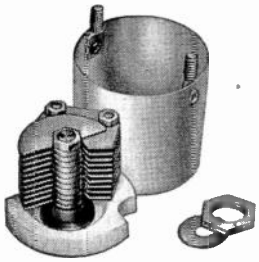
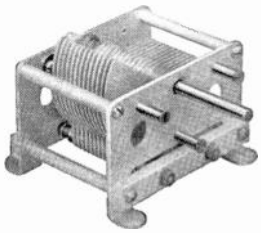


PADDING CONDENSERS

National Air-Diele tric Padding Condensers are extremely compact and have a very low temperature coefficient. The aluminum shield is 1¼" diameter by 1¼"–1½" high.

A very small mica Padding Condenser is also available, mounted on an Isolantite base and designed to be supported by the circuit wiring. The maximum capacity is 30 mmf., and the overall dimensions are 13/16" long x 9/16" wide x ½" high.

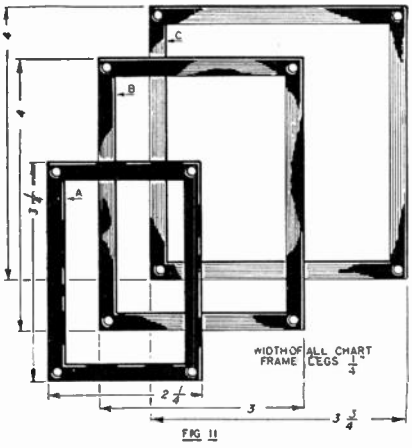
W 75	(75 Mmf. Air)	**Net Price, $1.35**
W 100	(100 Mmf. Air)	**Net Price, 1.50**
M 30	(30 Mmf. Mica)	**Net Price, .18**



GENERAL PURPOSE CONDENSERS

National EMC Condensers have high electrical efficiency, and calibrations may be relied on. Insulation is of Isolantite, and Peak Voltage Rating is 1000 volts. Plate Shape is SLW.

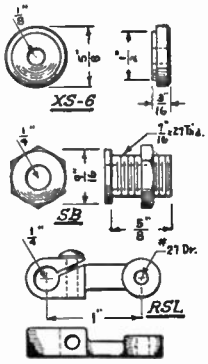
Capacity	*No. of Plates*	*Cat. Symbol*	*Net Price*
150	9	EMC 150	**$1.95**
250	14	EMC 250	**2.25**
350	18	EMC 350	**2.55**
500	26	EMC 500	**2.85**
1000	56	EMC 1000	**4.35**
Split-Stator Models			
350–350	18–18	EMCD–350	**4.50**



COIL CHART FRAMES

Nickel Silver Chart Frames are available in the sizes shown. The largest frame is the same as that used on the AGS, the medium frame is the same size as that on the FB-7, and the smallest is the same as the HRO frame. Prices include celluloid sheet to protect the chart.

Size A.	**Net Price, $.30**
Size B.	**Net Price, .36**
Size C.	**Net Price, .42**



H.F. BUSHING

This small Steatite bushing has many uses in Amateur equipment.

Type XS-6 **Net Price, $.09**

SHAFT BUSHING

A bushing that gives a professional touch to equipment where ¼" shafts have to be brought through panels.

Type SB **Net Price, $.15**

ROTOR SHAFT LOCK

This lock is designed to clamp securely either the TMA or the TNC rotor shafts.

Type RSL **Net Price, $.51**

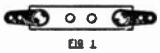


FIG 1

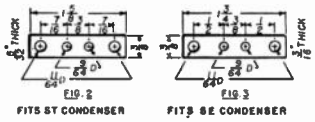


FIG 2 FITS ST CONDENSER
FIG 3 FITS SE CONDENSER

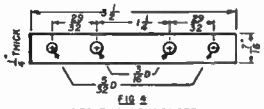


FIG 4 FITS TMC CONDENSER

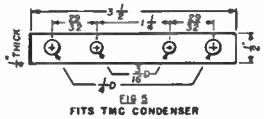


FIG 5 FITS TMC CONDENSER

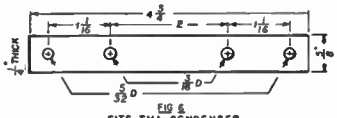


FIG 6 FITS TMA CONDENSER

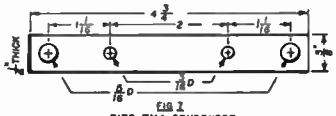


FIG 7 FITS TMA CONDENSER

GRID GRIPS

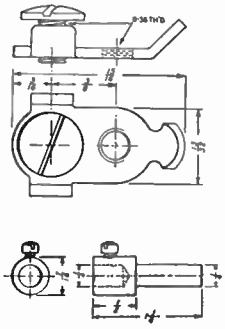
This Grip provides the best means for attaching a wire to the top-cap of tubes. Made in three sizes.

Type 24 — for standard glass tubes	**Net Price, $.03**
Type 12 — for transmitting tubes	**Net Price, .06**
Type 8 — for metal tubes	**Net Price, .03**
Screw Terminal	**Net Price, .09**
Shaft Extension	**Net Price, .15**

INSULATORS

A number of our standard condenser insulators are shown above. In addition to their obvious use as repair parts they may be used for a variety of other purposes such as supports for coils, spreaders, etc. The insulator shown in Fig. 1 is the same as Fig. 3, but has a metal solder lug riveted to each end. It is useful as a 5-meter lead-in spreader, or as a mounting for 5-meter inductances.

Fig. 1	**Net Price, $.18**
Fig. 2	**Net Price, .09**
Fig. 3	**Net Price, .09**
Fig. 4	**Net Price, .18**
Fig. 5	**Net Price, .18**
Fig. 6	**Net Price, .24**
Fig. 7	**Net Price, .24**



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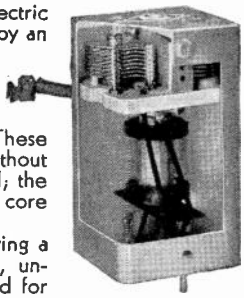
NATIONAL R. F. CHOKES

R-100. Isolantite mounting, continuous universal winding in four sections. For pigtail connections or standard resistor mountings. Inductance 2½ m.h.; distributed capacity, 1 mmf.; D.C. resistance 50 ohms; Current rating, 125 M.A. For low powered transmitters and high frequency receivers.
Net Price, $.36

R-152, R-154, R-154U. These transmitter chokes have honeycomb coils (0.6 amps. rating) wound on Isolantite cores. The R-152 is designed for the 80 and 160 meter bands; inductance 4 m.h., D.C. resistance 10 ohms. The R-154 and R-154U give maximum impedance on the 20, 40 and 80 meter bands; inductance 1 m.h., D.C. resistance 6 ohms. The R-152 and R-154 are as illustrated. The R-154U does not have the small insulating pillar and the third mounting foot.
R-152 or R-154. **Net Price, $1.35**
R-154U. **Net Price, $1.05**

R-201. A two-section honeycomb-wound choke in R-39 case, suitable for output circuit of second detector in H.F. receivers (475 KC Intermediate Frequency). Inductance, approximately 12 m.h., D.C. resistance approximately 120 ohms. **Net Price, $.75**

NATIONAL I. F. TRANSFORMERS



This new I.F. Transformer has air dielectric condensers (isolated from each other by an aluminum shield) and Litz wound coils mounted on an Isolantite base which is treated against moisture absorption. The aluminum shield can, housing the assembly, measures 4⅛" x 2⅜" x 2". These transformers are available with or without Iron Cores in the 450–550 KC model; the 175 KC model is air core only. For iron core add $.30 to price.

An additional model, Type IFD, having a tuned primary and a closely-coupled, untuned, push-pull secondary is intended for operation with diode rectifiers. It is particularly suitable for use in noise silencing circuits. It is available only with an air core, and for 450–550 KC use.

Type IFC Transformer (air core) **Net Price, $3.00**
Type IFCO Oscillator (air core only) **Net Price, $3.00**
Type IFD Diode Transformer (air core only) **Net Price, $2.10**

NATIONAL FIXED TUNED EXCITER TANK

Similar in general construction to the I. F. transformer described above, this unit has two 25 mmf, 2000 volt air condensers and an unwound XR-2 coil form.

Type FXT, without plug-in base. **Net Price, $2.70**
Type FXTB, with base (either 5- or 6-prong). **Net Price, $2.94**

NATIONAL PLUG-IN BASE AND SHIELD

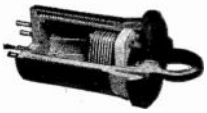
The low-loss R-39 base is ideal for mounting condensers and coils when it is desirable to have them shielded and easily removable. Shield can is 2" x 2⅜" x 4⅛". Two models are available; 5- or 6-prong.

Type PB-10, (Base and Shield). **Net Price, $.45**
Type PB-10A, (Base only). **Net Price, $.24**

NATIONAL COIL FORMS

RECEIVER COIL FORM. These well-known R-39 forms (illustrated at right) are machinable, permitting the experimenter to groove and drill them to suit individual requirements. They are available in 4-, 5- and 6-prong types. Length, 2¼". Dia. 1½". XR-4, XR-5, or XR-6. **Net Price, $.45**

Also R-39, these small coil forms are designed with excellent form factor, contributing to high efficiency in H.F. circuits. Diameter, 1"; Length, 1½"; Wall thickness, 1/16". Type XR-1 has four prongs, others are plain. Type XR-1, four prongs. **Net Price, $.30**
Type XR-2, without prongs. **Net Price, $.21**
Type XR-3, 9/16" dia. x ¾" long. **Net Price, $.18**



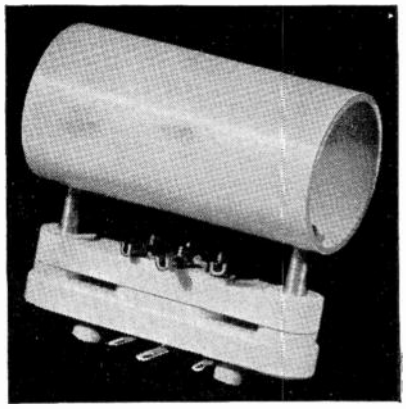
PLUG-IN COIL FORMS. These R-39 coil forms, plug-in through the front panel of a receiver, monitor, etc. The coil shield listed is bolted to the back of the panel, and supports the Isolantite socket.
XR-39A Coil Form, Air Tuned. **Net Price, $2.85**
XR-39M Coil Form, Mica Tuned. **Net Price, $2.19**
XCS Coil Shield and Socket. **Net Price, $1.05**

LOW FREQUENCY OSCILLATOR COIL

Two separate inductances, closely coupled, in an aluminum shield. It is used in the SRR and other super-regenerative receivers for the interruption-frequency oscillator. Sec. Inductance 6.25 m.h. Tunes to 100 KC with .00041 Mfd.
Type OSR. **Net Price, $.90**

EXCITER COILS AND FORMS

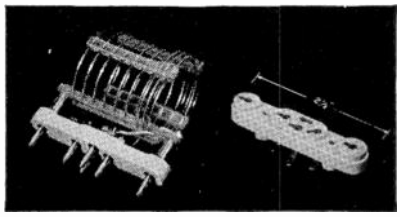
These coils are suitable for use in exciters, buffers, and low power finals. The series of Victron insulated, air spaced coils all fit the same plug-in mount. In addition an unglazed Isolantite form, drilled for leads, also fits the same base. All of the listed sizes will tune over their respective bands with 30 mmf and all have separate windings for link coupling. Add the letter E to symbol for end link, and C to symbol for center link.



Type PB-16 Plug **Net Price, $.24**
Type XB-16 Socket **Net Price, $.30**
Type XR-16 Coil Form **Net Price, $.36**
Type UR-16 Assembly **Net Price, $.90**

AIR SPACED COILS

Type AR16-80 (80 meters) **Net Price, $.90**
Type AR16-40 (40 meters) **Net Price, $.90**
Type AR16-20 (20 meters) **Net Price, $.90**
Type AR16-10 (10 meters) **Net Price, $.90**



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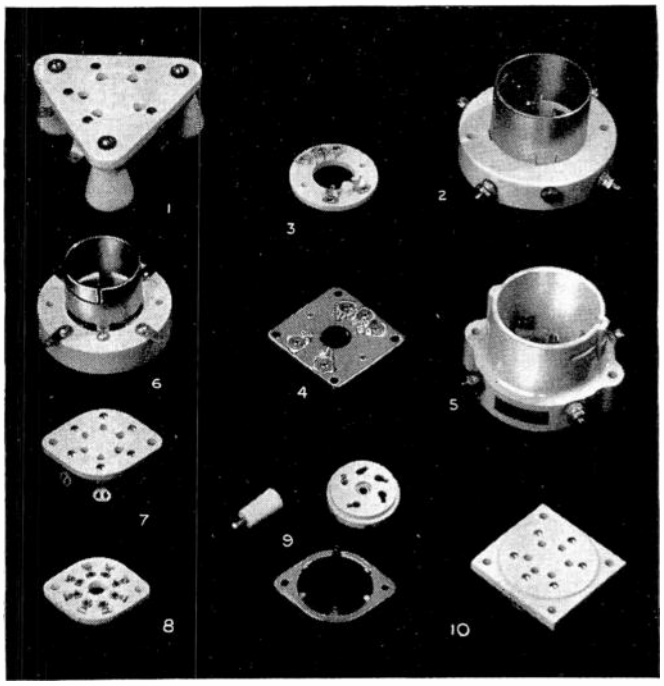
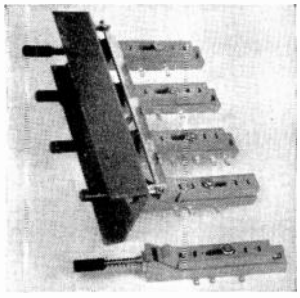


INTERLOCKING PUSH SWITCH



The new National Interlocking Push Switch was first designed for the NTE Exciter where the requirements of low losses, complete reliability and positive contacts required a special design. This switch fills these specifications so completely that it is now listed separately. Insulation is R-39. The silver-plated contacts are double pole, double throw.

Type ACS-4, Four gang, with trigger bar. **Net Price, $3.00**

Type ACS-1, Single section, less trigger bar. **Net Price, $.75**

NATIONAL SHAFT COUPLINGS

1 is a small coupling of Steatite, providing high electrical efficiency when used to isolate circuits.
Type TX-9. **Net Price, $.66**

2 is a popular small coupling, free from backlash. Insulation is canvas bakelite.
Type TX-10. **Net Price, $.33**

3 is a coupling providing high insulation with compact size. Insulation is glazed Isolantite.
Type TX-1 (leakage path 1"). **Net Price, $.60**
Type TX-2 (leakage path 2½"). **Net Price, .66**

4 is a flexible shaft which provides a driving means between offset shafts, or shafts at angles up to 90 degrees, and virtually eliminates mis-alignment problems. Isolantite insulators are provided at each end.
Type TX-12, overall length 4⅝". **Net Price, $.75**
Type TX-13, overall length 7⅛". **Net Price, .90**

5 is a flexible shaft without the insulation of the TX-12, but otherwise the same.
Type TX-11. **Net Price, $.36**

NATIONAL LOW-LOSS SOCKETS

1 is a wafer type Isolantite socket for power Pentodes such as the RK-28 and the RCA-803.
Type JX-100S, as illustrated. **Net Price, $2.16**
Type JX-100, as above but without stand-off insulators. **Net Price, $1.80**

2 is a fifty watt socket with sturdy side wipe contacts and employs the conventional bayonet-lock metal shell.
Type XM-50. **Net Price, $1.05**

3 is an Isolantite socket for the Triode Acorn tube. The socket contacts are of a new design providing very short leads and have a current path nearly independent of tube position. Type XCA. **Net Price, $.90**

4 is for the Pentode Acorn tube and is assembled, with the same type of contacts as the XCA, on a square copper base with built-in by-pass condensers for stable high frequency operation. Type XMA. **Net Price, $1.20**

5 is another 50 watt socket made entirely of low-loss Steatite and is for higher frequencies and voltages than the XM-50.
Type XC-50. **Net Price, $2.10**

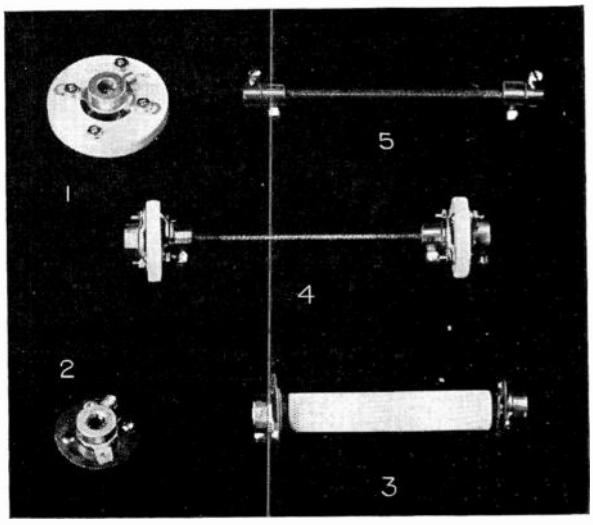
6 is a socket, similar in construction to the XM-50, designed for those tubes using the type UX base.
Type XM-10. **Net Price, $.75**

7 is one of the complete line of National Isolantite Receiving Sockets that fit all standard receiving tubes. Types 4 prong, 5 prong, 6 prong, 7 prong — small, 7 prong — large. **Net Price, $.36 each**

8 is an Isolantite wafer socket for the Octal (metal) tubes.
Type 8 prong. **Net Price, $.36**

9 is a new socket of Isolantite, modern in every detail; from the contact that grips the tube prong for its full length to the metal ring for six-position mounting. The sockets for the glass type tubes are supplied with a stand-off insulator that allows center mounting for bread board layouts. This line also includes an 8 prong socket (for metal tubes) which is supplied with two metal stand-offs.
Type 4 prong, 5 prong, 6 prong, 7 prong — small, 7 prong — large, 8 prong (octal), CIR Series. **Net Price, $.24**

10 is a square Isolantite coil socket designed to fit National 6 pin coils. A wafer type socket, similar to figure 6, is also available to fit these same coil forms.
Type 6 prong Square Coil Socket. **Net Price, $.45**
Type 6 prong Wafer Coil Socket. **Net Price, .36**



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DIELECTRICS

NATIONAL STRAIN INSULATORS

The antenna insulator illustrated at the left is particularly suited to general use. It has a long leakage path, ample strength for all but the heaviest loads, and high efficiency. Made of Steatite. Type AA-6, **Net Price, $.21.** The small aircraft-type insulator at the right is ideal where compactness is desirable. Type AA-5, **Net Price, $.18**

NATIONAL SPREADERS

The Steatite spreaders at the right provide a six-inch line spacing, and when used with No. 12 wire will give feeders having a surge impedance of 600 ohms. Type AA-3, **Net Price, $.18.** The Isolantite insulators at the left when used to space ¾" tubes 2" apart will give a "Q" transformer matching a 72 ohm center-fed half-wave antenna to a 600 ohm line. Type QB, **Net Price, $.21**

NATIONAL STAND-OFFS

With metal base and cap

Type GS-1 (½" x 1⅜") **Net, $.15**
Type GS-2 (½" x 2⅞") **Net, $.21**
Type GS-3 (¾" x 2⅞") **Net, $.54**
Type GS-4 (¾" x 4⅞") **Net, $.66**
Type GS-4A (¾" x 6") **Net, $.96**

Cone type, with internal thread at each end

Type GS-5 (1¼") **Net, $.15**
Type GS-6 (2") **Net, $.27**
Type GS-7 (3") **Net, $.45**
Type GS-10 (¾") Per box of 10 **Net, $.45**

NATIONAL LEAD-THROUGHS

The combination lead-through bushing and stand-off insulator pictured at the right is available either plain (Type GS-8, **Net Price, $.21**) or with a jack (Type GS-9, **Net Price, $.30**). The bushings shown at the left are made in two sizes and are sold in pairs with the necessary metal fittings. Type XS-1 (Fits 1" Hole) **Net Price, per pair, $.45.** Type XS-2 (Fits 1½" Hole) **Net Price, per pair, $.54**

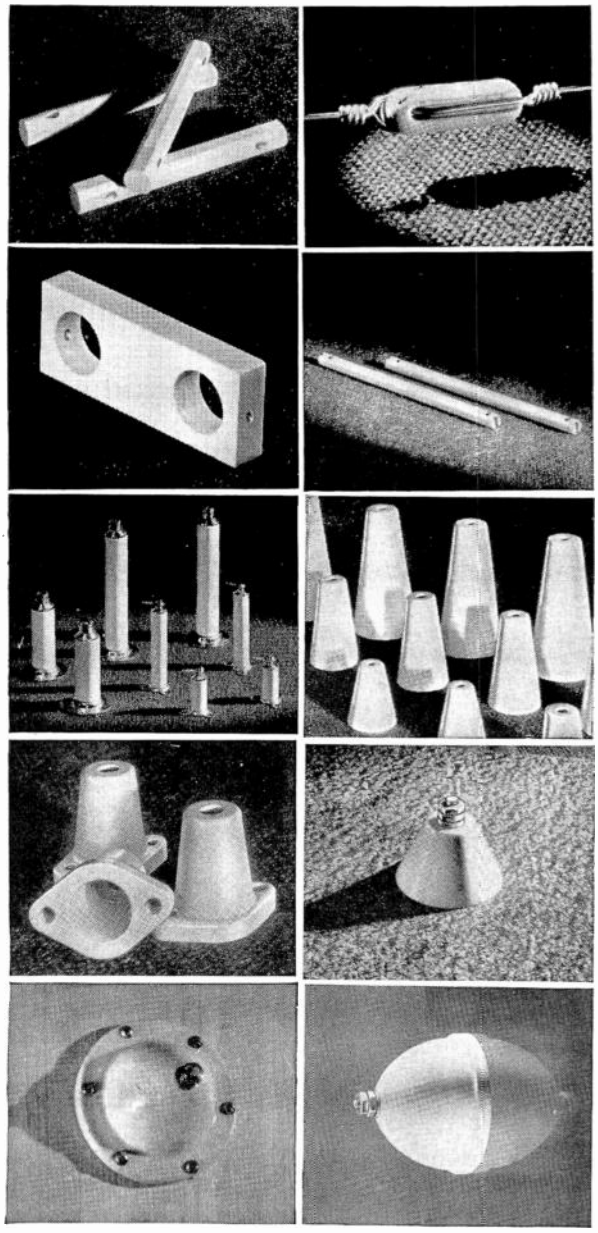
NATIONAL BOWLS

Larger in size than the bushings listed above, these Steatite bowls are suitable for lead-in purposes and high voltages. Type XS-3 (Fits 2¾" Hole) **Net Price, per pair, $3.00.** Type XS-4 (Fits 3¾" Hole) **Net Price, per pair, $3.90.** Type XS-5 (with flange for bolting down, 5¼" Dia.) **Net Price, each, $4.50, per pair with metal fittings, $9.30**

VICTRON SHEET AND COIL DOPE

The Loss Factor (0.2) of this non-hydroscopic material is ⅛ of "Low-Loss" rubber and 1/90 of the usual R.F. insulators. Its Power Factor is .06%–.08%. Ideal for mounting high frequency gear and it is readily drilled or sawed. In color it is a transparent amber. National Coil Dope, a special R.F. lacquer using this same Victron as a base, is ideal as a cement for holding windings in place as it will not spoil the properties of the best coil form.

12" x 6" x 3/16" thick sheet.	**Net Price, $3.60**
12" x 6" x ⅛" thick sheet.	**Net Price, 3.00**
6" x 3" x 3/16" thick sheet.	**Net Price, .90**
6" x 3" x ⅛" thick sheet.	**Net Price, .75**
Coil Dope, per can.	**Net Price, .90**



TRANSMITTER BOOKLETS

"Notes on Amateur Radio Transmitter Design" by James Millen is a source book of ideas, rich in suggestions for the construction of modern and efficient transmitters. The six chapters cover equipment from exciter to antenna, and are an invaluable supplement to such treatises as the ARRL Handbook. **Net Price, $.50**

"The National-Thordarson 600 Watt Transmitter" is an Engineering Booklet published by National and describing the complete transmitter using the Foundation Units listed in this catalogue. It is available without cost from our dealers.

World Radio History

RP 20,000—1138
Printed in U.S.A

BUD RADIO PRODUCTS

BUD FLOOR STANDS FOR CRYSTAL, VELOCITY & DYNAMIC MICROPHONES

Insulated against rattling or dropping of adjustable stems. Positive and smooth acting chuck type lock. Telescoping stems finished in polished chromium plate. Two section stands adjustable 35" to 66". Three section 24" to 66". Heavy cast bases are finished in durable black crackle enamel. Adjustable stem has ⅝-27 thread. On stands supplied with ring, the ring is 6" dia. with E-Z hooks finished in black crackle enamel.

No. 585—List Price.....$13.50
Two section; modernistic base, base dia. 12". Weight 12 lbs.

No. 587—List Price.....$14.50
Three section; modernistic, 12" dia. base. Weight 12 lbs.

No. 583—List Price.....$12.50
Three sections; tripod base, leg spread 17". Weight 9½ lbs.

No. 586—List Price.....$11.50
Two section; tripod base, leg spread 17". Weight 9½ lbs.

No. 584—List Price.....$9.50
Two section; modernistic 10" diameter base. Weight 8½ lbs.

No. 6753—6" Dia. Ring with 8 springs to fit stands listed above. **List Price**.....$1.50

MICROPHONE RINGS

Solid metal casting with E-Z hooks for attaching springs. Complete with 8 rust-proof microphone springs and suspension ring for hanging from ceiling.

No. 800—List Price.....$2.50
6" round ring. Chromium Plated finish.

No. 801—List Price.....$2.00
6" round ring. Black crackle finish.

No. 820—List Price.....$1.50
5" octagonal ring. Black crackle finish.

CARBON GRANULES

Carefully selected and highly polished. Acid treated to remove all trace of ash. Will stand 20% more current without burning. Highly sensitive. Vial contains enough carbon to repack four two button microphones.

No. 410—List Price.....$0.75

DESK & BANQUET STANDS

Ruggedly built for use on tables, desks, pulpits, etc. Heavy cast base of modernistic design is finished in black crackle enamel and will not tip easily. Stems are chromium plated finish. Adjustable types have thumb nut locking device. Stem is threaded ⅝-27. Where rings are supplied, they are also finished in black crackle.

No. 588—List Price.....$1.75
Height 6". Base Dia. 5". Weight 2 lbs.

No. 602—List Price.....$3.00
Same as No. 588, complete with 5" octagonal ring and 8 springs.

No. 589—List Price.....$2.25
Height 8". Base Dia. 6". Weight 3¼ lbs.

No. 603—List Price.....$3.75
Same as No. 589, complete with 6" microphone ring and 8 springs.

No. 590—List Price.....$5.00
Height adjustable 10" to 16". Base Dia. 6". Weight 3½ lbs.

No. 803—List Price.....$6.50
Same as No. 590, complete with 6" microphone ring and 8 springs.

No. 591—List Price.....$5.75
Height adjustable 13" to 22". Base Dia. 6". Weight 3½ lbs.

No. 802—List Price.....$7.25
Same as No. 591, complete with 6" microphone ring with 8 springs.

BUD DESK STANDS

These beautiful stands are preferred by most amateurs and are ideal for portable P.A. installations. Ruggedly constructed. Modernistic designed base casting. Black crackle finish.

No. 817—List Price $2.25
Height 9". Base Dia. 5". 5" octagonal microphone ring.

No. 818—List Price.....$2.75
Height 10". Base Dia. 6". 6" round microphone ring.

No. 819—List Price.....$3.35
Height 13". Base Dia. 6". 6" diameter round microphone ring.

ECONOMY & UTILITY FLOOR STANDS

Heavy cast base of modernistic design, is 10" in dia. and finished in lustrous black crackle enamel. Stems are heavy gauge brass seamless tubing. Chromium plated finish. Positive thumb nut locking device. Two section stands are adjustable 33" to 66". Three section 24" to 66".

No. 557—List Price $8.50
Two section; modernistic, 10" dia. base. Wt. 8½ lbs.

No. 558—List Price $10.00
Same as No. 557, complete with 6" microphone ring and 8 springs.

No. 834—List Price $10.50
Three section; 10" dia. base. Supplied with crystal microphone saddle (as illustrated). Weight 8½ lbs.

No. 822—List Price $9.75
Three section; 10" dia. base. Complete with 5" octagonal microphone ring and 8 springs.

PHONE & MICROPHONE PLUGS

No. 230—List Price.....$0.40
Duplex; takes 2 cords with tips; bakelite handle.

No. 282—List Price.....$0.65
Same as above with shielded metal handle.

No. 1057—List Price.....$0.75
Three way mike plug; bakelite handle.

No. 284—List Price.....$1.10
Same as No. 1057 with shielded metal handle.

PORTABLE PHONE & MICROPHONE CONNECTORS

No. 1039—List Price.....$0.50
Two way; fits No. 230 plug; bakelite handle.

No. 279—List Price.....$0.90
Same as No. 1039 with shielded metal handle.

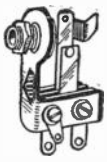
No. 1059—List Price.....$0.75
Three way; fits No. 1057 mike plug; bakelite handle.

No. 283—List Price.....$1.10
Same as No. 1059 with shielded metal handle.

No. 1058—List Price.....$0.50
Three way microphone jack for panel mounting.

No. 1038—List Price.....$0.30
Two way microphone jack for panel mounting.

ALL PURPOSE JACKS



Small in size, highly efficient. Nickel silver springs for equal, positive tension at all times. Contacts are pure silver. Large bakelite separators overlap springs for long leakage path. Supplied with insulating washers.

Cat. No.	Type	List
1324	Open Circuit	$0.35
1325	Single Closed	.45
1326	3 Circuit Mic.	.50
1327	Double Closed	.60

JACKS

Small, compact spring brass contacts, nickel plated. Supplied with insulating washers.

No. 232—Open Circuit. **List Price**.....$0.30

No. 233—Single closed circ. **List Price** .35

BUD GRID CLIPS

For transmitter, rectifier, metal and glass type tubes. Made from heavy gauge spring brass, cadmium plated.

No.	Type Tube	List Price
490	Transmitting. 10 in pkg. Each	$0.08
107	Glass. 100 in pkg. Per C	1.50
108	Metal. 100 in pkg. Per C	1.50

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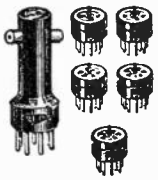
BUD RADIO PRODUCTS

7 PRONG ANALYZER PLUG AND ASSOCIATE ADAPTERS



For 8 wire cable to analyze glass and metal tube circuits. Has dual grid studs. Small 7 prong base for closely shielded sockets. Moulded Bakelite, sturdily built with latch type lock.

No. 815—Complete with 5 adapters as illustrated and 5 ft. 8 wire cable attached to plug.
List Price $5.75

No. 814—Same as above with 8 prong cable plug attached to other end of cable and mounting socket.
List Price $6.35

No. 869—Analyzer plug only.
List Price $1.50

No. 816—Plug with 5 ft. 8 wire cable attached.
List Price $2.75

No. 794—Same as No. 816 with 8 prong cable plug attached and 8 prong mounting socket.
List Price $3.50

ADAPTERS

With latch lock stud to fit analyzer plugs listed above.

	List Price
No. 1078L—7 on 4 prong glass tube	$0.75
No. 1079L—7 on 5 prong glass tube	.75
No. 1080L—7 on 6 prong glass tube	.75
No. 1081L—7 on 7 large glass tube	.75
No. 1085L—7 on 8 prong metal tube	1.00

TUBE TESTING ADAPTERS

For Octal Base Tubes

The adapters described herewith will test all the metal and metaglass tubes released to date in testers not equipped to test these tubes.

No. 411—Tests 5Z4, 5Y3, 5W4 in 80 socket.
List Price $1.00

No. 412—Tests 6C5, 6D5 in 41 socket. 6L6, 6F6 in 42; 25A6 in 43; 6B6, 6Q7 in 75; 6J7 in 77; 6K7, 6A8, 6L7 in 78, and 6R7 in 85 socket.
List Price $1.00

No. 413—Tests 6N7 in 6A6 socket.
List Price $1.00

No. 415—Tests 6A8, 6C5, 6D5, 6F6, 6J7, 6L7 in 36 socket.
List Price $1.25

No. 417—Tests 6H6 in 85 socket.
List Price $1.00

No. 418—Tests 6C5 in 37 socket, 6X5 in 84 socket.
List Price $1.00

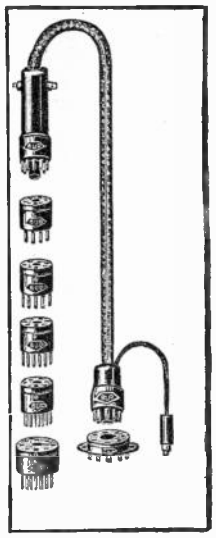
No. 422—Tests 6F5 in 75 socket.
List Price $1.00

No. 1271—Tests 25Z6 in 25Z5 socket.
List Price $1.00

No. 1272—Tests 6P7 in 6F7 socket.
List Price $1.00

ASK FOR A COMPLETE BUD CATALOGUE

WHICH DESCRIBES NUMEROUS OTHER MONEY SAVING ITEMS NOT LISTED HERE



OCTAL ANALYZER PLUG AND ASSOCIATE ADAPTERS

New 9 wire plug for analyzing metal or metaglass tube circuits. Moulded Bakelite; sturdily built. Adapters screw lock securely to plug. Dual grid stud for metal or glass tube grid caps.

No. 498—Complete with adapters as illustrated.
List Price $10.00

No. 491—Analyzer plug only.
List Price $1.75

No. 424—Plug with 5 ft. 9 wire cable attached.
List Price $4.00

No. 423—Complete analyzer cable, same as illustrated (less adapters).
List Price $5.00

No. 497—8 prong, octal cable plug, as illustrated. Dia. 1⅛".
List Price $0.60

ADAPTERS

Wired all circuits straight through according to new R.M.A. numbering system.

	List Price
No. 341—8 on 4 prong glass tube	$1.00
No. 342—8 on 5 prong glass tube	1.00
No. 343—8 on 6 prong glass tube	1.00
No. 344—8 on 7 small glass tube	1.00
No. 345—8 on 7 large glass tube	1.00
No. 536—8 on 5 prong metal tube	1.00
No. 537—8 on 5 (6F5) metal tube	1.00
No. 538—8 on 6 prong metal tube	1.00
No. 539—8 on 7 prong metal tube	1.00

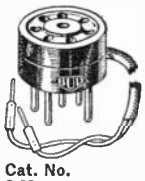
METAL TUBE MODERNIZING ADAPTERS

Any set having glass bulb tubes such as listed below can use metal tubes with the associate modernizing adapter. Greater selectivity and stability result. No tube shields necessary.

Cat. No.	Glass Tube Replaced	New Metal Tube Used
427	80	5Z4 or 5Y3
428	41 or 42	6D5
429	6A6	6N7
430	6A7	6A8
431	37 or 76	6C5
431	76	6F5
432	6C6 or 77	6J7
432	41 or 42	6F6
432	6D6 or 78	6K7 or 6L7
433	6F7	6P7
434	25Z5	25Z6
432	75	6B6
431	84	6X5

List Price, Each $0.65

EAR PHONE AND LOUD SPEAKER ADAPTERS



Enable you to listen to DX at any time without disturbing the rest of the family. Also ideal for people who are hard of hearing. Can also be used for adding additional speakers or reading receiver output.

Cat. No.		List Price
262	4 Prong	$0.85
162	5 Prong	.85
364	6 Prong	.85
572	Sm. 7 Prong	.85
573	Lge. 7 Prong	.85

Phonograph or Microphone Adapters

These adapters enable you to connect a microphone or phonograph pick-up to any radio set. Place adapter under detector tube.

Cat. No.		List Price
245	4 Prong	$1.00
299	5 Prong	1.00
247	6 Prong	1.00
246	Sm. 7 Prong	1.00
248	Lge. 7 Prong	1.00
244	8 Prong	1.00

NEUTRALIZING AND ALIGNING TOOLS

NEUTRALIZING WRENCH

Inside of tube is broached. If end breaks part can be cut off.

No. 254—5½" long. List Price.....$0.25
No. 255—8" long. List Price..... .30
No. 256—12" long. List Price..... .40

DE LUXE ADJUSTABLE NEUTRALIZING TOOL

No metal parts. Made of high di-electric, hard rolled fibre. Screw driver slides into one end of handle.

	List Price
No. 236—Adjustable. 7" to 10"	$0.65
No. 237—Adjustable. 11" to 17"	.85

BUD NEUTRO-WRENCH

Alligator jaw type for knurled and hex head trimmers. Metal blade screw driver at other end.

No. 285—List Price.....$0.45

NEUTRALIZING SCREW DRIVER

Hard rolled fibre handle.

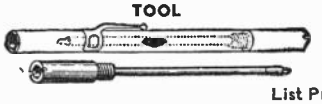
No.	List Price
235—No metal ends	$0.35
287—With metal blade	$0.35

BUD BALANCING TOOL AND ATTACHMENT

Enables working in close quarters and neutralizing sets without having to pull the chassis.

No. 281—List Price.....$0.40

4-IN-1 NEUTRALIZING AND ALIGNING TOOL



No.	List Price
118	$0.65
119M—Majestic Attachment	.20
119C—Crosley Attachment	.25

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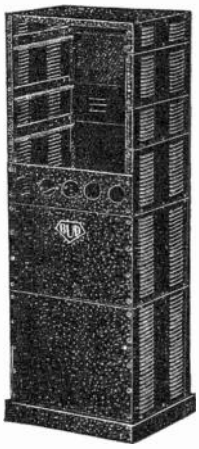
BUD RADIO PRODUCTS

SECTIONAL CABINET RELAY RACK



Build a cabinet rack to your required height without having waste space. A complete rack from 3½", progressing in multiples of 1¾" to any desired height. Side wall sections are 14½" deep. Front and back flanges drilled and tapped for 10-32 screw. Fit both W.E. and Amateur type rack panels. Dust covers can be supplied as listed. Made from heavy gauge steel, finished in durable black crackle. Supplied with necessary hardware.

No.		List Price
1300	Base Assembly— Size 20¼" x 15¾" x 2½"	$5.00
1301	Top Cover. 19¼" x 14 7/16" x ½"	2.75

Side Wall Sections

Consist of two side wall sections complete with mounting brackets, bolts, nuts, etc.

Cat. No.	Size	List Price
1302	3½" x 14½"	$2.25
1303	5¼" x 14½"	2.50
1304	7" x 14½"	2.75
1305	8¾" x 14½"	3.30
1306	10½" x 14½"	3.65
1307	12¼" x 14½"	4.40
1308	14" x 14½"	4.65
1309	15¾" x 14½"	5.00
1310	17½" x 14½"	5.50
1311	19¼" x 14½"	5.75
1312	21" x 14½"	6.00

Dust Cover Back Sections

Slotted to fit standard rack drilling.

Cat. No.	Size	List Price
1313	3½" x 19"	$0.85
1314	5¼" x 19"	1.00
1315	7" x 19"	1.10
1316	8¾" x 19"	1.40
1317	10½" x 19"	1.65
1318	12¼" x 19"	1.90
1319	14" x 19"	2.25
1320	15¾" x 19"	2.50
1321	17½" x 19"	2.75
1322	19¼" x 19"	3.00
1323	21" x 19"	3.30

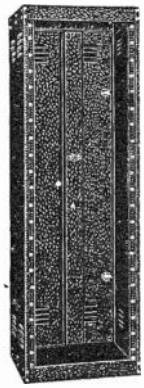
STANDARD RELAY RACKS

Made to standard specifications. ⅛" steel channels braced with ⅛" steel brackets. Holes drilled and tapped 10-32. Will fit W.E. or Amateur notched 19" rack panels. Black crackle finish. Shipped knocked down with necessary hardware.

No. 1263—Over-all height 38½", width 20", depth 3". Base width 24", depth 17". Panel space 31½". Net wt. 22 lbs. List.....$16.00

No. 1264—Over-all height 73½", width 20", depth 3". Base width 24", depth 17". Panel space 66½". Net wt. 32 lbs. List.....$19.00

PROFESSIONAL CABINET RACKS

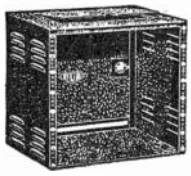


A sturdy, stylish rack for Commercial, Amateur and Industrial use. Made from 16 gauge steel throughout. Black crackle finish. Drilled and tapped for 10-32 screw to fit either W.E. or Amateur notched rack panels. Sides louvred for ample ventilation. Hinged rear door has two snap catches. Shipped knocked down with all screws, nuts and washers.

No. 874 — Height 47", width 21", depth 17". Panel space 42".
List Price $37.50

No. 875 — Height 66½", width 21", depth 17". Panel space 61¼".
List Price $44.50

GENERAL CABINET RACKS



Ideal for transmitters, Public Address and Laboratory equipment. Made from 1/16" thick, cold rolled steel. Beautifully finished in black crackle. All joints welded. Louvred for ventilation. Drilled and tapped 10-32 for either W.E. or Amateur notched 19" rack panels. Hinged doors have nickel plated snap catch. No. 697 and 698 have solid top construction.

No.	H.	W.	D.	Panel Space	List
694	9"	x19⅛"	x13¾"	8¾"	$8.00
695	10¾"	x19⅛"	x13¾"	10½"	10.00
696	17¾"	x19⅛"	x14½"	17½"	15.00
697	26½"	x19⅛"	x14½"	26¼"	16.25
698	35¼"	x19⅛"	x14½"	35"	19.00

Trim can be supplied for above racks. See Bud Catalogue.

MIDGET RELAY RACKS

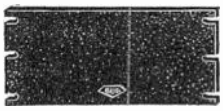
An ideal unit for that low power transmitter, amplifier or test panel. Made of heavy gauge sheet steel. Black crackle enamel finish. Drilled to fit 19" rack panels. Light in weight, sturdily built. Shipped knocked down with necessary hardware. Easy to assemble.

No. 1248—Over-all height 25", width 20". Depth of base 10". Panel space 21".
List Price $6.25

No. 1249—Over-all height 32", width 20". Depth of base 12". Panel space 28".
List Price $8.25

Panels can be supplied in grey crackle finish at no additional cost. Other metal products add 15% to list price for grey finish.

RELAY RACK PANELS



These panels are 19" long. Widths are 1/32" undersize for easy fit. Black crackle finish. STEEL panels are ⅛" thick and notched either W.E. or Amateur standard. **Specify "A" for Amateur or "W" for Western Electric notching after catalog number.** MASONITE panels are 3/16" thick, tempered, tough, non-magnetic and can be worked same as wood. Supplied in "A" notching only.

STEEL No.	List	Panel Size	MASONITE No.	List
1250	$0.75	1¾" x 19"	1588	$0.55
1251	.85	3½" x 19"	1589	.70
1252	1.05	5¼" x 19"	1590	.95
1253	1.10	7" x 19"	1591	1.05
1254	1.40	8¾" x 19"	1592	1.25
1255	1.70	10½" x 19"	1593	1.45
1256	2.00	12¼" x 19"	1594	1.65
1257	2.30	14" x 19"	1595	1.85
1258	2.60	15¾" x 19"	1596	2.10
1259	2.90	17½" x 19"	1597	2.35
1260	3.10	19¼" x 19"	1598	2.60
1261	3.50	21" x 19"	1599	2.85

METER PANELS

Made in STEEL and MASONITE. Same specifications as Rack Panels. 5¼" high, 19" long. Black crackle finish. Hole diameter 2 13/16" to fit 3" meters and 2 3/16" to fit 2" meters.

STEEL No.	Holes	List	Size	MASONITE No.	Holes	List
440	3	$1.65	2 3/16"	509	3	$1.45
441	5	2.45	2 3/16"	510	4	1.65
442	3	1.65	2 3/16"	511	3	1.45
443	5	2.45	2 3/16"	512	4	1.65

CHASSIS MOUNTING BRACKETS

These brackets are made of heavy gauge sheet metal. Finished in black crackle enamel. They are 6½" high to fit 7" or larger panels, have a 1" flange for mounting on panel and will fit chassis from 8" to 13" deep. Brackets fasten securely to side of chassis.

No.		List Price
458	6½" high x 8" long	$1.00 per pr.
459	6½" high x 11" long	1.50 per pr.
460	6½" high x 13" long	1.75 per pr.

RACK MOUNTING BRACKETS

For mounting shelves and chassis to rack panels. Are triangular in shape, so that they may be used in numerous ways. Made from heavy gauge cold rolled steel. Finished in black crackle enamel.

		List Price
No. 1266	5" Brackets	$0.70 per pr.
No. 1267	7" Brackets	.90 per pr.
No. 1268	9" Brackets	1.10 per pr.

INTER-STAGE SHIELDS

These shields are ideal for use on receiver and transmitter chassis for eliminating interstage coupling and isolating component parts. Made of 20 gauge electro zinc coated steel. Folded on front and bottom for fastening to panel or chassis.

		List Price
No. 1246	5½" high, 7" long	$0.35
No. 1247	5½" high, 10" long	.45
No. 1245	6½" high, 10" long	.50

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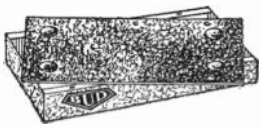
BUD RADIO PRODUCTS

STEEL CHASSIS BASES

Made of heavy gauge bright finish cold rolled sheet steel. Ends are folded down and spot welded. Folded over on bottom to attach bottom plate. Supplied undrilled in the following sizes.

ELECTRO ZINC COATED Cat. No.	New List Price	Chassis Size Inches	BLACK CRACKLE FINISHED Cat. No.	New List Price
645	$0.90	5x 9½x2½	644	$0.90
776	.75	5x 9½x1½	788	.75
1191	.90	7x 7 x2	789	.90
1192	1.00	7x 9 x2	790	1.00
1193	1.10	7x11 x2	791	1.10
1194	1.20	7x13 x2	646	1.20
1198	1.10	5x13½x2½	647	1.10
1189	1.50	7x15 x3	649	1.50
1066	1.25	4x17 x3	1068	1.25
1199	1.45	7x17 x2½	648	1.45
1195	1.60	10x12 x3	652	1.60
779	1.70	10x14 x3	653	1.70
774	1.60	8x17 x2	650	1.60
775	1.70	8x17 x3	651	1.70
769	1.70	10x17 x2	654	1.70
1196	1.80	10x17 x3	655	1.80
1197	2.30	10x23 x3	656	2.30
770	2.05	11x17 x2	657	2.05
771	2.25	11x17 x3	658	2.25
661	2.10	12x17 x2	663	2.10
662	2.30	12x17 x3	664	2.30
772	2.50	13x17 x2	659	2.50
773	2.75	13x17 x3	660	2.75
641	2.40	10x17 x4	640	2.40
643	3.60	13x17 x4	642	3.60

CHASSIS BOTTOM PLATES



These plates make excellent dust covers and conceal the wiring and component parts in the chassis. Four formed bosses act as feet and eliminate marring or scratching table.

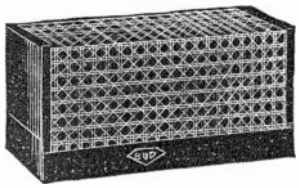
Zinc Coated Cat. No.	Black Crackle Cat. No.	Bottom Plates Listed Fit the Following Size Chassis Bases	New List Price
667	680	5" x 9½"	$0.45
668	681	7" x 7"	.50
669	682	7" x 9"	.55
670	683	7" x 11"	.65
671	684	7" x 13"	.70
672	685	5" x 13½"	.55
513	516	7" x 15"	.75
1067	1069	4" x 17"	.60
673	686	7" x 17"	.80
674	687	8" x 17"	.80
675	688	10" x 12"	.80
514	517	10" x 14"	.85
676	689	10" x 17"	1.00
677	690	11" x 17"	1.10
678	691	12" x 17"	1.20
679	692	13" x 17"	1.25
515	518	10" x 23"	1.35

BUD BOX TYPE SHIELDS

These shields are recommended to shield transformers, audio chokes, variable gang condensers, etc., and isolate them from other circuits in the instrument, thereby eliminating magnetic and electrostatic interference. Made from cold rolled sheet steel. All seams and corners spot welded for rigidity. Formed flanges on bottom to attach to chassis. Finished in black crackle enamel. Size 4½" x 7½" x 5" high.

No. 1244—List Price.....$1.10

AMPLIFIER FOUNDATION KIT



An amplifier built on these foundation kits will have real professional appearance. Chassis is formed from heavy-gauge cold-rolled steel. Corners are folded over and welded. Shield cover is sheet metal perforated in cane design. Finished in black crackle. Chassis furnished undrilled.

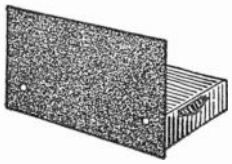
No.	Overall Size	Chassis Height	List Price
699	5" x 9½" x 8¼"	2½"	$2.50
1125	5" x 13½" x 8¼"	2½"	2.95
1126	7" x 17" x 8¼"	2½"	3.65
1127	10" x 17" x 8¾"	3"	4.50
1128	10" x 12" x 8¾"	3"	3.75

METAL CARRYING CASES

Ideal for housing portable tansceivers, amplifiers, etc. Removable front and rear panels. Ruggedly constructed yet light in overall weight. Black crackle finished. All seams and corners re-enforced and spot welded. Substantial leather carrying handle.

Cat. No.	Size	List Price
1096	6" x 7" x 12"	$2.65
1097	7" x 7¾" x 15"	3.25
1100	7" x 10" x 10"	3.00

METAL PANELS



Heavy gauge cold, rolled steel, finished on both sides in beautiful black crackle enamel.

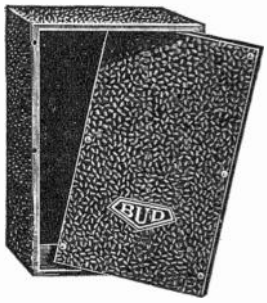
Cat. No.	Size	List Price
1200	7" x 8"	$0.45
1201	7" x 10"	.55
1202	7" x 12"	.65
1203	7" x 14"	.75
1204	8" x 14"	.80
1205	8" x 16"	.90
1187	8" x 18"	1.00
1188	8" x 19"	1.15
700	9" x 15"	.95

ALUMINUM PANELS

Made of 16 gauge aluminum and have a bright polished finish. Easy to drill.

Cat. No.	Size	List Price
984	7" x 10"	$0.85
985	7" x 12"	1.10
986	7" x 14"	1.30
987	7" x 16"	1.50
988	7" x 18"	1.70
989	7" x 19"	1.80
990	7" x 21"	2.00
991	7" x 24"	2.25
992	7" x 30"	2.75

METAL BOX CABINETS



Excellent for housing Monitors, oscillators, receivers, etc. Front and back panels removable. Black crackle finish.

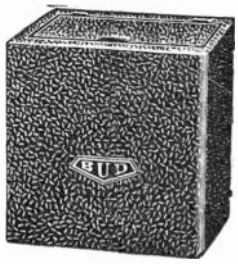
Cat. No.	Size—Inches W	L	H	List Price
883	2" x	4" x	4"	$0.90
728	3" x	5" x	4"	1.00
1098	6" x	6" x	6"	1.15
1099	5" x	6" x	9"	1.75
879	7" x	8" x	10"	2.25
1124	6" x	7" x	12"	2.35
880	8" x	10" x	10"	2.75
881	8" x	11" x	12"	3.00
882	7" x	9" x	15"	3.25

CHASSIS DECKS

These mounting bases will fit Bud metal box cabinets. Made of rust proof zinc coated steel and sturdily constructed. Can be mounted to panel any height from bottom.

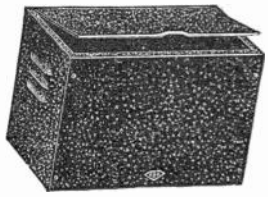
Cat. No.		List Price
522	Fits No. 1098 Cabinet	$0.45
523	Fits No. 1099 Cabinet	.40
524	Fits No. 879 Cabinet	.60
525	Fits No. 1124 & 1096 Cabinet	.50
526	Fits No. 880 Cabinet	.70
527	Fits No. 881 Cabinet	.75
528	Fits No. 882 Cabinet	.65
536	Fits No. 1097 Cabinet	.60
537	Fits No. 1100 Cabinet	.70

METAL CABINETS



Made from heavy gauge, cold-rolled sheet steel. All joints are spot welded. Hinged lid. Black crackle finish. Back of cabinet removable. Less chassis.

Cat. No.	Size	List Price
870A	7½" x 7½" x 7"	$2.75
871A	7½" x 10" x 7"	3.25
872A	7½" x 14" x 7"	3.50



Made from heavy gauge sheet steel, all corners re-enforced and spot welded. Hinged lid, louvres on side. Removable front panel. Black crackle finish.

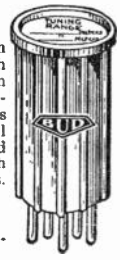
Cat. No.	Size—Inches W	L	H	List Price
993	6" x	10" x	7"	$2.75
994	7¼" x	12" x	7"	3.25
995	7½" x	14" x	7"	3.50
999	8" x	10" x	7"	3.25

World Radio History

BUD RADIO PRODUCTS

SHORT WAVE PLUG-IN COIL FORMS

MADE OF LOW LOSS BAKELITE



Supplied with disc in top which permits writing in wave-length range, and makes identification positive. These forms are supplied in 4, 5, and 6 prong units to fit standard tube sockets. All sizes have eight ribs moulded on wall of coil forms which give low loss air core windings.

GIANT COIL FORMS

2¼" in diameter. 3¼" winding space.

No.		List
734	4 Prong	$0.65
735	5 Prong	.70
736	6 Prong	.75

Same as above, but threaded 12 turns per inch for space winding coils.

No.		List
1221	4 Prong	$0.90
1222	5 Prong	.95
1223	6 Prong	1.00

SENIOR COIL FORMS

1½" in diameter. 2½" winding space.

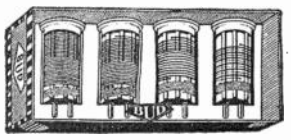
No.		List
125	4 Prong	$0.35
126	5 Prong	.35
310	6 Prong	.40

JUNIOR COIL FORMS

1¼" in diameter. 2⅛" winding space.

No.		List
594	4 Prong	$0.25
595	5 Prong	.30
596	6 Prong	.30

LO-COIL KITS



SENIOR

Wound on 1½" diameter coil forms. Covers wave-length of 16 to 200 meters when tuned with .00014 mfd. condenser. Each kit has 4 coils.

No.		List
222	4 Prong 2 Windings	$2.75
918	6 Prong 3 Windings	3.50
916	5 Prong 2 Windings Secondary tapped for electron coupled circuits.	3.30

JUNIOR

Wound on 1¼" diameter forms. Wave-length range, 11 to 210 meters with .00014 mfd. condenser. 4 coils to kit.

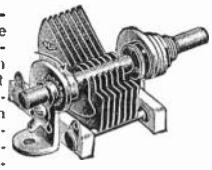
No.		List
354	4 Prong 2 Windings	$2.00
356	6 Prong 3 Windings	2.90

SUPERHETERODYNE

Consists of 8 coils. 4 detector coils and 4 oscillator coils to track with I.F. transformers tuned 465 KC. Wave-length range 13 to 200 meters with .00014 mfd. condenser.

No. 397 ..... List $5.50

MIDGET CONDENSERS



A superior built condenser for mid line tuning. Positive wiping contact with screw adjustment eliminates mechanical noises on high frequencies. Isolantite insulation. Soldered brass plate assemblies. Heavy aluminum end plates with closely fitted bearings for smooth operation. Carefully designed and constructed for maximum efficiency. Extended shaft from rear for ganging several units.

Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Plates	List Price
926	15	3	3	$1.15
900	20	3	3	1.20
902	35	4	5	1.25
903	50	5	7	1.35
904	80	6	11	1.60
905	100	6	14	1.85
906	140	7	19	2.00
907	150	7	21	2.20
908	200	9	27	2.40
909	250	10	33	2.50
910	325	12	43	3.00

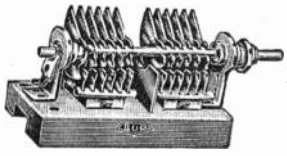
MULTI-SPACED MIDGET CONDENSERS

Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Air Gap	List Price
565	15	4	.060"	$1.50
897	35	6	.060"	1.55
898	50	7	.060"	2.00
899	75	8	.060"	2.60
941	100	10	.060"	3.00
965	35	9	.095"	2.00
966	50	11	.095"	2.50
967	75	14	.095"	3.00

NEUTRALIZING CONDENSERS

Cat. No.	Max. Cap.	Air Gap	List Price
567	4	.200"	$1.40
564	8	.130"	1.50
565	15	.060"	1.50
566	35	.095"	2.00

DUAL MIDGET CONDENSERS



For short wave receivers and low power transmitters. Mounted on ceramic base. Construction similar to single midget condensers.

Cat. No.	Cap. per Sect. Max.	Min.	Air Gap	List Price
911	100	6	.024"	$3.00
912	140	7	.024"	3.50
913	35	5	.060"	3.00
942	20	4	.060"	3.00
329	35	9	.095"	3.50
330	50	7	.060"	3.50
331	75	8	.060"	3.95

TRIPLE MIDGET CONDENSERS

Has three tuning sections mounted on ceramic base for single control operation. Base 5¼" long.

Cat. No.	Cap. per Sect. Max.	Min.	Air Gap	List Price
886	20	5	.060"	$3.95
887	35	6	.060"	4.25
888	100	6	.024"	4.50
889	140	7	.024"	4.75

BUD MIDGET CONDENSERS

These condensers are of the straight line frequency type. Panel or base mounting. Isolantite insulation. Closely fitted single end bearing for constant and definite capacity. Soldered brass plate assemblies.

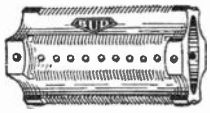
Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	Plates	List Price
324	10	2	2	$0.85
328	15	3	3	.85
323	20	3	3	.85
322	35	4	5	.95
148	50	5	7	1.05
901	80	6	11	1.20
321	100	6	14	1.25
396	140	7	19	1.35
320	150	7	21	1.50

SINGLE BEARING DUAL-SPACED CONDENSERS

Spacing between plates .060".

Cat. No.	Max. Cap. mmfd.	Min. Cap. mmfd.	List Price
327	6	2	$0.85
311	15	4	1.00
319	35	6	1.25
312	50	7	1.40

TRANSMITTER TANK FORMS



Made in three sizes to cover the inductance requirements of the amateur frequency spectrum. These forms are grooved for No. 10 wire or smaller and drilled with sufficient holes for wires and supports. Isotex is a special moulded low loss ceramic having exceptional low loss properties. All forms are glazed.

No. 383—20 or 40 meter form is grooved twenty-four turns in 4" of winding space. Size 2½" O. D. x 5" long.
List Price $1.25

No. 384—20 or 40 meter form with supports.
List Price $2.25

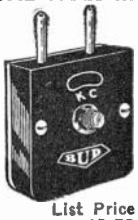
No. 376—80 meter form is grooved thirty-two turns in 5" of winding space. Size 3" O. D. x 6" long.
List Price $1.75

No. 377—80 meter form with supports.
List Price $2.75

No. 393—160 meter form is grooved forty-eight turns in 6" of winding space. Space 4" O. D. x 7¼" long.
List Price $2.25

No. 394—160 meter form with supports.
List Price $3.25

HY-FREQUENCY CRYSTAL HOLDER



Ideal for use with transmitters operating on high frequencies (500-7000 KCS.). Will hold crystals up to 1 1/32" square and .25" thick. Housing made of moulded bakelite with nickel plated fittings. Tube prong contacts spaced ¾" apart. Mounts in 5 or 6 prong socket.

No.	List Price
763—With tube prongs	$1.50
762—With banana plugs	1.75

BUD CRYSTAL HOLDER

For use with crystals covering frequencies from 500 to 4000 KCS. Made of glazed Isotex (ceramic). Lapped in plates. Holds crystals 1½" square. Pressure type. Moisture-proof, dust-proof.

No.	List Price
764—Banana plug contacts	$1.75
754—Tube prong contacts	1.75
765—Mounting base for No. 764 and No. 762 Crystal holders	.40

World Radio History

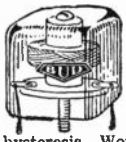
BUD RADIO PRODUCTS

LATTICE-WOUND R.F. CHOKES

Low D.C. resistance, high impedance. Moisture proof; low distributed capacity. Wound on Isotex.

No.	M.H.	List	No.	M.H.	List
1212	2.5	$.35	1217	16	$.55
1213	3.4	.40	1218	30	.60
1214	5.5	.45	1219	60	.75
1215	8.	.45	1220	80	.80
1216	10.	.50			

MAGICORE "HY-Q" R.F. CHOKES



IRON CORE

These new metallic alloy core chokes have nearly double Q factor of air core coils. High permeability with minimum hysteresis. Wound with silk covered enamel wire.

SHIELDED

Cat. No.	Inductance	List Price
1277	1.5 M.H.	$0.85
1278	2.5 M.H.	.85
1279	3.4 M.H.	.90
1280	5.5 M.H.	.90
1281	8 M.H.	1.00
1282	10 M.H.	1.00
1283	16 M.H.	1.15
1284	30 M.H.	1.15
1285	60 M.H.	1.30
1286	80 M.H.	1.45
1287	125 M.H.	1.80

UNSHIELDED

1288	1.5 M.H.	$0.70
1289	2.5 M.H.	.70
1290	3.4 M.H.	.75
1291	5.5 M.H.	.75
1292	8 M.H.	.85
1293	10 M.H.	.85
1294	16 M.H.	1.00
1295	30 M.H.	1.00
1296	60 M.H.	1.15
1297	80 M.H.	1.30
1298	125 M.H.	1.65

HY-FREQUENCY R.F. CHOKES

For H.F. receivers and low powered transmitters. Wound with SSE wire on Isolantite core. Extremely low distributed capacity.

Cat. No.	Inductance	List Price
920	2.5 M.H.	$0.45
922	5.5 M.H.	.60
923	8. M.H.	.75
924	10. M.H.	.85

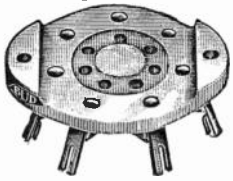
BUD H.F. TRANSMITTING CHOKE

This newly designed choke is for use with the new medium power transmitting tubes in high and ultra-high frequency circuits. Three lateral wound pies on ¼" diameter Isolantite core. Heavy strap leads. Size ¾" diameter by 1½" long. Inductance, 2.5 M.H.; D.C. Res. 16 ohms; Current Cap. 250 MA. continuous; Dist. Cap. 2 mmfd.

No. 876 .....List Price $0.85

ISOTEX SOCKETS

Moisture-proof, high surface resistance. Low loss effect. Sub-panel, base-mounting. Size 2¼" x 1⅝".



No.		List	No.		List
954	4 Pr.	$.40	957	7 Sm.	$.50
955	5 Pr.	.40	958	7 Lge.	.50
956	6 Pr.	.45	959	8 Pr.	.55

BUD TUBE SOCKETS

Made of Bakelite

Are constructed of the finest materials throughout, using genuine phosphor bronze contacts. Top is grooved for tube guide. Excellent for regular as well as experimental work. Used as standard equipment by manufacturers of test equipment.

PANEL MOUNT

No		List Price
268	4 Prong	$0.25
269	5 Prong	.25
270	6 Prong	.30
271	7 Prong Lge.	.30
983	7 Prong Sm.	.30
1060	5, 6, Sm. 7 Pr. Comb.	.35
1061	7 Prong Combination	.30
1062	4, 5, 6 Prong Comb..	.35
1063	8 Prong, Octal	.35

BUD COMBINATION BASE OR PANEL MOUNT SOCKETS

Made of Bakelite

No.		List Price
264	4 Prong	$0.30
265	5 Prong	.30
266	6 Prong	.35
267	7 Prong (Reg.)	.40
885	7 Prong (Small)	.40

TRANSMITTER R.F. CHOKES

Pie Wound

Exceptionally low power loss, no transmission bands. Continuous windings of 5 lateral wound tapered sections. Low D.C. resistance.

Ind. 2.8 M.H.; 5 ohms D. C. Res.; rating 1000 M.A.
No. 568....List $1.75

Ind. 5.3 M.H.; 12½ ohms D.C. Res.; rating 500 M.A.
No. 569.....List $1.50

5-METER INTERRUPTOR COIL

Low-frequency Oscillator in 5-meter circuits.
No. 452.....List $1.00

BUD ULTRA HY-FREQ. R.F. CHOKE

A compact, well designed R.F. choke for use in ultra high frequency transmitters and receivers. Wound on Isolantite core. Size — 1½" long, 5/16" diameter, inductance 5.7 microhenries, resistance 1.4 ohms. Current rating—750 m.a.
No. 925.....List $0.25

BUD TOGGLE SWITCHES

For controlling radio sets, small motors, lamps, etc. Underwriter approved. Rated 3 amps. at 125 volts or 1 amp. at 250 volts. Supplied in nickel plated or statuary bronze finish. Made by H&H for BUD. Packed 5 to Carton.

Cat. No.	Description	Shank Length	List Price
1003	S.P.S.T.	7/16"	$0.40
1004	S.P.S.T.	¾"	.45
1005	S.P.D.T.	7/16"	.55
1006	S.P.D.T.	¾"	.60
1007	D.P.S.T.	7/16"	.75
1008	D.P.S.T.	¾"	.85
1009	D.P.D.T.	7/16"	.95
1010	D.P.D.T.	¾"	1.00
1077	Closes 3 circuits for R.C.A., etc.	¼"	.70

BUD ROTARY SWITCHES

Positive contact rotary power switch, underwriter approved. Rated 3 amps. at 125 volts and 1 amp. at 250 volts. Copper plated steel encased, Bakelite insulation. Shafts are 1½" long. Made by H&H for BUD.

Cat. No.	Description	Shank Length	List Price
499	S.P.S.T.	⅜"	$0.45
1070	S.P.S.T.	1"	.55
1071	S.P.D.T.	⅜"	.55
1072	S.P.D.T.	1"	.70
1073	D.P.S.T.	⅜"	.85
1074	D.P.S.T.	1"	1.00
1075	D.P.D.T.	⅜"	1.00
1076	D.P.D.T.	1"	1.15

PUSH BUTTON SWITCHES

Two circuit non-indicating slow make and quick break momentary contact switch. One circuit is "ON" and the other is normally "OFF."

No. 743.....Price $0.70

FLEXIBLE COUPLINGS

For ganging units or shaft extensions. Fit ¼" diameter shafts.

No.	Dia.	Insulation	List
855	1½"	Bakelite	$0.35
845	1"	Fibre	.30
795	1 1/16"	Isotex	.45

High Voltage Type

Glazed Isolantite Rod Insulation

No. 741—3¼" long....List $0.80
No. 740—1¾" long....List $0.65

HEAVY DUTY COUPLER

New type spring construction. Very flexible. Alsimag 196 disc is 1½" dia. x 3/16" thick. Fits ¼" shafts.

Cat. No.	Insulation	List
614	Alsimag 196	$0.75
619	Bakelite	.50

FLEX-O-SHAFTS

Will turn at angles up to 90 degrees. Free from back lash. ¼" hubs sweated on each end to fit any type coupling.

No. 859—Length 3".....List $0.35
No. 860—Length 6".....List .50

GIANT SOCKETS

For Transmitting Tubes

Base made of Isotex, glazed top and sides to resist moisture. Snug fitting machined jack type contacts.

226—50 watt size.....$1.00
227—For RK28, 803, etc..... 1.50

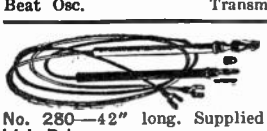
ETCHED NAME PLATES

High quality aluminum used. Raised polished letters on black satin finish. For transmitters, amplifiers, etc. Furnished with following inscriptions:

Oscillator	Receiver	Amplifier
Plate Volts	Send-Receive	Plate Voltage
Microphone	Power Ampl.	Off-On
Input	Neutralizer	Class "B" Mod.
Monitor	Fader	Grid Current
Send	Antenna	Crystal Osc. Plate
Selector	Key	Microphone Current
Crystal Osc.	A.C. Input	200-Ohm Input
CW-Phone	Transceiver	200-Ohm Output
200-Ohm	Speech Ampl.	500-Ohm Input
500-Ohm	Gain Control	500-Ohm Output
Tone Control	Grid	Radio
Output	Modulator	Record
Freq. Meter	Doubler	Speaker
Beat Osc.	Transmitter	

List Price $0.10

EVER-READY TEST LEADS



Made of the finest quality insulated flexible wire. Black lead is negative red positive.

No. 280—42" long. Supplied with spade terminals or phone tips.
List Price $0.60

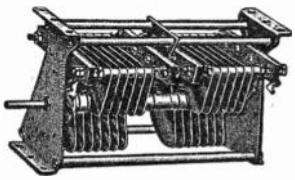
No. 184—42" long. Removable needle point inserted into the chuck; penetrates the insulation without injury; spade or phone tip terminals.
List Price $0.65

No. 1841—42" long. Long fixed needle point; spade or phone tip terminals.
List Price $0.65

No. 621—De-Luxe Test Leads—60" long. Heavy duty with removable tips; phone tip terminals; handles are polished hard rolled fibre; extremely flexible. Continuity test tips are the chuck type.
List Price $1.25

World Radio History

RADIO BUD PRODUCTS



MASTER TRANSMITTING CONDENSERS

A better condenser for greater efficiency in all stages of modern transmitters. Polished Aluminum plates .051" thick have rounded edges. End plates are ⅛" thick polished Aluminum. 5/16" Dia. nickel plated brass tie rods support the extremely rigid frame. Accurately machined brass spacers are used for uniform plate spacing. Close fitting self-centering cone type front and rear bearings for smooth operation. Positive acting laminated phosphor bronze rotor wiping contact. Genuine Mycalex bars for better insulation. Made in SINGLE, DUAL and ULTRA HIGH FREQUENCY TYPES. Size: 3⅛" wide, 3 5/16" high, length behind panel (see chart).

Cat. No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Behind Panel	List Price
1603	100	13	13	.100"	4 15/16"	$8.35
1605	250	22	29	.100"	7⅜"	10.00
1609	50	13	11	.200"	5⅝"	8.50
1610	75	16	15	.200"	6⅝"	9.00
1611	100	20	21	.200"	8⅛"	9.50
1612	145	35	29	.200"	10⅛"	11.50
1615	75	21	21	.300"	10⅛"	11.50
1616	100	28	29	.300"	12⅞"	12.50
1618	50	22	15	.375"	9 1/16"	10.50

MASTER DUAL CONDENSERS

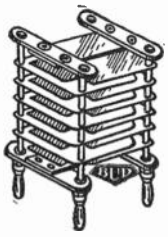
1625	55	8	7	.100"	6¾"	$10.50
1626	70	9	9	.100"	7⅜"	11.50
1627	100	13	13	.100"	8⅝"	12.50
1628	150	17	17	.100"	9¾"	14.00
1629	200	20	23	.100"	11⅝"	15.00
1631	50	13	11	.200"	10⅜"	13.50
1632	75	16	15	.200"	12¼"	15.00
1633	100	20	21	.200"	15⅛"	16.00

MASTER U.H.F. CONDENSERS

1635	25	7	5	.200"	7⅜"	$15.50
1636	35	11	7	.200"	8⅜"	17.00
1637	50	13	11	.200"	10 7/16"	18.50
1638	75	16	15	.200"	12 5/16"	20.00

STAT-AIR CONDENSERS

Keeping a proper L/C ratio in all-band operation is now simplified by using a variable air condenser as a vernier and plug Fixed Stat-air sections in parallel with the tank tuning condenser for lower frequency operation. Brass plates with rounded edges are solder welded to their shafts for sturdy, uniform, low loss construction. Alsimag 196 insulation. Fitted with standard banana plugs. Nickel plated finish.



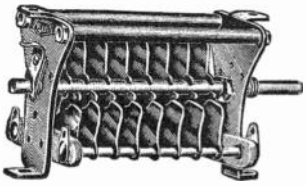
Junior Type

Cat. No.	Cap.	Air Gap	Mtg. Area	List Price
780	50 mmfd.	.144"	1¼"x1½"	$3.50
781	100 mmfd.	.144"	1¼"x1½"	4.50
782	100 mmfd.	.078"	1¼"x1½"	3.75
783	150 mmfd.	.078"	1¼"x1½"	4.50

Senior Type

Cat. No.	Cap.	Air Gap	Mtg. Area	List Price
784	50 mmfd.	.238"	2"x2¼"	$4.00
785	100 mmfd.	.100"	2"x2¼"	4.00
786	100 mmfd.	.238"	2"x2¼"	5.00
787	150 mmfd.	.100"	2"x2¼"	4.75

JUNIOR TRANSMITTING CONDENSERS



A new conception in design and construction make these condensers ideal for use in low and medium power transmitters. Recommended for portable and air-craft equipment where efficient, light weight, small size and rigid construction are a factor. Satin Finished Aluminum end plates have two formed brackets for universal mounting and coil supports. Plates are nickel plated hard temper brass with edges rounded and solder welded to their respective shafts for uniform spacing and low loss construction. Dural tie rods add rigidity to frame. Brass bearings. Phosphor bronze contacts. Alsimag 196 insulation. Panel space required 2⅞"x3".

Cat. No.	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Behind Panel	List Price
1525	50	4	7	.051"	2½"	$2.50
1526	100	6	13	.051"	2⅞"	2.75
1527	145	7	19	.051"	3 5/16"	3.25
1528	250	11	33	.051"	4 3/16"	4.00
1529	340	15	43	.051"	5 1/16"	5.00
1530	25	4	5	.078"	2 1/16"	2.45
1531	35	4	7	.078"	2⅝"	2.50
1532	55	6	11	.078"	3 "	2.85
1533	80	7	15	.078"	3 7/16"	3.00
1534	110	9	21	.078"	4 1/16"	3.50
1535	150	12	29	.078"	4⅞"	4.25
1536	190	15	37	.078"	5⅝"	5.25
1537	245	17	47	.078"	6 13/16"	6.25
1538	20	5	7	.144"	3 "	2.75
1539	40	7	13	.144"	3 15/16"	3.00
1540	55	9	17	.144"	4⅝"	3.50
1541	80	12	25	.144"	5 13/16"	4.00
1542	105	15	33	.144"	7¼"	4.65
1543	18	5	7	.175"	3 3/16"	3.00
1544	40	9	15	.175"	4½"	4.00
1545	55	10	19	.175"	5 9/16"	4.50
1546	85	16	31	.175"	8 "	5.00
1547	100	17	37	.175"	9¼"	6.00

JUNIOR DUAL CONDENSERS

Cat. No.	Max. Cap. Per Sec.	Min. Cap. Per Sec.	No. Plates Per Sec.	Air Gap	Length Behind Panel	List Price
1550	20	3	3	.051"	3½"	$3.50
1551	50	5	7	.051"	4 1/16"	4.25
1552	70	5	9	.051"	4⅜"	5.00
1553	100	6	13	.051"	5 "	5.50
1554	145	7	19	.051"	5⅞"	6.50
1555	200	9	25	.051"	6¾"	7.25
1556	250	11	33	.051"	7 15/16"	8.50
1557	25	4	5	.078"	4 1/16"	4.25
1558	35	4	7	.078"	4 7/16"	4.50
1559	55	6	11	.078"	5¼"	5.00
1560	80	7	15	.078"	6 1/16"	5.75
1561	110	9	21	.078"	7 7/16"	6.25
1562	150	11	29	.078"	8 13/16"	7.50
1563	20	5	7	.144"	5 3/16"	5.00
1564	40	7	13	.144"	7½"	5.50
1565	55	9	17	.144"	8 5/16"	5.85
1566	18	5	7	.175"	5⅝"	5.50
1567	40	9	15	.175"	8¾"	6.25

JUNIOR U.H.F. CONDENSERS

Dual Types Only Plates .040 Thick

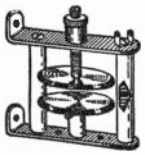
Cat. No.	Max. Cap. Per Sec.	Min. Cap. Per Sec.	No. Plates Per Sec.	Air Gap	Length Behind Panel	List Price
1570	25	4	5	.070"	4 1/16"	$5.00
1571	35	4	7	.070"	4 7/16"	6.00
1572	55	6	11	.070"	5¼"	7.00
1573	80	7	15	.070"	6 3/16"	8.00
1574	20	5	7	.136"	5 3/16"	6.75
1575	40	7	13	.136"	7⅛"	7.50
1576	55	9	17	.136"	8 7/16"	8.50

SEE BUD CATALOG FOR OTHER CONDENSERS AND ITEMS NOT LISTED ON THESE PAGES

World Radio History

BUD RADIO PRODUCTS

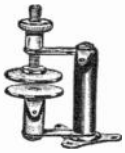
UNIVERSAL NEUTRALIZING CONDENSERS



Can be mounted with plates in either horizontal or vertical position for most efficient layout. Solid frame construction. Two heavy duty Alsimag 196 pillars insulate rotor from stator. All metal parts are aluminum. Plates are rounded and buffed.

Cat. No.	Plate Dia.	Recommended for	List Price
1000	1 13/32"	T40, 35T, HF100	$2.75
1001	2 13/16"	T200, 250T, etc.	4.00
1002	4 3/4"	750T, etc.	5.50

6L6 NEUTRALIZING CONDENSER



For 6L6, 6V6, 807, RK41, RK39, etc. Small, compact and well built. Heavy 1" dia. aluminum plates with edge rounded and polished. Thumb nut locking device.

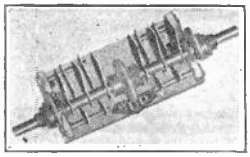
Cat. No.	Capacity mmfd.	List Price
890	.5 to 9	$1.00

JUNIOR NEUTRALIZING CONDENSERS

For any of the low capacity high voltage tubes. Also for high capacity tubes being used. Nos. 1522 and 1523 have adjustable air gap. Plates can be locked for desired air gap.

Cat. No.	Capacity Max.	Capacity Min.	Air Gap	List Price
1518	5	1.75	.238"	$2.75
1519	9	3	.238"	3.25
1520	15	5	.238"	3.50
1521	33	4	.078"	2.50
1522	3 to 10	2	Adj.	3.25
1523	5 to 20	4	Adj.	4.00

DUAL NEUTRALIZING CONDENSERS



Will neutralize both tubes in push-pull circuits. Individual condensers on ceramic base and ganged with insulated flexible coupling. Double ended shaft.

No. 927—8 mmfd. per section—For RK18, RK36, HF100, T35, 808, 55T, etc. List Price.....$3.85

No. 928—15 mmfd. per section—For 46, 10, 801, etc. List Price..... 3.85

OPEN END CHASSIS

These light weight steel chassis fit BUD metal cabinets and have many other uses. Ends are folded over 3/8" for additional strength. Zinc plated finish.

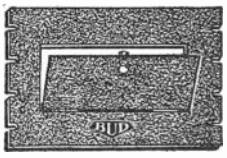
Cat. No.	Depth	Width	Height	Fits Cab. No.	List Price
976	7 1/2"	9"	1 1/2"	999	$.75
996	5 1/2"	9"	1 1/2"	993	.60
997	6 1/2"	11"	1 1/2"	994	.80
998	7"	13"	1 1/2"	995	.95
30	5"	7"	1 1/2"	.....	.50
31	7 3/8"	7 1/4"	1 1/2"	870-A	.65
32	7 3/8"	9 3/4"	1 1/2"	871-A	.90
33	7 3/8"	13 3/4"	1 1/2"	872-A	.95
34	10 3/4"	14"	2"	975	1.45
35	7 3/4"	15"	2"	1190	1.25

SPEAKER CABINETS

For housing loud speakers in portable and permanent installations. Solidly constructed from cold rolled sheet steel. Fully enclosed. Back cover louvred for ventilation. Metal grill over speaker opening protects speaker. Black crackle finish. Has carrying handle.

Cat. No.	Speaker Size	Cabinet Size	List Price
471	6"	9x 9x6	$3.75
472	8"	11x11x7	4.60
473	10"	13x13x8	6.00
474	12"	15x15x8	8.00

RELAY RACK PANELS (Door Type)



Ideal for use in speech amplifiers, Exciter units, etc. Made from steel 1/8" thick. Hinged door is 5 3/4" W. x 12" L. has snap catch. Sufficient margin on panel for meters, dials, etc. Panels listed (cut-out) have hole for glass window. Glass not supplied. Finished in Black Crackle. NOTCHED AMATEUR STANDARD ONLY.

Cat. No.	Length	Width	Type	List Price
615	19"	10 1/2"	Door	$3.90
616	19"	12 1/4"	Door	4.50
617	19"	10 1/2"	Cut-out	3.25
618	19"	12 1/4"	Cut-out	3.75

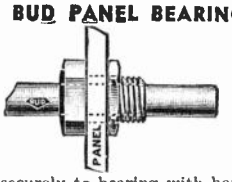
POWER SWITCHES

These heavy duty switches are ideal for primary circuits in transmitters. They are D.P.S.T. but can be paralleled for larger capacity. Rated 12 amps. 125 volts. Size 1 3/4" x 3/4" x 3/4". Shank 7/16" long. Push button and Toggle types.

No. 1270—Push Button. List Price.....$2.00

No. 1269—Toggle. List Price..... 1.15

BUD PANEL BEARING ASSEMBLY



Is ideal for use with rigid or flexible couplings when mounting volume controls, condensers, etc. back from the panel. Shaft is slotted and held securely to bearing with horse-shoe washers to keep shaft from shifting. Brass bearing fits up to 5/16" thick panel.

No.	List Price
530—Overall length 6"	$.40
531—Overall length 3"	.30
532—Bearing only	.15

BUD TUNING DIALS

For Use on Transmitters and Other Equipment

Made of heavy gauge brass, spun and chrome plated. Black numerals. Large fluted knob. Insulated from shaft.

No.	Dia.	Calibra.	List Price
VERNIER TYPE—180 DEG.			
163	2 3/4"	0-100	$1.40
164	2 3/4"	100-0	1.40
165	4"	0-100	2.00
166	4"	100-0	2.00
INDICATOR TYPE—180 DEG.			
711	1 3/4"	0-100	$1.00
712	1 3/4"	100-0	1.00
713	2 3/4"	0-100	1.25
714	2 3/4"	100-0	1.25
715	4"	0-100	1.85
716	4"	100-0	1.85

ETCHED DIAL PLATES (Plain)

These dial plates are made of high grade tempered aluminum. Raised polished dial divisions and numerals on black satin finish background. Center hole will fit over 3/8" bushing.

Cat. No.	Size	Arc	Calibrated	List Price
1175	3"	180°	0 to 100	$.30
1176	3"	180°	100 to 0	.30
1177	2"	180°	0 to 100	.20
1178	2"	180°	100 to 0	.20

WITH MARKING

2" Dia. calibrated 0-100 in 300° rotation.

Cat. No.	Marking	List Price
1224	Record	$.20
1225	Microphone	.20
1226	Gain	.20
1227	Tone	.20
1179		.20

RECTANGULAR TYPE

Size 1 11/16"x2 1/4". Calibrated 0-10 in 300° rotation.

Cat. No.	Marking	List Price
978	Record	$.20
979	Microphone	.20
980	Gain	.20
981	Tone	.20
982		.20

JACK NAME PLATES

For identifying input and output circuits. Polished letters on black satin background. Fit on 3/8" dia. bushings. 1 1/8" diameter.

No.	Marking	List Price
1180	Microphone	$0.15
1181	Phono Pick Up	.15
1182	Phones	.15

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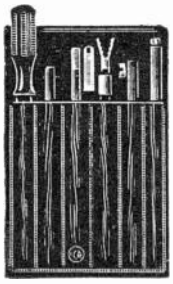
World Radio History

ICA INSULINE ICA
RADIO PRODUCTS

"DE LUXE" NEUTRALIZING & ALIGNING TOOL KIT

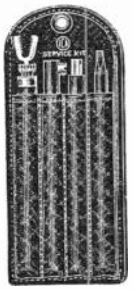


Complete for Every Service Need

Designed to include, besides all the tools contained in our famous No. 998, two new and absolutely essential tools which are the I. C. A. No. 997 Magic Tuning Alignment Tool and the newly developed I.C.A. Flexible Screw Driver, for hard to reach spots, making a total of fourteen tools most of which telescope into one another forming six units when assembled into the attractive black leatherette carrying case.

No. 994—Tools complete with carrying case
List Price $5.00

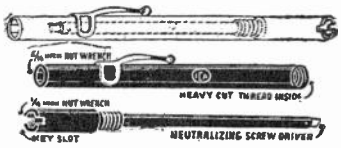
NEUTRALIZING AND ALIGNING TOOL KIT



Contains: 3 insulated screw drivers with metal nib (6", 5", 2½"). 2 metal nut wrenches (5/16", ¼"). Alligator side wrench; ¼" square nut insulated wrench; ¼" hexagon metal side wrench; ¼" hexagon slotted insulated wrench; metal screw driver; 5/16" hexagon insulated nut wrench; 6" insulated screw driver.

No. 998—With black leatherette carrying case.
List Price $4.00

4-IN-1 NEUTRALIZING TOOLS, SCREW-DRIVERS, WRENCHES

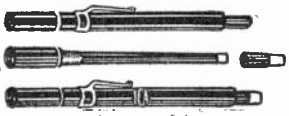


Made of Fenoline—fully insulated.
No. 1019—Complete as above.
List Price $0.65

NEUTRALIZING TOOLS WITH METAL NIBS

Sturdy and unbreakable.
No. 996.....List Price $1.10

5-IN-1 NEUTRALIZING AND COMPENSATING TOOL



Has extra all metal screw driver.
No. 1022 ..... List Price $1.00

ICA ALIGNMENT WRENCH
For RCA, PHILCO, etc.

For neutralizing and adjusting the Air Trimmers. Used on all makes Air Trimmer. Made of 3/8" Fenoline Rod—8½" long.
No. 1008 .....List Price $1.25

FORK TYPE NEUTRALIZING WRENCH AND SCREW-DRIVER

No. 1024..... List Price $0.40

ICA MAGIC TUNING ALIGNING TOOL

Consists of bakelite rod with a brass cylinder at one end and an iron core at the other. Inserting the brass cylinder into a coil lowers its inductance, while inserting the end with the iron increases the inductance. For checking all-wave receivers without disturbing the adjustment of the trimmer capacities.
No. 977 .....List Price $0.90

ICA NARROW SHAFT ALIGNMENT TOOL

Bakelite shaft is only 7/32" in diameter.
No. 987.....List Price $0.50

ICA SET TRIMMER NEUTRALIZING TOOLS

For Philco, Zenith, RCA, etc.
No. 992—6" long.....List Price $0.75
No. 933—10" long.....List Price 1.00

BAKELITE SCREW-DRIVER

Made entirely of 3/8" bakelite rod with a sturdy blade for neutralizing and adjusting condensers, radio receivers or for use in places where a metal screw driver cannot be used electrically.
No. 1029.....List Price $0.45

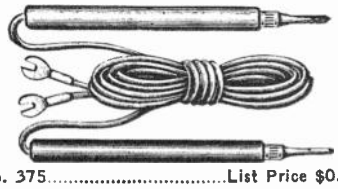
ICA FLEXIBLE SCREW-DRIVER
For the Hard to Reach Spots

Allows access to screws in hard to reach and out-of-the-way places. Can go under objects or around corners.
No. 935.....List Price $1.50

INSULATED AND HEXED NEUTRALIZNG WRENCHES

Made of hexed sturdy black "Fenoline"—so made that when one part wears out or breaks you saw off that part and continue using the neutralizing wrench.
No. 985—6" long.....List Price $0.20
No. 986—8" long.....List Price .30

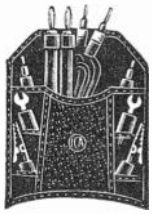
LABORATORY TYPE TEST LEADS
With Heavy-Duty Laboratory Detachable Sharp Point Ends



No. 375.....List Price $0.90

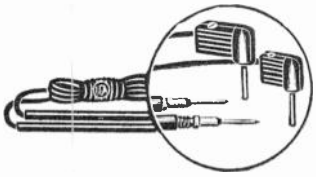
ALL-PURPOSE TEST LEAD KIT
Complete for Every Testing Need

Included in this test kit are:
1 pr. Kinkless Test Leads.
1 pr. insulated alligator clips—red and black.
1 pr. insulated spade plugs—red and black.
1 pr. insulated needle points—red and black.
All neatly fitted into a leatherette compartment case.



No. 1005.....List Price $2.25

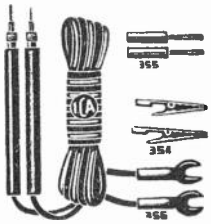
ICA PENCIL TYPE TEST LEADS
With Finger-Grip Molded Tips



The Molded Finger Grip Tips are provided with set screws for easy renewal of wire. Length of test leads in 65 inches.
No. 373.....List Price $1.25

TEST LEADS

Flexible, rubber-covered, kinkless wire, black and red, fitted into slim handles. Insulated for 5000 volts.



Phono. Needle-Point Leads—54" Long
No. 379—Clips .....List Price $0.70
No. 381—Terminals .....List Price .60
No. 382—Phone Tips .....List Price .60

De-Luxe Leads—50" Long
No. 354—Clips .....List Price $0.70
No. 355—Tips .....List Price .60
No. 356—Terminals .....List Price .60

Heavy Duty Leads
No. 388—Clips .....List Price $0.95
No. 391—With Phone Tips (Non-insulated). List Price $0.90
No. 400—Phone. Plugs, insulated handles. List Price $1.10

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ICA INSULINE RADIO PRODUCTS ICA

ICA SQUARE HOLE SHEARING PUNCH

This new punch permits the cutting of any size odd - shape hole (square, rectangular, hexagon, oblong, etc.) on any size panel or chassis.

No. 790

List Price $9.50

ICA SELF-ALIGNING PUNCHES

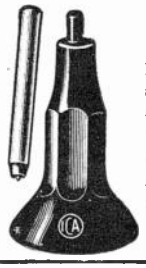
New Laboratory Design
No Center Guide Holes to Drill

Utilizes the new **Patented Spring Design.** Punches clean cut round holes in sheet metal - chassis, etc. For Condenser and Socket Mounting Holes, etc. Sturdy, heavy - duty Punches.

No.			List Price
755	For ¾"	Hole	$3.00
756	For ⅞"	Hole	3.00
757	For 1 1/16"	Hole	3.50
758	For 1⅜"	Hole	3.50
759	For 1¼"	Hole	3.50

For Amphenol or Cliptite Type

No. 765—Small size, 1.170"..List Price $5.00
No. 766—Large size, 1.320"..List Price 5.00



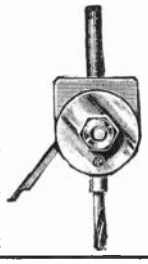
RIVET & EYELET PUNCH SET

It is designed to make possible the resetting of any size eyelet or rivet used in radio sets.

Complete with ample assortment of eyelets and rivets.

No. 785....List Price $2.25

UNIVERSAL MULTI-PURPOSE CUTTING TOOL

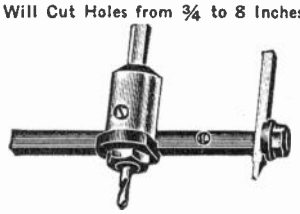


Can be used for countersinking, beading, drilling or cutting holes. Equipped with 7/16" drill, which is used as a pilot and will cut holes from 7/16" diameter up to 3½" diameter.

No. 780....List Price $2.75

ALL-PURPOSE CIRCLE CUTTER

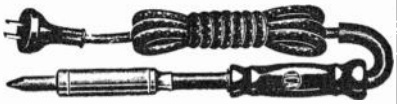
Will Cut Holes from ¾ to 8 Inches



No. 775.....List Price $4.00

ICA DE LUXE SOLDERING IRONS

105-120 Volt Soldering Irons



60-WATT IRON

No. 1960-A.....List Price $3.75

85-WATT IRON

No. 1962-A.....List Price $4.50

115-WATT IRON

No. 1961-A.....List Price $5.50

ICA FLEXIBLE SOCKET WRENCH SET

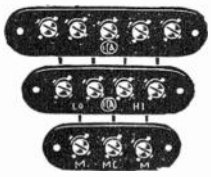
The flexible wrench gets at nuts in awkward out of the way places. Fits around corners and underneath chassis. Contains 8 different size sockets.

No. 1000
List Price $3.00

LOCK SOCKET WRENCH AND SCREW DRIVER SET

No. 999.....List Price $1.75

TERMINAL STRIPS



I C A Terminal Strips are specially adapted for amplifiers, mixing panels, radio sets, short wave radio sets and other uses. Made of black bakelite with specially designed nickel plated phosphor bronze screw terminals with non-removable collars.

No.	Description	List Price
2420	2 Term. No Marking	$0.15
2419	2 Term. Marked A & G	.18
2418	2 Term. Marked Output	.18
2417	2 Term. Marked Input	.18
2414	3 Term. No Marking	.20
2415	3 Term. Marked 1, 2, 3	.25
2413	4 Term. No Marking	.30
2408	4 Term. Marked 1, 2, 3, 4	.35
2405	5 Term. No Marking	.35
2406	5 Term. Marked 1, 2, 3, 4, 5	.40
2404	6 Term. No Marking	.40
2402	6 Term. Marked 1, 2, 3, 4, 5, 6	.45

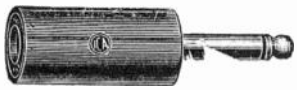
BAKELITE SOCKETS

Sub-Panel Mounting

Special spring-bronze nickel-plated contacts for positive contact.

No.		List Price
2484	4 Prongs	$0.25
2485	5 Prongs	.25
2486	6 Prongs	.30
2487	7 Prongs (comb.)	.35
2488	8 Prongs (octal)	.40

DOUBLE PHONE PLUG



This Phone Plug is molded of black bakelite and the hardware is of brass, nickel plated.

No. 24.....List Price $0.40

3-WAY MICROPHONE PLUG

No. 1901.....List Price $0.75

SHIELDED DOUBLE PHONE PLUG

Nickel Barrel

Brass Shell Nickel Plated

Same as No. 24 Plug except that it has a brass nickeled shell for shielding purposes.

No. 25.....List Price $0.75

SHIELDED 3-WAY MICROPHONE PLUG

No. 1900.....List Price $1.10

ICA JACKS

Small & Compact

Parts made of high grade brass. Springs of phosphor bronze, nickel-plated. Supplied with insulated shoulder washers for metal panel mounting.

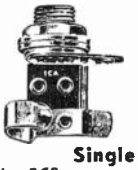
No.		List Price
325	Single Open Circuit	$0.30
1905	3-Way Microphone Jack	.50

ICA PORTABLE JACKS

Single Open Circuit

Barrel molded of Black Bakelite.

No. 1911 ..... List Price $0.50



ICA SINGLE OPEN CIRCUIT JACK

These jacks are made very small to fit into the smallest possible space. Bakelite washers are used to prevent leakage.

No. 362 .. List Price $0.30

Single Closed Circuit

No. 363.....List Price $0.35

BAKELITE INSULATED TIP JACKS

Moulded of Low-Loss Bakelite

No.		List Price
1889	Black	$0.12
1890	Red	.12
1891	Black (Banana Type)	$0.12
1892	Red (Banana Type)	.12

IMPROVED BAKELITE SOCKETS

Special spring-bronze nickel-plated contacts for positive contact.

No.		List Price
2480	4 Prongs	$0.30
2481	5 Prongs	.30
2482	6 Prongs	.35
2483	7 Prongs (comb.)	.40
2489	8 Prongs (octal)	.45

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ICA INSULINE ICA RADIO PRODUCTS

ICA SUPER-TEST AUTO RADIO IGNITON SUPPRESSORS

Made of Bakelite— All Metal Parts Made of Rugged Machined Brass

349B 351B 352B

No.		List Price
349B	Snap-on suppressor, universal type; will fit new model cars	$ .25
377	Has bracket and knurled nut	.25
378B	Will fit all spark plugs	.25
350B	Same as 378, but with detachable knurled nut	.25
351B	For Ford Cars	.25
352B	Distributor Suppressors	.30
4461	Ford Brush Type	.30
4463	1937 Ford Brush Type	.30

WIRE WOUND IGNITION SUPPRESSORS

30 Ohms D.C.

Made of cotton covered wire, wound and enclosed in a Bakelite, moisture proof case.

The low ohmage will absolutely not retard speed of motor. Perfect Noise elimination.

No.		List Price
2351	Spark Plug Suppressor	$0.50
2354	Universal type. Snap-on suppressor. Will fit all new model cars	.50
2352	Cable Type Suppressor	.50
2353	Distributor Suppressor	.50

ICA MASTER DISTRIBUTOR SUPPRESSOR

Only one ICA Super Distributor Filter is required for each car, for complete filtering of ignition noises. Consists of a number of separately wound R.F. Chokes. The Super Filter is placed in the distributor head only, eliminating the necessity for individual resistors or suppressors on the spark plugs.

No. 4457 ..... List Price $2.25

ICA FUSE RETAINER

No. 2348
List Price
$.12

ICA ANTENNA CONNECTOR

No. 2347
List Price—$.08

ICA FRONT WHEEL NOISE SUPPRESSOR

Equipped with plate and screw for easy attachment to wheel caps.

No. 4475

Per pair ..... List Price $.30

ICA WHEEL HUB STATIC ELIMINATOR

Less Back Plate and screw.

No. 4476

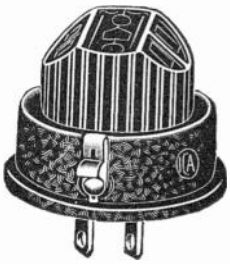
List Price
$.20 per pair

ICA "TRIPLEX"

Radio and Telegraph Code Practice Set Blinker Light Radio Signal Telegraph

No.		List Price
70	Single Unit (less Batteries)	$1.50
71	Double Unit (with 50 feet wire—less Batteries	3.25

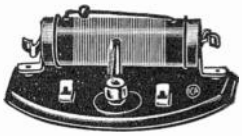
NEW ICA DUPLEX FILTERVOLT



It converts the usual single wall outlet into a filtered dual outlet. Will eliminate noises emanating from ELECTRIC SHAVERS, VACUUM CLEANERS, REFRIGERATORS, FANS, ELEVATORS, MOTORS, or any other electrical noise-creating devices.

No. 90 ..... List Price $.85

ICA CRYSTAL SET



Has a specially developed adjustable crystal and an adjustable slider tuning coil. Complete with crystal and catswhisker.

No. 7 ..... List Price $1.00

MASTER HAND MICRO-PHONE

An inexpensive Single button carbon hand microphone. Built in a handsomely finished cast housing trimmed in bright Nickel.

No. 1852
List Price
$2.75

ICA FIXED CRYSTAL DETECTOR

No. 10

List Price
$.85

ANTENNATROL

Eliminates interfering stations; operates as noise reducer with outside aerial or by itself as indoor aerial. Easily installed.

No. 4394 ..... List Price $1.00

REPLACEMENT LINE BALLASTS

For Majestic — Stewart Warner — Brunswick

Exact duplicates of the original ballasts. Made to exact specifications, both physically and electrically. Units are enclosed in air cooling perforated metal cases.

No.		List Price
4200	For Majestic 70 series	1.50
4201	For Majestic 90 series	1.50
4202	For Majestic 180 series	1.50
4203	For Stewart Warner 900 series	1.50
4204	For Stewart Warner 950 series	1.50
4205	For Stewart Warner R100 series	1.50
4206	For Brunswick Receivers	1.50

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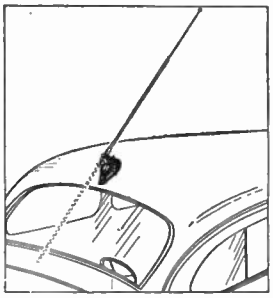
ICA INSULINE ICA
RADIO PRODUCTS

The "ORIOLE"

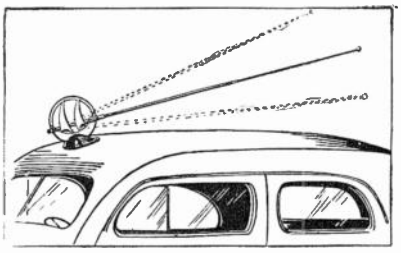
Swivel-Top Antenna



The latest type—all BRASS adjustable Telescopic Aerial, embodying a new principle of swivel adjustment, allowing the antenna to be used in a position above the top of the car, or if desired down the front of the windshield. This change in position is accomplished by a mere turn of the swivel.
Two section Telescopic antenna, extending from 19 inches when closed to 35 inches when opened. ● All parts made of BRASS and Triple Chromium plated finish. ● Scientifically designed for beauty and ease of operation. ● ONE MODEL FITS ALL CARS. ● Individually boxed, complete with lead-in wire, ready for installation.
No. 4580—List price 3.95

The "RANGER"

Tip-Topper Aerial
3 Position Adjustable Antenna



Made of BRASS—Triple chromium plated — rustproof construction throughout. ● Quickly and easily installed. ● One model fits all cars. ● Telescopic two section antenna, extends from 26 inches when closed to 40 inches when extended. ● Completely equipped with lead-in wire for ready installation. ● Individually packed.
No. 4574—List Price.....$4.75

The "HAMILTON"

Side Cowl Mounting Antenna

2 Section Telescopic

ALL BRASS

60 inches total length — 2 section Telescopic, made of all Brass Triple Chromium plated—first section Brass tubing—second section Spring Brass Rod — Guaranteed rust proof — Extends from 31 to 57 in. Complete with Foolproof Spring Tension Lead-in Connector.

No. 4551.....List Price $2.65

The "PRESIDENT"

Side Cowl Mounting
3 Section Telescopic
96 inches

96 inches total length — three sections made of brass and stainless steel. Triple Chromium plated throughout—Extends from 30 to 96 inches. Specially designed Force spring contact prevents "rattling" and vibration when opened or closed and allows smooth sliding and permanent contacts on all telescopic antennas. Complete with Foolproof Spring Tension Lead-in Connector.
No. 4553.....List Price $4.00

The "COMMODORE"

Side Cowl Antenna

3 Section—72 inches

All sections of Brass Triple Chromium Plated. Streamline designed insulators—made of sturdy molded fenoline material. Inserts and atachments are made of Bras. Extends 26 inches to 72 inches. Complete with Heavy-Duty Spring Tension Lead-in.

No. 4555.....List Price $2.95

I.C.A. HINGE WHIP

Telescopic Door Hinge Auto Antenna

Telescopic two-way rod extends from 27" when closed to 50" when extended. Made of Brass. Beautiful Triple Chrome Plated Finish throughout. Attractive molded insulator adds to appearance of car. . . . One model fits all cars.

Lead-in wire can enter car through the door opening.

No. 4525....List Price $2.50

The "ADMIRAL"

3 Section Telescopic Hinge Antennas

96 inches total length—adaptable for 5 meter and ultra S.W. reception — Made of "Chromalloy" — All sections triple chromium plated throughout, complete with lead-in wire. Extends from 33" to 96".

No. 4532....List Price $3.50

The "CORPORAL"

3 Section—72 inches Total Length

No. 4533....List Price $2.95

The "MAJOR"

Non Telescopic

42 inches total length — made of Brass Triple Chromium plated, non telescopic, flexible rod. Insulator made of live rubber and designed for sturdy and durable operation.
Antenna mounts directly on hinge pin, thus eliminating unsightly brackets and assuring permanent and solid installation — completely assembled with lead-in wire, ready for installation.

No. 4528.....List Price $1.85

I. C. A. INTERFERENCE CONTROL

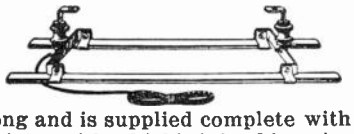
A Scientifically Designed Auto Radio Noise and Spark Plug Suppressor Eliminator

A highly efficient easily installed ignition noise eliminator which does not interfere in any way with the functions of the car ignition system.

No. 4454.....List Price $2.25

THE I. C. A. "ZEPHYR" MODEL AUTO ANTENNA

Fits Running Boards of all make cars. This new "Zephyr" Auto Antenna is made of a special fully enclosed, oval shaped heavy gauge metal tubing. Cadmium Plated.



The antenna is 48" long and is supplied complete with four brackets. Complete with shielded lead-in wire and hardware. Packed in individual cartons.

No. 4501.....List Price $2.50

Send for Complete CIRCULAR ON AUTO ANTENNAS

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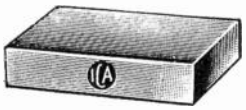
ICA INSULINE RADIO PRODUCTS

ICA BLANK STEEL CHASSIS BASES



One piece steel chassis bases solidly constructed. Finished in Black Baked Crystalline finish or Electro Plated finish. Suitable for receivers, transmitters, amplifiers, etc. Chassis bases are folded over on the bottom for additional strength and also allows for attaching of bottom plates .

ELECTRO PLATED CHASSIS BASES

No.	Size	List Price
1560	4¾"x 8½"x1½"	$0.70
1530	5" x 9½"x1½"	.75
1565	5" x 9½"x3"	1.10
1566	5" x13½"x3"	1.20
1569	7" x 9" x2"	1.00
1570	7" x11" x2"	1.10
1527	7" x12" x3"	1.40
1571	7" x13" x2"	1.20
1572	7" x15" x3"	1.50
1528	7" x17" x3"	1.60
1529	7" x23" x3"	2.15
1561	7½"x 9½"x3"	1.10
1531	7½"x11" x2½"	1.20
1567	8" x12" x3"	1.50
1573	8" x17" x2"	1.60
1532	9" x16" x2¾"	1.40
1562	10" x11" x2½"	1.55
1520	10" x12" x3"	1.60
1568	10" x14" x3"	1.70
1521	10" x17" x3"	1.80
1522	10" x23" x3"	2.30
1574	12" x17" x2"	2.10
1524	13" x17" x3"	2.75

BLACK CRACKLE CHASSIS BASES

No.	Size	List Price
4000	4¾"x 8½"x1½"	$0.70
4001	5" x 9½"x1½"	.75
4002	5" x 9½"x3"	1.10
4003	5" x13½"x3"	1.20
4004	7" x 9" x2"	1.00
4005	7" x11" x2"	1.10
4006	7" x12" x3"	1.40
4007	7" x13" x2"	1.20
4008	7" x15" x3"	1.50
4009	7" x17" x3"	1.60
4010	7" x23" x3"	2.15
4011	7½"x 9½"x3"	1.10
4012	7½"x11" x2½"	1.20
4013	8" x12" x3"	1.50
4022	9" x16" x2¾"	1.40
4014	8" x17" x2"	1.60
4015	10" x11" x2½"	1.55
4016	10" x12" x3"	1.60
4017	10" x14" x3"	1.70
4018	10" x17" x3"	1.80
4019	10" x23" x3"	2.30
4020	12" x17" x2"	2.10
4021	13" x17" x3"	2.75

ICA CHASSIS BOTTOM PLATES

Designed to fit all ICA Chassis bases and amplifier units listed above. Supplied in Black Baked Crystalline and Electro Plated finish. Equipped with 4 raised bosses.

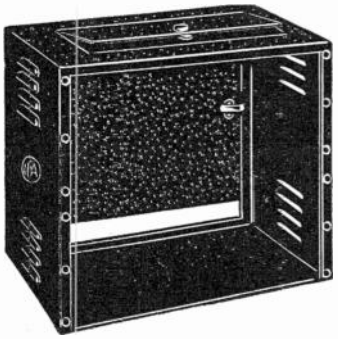
ELECTRO PLATED BOTTOM PLATES

No.	Size	List Price
1601	5"x 9½"	$0.45
1602	5"x13½"	.55
1603	7"x 9"	.55
1604	7"x11"	.65
1605	7"x12"	.70
1606	7"x13"	.70
1607	7"x15"	.75
1608	7"x17"	.80
1609	7"x23"	1.25
1612	8"x12"	.75
1613	8"x17"	.80
1621	9"x16"	.85
1614	10"x11"	.80
1615	10"x12"	.80
1616	10"x14"	.85
1617	10"x17"	1.00
1618	10"x23"	1.35
1619	12"x17"	1.10
1620	13"x17"	1.25

BLACK BOTTOM PLATES

No.	Size	List Price
4051	5"x 9½"	$0.45
4052	5"x13½"	.55
4053	7"x 9"	.55
4054	7"x11"	.65
4055	7"x12"	.70
4056	7"x13"	.70
4057	7"x15"	.75
4058	7"x17"	.80
4059	7"x23"	1.25
4062	8"x12"	.75
4063	8"x17"	.80
4071	9"x16"	.85
4064	10"x11"	.80
4065	10"x12"	.80
4066	10"x14"	.85
4067	10"x17"	1.00
4068	10"x23"	1.35
4069	12"x17"	1.10
4070	13"x17"	1.25

ICA MULTI-USE METAL CABINETS



Tapped and drilled to fit standard 19" rack panels and can be used with any size chassis up to 13"x17".

SINGLE UNIT

No. 3840—Size 8¾"x19"x13" will take one 8¾"x19" panel. Has hinged door on top only. List Price.....$8.75

DOUBLE UNIT

No. 3841—Size 17½"x19"x13" will take two 8¾"x19" slotted panels. Has doors on top and back. List Price.....$15.75

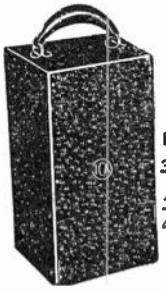
TRIPLE UNIT

No. 3842—Size 26¼"x19"x13" will take three 8¾"x19" slotted panels. This cabinet has rear door only. List Price.....$17.50

QUADRUPLE UNIT

No. 3843—Cabinet size 35"x19"x13" will take four 8¾"x19" panels. Has rear door only. List Price.....$19.75

ICA PORTABLE STEEL CABINETS



No.	Size	List Price
3850	12"x7¾"x7"	$2.85
3851	15"x7¾"x7"	3.75
4025	Chassis for above 7½"x6¾"x2½"	.50

AMPLIFIER CHASSIS

With Metal Shield Covers

The Shield Covers are made of a sturdy heavy duty sheet metal in a perforated cane design as illustrated. Chassis are supplied undrilled. Entire ensemble is finished in a beautiful Black Crystalline Enamel.

No.	Overall Size	List Price
3871	5"x 9½"x8¾"	$2.50
3872	5"x13½"x8¾"	2.95
3873	8"x12" x8¾"	3.75
3874	7"x17" x8¾"	3.75
3875	10"x17" x8¾"	4.50
3876	10"x14" x8¾"	4.25

AMPLIFIER FOUNDATION CHASSIS

Streamline Design

No.	Overall Size	List Price
3890	5"x 9½"x8¾"	$3.00
3891	8"x12" x8¾"	4.65
3892	7"x17" x8¾"	4.80

ICA STREAMLINE HINGED CABINETS

Supplied in knocked down form and can be assembled in a few moments by simply inserting the self-tapping screws which are supplied.

No.	Size	List Price
3834	10"x 8"x7"	$4.20
3835	12"x 8"x7"	4.90
3836	14"x 8"x7"	6.00
3837	18"x12"x9"	7.80

CRYSTALLIZED FINISHED CABINETS

Steel, With Hinged Lids

No.	L. W. H.	List Price
3825	9"x 5"x6"	$2.75
3828	12"x 8"x7"	4.00
3830	14"x 8"x7"	4.00
3831	18"x12"x9"	6.00

Chassis for ICA Cabinets

1560	8½"x 4¾"x1½"	$0.70
1561	9½"x 7½"x3"	1.10
1562	11" x10" x2½"	1.55
1521	17" x10" x3"	1.80

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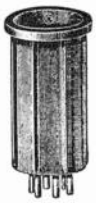
World Radio History

ICA INSULINE ICA
RADIO PRODUCTS

Large Low-Loss "Ribbed" Coil Forms

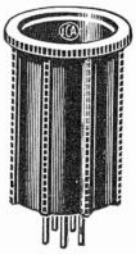


Supplied in six attractive colors: red, blue, green, brown, black and orange. Size 3⅝"x1⅝".

No.		List Price
1051	4-prong	$0.30
1052	5-prong	.30
1053	6-prong	.35
1054	7-prong	.40

Specify Colors Desired

Transmitting Coil Forms



Amber color. Coil forms are ribbed for air space winding. Size of body is 2¼" diameter and 3½" long.

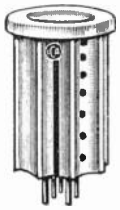
No.	Pr.	List Price
2670	4	$0.60
2671	5	.65
2672	6	.70

Grooved Transmitting Coil Forms

Similar to above coil forms, but with ribs grooved for Precision Space Winding.

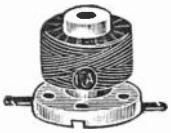
No.		List Price
2675	4-prong	$0.90
2676	5-prong	.95
2677	6-prong	1.00

Low-Loss Insulex "Ribbed" Coil Forms



No.	Prongs	List Price
952	4	$0.60
953	5	.65
954	6	.70
955	7	.75

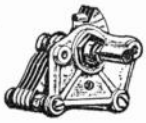
R.F. CHOKES on Insulex Forms



For all type receivers. Can be mounted almost any place.

No.	Inductance	List Price
1777	2½ M.H.	$0.35
1776	3½ M.H.	.35
1775	5½ M.H.	.40
1774	10 M.H.	.45
1772	30 M.H.	.55
1773	60 M.H.	.65
1771	80 M.H.	.75

Universal Midget Cond.



Removable shaft with lock-nut provides permanent condenser alignment. Insulated with Insulex.

No.	Max. Cap.	Air Gap	List Price
111	15 mmf.	.020	$1.00
112	25 mmf.	.020	1.10
113	50 mmf.	.020	1.20
117	80 mmf.	.020	1.30
114	100 mmf.	.020	1.35
115	140 mmf.	.020	1.65
116	35 mmf.	.020	1.20
125	35 mmf.	.060	1.80
126	50 mmf.	.060	2.25
127	75 mmf.	.060	2.60
128	15 mmf.	.060	1.65

FLEXIBLE COUPLERS

Made of Flexible bakelite.

No. 2101.....List Price $0.35

INSULEX FLEXIBLE COUPLERS

No. 2100.....List Price $0.45

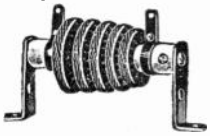
INSULEX R.F. CHOKES

HIGH FREQUENCY WIRE WOUND

With leads for easy mounting. Designed for high-frequency receivers, and have extremely low distributed capacity.

No.	Inductance	List Price
277	2½ M.H.	$0.50

TRANSMITTING R.F. CHOKES Tapered Sections



Has a continuous universal winding in five tapered sections. Designed for maximum impedance in amateur bands from 160 meters downward.

No.	Ind. M.H.	Curr. M.A.	Res. Ohms	List Price
266	2.8	1000	5	1.75
267	5.3	500	12.5	1.50

New and Improved Crystal Holder

Made of Insulex

Will accommodate crystals up to .250" thick x 1⅛" square.

Noo. 414.....List Price $1.75

Insulex Wafer Sockets

Sub-panel or base board mounting. Low loss.

No.	Prongs	List Price
2600	4	$0.45
2601	5	.45
2602	6	.50
2603	7 Large	.55
2604	7 Small	.55
2605	8 Octal	.60

ICA Standard Plug-In Coils and Coil Forms

4 PRONGS—2 WINDINGS

Short-Wave Meters—16-36; 33-65; 57-115; 108-217.

No. 1421B.....List Price $1.75

Broadcast Meters—190-310; 300-550.

No. 1430B.....List Price $1.50

No. 1440B—9.5 to 21 meters.

List Price $0.65

6 PRONGS—3 WINDINGS

Short-Wave Meters — 16-38; 35-75; 73-137; 135-200.

No. 1423B.....List Price $2.50

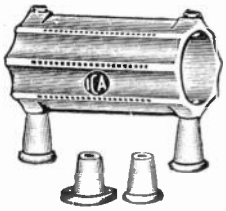
Broadcast Meters—190-310; 300-550.

No. 1424B.....List Price $1.85

No. 1422B—9.5 to 21 meters.

List Price $0.75

Threaded Insulex Transmitting Coil Forms



For 20 and 40 Meters

No. 2650

Without supporting legs.

List Price $1.25

No. 2651

Complete with mounting legs and hardware.

List Price $1.75

For 80 and 60 Meters

Has beautiful glazed surface 4" O.D. x 6½" long for 80 and 160 Meters.

No. 2652

Without Supporting Legs.

List Price $2.25

No. 2653

With Supporting Legs.

List Price $2.50

ICA New Type "Glove-Tite" Tube Shield

No. 1718—Dome shaped for tubes without grid cap.
No. 1719 — Old shape for 224-227, etc.
No. 1720 — For Short Bulb Tubes with Grid caps.
No. 1722 — For Long Bulb Tubes such as 58, 6D6, etc.
No. 1721 — For ST14 Tubes.
No. 1723—Shield for "G" type tubes.

List Price All Types.....$0.18

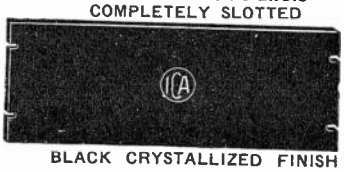
ICA Crystallized Finish Metal Panels

Sheet Steel Panels finished in Black wrinkle Thickness of Panels 1/16".

No.	Size	List Price
3175	7 x 10	$0.55
3176	7 x 12	.65
3177	7 x 14	.75
3178	7 x 18	1.00
3179	7 x 21	1.30
3183	8 x 12	.75
3184	8 x 14	.80
3185	8 x 16	.90
3186	8 x 18	1.00
3187	8 x 21	1.30
3188	8 x 24	1.65
3191	10 x 14	1.40
3192	10 x 18	1.65
3194	10 x 24	2.00

Standard Rack Panels

COMPLETELY SLOTTED



BLACK CRYSTALLIZED FINISH

Constructed in accordance with both recognized Standard Specifications.

No.	Size	List Price
3600	1¾" x 19"	$0.90
3601	3½" x 19"	1.00
3602	5¼" x 19"	1.15
3603	7 " x 19"	1.20
3604	8¾" x 19"	1.60
3605	10½" x 19"	1.95
3606	12¼" x 19"	2.30
3607	14 " x 19"	2.65
3608	15¾" x 19"	2.95
3609	17½" x 19"	3.30
3610	19¼" x 19"	3.60
3611	21 " x 19"	4.00

METER PANELS

Made of steel. Finished in black crystalline lacquer. Size 5¼"x19".

No.	No. Holes	Meter Size	List Price
3651	5	2"	$2.65
3652	3	2"	1.85
3653	5	3"	2.65
3654	3	3"	1.85

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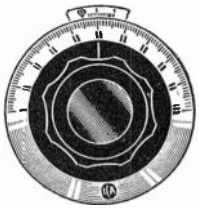
World Radio History

ICA INSULINE ICA
RADIO PRODUCTS

ICA Chrome Silver Dials

With Finger-Grip Flange Knobs



Beautiful, chrome silver dial plates accurately Etcho-engraved with black numerals and calibrations.

No.	Size	Degrees	Cal.	List Price
2170	2¾"	325	0-100	$1.40
2171	2¾"	180	0-100	1.40
2168	4"	325	0-100	2.00
2169	4"	180	0-100	2.00

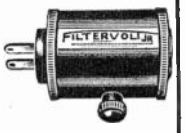
Brass Black Dial Plates

No.	Specifications Calibra.	Deg.	Diam.	List Price
2230	0-100	325	3½"	$0.35
2231	100-0	180	3½"	.35
2232	0-100	180	3½"	.35
2233	100-0	180	2"	.25
2234	0-100	325	2"	.25
2235	100-0	325	2"	.25
2236	0-100	180	2"	.25

Chrome Silver Dial Plates

No.	Specifications Calibra.	Deg.	Diam.	List Price
2294	0-100	180	2"	$0.50
2295	0-100	325	2"	.50
2296	0-100	180	3½"	.85
2297	0-100	325	3½"	.85
2298	0-100	180	4"	1.00
2299	0-100	325	4"	1.00

ICA Filtervolt, Jr.



Eliminates noises caused by small electrical appliances and motors. May be installed at radio or source of interference.

No. 94.....List Price $2.50

ICA Bakelite Pointer Knobs

Ideal knob for test equipment. 5-meter tranceivers, etc. Two sizes for ¼" shaft and set screw.

No.		List Price
1155	1¼" long Black	$0.15
1156	2¼" long Black	.18
1157	1¼" long Brown	.15
1158	2¼" long Brown	.20

ICA Bakelite Bar Knobs

New type modernistic pointer knobs with set screw mounting.

No.		List Price
1125	1¼"	$0.13
1126	2¼"	.15

Finger-Grip Pointer Knobs

Moulded of black bakelite with ¼" shaft hole.

No.		List Price
1165	Less Pointer—1⅛"	$0.35
1166	With Pointer—1⅛"	.45
1167	Less Pointer—1⅝"	.45
1168	With Pointer—1⅝"	.55
1169	Less Pointer—2⅜"	.55
1170	With Pointer—2⅜"	.65
1171	With Flange—2 1/16"	.55
1172	With Flange—3"	.70

ICA Indicating Plates

For amplifiers, receivers, transmitters, testing equipment, etc.

No.	Marking	Deg.	List Price
2259	1 to 6	180	$.15
2450	1 to 5 (Volume)	325	.15
2451	1 to 5 (Tone)	325	.15
2452	1 to 10	325	.15
2453	Off-On, with arrow	325	.15

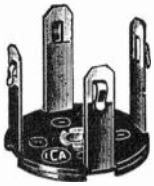
ICA PANEL BEARING ASSEMBLY

Can be used with either rigid or flexible couplings for mounting volume controls, condensers, rheostats, etc., at a distance away from the panel. Constructed of brass and so arranged that it is held rigidly in place. Will fit on panels up to 5/16" thickness.

No.		List Price
1248	Over-all length 3"	$0.30
1249	Over-all length 6"	.40
1250	Bearings only	.15

Universal Adapters

Prongs not required can easily be removed by hand or left in the adapter.



No. 2027—4 P.
No. 2028—5 P.
No. 2029—6 P.
No. 2030—7 P.
List $0.25

No. 2031—8 P.
List $0.35

Window Lead-In Strips

Nickel Plated Hygloss Duco Finish

No.		List Price
1504	12" long, ½" wide	$0.08
1505	15" long, ½" wide	.10

ICA Doublet Lead-in Strips

No. 1509.....List Price $0.20

Voltage Regulators

No.		List Price
92	Universal	$0.85
99	Heavy-duty	1.65

AC-DC; 110, 220-volt, all cycles.

REDUCERS
No. 1063
220-volt to 110-volt
30-40-50-60 watts.List Price $1.65

STAND-OFF INSULATORS

Little Pete Stand-Off Insulator

Measures only 1" high. Base measures ½"x⅞".
No. 2300.....List Price 7c. ea.

Junior Pete Stand-Off Insulator

Measures 1⅜" high. Base is ¾"x⅛".

No.	List Pric
2301	8c ea.

Big Pete Stand-Off Insulator

Measures 1¾" high. Oblong base 1"x1½".
No. 2302.....List Price 10c ea.

Stand-Off or Wall Insulator

Height 2⅜" Round Base — 2" diameter.
No. 2303.....List Price 18c ea.

Sub-Panel Stand-Off Insulators

Size ¾" high x ⅝" diameter base.

No.	List Price
2305	12c ea.

Size 1" high x ¾" base diameter with 7/16" center hole for mounting.

No.	List Price
2306	17c ea.

Measures 1¼" high x ⅞" diameter of base.
No. 2307.....List Price 22c ea.

ICA Spring Aerial Adjuster

Equipped with porcelain insulators on both ends of a tight, powerful spring.
No. 625.....List Price $0.50

Electro-Static Arrester

The Four Way Protection Lightning Arrester

No. 340A .....List Price $0.85

ICA All-Wave Lightning Arrester

For antennas of the doublet or double doublet type.
No. 648.....List Price $0.40

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World Radio History

ICA INSULINE ICA
RADIO PRODUCTS

Radio Hardware Assortment

INDIVIDUAL RADIO HARDWARE ITEMS

The following sizes and types of hardware can be purchased in individual jars, either for refilling the assortment racks as shown below or as a refill for your own hardware stock. Each jar contains amount mentioned and lists at 40c. Individual types and sizes.

Packed in handsome glass display jars.

LIST 40c PER JAR

ROUND HEAD MACHINE SCREWS

No.	Quantity	Size
5000	100	4—36 x ¼" long
5001	100	4—36 x ½" long
5002	75	4—36 x ¾" long
5007	90	6—32 x ¼" long
5008	80	6—32 x ½" long
5009	70	6—32 x ¾" long
5014	75	8—32 x ⅜" long
5015	70	8—32 x ½" long
5016	65	8—32 x ¾" long
5022	60	10—32 x ½" long
5023	50	10—32 x ¾" long

FLAT HEAD MACHINE SCREWS

5030	90	6—32 x ¼" long
5031	80	6—32 x ½" long
5032	70	6—32 x ¾" long
5038	75	8—32 x ¼" long
5039	70	8—32 x ½" long
5040	65	8—32 x ¾" long

WOOD SCREWS

No.	Quantity	Size
5045	50	No. 4 x ½"
5046	45	No. 5 x ¾"
5047	25	No. 6 x 1¼"

PARKER-KALON SELF-TAPPING SCREWS

NO TAPPING NECESSARY

NO NUT REQUIRED

5051	50	No. 4 x ½"
5052	50	No. 6 x ¼"
5053	45	No. 6 x ⅜"
5054	40	No. 7 x ½"
5055	35	No. 10 x ¾"
5056	45	No. 10 x ⅞"

FILLISTER HEAD SCREWS

5061	50	10/32 x ⅝"

ROSETTE HEAD BRONZE SCREWS

5065	50	8/32 x ⅜"

NICKEL PLATED HEXAGON NUTS

No.	Quantity	Size
5070	100	4—36 x ¼" Diam.
5071	90	6—32 x ¼" Diam.
5072	80	8—32 x 3/16" Diam.
5073	50	10—32 x ⅜" Diam.

KANT-LINK LOCK WASHERS

5080	125	For 6-32 Screws
5081	125	For 8-32 Screws
5082	100	For 10-32 Screws

SHAKEPROOF LOCK WASHERS

5085	100	For 6-32 Screws
5086	90	For 8-32 Screws
5087	80	For 10-32 Screws

PLAIN STEEL PLATED WASHERS

5090	100	For 6-32 Screws
5091	100	For 8-32 Screws
5092	100	For 10-32 Screws

PLAIN FIBRE WASHERS

No.	Quantity	Diam.	Hole	Thick.
5100	125	¼"	⅛"	1/16"
5101	100	⅜"	1/16"	1/16"
5102	90	½"	3/16"	1/16"

SHOULDER FIBRE WASHERS

No.	Quantity	Over-all Diam.	Shoulder Diam.	Height
5110	100	¼"	3/16"	3/32"
5111	90	5/16"	¼"	3/32"
5112	75	⅜"	3/16"	3/32"
5113	50	½"	⅜"	3/32"

BRASS TINNED TERMINAL LUGS

No.	Quantity	Type	Length	Size of hole
5135	125	Flat	9/16"	No. 6
5136	100	Flat	13/16"	No. 8
5141	75	Flat	1"	No. 8 or 5/16"
5137	75	Link	1"	No. 8
5138	100	Spade	¾"	No. 8
5139	75	Cord	13/16"	No. 10
5140	50	H.D.Battery Cable	1¼"	¼"

FLEXIBLE RUBBER GROMMETS

No.	Quantity	Diam.	Thick.	Hole
5120	25	½"	3/32"	3/64"
5121	20	11/32"	¼"	⅜"
5122	20	½"	¼"	¼"
5124	15	13/16"	⅜"	⅜"
5125	12	⅝"	⅜"	¼"
5123	12	1 1/16"	⅝"	9/16"

EYELET TYPE SOLDERING LUGS

5150	100	Lug Type
5151	100	Bracket Type

NICKEL PLATED RIVETS

No.	Quantity	Length	Diam.
5160	100	3/16"	⅛"
5161	80	¼"	⅛"
5162	70	5/16"	⅛"

NICKEL PLATED EYELETS

5170	100	⅛"	1/16"
5171	90	5/16"	⅛"
5172	80	11/32"	1/16" Black
5173	75	⅜"	⅛"

ESCUTCHEON PLATE SCREWS

5163	150	No. 1	¼" length

MIDGET FUSE CLIPS NICKEL PLATED

5180 30 ¼" wide ⅜" high For ¼" fuse

SPADE BOLTS

5185 50 ¾" long 5/16" threaded No. 8 hole

FAHNESTOCK CLIPS—SPRING BRASS N. P.

5190	40	¾" long
5191	40	1" long

CABLES CLAMPS

5200	35	¾" long x 5/16" Bend
5201	30	1" long x ½" Bend

ANGLES & BRACKETS

5207	25	½" x ½"
5205	16	⅜" x 1" x ⅜" wide
5206	15	½" x 1½" x ⅜" wide

RACK SCREWS & WASHERS

5210	20 each	
	10/32 x ⅝	Oval Bend Screw
	10/32	Cup Washer

HARDWARE ASSORTMENT DISPLAY RACKS

Each item individually packed in a beautiful glass display jar. Each jar listing at 40c list, contains an ample quantity of individual type and size hardware used by dealers, servicemen and amateurs.

No. 5275—Display Rack No. 1—Contains 36 jars. A representative assortment of radio hardware, such as screws—nuts—bolts—washers—grommets, etc.

List Price $14.40

No. 2576—Display Rack No. 2—Contains 36 jars. A representative assortment of radio hardware and essentials such as, fibre washers — lugs — metal washers — grommets—Fahnestock clips—fuse clips—angles, brackets, etc. List Price.....$14.40

Everyman's 1000-Pc. Radio Hdwe. Asst.

Contains 1000 pieces of assorted machine screws—wood screws—nuts—bolts — rivets — eyelets — lugs — lock washers — fibre washers—metal washers—bakelite washers — rubber grommets, etc.

No. 5250.....List Price $1.65

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World Radio History

GENERAL TRANSFORMERS

PULL-PUSH MOISTURE PROOFED

1937-8—REPLACEMENT TRANSFORMERS—Form 41

The "Multi-Use" Power Transformers are so-designed and compactly built that replacements may be selected to fit in any standard chassis.

All half-shell "P" type are supplied with four brackets in each carton so that the units may be mounted either flush, horizontal or vertical as shown below.

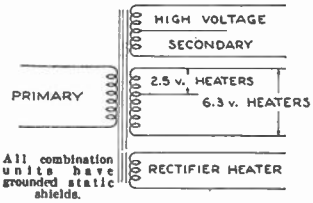
The tubes listed and electrical characteristics specified in the Multi-Use and Multi-Tap groups enable you to determine the electrical exact-duplicate replacement for any set with any combination of tubes—the tube current requirements may be obtained from any tube chart.

G. T. C. transformers are built with low loss high permeability silicon steel core of sufficient stack to leave a factor of safety over the highest rating for continuous operation under regular use.

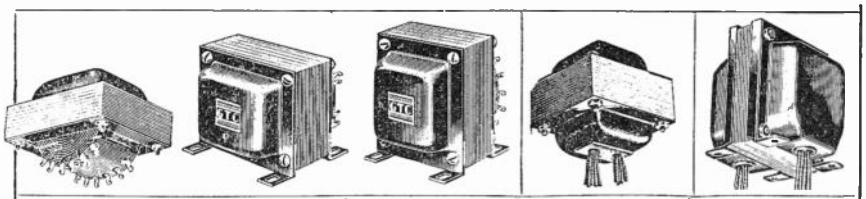
"PULL-PUSH" Impregnation of coils PULLS out all moisture (by means of preheating ovens and high vacuum tanks) and PUSHES in Special 9X Moisture-proofing Wax (under high compression). Sealing is perfect. No dripping of the 9X High Melting-point Wax, and subsequent shorting under normal operation in the hottest, most humid climates. This is very essential in sea coast climate or where hot days followed by cool nights causes condensation on the coils.

These numbers are for 110-120v. - 50-60 cy. Any type of the combination 2.5 v or 6.3 v are furnished for 220-240 v. - 50-60 cy. at $1.00 (list) per unit additional and for 115 v - 25-40 cycle at 60% plus the list of 110 volt - 60 cycle. Other types quoted special upon request.

Combination 2.5 V or 6.3 Volt



All combination units have grounded static shields.



Type	"P"	"G"	"2F"

Combination 2.5v or 6.3v Single-Heater Winding

FOR 4 AND 5 TUBES
2-56, 57, 2A7, 2B7, and
1-45, 46, 47, 2A5 ..... 2.5v.-C.T. 4.75A
or 2-76, 77, 6C5, 6J7, and
1-41, 42, 79, 6F6 ..... 6.3v.- 1.9A
1-80, 5Z4 ..... 5.0v.- 2.0A
Plate 650v.-C.T. 50MA

No. 1775 (3-0) HADAD	No. 1776 (3-2) HADES	No. 1777 (3-2) HADJI
Price $2.75	Price $3.00	Price $3.25
Mtg. 2x2½ c.c. 2½x3x3 11/16 high		Mtg. 2x2 1/16 c.c. 2⅝x3x3 1/16 high

FOR 6 AND 7 TUBES
4-56, 57, 2A7, 2B7, and
2-45, 46, 47, 2A5 ..... 2.5v.-C.T. 7.5A
or 6-75, 77, 6C5, 6J7, and
2-41, 42, 79, 6F6 ..... 6.3v.- 2.9A
1-80, 5Z4 ..... 5.0v.- 2.0A
Plate 650v.-C.T. 70MA

No. 1778 (5-0) HAGEN	No. 1779 (5-2) HAGIO	No. 1780 (5-2) HAGUE
Price $3.50	Price $3.75	Price $4.00
Mtg 2 5/16x2 13/16 c.c. 2 13/16x3 13/16x3⅛ high		Mtg. 2⅜x2⅜ c.c. 3x3⅜x3 7/16 high

FOR 8 AND 9 TUBES
6-56, 57, 2B7, and
2-45, 46, 47, 2A5 ..... 2.5v.-C.T. 9.5A
or 6-76, 77, 6C5, 6J7, and
2-41, 42, 79, 6F6 ..... 6.3v.- 3.5A
1-80, 5Z4 ..... 5.0v.- 2.0A
Plate 700v.-C.T. 85MA

No. 1781 (5-8) HAIDA	No. 1782 (5-10) HAKEA	No. 1783 (5-10) HALMA
Price $4.00	Price $4.25	Price $4.50
Mtg. 2½x3⅛ c.c. 3⅛x3¾x3⅜ high		Mtg. 2¼x2⅞ c.c. 3⅜x3⅝x4⅛ high

FOR 10 AND 12 TUBES
9-56, 57, 2A7, 2B7, and
2-45, 46, 47, 2A5 ..... 2.5v.-C.T. 12.5A
or 9-76, 77, 6C5, 6J7, and
2-41, 42, 79, 6F6 ..... 6.3A- 4.5A
1-80, 5Z4 ..... 5.0v.- 2.0A
Plate 700v.-C.T. 100MA

No. 1784 (6-2) HALO	No. 1785 (6-4) HAMAL	No. 1786 (6-4) HANIF
Price $4.75	Price $5.00	Price $5.25
Mtg. 3x3¾ c.c. 3¾x4½x3½ high		Mtg. 2x3¼ c.c. 3 5/16x3 13/16x4⅝ high

2.5 Volt Double Fil. Winding

FOR 4 AND 5 TUBES
2-24, 27, 35, or 3-55, 56, 57, 58,
2A6, 2A7, 2B7 ..... 2.5v.- 5.00A
1-45, 46, 47, 59, 2A3, 2A5. 2.5v.-C.T. 1.75A
1-80, 83, 5Z3 ..... 5.0v.- 3.0 A
Plate ..... 650v.-C.T. 40 MA

No. 1550 GORSE (3)	No. 1545 GRIST (3)	No. 1774 LANIA (3-8)
Price $2.75	Price $3.00	Price $3.25
Mtg.—2⅝x2 11/16 c.c. 2 13/16x3¼x3¼ high		Mtg. 2x2 c.c. 2⅝x2 13/16x3 1/16 high

FOR 5 AND 6 TUBES
3-24, 27, 35, or 3-55, 56, 57, 58,
2A6, 2A7, 2B7 ..... 2.5v.- 5.25A
1-45, 46, 47, 59, 2A3, 2A5. 2.5v.-C.T. 1.75A
1-80, 83, 5Z3 ..... 5.0v.- 3.0 A
Plate ..... 650v.-C.T. 50 MA

No. 1551 GOUMI (3)	No. 1546 GRITH (3)	No. 1771 LAPIS (3-8)
Price $3.00	Price $3.25	Price $3.50
Mtg.—2⅝x2 11/16 c.c. 2 13/16x3¼x3⅜ high		Mtg. 2x2 1/16 c.c. 2⅝x3⅛x3 1/16 high

FOR 6 AND 7 TUBES
3 or 4-24, 27, 35, 55, 56, 57,
58, 2A6, 2A7, 2B7 ..... 2.5v.- 7.0 A
2-45, 46, 47, 59, 2A3, 2A5. 2.5v.-C.T. 3.0 A
1-80, 83, 5Z3 ..... 5.0v.- 3.0 A
Plate ..... 700v.-C.T. 70 MA

No. 1544 GOURD (5)	No. 1547 GROAT (5)	No. 1772 LARCH (5-10)
Price $3.50	Price $4.00	Price $4.25
Mtg.—2½x3⅛ c.c. 3⅛x3¾x3⅜ high		Mtg. 2⅜x2⅞ c.c. 3⅜x3¾x4⅛ high

FOR 8 AND 9 TUBES
5 or 6-24, 27, 35, 55, 56, 57,
58, 2A6, 2A7, 2B7 ..... 2.5v.- 10.5A
2-45, 46, 47, 59, 2A3, 2A5. 2.5v.-C.T. 3.0A
1-80, 83, 5Z3 ..... 5.0v.- 3.0A
Plate ..... 700v.-C.T. 90 MA

No. 1555 GOYLE (5-8)	No. 1548 GROUP (5-8)	No. 1773 LARES (5-10)
Price $4.25	Price $4.50	Price $4.75
Mtg.—2⅞x3 11/16 c.c. 3⅝x4¼x3½ high		Mtg. 2 7/16x2⅞ c.c. 3¾x3 13/16x4⅛ high

FOR 10 AND 12 TUBES
7 or 9-24, 27, 35, 55, 56, 57,
58, 2A6, 2A7, 2B7 ..... 2.5v.- 15.25A
2-45, 46, 47, 59, 2A3, 2A5. 2.5v.-C.T. 3.0 A
1-80, 83, 5Z3 ..... 5.0v. 3.0 A
Plate ..... 700v.-C.T. 110 MA

No. 1557 GRAIL (6-2)	No. 1549 GRUNT (6-2)	No. 1790 LARGO (6-4)
Price $4.75	Price $5.00	Price $5.50
Mtg.—3x3¾ c.c. 3¾x4½x3¼ high		Mtg. 2¾x3¼ c.c 3 13/16x3 13/16x4⅛ high

Midget Types "P"

FOR 4 TUBES
2-55, 56, 57, 58, 90, 2A6 and
1-45, 46, 47, 2A5 .... 2.5v.-C.T. 3.75A
1-80 ..... 5.0v. 2.0A
Plate 650v.-C.T. 40MA

No. 1691 GUACO (2-8) Price $2.00 Mtg. 2x2½ c.c. 2½x3x2 13/16 high

FOR 4 TUBES
2-24, 27, 35, 55, 56, 57, 2A6, 2A7, 2B7 and
1-45, 46, 47, 59,
2A3, 2A5 ..... 2.5v.-C.T. 5.25A
1-80 ..... 5.0v. 2.0A
Plate 650v.-C.T. 40MA

No. 1665 GRANA (2-8) Price $2.25 Mtg. 2x2½ c.c. 2½x3x3 high

FOR 5 TUBES
3-24, 27, 35, 55, 56, 57, 58, 2A6, 2A7, 2B7 and
1-45, 46, 47, 59,
2A3, 2A5 ..... 2.5v.-C.T. 7.0A
1-80 ..... 5.0v. 2.0A
Plate 700v.-C.T. 50MA

No. 1717 GREBE (2-12) Price $2.75 Mtg. 2x2½ c.c. 2½x3x3¼ high

FOR 6 TUBES
4-24, 27, 35, 55, 56, 57, 58, 2A6, 2A7, 2B7 ..... 2.5v.-C.T. 7.0A
1-45, 46, 47, 59,
2A3, 2A5 ..... 2.5v.-C.T. 1.75A
1-80 ..... 5.0v. 2.0A
Plate 700v.-C.T. 60MA

No. 1400 GRECO (3-12) Price $3.25 Mtg. 2½x3½ c.c. 3½x3¾x3¼ high

6.3 VOLT TUBE "P"

FOR 4 TUBES
2-36, 37, 39, 44, 75, 76, 77, 78, 85, 92, 6A7, 6B7, 6C6, 6D6, 6F7 and
1-38, 41, 42, 79, 89,
6A4 ..... 6.3v. 1.6A
1-80 ..... 5.0v. 2.0A
Plate 650v.-C.T. 40MA

No. 1657 GUAMA (2-8) Price $2.00 Mtg. 2x2½ c.c. 2½x3x2 13/16 high

6.3 VOLT TUBE "2F"

FOR 4 TUBES
2-36, 37, 39, 44, 75, 76, 77, 78, 85, 92, 6A7, 6B7, 6C6, 6D6, 6F7 and
1-38, 41, 42, 79, 89
6A4 ..... 6.3v. 1.6A
1-80 ..... 5.0v. 2.0A
Plate ..... 650v.-C.T. 40 MA

No. 1762 LAZAR Price $2.75 Mtg. 1 7/16x2 c.c. 2⅝x2⅜x3 high

The Midget types are for 110 v. 60 cycle supply only. In case of 50 cycle or where voltage exceeds 110 v. select units from the other brackets shown which are built oversize.

2.5 Volt Double Fil. "F" (Pg. 2)

FOR 8 AND 9 TUBES
5 or 6-24, 27, 35, 55, 56, 57,
58, 2A6, 2A7,
2B7 ..... 2.5v.- 10.5A
2-45, 46, 47, 59,
2A3, 2A5 .... 2.5v.-C.T. 3.0A
1-80, 83, 5Z3 .. 5.0v.- 3.0A
Plate ..... 700v.-C.T. 90 MA

No. 1625 GONDI (5-6) Price $5.25 Mtg. 2⅞x2⅛ min. to 2⅝ max.c.c. 3¾x3½x4½ high

FOR 10 AND 12 TUBES
7 or 9-24, 27, 35,
55, 56, 57, 58,
2A6, 2A7, 2B7 .2.5v.- 15.25A
2-45, 46, 47, 59,
2A3, 2A5 .... 2.5v.-C.T. 3.0 A
1-80, 83, 5Z3 ... 5.0v. 3.0 A
Plate ..... 700v.-C.T. 110 MA

No. 1631 GORAL (5-12) Price $5.75 Mtg. 2⅝x2⅞ min. to 2 13/16 max.c.c 4x3½x4½ high

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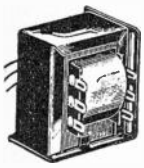
World Radio History

GTC GENERAL PUSH MOISTURE PROOFED TRANSFORMERS GTC

MULTI-TAP UNIVERSAL OUTPUT and INPUT Audio TRANSFORMERS



No. 1337

MULTI-TAP TYPE "U" OUTPUT

No. 1337.....MAGIC (1½) $1.85

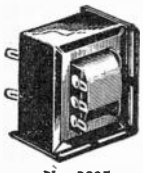
The universal primary and the tapped secondary, from 2 to 30 ohms, in 2 ohm steps, makes it possible to feed practically any straight or push-pull output stage to any dynamic speaker

May be mounted on end or side. Slots in base allow wide range of adaptability without redrilling panel.

MULTI-TAP OUTPUT TYPE "2B" (Pg. 3)

No. 2314.....MUREX (1½) $1.85

To match any standard output tube either singly or in push-pull to magnetic speaker or any of the standard voice coils. Overall dimensions—1⅞"x3"x2⅛" high. Mounting centers 2⅜".



No. 3205

INPUT AUDIO TYPE "U"

No. 3205.....MAGE (1½) $1.85

This input audio efficiently feeds any straight or push-pull audio stage on either A.C. or D.C. sets.
Dimensions same in Output and Input Audio type "U"
Overall Dimensions: 2"x2⅜"x1⅝".
Mtg. Centers: 1¼"x½" to 1⅝" or 1¼"x½" to 1⅞".

INPUT AUDIO TYPE "2B" (Pg. 3)

No. 3256.....MUSCI (1½) $1.85

(Same as 3205). Overall dimensions—1⅞"x3"x2⅛" high. Mounting centers 2⅜".

MULTI-TAP FILAMENT TRANSFORMER

No. 1081.....FELIX (2) $2.25

Delivers 1.5, 2.5, 5.0, 6.3, 7.5 volts at 3 amps. Mtg. type "B"
Dimensions: 1⅞"x3¾"x2⅛" high. C. C. 3⅛".

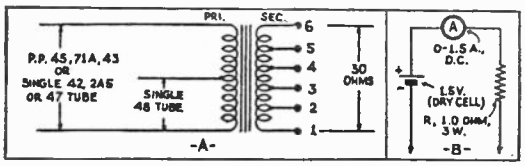
The "Multi-Tap" output transformer enables the Service Man to service a large number of radio sets with a single unit. Original performance is restored, and in many cases better than original performance is obtained.

The novel feature of the transformer is that although the primary is untapped, it matches almost any single tube or push-pull output stage. For push-pull operation, correct primary matching is obtained when 71A, 45, 50, or 43 type tubes are used. For single tube output using the total primary, correct matching is obtained with the 33, 47, 41, 42, or 2A5 tubes. One-half of the primary can be used to match to a single 48 tube.

Various secondary matching impedances are obtained by a tapped secondary. The taps are arranged to accomplish the most uniform variation of impedances with a minimum number of terminals. The range of load impedances is from 1 to 30 ohms. The various load impedances and their respective terminal connections are given below:

Impedance (ohms)	Terminal numbers	Impedance (ohms)	Terminal numbers
1	4-5	14	2-4
2	4-6	16	1-4
3	3-4 or 2-3	22	2-5
4	1-3	25	1-5
8	3-5	28	2-6
12	3-6	30	1-6

The circuit of the transformer, left, and low-resistance ohmmeter, right.



"Multi-Tap" POWER TRANSFORMERS

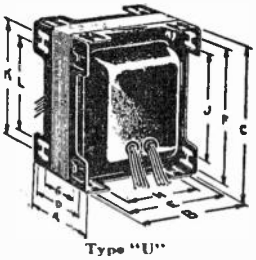
IMPORTANT: Fully shielded for radios having Underwriters Lab. approval. Protects set owners' fire insurance policy.

"F" type has leads to lugs to protect against liability of short circuiting the unused extra windings furnished in these units. Type "U" is supplied with necessary covered wire leads in the carton.

Extra windings to meet emergency requirements are embodied on the coil. The extra 2.5 volt winding is essential for sets using 26 type tubes. The same applies to the extra 2.5, and 5.0 volt taps.

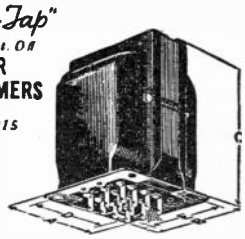
6.3 volt tubes are supplied by connecting half of 2.5 v. CT in series with 5 v. winding.

A Static Shield, while not needed in many sets, is incorporated in all "Multi-Tap" coils to overcome annoying line hum, interference from oil burners and the like. The "Multi-Tap" is built with ample margin of safety for quality performance and dependability in over 95% of all receiving sets manufactured since 1927—both current and orphaned models.



Type "U"

"Multi-Tap"
Reg. U. S. Pat. Off
POWER TRANSFORMERS
Patent No. 1992415



Type "F"

STOCK OF ONLY 5 TRANSFORMERS SERVICES 95% OF ALL RADIOS!

TABLE "B"

DIMENSIONS - "MULTI-TAP" UNIVERSAL POWER UNITS

No.	A	B	C	D	E	F	G	H	J	K	L
1814 1816 1818 1820	2- 9/16 2-43/16 3- 3/8 3- 3/8	3- 3/16 3- 3/16 3- 3/4 3- 3/4	3-13/16 3-13/16 4- 1/2 4- 1/2	2- 1/8 2- 3/8 3 3- 1/4	2-11/16 2-11/16 3- 1/4 3- 1/4	3- 5/16 3- 5/16 4 4	1- 1/2 1- 3/4 1- 7/8 2- 1/8	1-15/16 1-15/16 2- 1/2 2- 1/2	2- 9/16 2- 9/16 3- 1/4 3- 1/4	2-15/16 2-15/16 3-11/16 3-11/16	2- 3/16 2- 3/16 2-15/16 2-15/16
1804 1806 1808 1810	2- 3/8 3- 3/8 3- 1/2 3- 7/8	2- 9/16 3- 3/8 3- 3/8 3- 3/8	3- 1/16 4- 1/2 4- 1/2 4- 1/2	2 2- 3/8 2- 5/16 2- 3/4	2 2- 7/8 2- 7/8 2- 7/8	110v.-120v.—50-60 cy. use No. 1814, 16, 18, 20 Type "U" or 1804, 6, 8, 10 Type "F".					
1850 1860	4-3/4 4-3/4	3-3/4 3-3/4	4-1/2 4-1/2	4-3/8 4-3/8	3-1/4 3-1/4	4 4	3-3/8 3-3/8	2-1/2 2-1/2	3-1/4 3-1/4	3-11/16 3-11/16	2-15/16 2-15/16

TABLE A—UNIT PRICES

No. 1804; No. 1814 for 4 TUBES

	2-24, 27, 35, 55, 56, 57, 58, 2A6, 2A7, 2B7		
and	1-45, 46, 47, 59, 2A3, 2A5	2.5v.-C.T.	-5.25 A
or	2-75, 76, 77, 78, 6A7, 6B7, 6C6, 6D6, 6F6,		
and	1-41, 42, 79, 89, 6A4	6.3v.-C.T.	-1.60 A
	1-80, 83, 5Z3	5.0v.-C.T.	-3.0 A
or	1-82	2.5v.-	-3.0 A
	High Voltage	650v.-C.T. at 50 MA	
	No. 1804 Type "F"	**MOCK**	**3¾ lbs. $3.50**
	No. 1814 Type "U"	**MACAW**	**3¼ lbs. $3.50**

No. 1806, 1816, for 5 or 6 TUBES

	1-26s	1.5v.-	3.15 A
or	3-24, 27, 35, 55, 56, 57, 58, 2A6, 2A7, 2B7, 90	2.5v.-	5.0 A
	1 or 2-27	2.5v.-	3.5 A
	2-45, 46, 47, 59, 2A3, 2A5	2.5v.-C.T.	-5.0 A
or	2-171A	5.0v.-C.T.	-0.5 A
	4-75, 76, 77, 78, 6A7, 6B7, 6C6, 6D6		
and	1-41, 42, 79, 89, 6A4, 6F6	6.3v.-	2.4 Amp.
	1-80, 80M, 83, 5Z3	5.0v.-	3.0 A
or	1-82	2.5v.-	3.0 A
	High Voltage	650v.-C.T. at 60 MA	
	No. 1806 Type "F"	**MOCHA**	**5 lbs. $4.50**
	No. 1816 Type "U"	**MACE**	**4¼ lbs. $4.50**

No. 1808, 1818, for 7 or 8 TUBES

	4-26s	1.5v.-	4.20 A
or	4-24, 27, 35, 55, 56, 57, 58, 2A7, 2B7, 90	2.5v.-	7.0 A
	1 or 2-27	2.5v.-	3.5 A
	2-45, 46, 47, 59, 2A3, 2A5	2.5v.-C.T.	-5.0 A
or	2-171A	5.0v.-C.T.	-0.5 A
	5-75, 76, 77, 78, 6A7, 6B7, 6C6, 6D6		
and	2-41, 42, 79, 89, 6A4, 6F6	6.3v.-	3.4 Amp.
	1-80, 80M, 83, 5Z3	5.0v.-	3.0 A
or	1-82	2.5v.-	3.0 A
	High Voltage	700v.-C.T. at 80 MA	
	No. 1808 Type "F"	**MODOC**	**6½ lbs. $5.00**
	No. 1818 Type "U"	**MACLE**	**6½ lbs. $5.00**

No. 1810, 1820, for 9 or 10 TUBES

	6-26s	1.5v.-	6.5 A
or	6-24, 27, 35, 55, 56, 57, 58, 2A6, 2A7, 2B7, 90	2.5v.-	10.5 A
	1 or 2-27	2.5v.-	3.5 A
	2-45, 46, 47, 59, 2A3, 2A5	2.5v.-C.T.	-5.0 A
or	2-171A	5.0v.-C.T.	-0.5 A
	7-75, 76, 77, 78, 6A7, 6B7, 6C6, 6D6		
and	2-41, 42, 79, 89, 6A4, 6F6	6.3v.-	5.0 Amp.
	1-80, 80M, 83, 5Z3	5.0v.-	3.0 A
or	1-82	2.5v.-	3.0 A
	High Voltage	700v.-C.T. at 100 MA	
	No. 1810 Type "F"	**MOGUL**	**6½ lbs. $5.50**
	No. 1820 Type "U"	**MACRO**	**7½ lbs. $5.50**

No. 1850—High power up to 15 TUBES

	7-26	1.5v.-	7.35 A
or	7-24, 27, 35, 55, 56, 57, 58, 2A6, 2B7, 90	2.5v.-	11.5 A
or	9-C484, C485	3.0v.-	11.7 A
	2-45, 46, 47, 59, 2A3, 2A5	2.5v.-	5.0 A
or	2-C484, C485	3.0v.-	2.6 A
	2-210, 250, C585, C586	7.5v.-	2.5 A
	2-281, C281 in parallel	7.5v.-	2.5 A
or	2-281, C281 in series	15.0v.-	1.25 A
	High Voltage	1400v.-C.T. at 150 MA	
	No. 1850 Type "U"	**MUDAR**	**12¼ lbs. $12.50**

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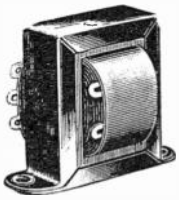
World Radio History

GENERAL PULL-PUSH MOISTURE PROOFED TRANSFORMERS

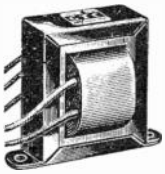
GENERAL REPLACEMENT INPUT TRANSFORMER FOR "CLASS A" AMPLIFICATION

The exceptionally flat response curve of GENERAL audios assures true reproduction at all frequencies.

All Primaries matched to 10,000 ohm plate for type 27, 30, 37, 55, 56, 57, 76, 77, 6C6 and all other tubes of like characteristics.

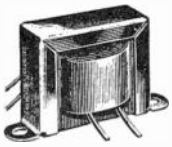


Type "B"



Type "2B"

Ratio	Core Size	Type Mtg.	Mtg. C-C	Dimensions H	Dimensions D	Dimensions W	Part No.	Weight, Lbs.	Code Word	Price
SINGLE PLATE TO SINGLE GRID										
3:1	⅝x⅝	2B	2	2	1¼	2⅜	3228	1	ARIES	$1.60
3:1	¾x¾	2A	2⅞	2	1⅝	3⅜	1247	1	AVISO	1.75
3:1	¾x1	1C	2¾	2⅜	2⅛	2⅞	2231	1½	ASTRO	2.50
SINGLE PLATE TO P.P. GRIDS										
3:1	⅝x⅝	2B	2	2	1¼	2⅜	3223	1	ARION	1.75
3:1	¾x¾	2A	2⅞	2	1⅝	3⅜	1254	1	AVENA	1.90
4:1	¾x¾	2A	2⅞	2	1⅝	3⅜	1263	1	AVRUM	1.90
3:1	¾x1	1C	2¾	2⅜	2⅛	2⅞	2234	1½	ASSAI	2.65
3:1	1x1	2B	3	3⅛	2¼	3⅜	2204	2¼	AZOIC	2.65
3:1	1x1	2C	2x2	3⅛	2⅜	2⅜	2210	2¼	ATTAR	3.25
5:1	1x1	C	2x2	3⅛	2⅝	2⅜	3213	2-4	PICEA	2.90
INTERSTAGE PUSHPULL TO PUSHPULL										
3:1	1x1	2C	2x2	3⅛	2⅝	2⅜	1210	2¼	AZCOT	4.00
TO COUPLE 24 TO PUSHPULL 45										
2.5:1	1x1	2C	2x2	3⅛	2⅝	2⅜	235	2¼	ARYAN	3.75
TO COUPLE 30 TO 19 IN CLASS B										
.75:1	⅝x⅝	2A	2¾	1 11/16	1⅜	2 13/16	3252	0-10	QUERN	2.00



Type "2A"

Type C

Type 1C

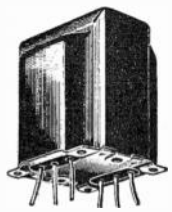
SET-BUILDERS AUDIOS

Application	Ratio	Core	Mtg. Type	Mtg. C-C	Dimensions H	Dimensions D	Dimensions W	Part No.	Wt.	Code Word	Price
Single Plate to Single Grid	2–1	⅝x⅝	2A	2 5/16	1⅝	1¼	2⅞	1277	0-12	LABIO	$1.10
Single Plate to Push Pull Grid	2–1	⅝x⅝	2A	2 5/16	1⅝	1¼	2⅞	1278	0-12	LACET	1.20
Single Plate to Single Grid	3–1	¾x¾	2A	2 13/16	2	1⅝	3⅜	1279	1-0	LACTI	1.30
Single Plate to Push Pull Grids	3–1	¾x¾	2A	2 13/16	2	1⅝	3⅜	1280	1-0	LADLE	1.50
Single Plate to Push Pull Grid	3–1	¾x¾	2A	2 13/16	2	1⅝	3⅜	1283	1-0	LAMIA	1.65
Single Plate to Single Grid	3–1	1x1	2B	3	3⅛	2¼	3⅝	2204*	2⅛	AZOIZ	2.65
Single Plate to Push Pull Grids	3–1	1x1	2A	3 9/16	2 9/16	2¼	4	1282	2-2	LAIRD	1.90

(2204 without using C.T.)

OUTPUT TRANSFORMERS

To Feed From	To	Core	Mtg.	High	Depth	Lgth.	Mtg. c-c	No.	Wt.	Code	Price
12A5, 31, 43, 45, 50, 53, 71A		¾x¾	2B	2⅜	1⅝	2⅞	2⅜	1345	(1)	OUABE	$1.50
2A5, 33, 41, 42, 47, 79, 89, 6A4		¾x¾	2B	2⅜	1⅝	2⅞	2⅜	1347	(1)	OUIJA	1.50
P. P. 71, 45, 50, 31		⅝x⅝	2A	1⅝	1¼	2⅞	2 5/16	2378	0-12	JUXTA	1.50
P. P. 42, 47, 59, 33		⅝x⅝	2A	1⅝	1¼	2⅞	2 5/16	2381	0-12	JUTTY	1.50
P. P. 19, 31, 43, 45, 53, 71A		¾x¾	2B	2⅜	1⅝	2⅞	2⅜	1346	(1-6)	OVOLO	1.65
P. P. 33, 41, 42, 47, 79, 89, 6A4		¾x¾	2B	2⅜	1⅝	2⅞	2⅜	1319	(1-6)	OWLET	1.65
12A5, 43, 48		½x½	2A	1⅜	1⅛	2⅜	2"	345	1	OTTER	1.00
33, 41, 42, 47, 31	6	½x½	2A	1⅜	1⅛	2⅜	2"	344	1	OTOMI	1.00
38	to	½x½	2A	1⅜	1⅛	2⅜	2"	343	1	OSTEO	1.00
12A5, 43, 48	15 ohm	⅝x⅝	2B	2"	1¼	2⅜	2"	318	1	OSSET	1.10
33, 41, 42, 47, 31	Voice	⅝x⅝	2B	2"	1¼	2⅜	2"	314	1	OZONE	1.20



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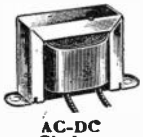

AC-DC Chokes

FILAMENT TRANSFORMERS

May be used in tube tester, preamplifiers, short wave adapters, etc. Their flexibility makes them indispensable to the laboratory or experimenter.

Sec. 2½ volts—5¼ Amps., C.T. Size-1⅞x2⅞x2⅜ high - Holes 2⅜" c.c., Mtg. "2B"	1416	(1-4)	FIARA	$1.75
Sec. 6.3 volts—3. Amps., Size—1⅞x2⅞x2⅜ high—Holes 2⅜" c.c., Mtg. "2B"	1052	(1-4)	FILIX	2.00
Sec. 2½ volts—12 Amps. C.T. Size-2¼x3⅝x3⅛ high-Holes 3 9/16" c.c., Mtg. "2B"	1004	(1-4)	FIBRO	2.50
Sec. 5.0 volts—6 Amps. C. T. Size 1⅞x3¾x2¼ high—Holes 3 1/16" c.c., Mtg. "2A"	2095	(1-8)	FORTE	2.25
Height 3⅛ — Depth 2¼ — Length 3⅝ — Mounting Centers 3 1/16, Mtg. "2B" 6.3v.-4.0 A.C.T.-5.0v.-3.0 A.C.T. (Filament Transformers-All Pri. 115v.-60 cycle)	1054	(3)	FIDES	$2.50

CHOKES

Inductances given are not the "30-henries" commercial ratings, but ACTUAL MEASURED VALUES.

Henries	Mils	Res	Core	Mtg.	High	Depth	Lgth.	Mtg. c-c	No.	Wt.	Code	Price
11	50	400 ohms	¾x¾	2-B	2⅜	1⅝	2⅞	2⅜	1120	(1)	CHAJA	$1.40
7	75	300 ohms	⅞x⅞	2-A	2¼	1⅞	3¾	3 1/16	1122	(18)	CHAMA	1.60
12	100	300 ohms	1x1	2 B	3⅛	2¼	3⅝	3 1/16	1125	(2-6)	CHANK	2.00
AC-DC—These chokes for replacement in any of the popular AC-DC sets.												
4	30	200 ohms	½x½	2-A	1⅜	1⅛	2⅜	2	5104	(1)	CHAZA	.90
5	30	300 ohms	½x½	2-A	1⅜	1⅛	2⅜	2	5108	(1)	CHAUN	.90
7	30	400 ohms	½x½	2-A	1⅜	1⅛	2⅜	2	5112	(1)	CHELA	.90
8	30	500 ohms	½x½	2-A	1⅜	1⅛	2⅜	2	5116	(1)	CHERT	.90
8	30	250 ohms	⅝x⅝	2-B	2	1¼	2⅜	2	1129	(1)	CHADS	1.40
10	30	400 ohms	⅝x⅝	2-B	2	1¼	2⅜	2	1127	(1)	CHAPE	1.50
10.5	30	500 ohms	⅝x⅝	2-B	2	1¼	2⅜	2	1137	(1)	CHARA	1.65
11.0	30	600 ohms	⅝x⅝	2-B	2	1¼	2⅜	2	1138	(1)	CHARD	1.80

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World Radio History

GENERAL PUSH-PULL MOISTURE PROOFED TRANSFORMERS

CHOKES

Inductances given are not the "30-henries" commercial ratings, but ACTUAL MEASURED VALUES. For Amateur Transmitters and Large P. A. Amplifiers.

Henries	M.A.	Res.	Volt Ins.	Mtg.	High	Deep	Wide	Wgt.	Part No.	Code	List Price
SWINGING (1st Section) CHOKE (2-S is 2-F with Streamline design)											
4/12	25-250	110	3000	S-2	3 7/16	3 3/4	3 1/16	4	2157	HERSE	$4.50
4/12	40-400	125	3000	S-2	4 5/8	4 1/4	4	7	2155	HAULM	6.75
4/12	50-500	85	5000	S-2	4 5/8	4 7/8	4	11	2160	HAWSE	8.25
FILTER (2nd Section) CHOKE											
8	250	110	3000	S-2	3 7/16	3 3/4	3 1/16	4	2158	HEVEA	4.50
8	400	125	3000	S-2	4 5/8	4 1/8	4	7	2156	HAUSA	6.75
8	500	85	5000	S-2	4 5/8	4 7/8	4	11	2161	HEALD	8.25
6	150	150	2000	2-B	3 1/8	2 1/4	3 3/4	(2-6)	1111	CHARM	2.50

MICROPHONE and INPUT TRANSFORMERS

A Double Button Microphone Transformer of superior quality. The frequency response is exceptionally flat between 100 and 8000 cycles. The primary impedance is matched to standard microphones having a resistance of 200 ohms per button. The secondary impedance is 100,000 ohms. The transformer is fully shielded from stray fields.

MICROPHONE TRANSFORMERS

To Couple From	To Couple To	IMPEDANCE-OHMS Pri.	IMPEDANCE-OHMS Sec.	Ratio	Mtg.	Fig.	DIMENSIONS H	DIMENSIONS D	DIMENSIONS W	Part No.	Wgt. Lbs.	Code Word	Price
D.B. Mic.	Grid	200 C.T.	100,000	1:22.5	2C	2	3 1/8	2 3/8	2 5/8	1006	2-8	MIZAR	$3.50
D.B. Mic. or Phono Input	Grid	200 C.T. 4000	100,000	1:22.5	2C	4	3 1/8	2 3/8	2 5/8	1026	2-8	MITRA	4.00
Single Button Mic.	Grid	200	100,000	1:16	2B	1	2 3/8	1 7/8	2 7/8	1001	1-2	MOIRE	2.25
D.B. Mic.	Grid	200 C.T.	100,000	1:32	2B	2	2 3/8	1 7/8	2 7/8	1002	1-2	MIZRA	2.50

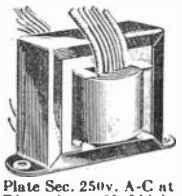
LINE TRANSFORMERS

To Couple From	To Couple To	IMPEDANCE-OHMS Pri.	IMPEDANCE-OHMS Sec.	Mtg.	Fig.	DIMENSIONS H	DIMENSIONS D	DIMENSIONS W	Part No.	Wgt. Lbs.	Code Word	Price
200 or 500 Ohm Line	Grid	200/500	100,000	2B	2	2 3/8	1 7/8	2 7/8	1055	2-2	MIRA	$2.75
200 or 500 Ohm Line	2 to 30 Ohm Voice Coils in 2 Ohm Steps	200/500	2 to 30	B	9	2 3/8	1 7/8	2 7/8	1056	2	MINX	2.75
PP or Single Tube	200 or 500 Ohm Line	15,000	200/500	2B	3	2 3/8	1 7/8	2 7/8	1393	2	MINOS	2.75

AUDIO AND ISOLATING CHOKES

Use	Henries	MA	Ohms Res.	Mtg.	DIMENSIONS H	DIMENSIONS D	DIMENSIONS W	Part No.	Wgt. Lbs.	Code Word	Price
5 MA or less—75,000 Ohms impedance	550	5 MA	3000	2A	2	1 7/8	3 3/8	1207	1	PUKA	$1.90
5 MA or less—500,000 Ohms impedance	1100	5 MA	5500	2A	2	1 7/8	3 3/8	117	1-6	PUDIC	2.15

TUBE TESTER PLATE AND FIL. TRANS.



In addition to the conventional filament voltages, this transformer has a plate winding, the voltage of which may be impressed directly to the plate of the tube under test. If a D-C voltage is desired on the tube under test an 81 type tube may be used as a half wave rectifier.

All leads are color coded and a diagram of connections is included.

No. 2033 THEOW (3) **$3.50**
Pri. 115v.-60 cycles.
Fil. Sec. 1.5, 2.0, 2.5 3.3, 5.0, 6.3, 7.5, 15, 25, or 30 volts at 2.0 Amperes.
Plate Sec. 250v. A-C at 10 MA.
Dimensions—2 9/16" high, 4" wide over mounting brackets; 2 1/4" deep, c.c. 3 3/16".

TUBE TESTER FIL. TRANS.

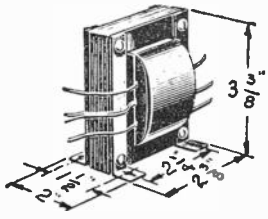
No. 1063 Pri. 115v.-60 cy. Sec. 1.5, 2.0, 2.5, 3.3, 5.0, 6.3, 7.5, 15, 25, 30. Type 2A. . . . . TESTA (2-9) **$2.75**

Dynamic Speaker Field Supply Transformer
2004 PUNIC (3-8) **$2.50**
Primary 115 volts 60 cycle.
Secondary 225 volts .200 amperes center tapped.
Filament winding—5.0 volts—3 amperes.
Type P mounting 2 3/16" x 2 13/16" c.c 2 29/32" x 3 1/4" x 3" high

AUTO-RADIO POWER TRANSFORMERS

6 volt Primary

This list of GENERAL auto-radio power transformers and chokes duplicates electrically practically every auto radio power unit now in use.



Part No.	Code	Wt.	Price
Power Transformer 180v—40 MA 112	ARTEL	(2-2)	$3.25
Power Transformer 250v—50 MA 411	ARSIS	(2-2)	3.50

AUTO-RADIO FILTER CHOKE

250 ohms—15 H at 30 MA—Mtg. 2B
2" c-c.
1129 AVIAN (1) $1.40

PHILCO—

Input and Interstage Audio	Part No.	Code	Wt.	List
Transitone . . . . . 1st Audio	3212	PIKA	(1-6)	$2.25
511, 521 (Chassis) . . . . . Interstage Audio	3212	PIKA	(1-6)	2.25
30, 40, 41, 42, 73, 76, 77, 77A, 82, 83, 86, 87 . . . . . P.P. Input	3211	PICUS	(1-6)	2.25
20, 20A, 21, 220, 220A . . . . . P.P. Input	3210	PILCH	(1)	1.75
62, 65, 92, 95, 96, 96A, 111, 111A, 211, 211A, 296, 296A . . . . . P.P. Audio Input	3213	PICEA	(2-4)	2.90
(For 245 Tubes), 112, 112A, 212, 212A . . . . . P.P. Audio Input	3213	PICEA	(2-4)	2.90
Input Audio Mod. 90 and 90A	3239	PYXIS		2.25
Outputs and Chokes				
70, 70A, 270, 270A, 370, 370A, 470, 470A, 570, 570A, Transitone No. 3, also 90, 90A, 490, 490A (using 1-247 tube) . . Output	1371	PIMAN	(1-6)	2.15
20, 20A, 21, 40, 41, 46, 42, 62, 65, 73, 76, 77, 77A, 82, 83, 86, 87, 92, 95, 96, 96A, 111, 111A, 211, 211A, 220, 220A 296, 296A, 346 . . . . . P.P. Output	1370	PILUS	(1-6)	2.15
(For 245 tubes), 90, 90A. 112, 112A, 212, 212A . . . . . P.P. Output	1370	PILUS	(1-6)	2.15

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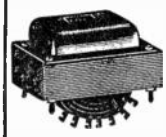


STYLE S

FREED POWER TRANSFORMERS

Trouble free performance, cool operation and excellent regulation are insured by conservative design. Large copper sizes are used and iron is worked at low flux densities.

STYLE P

HALF SHELL POWER TRANSFORMERS (Style S) Primary 115 volts 50-60 cycles

Part No.	Secondary windings: HV - CT V.	HV - CT Ma.	Rect. V.	Rect. A.	Fil. - CT V.	Fil. - CT A.	Filament V.	Filament A.	Base Dimensions	Mounting Centers	Weight (Lbs.)	List Price
501	650	40	5	2	2.5	3.75			2½ x 3	2 x 2½	2¼	$2.00
504	700	50	5	2	2.5	7			2½ x 3	2 x 2½	2¾	2.50
513	650	50	5	3	2.5	1.75	2.5	5.25	2-13/16 x 3⅜	2¼ x 2-13/16	3	2.75
525	700	70	5	3	2.5	3	2.5	7	3⅛ x 3¾	2½ x 3⅛	4	3.50
526	700	90	5	3	2.5	3	2.5	10.5	3⅛ x 3¾	2½ x 3⅛	5¼	4.00
550	700	110	5	3	2.5	3.5	2.5	15	3¾ x 4½	3 x 3¾	8¼	4.75
503	650	40	5	2	6.3	1.6			2½ x 3	2 x 2½	2¼	2.00
506	650	50	5	2	6.3	2			2½ x 3	2 x 2½	2¾	2.50
517	650	70	5	2	6.3	3			2-13/16 x 3⅜	2¼ x 2-13/16	3	3.25
529	700	90	5	3	6.3	3.5			3⅛ x 3¾	2½ x 3⅛	4	3.75
527	700	120	5	3	6.3	4			3⅛ x 3¾	2½ x 3⅛	5¼	4.25
552	750	150	5	3	6.3	4.5			3¾ x 4½	3 x 3¾	8¼	5.50
553	830	200	5	3	6.3	5			3¾ x 4½	3 x 3¾	9¼	7.00

COMBINATION 2.5 or 6.3 VOLT HALF SHELL TRANSFORMERS (Style S) 115 volts 50-60 cycles

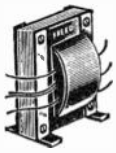
Part No.	Secondary windings: HV - CT V.	HV - CT Ma.	Rect. V.	Rect. A.	Filament 2.5 or 6.3 CT V.	A.	V.	A.	Base Dimensions	Mounting Centers	Weight (Lbs.)	List Price
505	650	50	5	2	2.5	4.75	6.3	1.9	2½ x 3	2 x 2½	2¾	$2.50
516	650	70	5	2	2.5	7.5	6.3	2.9	2-13/16 x 3⅜	2¼ x 2-13/16	3	3.25
528	700	90	5	2	2.5	9.5	6.3	3.5	3⅛ x 3¾	2½ x 3⅛	4	3.75
551	700	100	5	2	2.5	12.5	6.3	4.5	3¾ x 4½	3 x 3¾	7¼	4.50

UPRIGHT ENCLOSED TYPE POWER TRANSFORMERS (Style P) Primary 115 volts 50-60 cycles

Part No.	Secondary Windings: HV - CT V.	HV - CT Ma.	Rect. V.	Rect. A.	Fil. - CT V.	Fil. - CT A.	Fil. - CT V.	Fil. - CT A.	Dimensions W	D	H	Weight (Lbs.)	List Price
518	650	50	5	2	6.3	2.0	2.5	5	2⅝	2-15/16	3⅛	3½	$3.75
576	700	70	5	2	2.5	9.0	2.5	3	3¼	3½	3-15/16	4½	4.50
579	700	70	5	3	6.3	3.0	2.5	3	3¼	3½	3-15/16	4½	4.50
578	700	90	5	3	2.5	10.5	2.5	3	3¼	3⅞	3-15/16	5½	5.00
580	700	100	5	3	6.3	4.5	2.5	3	3¼	3⅞	3-15/16	5½	5.50
577	700	110	5	3	2.5	15.0	2.5	3	3⅞	3⅝	4⅝	7½	5.50
581	700	110	5	3	2.5	7.0	2.5	5					
					2.5	3.0	6.3	3	3⅞	3⅝	4⅝	7½	6.50
555	750	150	5	3	6.3	4.5			3⅞	3⅝	4⅝	8½	6.50
554	830	200	5	3	6.3	5.0			3⅞	4⅜	4⅝	9½	7.50

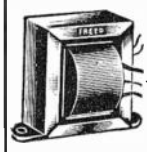
FREED TRANSFORMERS are available for 220 volt 60 cycles. Add 30% to list price.
FREED TRANSFORMERS are available for 115 volt 25 cycles. Add 60% to list price.

6 VOLT AUTO RADIO TRANSFORMERS
(Primary and Secondary C.T.)



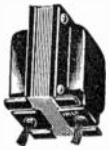
Part No.	D.C. delivered by secondary	Dimensions W	D	H	List Price
651	225 V. 40 Ma.	2½	2	3	$2.50
652	250 V. 50	2½	2⅛	3	3.00
653	250 V. 60	2-13/16	2⅛	3⅜	3.50
654	275 V. 70	2-13/16	2¾	3⅜	4.00
655	350 V. 75	2-13/16	3	3⅜	4.75

FILAMENT TRANSFORMERS
(Primary 115 volts 50-60 cycles)



Part No.	Secondary Volts	Amps.	Dimensions W	D	H	Weight Lbs.	List Price
441	2.5	5¼	2⅞	1⅞	2⅜	1½	$1.75
442	5.0	3	2⅞	1⅞	2⅜	1½	2.00
443	6.3	3	2⅞	1⅞	2⅜	1½	2.00
444	7.5	3	2⅞	1⅞	2⅜	1½	2.25
445	2.5	12½	3⅛	2¼	3⅛	2½	2.50

FIELD SUPPLY TRANSFORMERS
(Primary 115 volts 50-60 cycles)



Part No.	D.C. Output Volts	Ma.	Rect. Tube	Dimensions W	D	H	List Price
601	250	50	80	2⅝	2½	3⅛	$3.25
602	100	100	5Z3	2⅝	2⅞	3⅛	3.75
603	100	200	83	2⅞	3¼	3⅝	4.50

EXCITER LAMP TRANSFORMERS
(Primary 110/120 volt 50-60 cycles)

Part No.	Secondary Volts	Amps.	Dimensions W	D	H	List Price
680	10	7½	3¾	3½	3⅛	$5.00
681	8.5	4	3⅜	2¾	2⅜	4.00
682	27	1	3⅜	2¾	2⅜	4.00

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World Radio History

FREED EXACT DUPLICATE REPLACEMENT POWER TRANSFORMERS

Model	Manufacturer	Stock No.	List Price
	ALL-AMERICAN MOHAWK		
60-61-62-63-65-66		2006	$6.45
70-73-75		2007	9.30
80-83-84-85-86-88		2008	6.45
90-93-94-95-96		2009	6.45
D & H		2010	6.45
J		2011	5.00
S-6		2012	5.00
Rauland-Lyric-P		2013	5.00
	AMRAD		
70 Series		2041	10.00
Bel Canto 81		2042	7.15
	ATWATER-KENT		
36-37-38		2056	4.30
43 Complete Power Pack		2057	14.30
40-42-44-45-52 Complete Power Pack		2058	9.30
46-47-53 Complete Power Pack		2059	14.30
55-55C Early Model		2060	7.15
55-55C Late Model		2061	7.15
60-60C Early Model		2062	7.15
60-60C Late Model		2063	7.15
66 Filament Transformer		2064	5.70
66 Plate Transformer		2065	10.00
70-72-74-76-H1-H2-F-L1-L2-P-90		2066	6.45
80-83		2067	6.45
82-85		2068	6.45
84 Early & Late Models		2069	6.45
86 All Models		2070	6.45
87-89-89P All Models		2071	7.15
92 Early & Late		2073	6.45
93 Short Wave Converter		2074	6.45
94		2075	6.45
96 All Models		2076	6.45
99-99P All Models		2077	7.15
	BOSCH		
5-5A		2201	5.00
10F		2202	6.45
20J-20K-20L		2203	5.00
28		2204	5.70
29-29A		2205	10.00
31-32 Super-Het		2206	5.00
48		2208	6.45
40-41		2209	5.00
58		2210	6.45
60		2211	7.15
73-74		2212	5.00
91		2213	5.00
133		2214	5.00
135		2215	6.45
250P		2216	7.15
312		2217	8.60
	BRANDES		
B10-B11		2261	5.70
B15-B16		2262	7.15
	BRUNSWICK		
2KRO-3KRO-3KR6-5KR-5KRO-5KR6		2290	4.30
3NC8-5NC8		2291	5.30
14-21-31-81-82-S14-S21-S31-S81-S82		2293	6.45
15-22-32-42		2292	6.45
10		2296	5.00
11-12-16-18-33AVC Chassis D		2297	5.70
17-24-25		2295	6.45
	CLARION		
40		2326	5.00
51-53-55		2327	6.45
60, Junior		2328	6.45
61-70		2329	6.45
80-81-84-85-A.C.-120		2330	5.00
90-90A-91		2331	6.45
220		2332	6.45
360		2333	7.15
460		2334	7.15
	COLONIAL		
31		2357	7.15
32		2358	6.45
33-34-35		2359	7.15
36-114-38-117-39-125		2360	5.00
41-42		2361	5.00
44		2362	5.00
47		2363	5.00
51		2364	5.70
52		2365	5.70
	COLUMBIA		
Screen Grid 8 Power Transformer & Choke		2381	7.15
Screen Grid 9		2382	6.45
Screen Grid 10		2383	7.15
	CROSLEY		
30S-31S-33S-34S		2391	6.45
32-40-41-41A-42A		2392	6.45
40S-41S-42S-45S-82S		2393	6.45
47-48-7, 7-1		2394	7.15
53-54-57-58		2395	5.70
71, 71-1, 84		2396	$7.15
120		2397	6.45
122		2398	6.45
124		2408	6.45
125		2407	6.45
131-132		2399	7.15
104-105-106 Power Converter		2400	5.70
602 Band Box		2401	5.00
608 Gem Box		2402	5.00
607		2403	5.00
609-610		2404	5.00
704-704A		2405	6.45
704B-706 Show Box		2406	6.45
804 Jewel-Box		2407	6.45
59		2409	4.30
Fiver and Septet		2410	5.10
	DAYFAN		
5003-5091		2426	6.45
5005-5020		2427	6.45
	EARL		
21 & 22		2436	5.70
24-31-31S-32-32S-33-33S-41		2437	6.45
	ECHOPHONE		
S-3		2441	5.70
S-4, S-5		2442	5.70
	EDISON		
R1-R2-C2-JR-JC Plate Transform.		2446	6.45
R4-R5-C4-7R-8P		2447	7.85
R6-R7		2448	7.85
C1 Chassis SC		2449	10.00
	EVEREADY		
1-2-3		2456	5.70
40-42-43-44		2458	5.70
50-52-53-54		2459	5.70
	FADA		
Special		2471	6.45
10-11-16-17-20-30-31-32		2472	6.45
25		2473	6.45
35		2474	7.15
35B		2475	7.15
40		2476	6.45
41-42-44-46-47		2477	6.45
43		2478	6.45
45 (KU)		2479	6.45
48-49 (KW)		2480	6.45
50-70 for E420 Power Unit		2485	7.15
50-70 for E180 Power Unit		2486	6.45
51 (KO)		2481	6.45
53-57 (KOC)		2482	6.45
61 (KX)		2483	6.45
66 (KY)		2484	5.00
73-85 (RE)		2487	6.45
74-76-87 (RA)		2488	6.45
75-77		2490	7.15
78-79 (RC)		2489	7.15
89		2491	6.45
762-746-786-767-KF-KG-761		2492	6.45
60 (KA)		2493	6.45
	FREED		
55-56		2551	5.70
65-78-78S-79-79S-90-90S-95		2552	6.45
	FRESHMAN		
G-60S Plate Trans.		2571	4.30
2N-N11-N12-N17-N60S		2581	10.00
Q-Q15-Q16-3Q15-3Q16		2583	2.85
QD-QD15-QD16		2584	7.85
	GENERAL MOTORS		
A-120-130-140-150-160		2651	6.45
S-2A, 251		2652	6.45
S-3A, 252-253-254-255-256		2653	6.45
MA-110-180-190		2654	5.00
S-1A, 216-217-219-250		2655	5.00
	GREBE		
SK4		2726	6.45
H-S-4 1-2 ½-Volt Winding		2729	5.70
H-S-4 2-2 ½-Volt Winding		2730	6.45
	GRUNOW		
6C-660-661		4276	6.45
6D-670-671		4277	6.45
7A-700-701		4278	6.45
7B-750-751		4279	6.45
8A-801		4280	6.45
9A-901-902		4281	7.15
	GULBRANSEN		
9 in line		2751	7.85
	JACKSON-BELL		
62-63-64		2771	6.45
	KENNEDY		
10-20		2791	6.45
26-34		2792	6.45
	KOLSTER & COLUMBIA-KOLSTER		
6H-K5		2811	7.15
6J-6K-6M-6R		2813	7.15
K-44		2814	12.85
K43-K48-B15-B16-C920		2815	7.15
K20-K21-K22-K23-K42-K-25		2816	$6.45
K24-K36-C5-961		2817	9.30
K28-C10		2818	7.15
K38		2819	11.45
K45		2820	14.30
Columbia 300-960		2821	11.45
Columbia 950 Combination		2822	11.45
Columbia 930-931		2823	11.45
Columbia 980—for Tuner		2824	8.60
Columbia 900-901		2825	14.30
Columbia 902		2826	14.30
Kolster-Int. K60-K70		2827	6.45
Kolster-Int. K80-K90		2828	6.45
Kolster-Int. K110-K120		2829	7.15
Kolster-Int. K130		2830	7.15
Kolster-Int. K140		2831	7.15
	MAJESTIC		
70-7P6 Plate Transformer		2900	4.30
70-70B-71-72 Plate & Fil. Transformer Complete		2901	6.45
90-91-92-100-101		2902	6.45
180-181 Plate Transformer		2903	8.60
90B-100B-93-102-103		2905	6.45
130A-130-131-132-230A-233		2906	6.45
50-51-52		2907	6.45
30-31		2908	6.45
20-21-22-23		2909	6.45
60-61-62-160-163		2910	7.15
15-15B-150-151-153-154		2911	4.30
25-251-253-254-25B-251B		2912	6.45
35-351-353		2913	6.45
55-56-57-58		2915	5.00
200 Series 201, 203, 204		2916	6.45
210-211-214-215		2917	6.45
220-221-223		2918	10.00
290-291-293-294		2919	6.45
300-300A-303-304-307		2920	7.15
310A-311 Early & Late Models		2921	5.70
310B-314 Early and Late Models		2922	5.70
320-324		2923	7.85
330-331-336-77		2924	6.45
340-344		2925	7.15
360-363		2926	7.15
370-371-373		2927	4.00
380-381 Treasure Chest		2928	4.30
390-393		2929	6.45
460-461-463		2943	5.00
Chassis 500		2944	5.00
Chassis 800		2945	5.70
Chassis 440		2946	4.00
70-7BP6 Plate Transformer		2947	4.30
	PEERLESS		
65 for Dynamic Speaker		3021	5.70
70 for Dynamic Speaker		3022	7.15
70-72 for Electrostatic Speaker		3023	8.60
65 for Electrostatic Speaker		3024	7.15
	PHILCO		
15		4228	5.00
20-220		4221	6.00
21		4222	6.00
50-51-52		4223	5.00
65		4224	6.00
70-270-370-470-570		4225	6.00
76-77		4229	6.00
82-86		4230	6.00
87		4226	6.00
90 (2—45's)		4231	6.00
90 (1—47)		4232	6.00
90 (2—47's)		4233	6.00
91-121		4234	6.00
95-96		4235	6.00
511-521-531-541		4227	6.00
111-211		4236	6.00
112-212		4237	6.00
	RADIOLA & R.C.A. VICTOR		
17-18-33-50-51		3032	4.30
44-46-47		3033	5.30
60-62		3034	5.30
64-67		3035	17.15
66		3036	7.15
42-48		3039	5.70
80-82-86		3040	6.45
R5-R5X-Radiolette		3042	4.30
R50-R55-RE20-RAE59-RAE79		3045	6.45
R32-RE45-R52-RE75-RE154-RE156		3046	6.00
R8-R10-R12-RO23		3043	5.70
R4-R6-R7-R7A		3044	4.30
R75		3047	7.15
R14-R15-R17		3048	5.70
R34-R35-R39-RE57-RE73		3049	6.45
R11-RE18-RE18A-R21-RAE26		3050	6.45
7-11, 7-25, 7-26, 17-8		3032	4.30
9-18, 9-54		3035	17.15
R71-R72		3053	6.45

STEP-DOWN TRANSFORMERS—Style "B" Mounting—220 to 110 Volts

These high-grade line of Step-Down Transformers are ideal for use with Radio Receivers, Public Address Equipment, and Electrical Appliances. They are designed to exacting electrical and mechanical specifications.

80-WATT

Stock No. 8004 ..... **List Price $4.50**

160-WATT

Stock No. 8005 ..... **List Price $6.00**

250-WATT

Stock No. 8006 ..... **Prcie List $7.50**

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FREED EXACT DUPLICATE REPLACEMENT CONDENSER BLOCKS

Model	Manufacturer	Stock No.	List Price
	ATWATER-KENT		
37-38 Condensers Only, no chokes.		5028	2.85
37-38 Condenser and Choke Asmbly		5029	3.30
40-42-52-56-57 Condensers Only		5030	2.85
44-45 Condenser & Output Choke Assembly		5031	3.60
40-42-44-45-52-56-57 Power Pack		5032	9.30
43 Complete Power Pack		5033	14.30
46-47-53 Complete Power Pack		5035	14.30
46-47-53 Condensers Only		5041	4.30
55-55C Early & Late Mods.—7 Taps		5036	5.70
55F-55FC Early & Late Mods.—5 Taps		5037	5.70
60-60C Early & Late Mods.—7 Taps		5038	4.30
60-60C Late Model—5 Taps		5039	4.30
66		5040	5.70
70, 74, 76, L1, L2, P—5 Taps		5058	4.30
	BOSCH		
5-5A		5151	4.30
20J-20K-20L		5153	5.00
28 Condenser & Chokes		5154	5.70
29-825		5155	5.70
31-32 Super-Het		5156	4.30
48		5158	4.30
58-60		5159	5.00
73-74		5160	4.30
133		5162	4.30
	BRANDES PRODUCTS CORP.		
B15-B16		5178	4.30
	BRUNSWICK		
10		5225	5.70
15-22-32-42		5226	5.70
	CLARION		
40		5241	5.70
51-53-55 Condenser & Chokes		5242	6.45
260		5243	5.00
300		5244	4.30
60, Junior		5245	6.45
80		5246	3.60
84-85		5247	5.00
61		5248	6.45
90-90A-91		5250	3.60
220		5251	4.30
	COLUMBIA-KOLSTER		
950		5283	5.70
	COLUMBIA RADIO CORP.		
Screen Grid 8		5296	4.30
	ECHOPHONE		
S-3		5315	4.30
	EDISON		
R1-R2-C2-JR-JC—5 Leads		5321	5.70
R1-R2-C2-JR-JC—6 Leads		5322	5.70
R4-R5-C4-7R		5323	4.30
R6-R7		5324	4.30
	EVEREADY		
1-2-3 Condenser & Chokes		5331	5.70
30-31-32-33-34		5332	5.00
40-42-43		5333	5.00
50-52-52-54		5334	5.00
	FADA		
25—7 Leads		5343	$5.00
25—8 Leads		5344	5.00
35-35B		5345	5.00
40		5336	5.00
41-42-44-46-47		5347	5.00
43		5348	5.00
45 (KU)		5349	5.00
50-70-71-72 for E420 Power Unit		5350	5.70
50-70-71-72 for E180 Power Unit		5351	5.00
60 (KA)		5353	5.00
75-77		5352	5.70
	FREED		
55-56		5376	2.85
78-78S-65-79-79S-90-90S		5377	2.85
95		5378	2.85
	FRESHMAN		
G-60-S		5391	4.30
N-60S-2N-2N60S—7 Leads		5395	5.70
N—8 Leads		5396	5.70
	GENERAL MOTORS		
A-Chassis 120-130-140-150-160		5421	5.70
	KOLSTER		
20-22-25-27		5507	2.85
6J-6K-6R		5508	5.00
K21-K23		5509	5.00
K43-K48		5510	4.30
K44		5511	3.60
K45		5512	5.00
	MAJESTIC		
20-21-22-23 Condenser, Choke, & Input		5521	7.15
30-31 Condenser & Choke Assembly		5522	5.70
50-51-52		5523	4.30
60-61-62-160-163		5524	5.00
70-70B-71-72-7P6 New Type—5 Taps		5525	3.30
70-70B-71-72-7P6—7 Taps, 2 Taps not used		5526	3.30
70-70B-71-72-7BP6—5 Taps		5527	3.30
70-70B-71-72-6P6-7P6—7 Taps		5528	5.00
90-91-92-100-101 9P6		5529	3.30
180-181-8P6-8P3		5530	5.70
90B-100B-102-103-93		5531	4.30
130-130A-230A-131-132-233		5532	4.30
Super B & Master B—10 Taps		5533	3.30
Special Master B—11 Taps		5534	3.70
25B-251B-253B-254B		5539	4.30
35-351-353		5540	4.30
	PEERLESS		
65		5626	4.30
70		5627	4.30
	PHILCO RADIO & TELEVISION CO.		
20-220		5636	4.30
65		5369	4.30
76-77-77A		5640	5.70
82		5641	4.30
86		5643	4.30
87		5644	4.30
95-96-296-111-211-112-212		5645	5.70
511-512-521-531		5646	4.30
	RADIOLA		
17-50		5661	4.30
18-33-51		5662	1.45
30A—4 Taps, 12 Mfd.		5663	5.00
41 Receptrad		5665	5.70
41 Sterling		5666	5.70
42-48		5667	6.45
44-46-47		5668	5.00
60		5669	5.00
62		5670	5.00
64		5672	10.00
67		5673	10.00
66		5674	$4.30
80-82-86		5675	5.00
	R.C.A. VICTOR		
9:18		5761	10.00
7-11, 7-26		5762	1.45
9:54		5763	10.00
7:25		5764	4.30
R4-R6		5765	6.45
R11-R18-R18A-RE21		5766	6.45
R14-R15-R17		5767	6.45
R50-R55-RE20-RAE59-RAE79		5768	6.45
R34-R35-R39-RE57-RE73		5769	5.00
R32-RE45-R52-RE75 E. M. 5 Lugs		5770	4.30
R32-RE45-R52-RE75 Late Model—4 Lugs		5771	4.30
R8-R10-R12-RE-19-RO23		5772	6.45
	SONORA		
A-31, B-31		5861	4.30
A-36, 46, De Luxe 44		5863	7.15
	SPARTON		
AC5		5871	5.00
AC7-62-63		5872	5.70
69-79-79A-89		5873	5.70
89A		5874	7.15
99-109 Ensemble De Luxe		5875	7.15
301		5876	7.15
930		5877	5.70
564-570-740-750		5878	7.15
101		5879	7.15
	SPLITDORF		
M5		5901	5.70
	STEINITE		
40-40A-40S-45A uses 171 Power Tubes		5906	4.30
40C-60C-102C uses 245 Power Tubes		5907	5.00
50-A-102A uses 250 Power Tubes		5908	5.70
70-80-95		5909	4.30
261-262-263-264-265 Complete Power Pack		5911	13.60
	STEWART-WARNER		
900 Series 901-902-903-911-912-913 3½-Mfd. Filter Condenser		5927	1.45
900 Series 901-902-903-911-912-913 Choke & By-Pass Assembly		5938	5.70
950 Series 951-953-961-962-963 6½-Mfd. Filter Condenser		5939	2.85
950 Series 951-953-961-962-963 Choke & By-Pass Assembly		5940	5.70
R100A-B-E 6½-Mfd. Filter Cond.		5941	2.85
R100A-B-E Choke & By-Pass Assembly		5942	5.70
	STROMBERG-CARLSON		
10-11-25-26		5966	7.15
12-14		5967	7.15
635-636		5968	5.70
641-642-652-654		5970	5.70
846-848		5971	7.15
38-39-40-41		5972	6.45
	TEMPLE		
8:60, 8:61, 8:80, 8:81, 8:90, 8:91		5986	4.30
	U. S. RADIO & TELEVISION CO. (APEX)		
28-28AX-48-48A		5991	3.60
36		5992	5.00
41		5993	3.60
46-46A		5996	3.60
47-47A		5997	3.60
Case 80-81		5998	5.00
	ZENITH		
ZE9-11E-14E		6051	4.30
ZE10		6052	5.00
ZE11-12-14		6053	5.70
ZE18-35PX-35APX-37A		6054	5.70

POWER TRANSFORMERS—Continued

Model	Manufacturer	Stock No.	List Price
R74-R76-R77-Re81		3055	$8.60
R37-38		3056	6.45
R28-RE40-RE40P-110-111-115		3071	5.00
M34 Auto Transformer		3073	5.15
90-90P-260-261		3074	12.15
140-140F-141-141E-240-340		3075	7.15
143-242-262-263-281-341-381		3076	7.15
R78 Bi-Acoustic		3054	7.15
	SONORA		
A31, B31, A33, A35		4201	6.45
	SPARTON		
AC7-62-63		3188	4.30
25-26-26AW-30-45-30A-30B		3195	7.15
69-79-79A-89		3196	5.70
89A		3197	8.60
99-109 Ensemble De Luxe		3198	8.60
101-110-111-111A-574-870		3199	10.00
103-301-301A-578-740-750		3200	9.30
410-420		3203	6.45
564-570		3204	$9.30
589		3205	7.15
591-593-931		3206	7.15
600-610-620-737		3207	7.15
930		3208	5.70
	SPLITDORF		
M6		3301	10.00
M5 Plate Transformer		3302	6.45
	STEINITE		
40-40A-40S-45A uses 171 Tubes		3303	6.45
40C-60C-41C uses 245 Tubes		3304	7.15
50A-102A uses 250 Tubes		3305	10.00
70-80-95-10 Screen Grid		3306	6.45
261-262-263-264-265 Complete Power Pack		3307	13.60
	STEWART-WARNER		
900 Series		3336	6.45
950 Series		3337	6.45
R-100A-B-E		3338	6.45
102A-B-E		3340	5.70
110		3344	$7.15
R120-1201-1209		3353	7.15
104 A-B-E		3355	5.70
	STROMBERG-CARLSON		
10-11-25-26		3381	7.15
12-14		3382	7.85
19-20		3383	6.45
22-22A		3384	7.85
29		3385	6.45
635-636		3386	7.15
638		3387	11.45
641-642-654-652		3388	6.45
846-848		3389	7.15
846-848 Speaker Transformer		3390	5.00
38-39-40-41		3391	7.15
48-49-50-51		3392	8.60
37		3394	6.45
	TEMPLE		
8:60-8:61-8:80-8:81-8:90-8:91		4036	6.45
	U.S. RADIO & TELEVISION CO. (APEX)		
8-8A-8B		4054	5.70
10-10C		4046	7.15
26		4048	4.30
26P		4049	4.30
29-31		4050	6.45
36-37 Power Transformer & Choke.		4051	7.15
41		4052	6.45
28-46-47-48		4053	6.45
99A		4056	5.70
32		4057	5.70
7		4058	6.45
	ZENITH		
ZE10 for 33-33X-34-34X-35-35A		4135	6.45
7#Plate Transformer		4136	6.45
9E-11E-14E		4137	5.00
ZE11 Plate Transformer		4138	7.15
ZE14 Plate Transformer		4139	7.15
ZE18 Plate Transformer		4140	7.15
50-52-53-54-55-57-60-61-64-67-522-602-613-622-642-672-70-71-72-73-77-712-732-777-80		4141	7.85
91-92		4142	7.15
ZE90		4143	5.70
Super Het 10-11-12		4144	6.45
Zenette 6-Tube Model 2004		4146	5.70
230-240-245		4147	7.15
410-411-420		4148	7.15
ZE12 Plate Transformer		4150	7.15
ZE15 Plate Transformer		4151	7.15
BH Chassis 2021		4152	5.70
210-5, 211-5, 270-5		4153	5.00
475-760-767-765		4154	6.45
476B-77B-775B		4155	7.15

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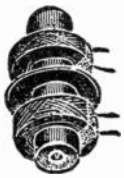
World Radio History

FREED EXACT DUPLICATE REPLACEMENT

AUDIOS - INPUTS - OUTPUTS and CHOKES

Model	Manufacturer	Stock No.	List Price
	ATWATER-KENT		
41-44-45-46-47-52-53-56-57 Audio Transformer		7000	$1.75
46-47-53 Push-Pull Input Transformer		7001	2.15
55-55C Input & Output Transformer		7002	3.60
55 Choke Assembly All Models		7003	2.85
60-60C Input & Output Assembly		7004	3.60
60-60C Choke Assembly All Models		7005	2.85
66 Input & Output Assembly		7006	3.60
66 Choke Assembly		7007	2.85
67 Audio & Input Assembly		7008	3.60
70-72-74-76-H1-H2-F-L1-L2-P Choke		7009	2.85
70-72-74-76-H1-H2-F-L1-L2-P Input Transformer		7010	2.30
	BRUNSWICK		
81-82 Choke		7066	2.15
3NC8-5NC8 Audio Transformer		7069	1.85
14-21-31-S31 First Audio		7071	2.15
14-21-31-S14-S21-S31-S81-S82 Push Pull Input		7067	2.85
14-21-31-S14-S21-S31-S81-S82 Push Pull Output		7068	2.55
	CLARION		
60 Input		7440	3.60
61 Input		7441	2.85
	COLONIAL		
31 Output Transformer Coil		7076	1.45
	CROSLEY		
30S-31S-33S-34S-40S-42S-82S 5 Lead Input Transformer		7086	2.15
41A-42-704-706 Audio & Input Assembly		7087	3.30
60S-61S-62S-63S-80 6 Lead Input Transformer		7088	2.55
804 Input & Output Choke		7090	3.30
608 Double Audio Transformer		7091	3.30
122-123-124 Push-Pull Input		7092	2.85
	EDISON		
R4-R5-C4-7R Audio Transformer		7106	2.15
R4-R5-C4-7R 6 Lead Input Transformer		7107	2.55
	EARL		
21-22-31-31S-32-32S-33-33S-121-24 Audio Transformer		7111	1.85
21-22-31-31S-32-32S-33-33S-121-24 Input Transformer		7112	2.85
41 Audio Transformer		7114	1.85
41 Input Transformer		7115	2.85
	FADA		
RC78-79 Push-Pull Input		7376	2.85
KU45, 45Z Push-Pull Input		7377	2.85
KW Push-Pull Input		7378	2.85
10-11-30-31-18-20-50-70-71-72 Audio		7371	2.15
16, 17, 32 Input		7372	2.85
16-17-18-20-32-50-70-71-72 Push-Pull Input		7373	2.85
41-42-44-46-47 Push-Pull Input		7374	2.85
16-17-18-32 Output		7375	2.15
	FREED		
53-55-56-78-78S-79-79S-90-90S Audio Transformer		7121	1.85
53-55-56-78-78S-79-79S-90-90S Input Transformer		7122	2.85
95 Audio Transformer		7124	1.85
95 Input Transformer		7125	2.85
	GENERAL ELECTRIC		
H31-H51-H71 Input & Output Assembly		7136	$3.30
S-22 Audio Assembly		7137	3.60
S22A Audio Assembly		7138	3.60
K62-KZ62P Push-Pull Input Audio		7263	2.85
K62-KZ62P Filter Reactor		7264	2.85
H32-H72 Interstage & Output Assembly		7260	3.85
	GRAYBAR		
311 Double Audio Transformer		7151	2.85
340 Output Coupling Unit		7152	4.55
700-770-900 Input & Output Assembly		7153	3.30
60 Audio Transformer		7154	1.85
8 Audio Assembly		7155	3.60
8A Audio Assembly		7156	3.60
GB100 Interstage & Output Assembly		7260	3.85
GB9 Push-Pull Input Audio		7263	2.85
GB9 Filter Reactor		7264	2.85
	GREBE		
SK 4 Audio		7396	2.85
SK 4 Push-Pull Audio		7397	4.30
	KOLSTER		
K20-K21-K22-K25 Audio Assembly		7176	3.60
	MAJESTIC		
70-71-72-90 Audio Transformer		7186	1.85
70-71-72-90-180 Input Transformer		7187	2.55
90B-100B Input Transformer		7188	2.55
90-91-92 Output Transformer		7189	1.85
70-71-72 Output Transformer		7190	1.85
180-181 Output Transformer		7191	1.85
30-31 Input Transformer		7192	3.60
300-300A-303-304-307-320-324-360 Reactance Dimmer Assembly Plate Coil		7194	1.15
130-130A-131-132 Input		7195	3.60
50-51-52 Output		7196	2.85
50-51-52 Input		7197	2.85
60-61-62 Push-Pull Input		7198	4.30
160 Push-Pull Input		7199	4.30
90B-100B Push-Pull Output		7200	2.15
	PHILCO		
INPUT AND INTERSTAGE AUDIO			
Transitone 1st Audio		7234	2.25
511, 521 (Chassis) Interstage Audio		7235	2.25
30-40-41-42-73-76-77-77A-82-83, 86, 87 Push-Pull Input		7236	2.25
20-20-A-21-220-220A Push-Pull Input		7237	1.75
62-65-92-95-96-96A-111-111A-211-211A-296-296A Push-Pull Audio Input		7238	2.90
(For 245 Tubes) 112-112A-212-212A Push-Pull Audio Input		7239	2.90
Input Audio Mod. 90 and 90A		7240	2.25
OUTPUTS AND CHOKES			
70-70A-270-270A-370-370A-470-470A-570-570A Transitone No. 3, also 90-90A-490-490A (using 1-247 tube) Output		7241	2.15
20-20A-21-40-41-46-42-62-65-73-76-77-77A-82-83-86-87-92-95-96-96A-111-111A-211-211A-220-220A-296-296A-346 Push-Pull Output		7242	2.15
(For 245 tubes) 90-90A-112-112A-212-212A Put-Pull Output		7243	2.15
30-62-65 Audio Choke		7244	2.15
15-15A-50-51-42-62-65-73-76-77-77A-83-87-92-95-96-96A-111-111A-112-112A-211-211A-212-212A-296-296A 1st pos. Choke		7245	$2.35
83-87 2nd pos. Choke		7246	2.55
Model 20 Choke		7247	1.90
Double Choke Unit Model 500 series		7248	4.00
	RADIOLA—R.C.A. VICTOR		
R7-R9 Input & Output Assembly		7251	3.60
R7A Input & Output Assembly		7252	3.60
7:11, 7:25, 7:26 Double Audio Transformer		7253	2.85
16-17-18-33-50-51 Double Audio Transformer		7254	2.85
R32-REA45-R52-RE75 Input & Output Assembly		7255	3.30
R34-R35-R39-R157-RE73 Input & Output Assembly		7256	3.30
44-46-47 Coupling Reactor		7257	2.85
80-82-86 Input & Output Assembly		7258	3.30
R50-R55-RAE59-RAE79 Interstage & Output Assembly		7260	3.85
R32-RE45-R52-RE75 Phono Audio Assembly		7261	3.60
66 Audio Transformer & By-Pass Assembly		7262	5.70
R11-RE18-RE18A-R21-RAE26 Push-Pull Input Audio		7263	2.85
R11-RE18-RE18A-R21-RAE26 Filter Reactor		7264	2.85
67 Output Coupling Transformer		7265	5.70
64 Audio		7266	2.85
67 Audio		7267	2.85
R4 Dual Audio		7268	3.60
R6-R8-R10-R12-RE19-RO23 Audio Assembly		7269	3.60
	SPARTON		
301 Input Transformer		7327	2.85
593 Audio Transformer		7328	2.15
930 Input Transformer		7329	2.15
55-103-11A-235-564-570-574-578-591-593-740-750-870-930-931 Output Transformer		7330	2.15
301 D.C. 589-593-931-931 D.C. Input Transformer		7331	2.15
9A-410-410 D.C.-420-420 D.C. 600A-610A-620A Audio Input		7332	5.00
	STROMBERG-CARLSON		
10-11-25-26 6 Lead Input Transformer		7301	7.85
10-11-25-26 Filter Inductor		7302	5.00
635 Audio Transformer		7303	2.85
641-642-652-654 Audio Transformer		7394	2.85
641-642-652-654 Filter Inductor		7305	5.00
846-848 Audio & Input Assembly		7307	5.00
12-14 Audio Assembly		7309	6.45
60 Push-Pull Input		7310	3.60
16-17 Audio Assembly		7311	6.45
	WESTINGHOUSE		
WR5-WR6-WR7 Input and Output Assembly		7351	3.30
WR8 Input & Output Assembly		7352	3.30
WR10 Audio Assembly		7353	3.60
WR10A Audio Assembly		7354	3.60
WR15 Push-Pull Input Audio		7263	2.85
WR15 Filter Reactor		7264	2.85
	ZENITH		
50-60-70 Push-Pull, Interstage		7426	4.30



EXACT DUPLICATE I. F. COILS

These **FREED** replacement coils are exact in physical dimensions and electrical characteristics as the originals.

The Coils are easy to assemble and eliminate the discard of the entire I. F. unit.

MAJESTIC—I. F. COILS

Freed No.	Majestic No.	Model	I.F. Stage	Kc.	List Price
101	4428	15-15B-150	1st	175	$0.70
102	4429	15-15B-150	2nd	175	.80
104	5326	25-25B	1st	175	.80
103	5337	25-25B	2nd	175	1.05
102	4429	55	2nd	175	.80
107	6250	200	1st	175	.80
108	6254	200	2nd	175	1.05
109	6119	210	1st	175	.80
111	6123	210	2nd	175	.80
105	6127	210	3rd	175	.80
112	7205	290-300	1st	175	.80
125	7233	290-300	2nd	175	1.05
113	8395	310-330-340-360-390	1st	175	.80
105	7812	310-330-390	2nd	175	.90
114	8996	340	2nd	175	1.05
115	9225	370	1st	456	1.05
106	9229	370	2nd	456	1.05
116	9669	400	1st	456	.80
106	9229	400	2nd	456	1.05

MAJESTIC—I. F. COILS—(Cont.)

Freed No.	Majestic No.	Model	I.F. Stage	Kc.	List Price
117	10148	460	1st	175	.80
110	10253	460	2nd	175	1.00
118	10843	500	1st	465	.80
119	11705	500	2nd	465	.80
113	8995	800	1st	175	.80
110	10253	800	2nd	175	1.00
131	8863	Ford Auto Radio	1st	175	1.05
132	....	Ford Auto Radio	2nd	175	1.05
175	....	Dimmer Reactor Plate Coil	...	...	.90
176	7785	Dimmer Reactor Complete Unit	...	...	1.90

CLARION I. F. COILS

Freed No.	Model	List Price
210	220	$1.00
201	340	$1.00
251	100-Oscillator	$1.00
250	220-Oscillator	$1.00

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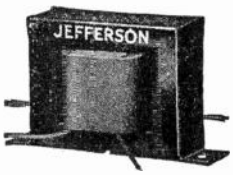

Fig. 7A

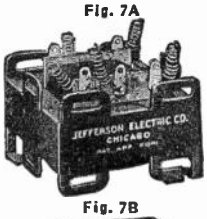

Fig. 7B

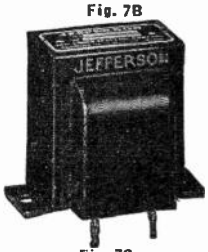

Fig. 7C

Fig. 7D

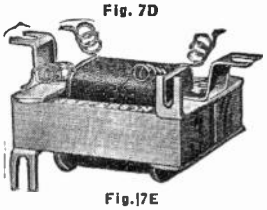
Fig. 7E

Fig. 7F

Fig. 7G

MICROPHONE & AUDIO COUPLING TRANSFORMERS

The latest Jefferson coupling transformers designed for practically all audio uses. High quality, precision built units featuring cores of high grade silicon laminations, annealed after stamping, vacuum dried and impregnated coils and careful assembly to rigid test specifications.

SINGLE BUTTON MICROPHONE TRANSFORMERS

Catalog No.	Series	Style Mtg.	For Coupling	Size	Wt. Lbs.	List Price
467–439	Open	7A	Telephone Mike (75 ohms) to Grid	3¼"x1⅞"x2"	1	$1.60
467–413	Open	7A	Single Button (200 ohms) to Grid	3¼"x1⅞"x2"	1	1.60
467–261	Shielded	7D	Single Button (200 ohms) to Grid	2⅞"x3" x2½"	1½	2.25

DOUBLE BUTTON MICROPHONE TRANSFORMERS

467–414	Open	7A	Double Button (200-0-200) to Grid	3¼"x1⅞"x2"	1	$1.75
467–263	Shielded	7D	Double Button (200-0-200) to Grid	2⅞"x3" x2½"	1½	2.50
467–262	Shielded	7K	Double Button (200-0-200) to Grid	2¾"x3⅛"x3⅛"	2½	3.50
467–421	Encased	7T	Double Button (200-0-200) to Grid	2¾"x2⅜"x4⅛"	2½	8.00
467–430	Shielded	7D*	Double Button to Line 50/200/500 ohms	2⅞"x2¾"x2½"	1¼	2.65
467–432	Shielded	7J	Double Button to Line 50/200/500 ohms	3¾"x3⅜"x3⅛"	2¾	4.00

VELOCITY MIKE TRANSFORMERS

467–429	Open	7A	Velocity (Ribbon) to 50/200 ohms	2⅞"x1⅝"x1¾"	½	$1.40
467–431	Shielded	7D	Velocity (Ribbon) to 50/200 ohms	2⅞"x3" x2½"	1⅓	2.50

LINE TO GRID TRANSFORMERS (Low Level)

467–433	Open	7A	50/200 ohms to Grid	2⅞"x1⅝"x1¾"	½	$1.60
467–178	Shielded	7D*	200/500 ohms to Single or P.P. Grids	2⅞"x3" x2½"	1½	2.50
467–436	Shielded	7J	50/200/500 ohms to S. or P.P. Grids	2¾"x3" x3⅛"	2⅛	4.00
467–181	Shielded	7D	Low Impedance Pickup to Single Grid	2⅞"x2⅝"x2½"	1	2.00
467–421	Encased	7T	50/100/200/400 ohms to Single Grid	2¾"x2⅜"x4⅛"	2½	8.00

LINE TO LINE TRANSFORMERS (Low Level)

467–434	Open	7A	50/200 ohms to 50/200 ohms	2⅞"x1⅝"x1¾"	½	$1.60
467–435	Shielded	7D*	50/200/500 ohms to 50/200/500 ohms	2⅞"x2¾"x2½"	1¼	2.50
467–437	Shielded	7J	50/200/500 ohms to 50/200/500 ohms	2⅞"x2¾"x3⅛"	2½	4.00

AUDIO TRANSFORMERS (INTERSTAGE)

A complete line of audio transformers for coupling ONE plate to ONE grid (Class A) suitable for coupling the plate of a 26, 27, 30, 37, 55, 56, (76), 75, 85, 199, 2B7, 201A, 6B7, 6C5, and similar type tubes to the grid of a 26, 27, 30, 37, 55, 56 (76), 85, 199, 201A, 2B7, 6B7, 45, 71A, 47, 50, 10, 41, 42, 43, 48, 2A5, 31, 33, 38 and Class A 46, 59, 89, etc. tube.

Catalog No.	Series	Style Mtg.	Overall Ratio	Response at 100 Cycles	Size	Weight Lbs.	List Price
467–164	Universal	7E	1 to 2	Down 5 D.B.	3⅝"x1⅝"x2⅜"	¾	$1.25
467–401	Open	7A	1 to 2	Down 5 D.B.	2⅞"x1⅝"x1¾"	½	1.35
467–403	Open	7A	1 to 3	Down 3 D.B.	3¼"x1⅞"x2"	1	1.60
467–405	Open	7A	1 to 4	Down 3.5 D.B.	3¼"x2⅛"x2"	1¼	1.75
467–407	Open	7A	1 to 2	Down 2 D.B.	4" x2⅛"x2½"	2	2.25
467–113	Shielded	7D	1 to 3	Down 3 D.B.	2⅞"x2⅞"x2½"	1¼	2.25
467–116	Shielded	7D	1 to 5	Down 4 D.B.	2⅞"x2⅞"x2½"	1¼	2.25
467–427	Shielded	7C	1 to 4	Down 3.5 D.B.	2⅞"x2⅛"x2⅛"	1⅛	2.25
467–103	Shielded	7G	1 to 3	Down 2 D.B.	2¾"x3⅛"x3⅛"	2½	3.00

PLASTIC-SEALED AUDIO TRANSFORMERS (INTERSTAGE)

467–501	Pla. Sld.	7L	1 to 2	Down 5 D.B.	2⅞"x1⅝"x1⅞"	¾	$1.55
467–507	Pla. Sld.	7L	1 to 2	Down 2 D.B.	4" x2⅛"x2⅝"	2⅛	2.45
467–503	Pla. Sld.	7L	1 to 3	Down 3 D.B.	3¼"x1⅞"x2⅛"	1¼	1.80
467–505	Pla. Sld.	7L	1 to 4	Down 3.5 D.B.	3¼"x2⅛"x2⅛"	1⅝	1.95

PUSH PULL INPUT TRANSFORMERS

467–402	Open	7A	1 to 2	Down 5 D.B.	2⅞"x1⅝"x1¾"	½	$1.50
467–404	Open	7A	1 to 3	Down 3 D.B.	3¼"x1⅞"x2"	1	1.75
467–406	Open	7A	1 to 4	Down 3.5 D.B.	3¼"x2⅛"x2"	1¼	2.00
467–408	Open	7A	1 to 4	Down 2 D.B.	4" x2⅛"x2½"	2	2.50
467–117	Shielded	7D*	1 to 3	Down 3 D.B.	2⅞"x2⅞"x2½"	1	2.35
467–118	Shielded	7C	1 to 3	Down 3 D.B.	2⅞"x2⅛"x2½"	1¼	2.50
467–418	Shielded	7D*	1 to 3	Down 2 D.B.	2⅞"x3" x2½"	1½	2.50
467–106	Shielded	7F	1 to 4	Down 2 D.B.	2¾"x2⅝"x3⅛"	2⅛	3.00
467–105	Shielded	7K	1 to 4	Down 2 D.B.	2¾"x3" x3⅛"	2½	3.00

* Solder lugs in place of terminals.

PLASTIC-SEALED PUSH PULL INPUT TRANSFORMERS

467–502	Pla. Sld.	7L	1 to 2	Down 5 D.B.	2⅞"x1⅝"x1⅞"	¾	$1.70
467–504	Pla. Sld.	7L	1 to 3	Down 3 D.B.	3¼"x1⅞"x2⅛"	1¼	1.95
467–506	Pla. Sld.	7L	1 to 4	Down 3.5 D.B.	3¼"x2⅛"x2⅛"	1½	2.20
467–508	Pla. Sld.	7L	1 to 4	Down 2 D.B.	4" x2⅛"x2⅝"	2⅛	2.70

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Fig. 7H

Fig. 7J

Fig. 7K

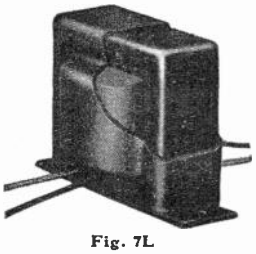
Fig. 7L

Fig. 7M

Fig. 7N

RADIO POWER TRANSFORMERS AND CHOKES

Jefferson power transformers are built to meet every need for the servicing of radio receiving sets and for the construction of high grade amplifier equipment. The liberal use of materials and the conservative ratings are positive assurance of satisfactory performance. Every transformer combines all the skill and knowledge that JEFFERSON experience can provide.

FREE REPLACEMENT GUIDE: Carefully compiled chart shows, at a glance, the proper replacement unit for nearly 1900 standard radio sets.

RADIO REPLACEMENT POWER TRANSFORMERS

50-60 CYCLE PRIMARIES

Catalog No.	Style Mtg.	Input Volt Amps.	Primary Volts	Rectifier Fil No. 1	High Voltage Plate	Fil. No. 2	Fil No. 3	Fil. No. 4	List Price
463-561	7X	40	115	5V-2A	300V D.C. 35 M.A.	6.3V-1.6 A.		.....	$2.25
463-451	7X	40	115	5V-2A	360V D.C. 40 M.A.	2.5V 4 A. Ct.	.....	.....	2.50
463-281	7X	57	115	5V-2A	340V D.C. 60 M.A.	.....	.....	6.3V-2A or 2.5V-7A	3.00
463-441	7Y	100	115	5V-2A	350V D.C. 100 M.A.	6.3V 4 A. Ct.	.....	.....	4.00
463-371	7Y	90	120/110	5V-3A	350V D.C. 85 M.A.	.....	2.5V 9 A. Ct.	6.3V Tap at 5V Tap at 2.5V-3.5 A. Ct.	4.50
463-461	7Y	140	120/110	5V-3A	360V D.C. 125 M.A.	2.5V 1.75 A. Ct.	2.5V 12.2 A. Ct.	6.3V Tap at 5V Tap at 2.5V-4 A. Ct.	5.00
463-341	7Z	66	120/110	5V-2A	320V D.C. 75 M.A.	2.5V 3.5 A. Ct.	(2—71 A's) 5V-0.6A.Ct.	No. 4—1.5V 4.3A (4-'26) No. 5—1.5V 1.2A Ct (26)	4.50
463-381	7Z	57	115	5V-2A	340V D.C. 60 M.A.	.....	.....	6.3V-2A or 2.5V-7A Ct.	3.00
463-431	7Z	100	115	5V-2A	350V D.C. 100 M.A.	6.3V 4 A.Ct.	.....	.....	4.00
463-351	7Z	90	120/110	5V-3A	350V D.C. 85 M.A.	.....	2.5V 9 A. Ct.	6.3V Tap at 5V Tap at 2.5V-3.5 A. Ct.	4.50
463-251	7AA	86	120-110	5V-2A	350V D.C. 85 M.A.	.....	2.5V 8.75 A Ct.	6.3V Tap at 5V Tap at 2.5V-3.5 A. Ct.	4.50
463-261	7AA	140	120/110	5V-3A	360V D.C. 125 M.A.	2.5V 1.75 A. Ct.	2.5V 12.2 A. Ct.	6.3V Tap at 5V Tap at 2.5V-4 A. Ct.	5.00
463-471	7AA	75	115	5V-3A	240V D.C. 150 M.A.	SPEAKER FIELD SUPPLY DELIVERING 36 WATTS OF D.C. USING 80, 523, or 83 RECTIFIER			3.50

D.C. Ratings measured with 8 MFD input condenser to filter and an 80 Rectifier Tube.

CHOKES

Catalog No.	Style Mtg.	RATING Henries	RATING M.A.-D.C.	D.C. Resistance	Size	Wt., Lbs.	List Price
466-420	7A	15	30	515	2⅝"x1⅜"x1⅝"	½	$0.90
466-390	7A	20	50	425	3¼"x1⅞"x2"	1	1.30
466-590	Same as 466-390 but PLASTIC-SEALED				3¼"x1⅞"x2⅛"	1¼	1.50
466-230	7A	50	60	1,400	4" x2⅛"x2⅛"	2	1.50
466-290	7K	50	60	1,400	2⅞"x2⅝"x3⅛"	2½	1.75
466-400	7A	8	80	245	3¼"x1⅞"x2"	1	1.20
466-135	7B	8	80	245	2⅜"x2" x2"	1	1.25
466-410	7A	10	100	275	3¼"x2⅛"x2"	1¼	1.45
466-125	7B	10	100	275	2⅜"x2¼"x2"	1¼	1.50
466-260	7A	5	120	150	2⅞"x1⅝"x2⅜"	1	1.00
466-430	7H	10	150	200	2¾"x2⅝"x3⅛"	2¾	2.25
466-220	7A	10	150	200	4" x2⅛"x2½"	2¼	1.75
466-210	7W	15	150	425	3" x2⅜"x4¼"	3½	1.75
466-330	7P	12	200	150	3⅜"x4½"x4½"	6	5.00
466-350	7P	15	300	145	4" x5⅛"x5⅜"	10	10.00
466-370	7DD	15	500	100	6¼"x6¼"x8¼"	26	17.00
466-310	7K	20 to 7	20 to 70	250	2⅞"x1⅞"x2⅜"	1¼	1.75
466-190	7K	8 to 2.7	50 to 150	80	2⅞"x2⅝"x3⅛"	2½	2.25
466-300	7K	6 to 3	120 to 200	75	2¾"x2⅝"x3⅛"	2¾	2.50
466-470	7Z	6 to 3.5	200 to 350	40	3⅜"x4⅜"x4⅞"	7	6.50
466-320	7P	15 to 5	70 to 200	95	3⅜"x4¼"x4½"	5½	5.00
466-340	7P	15 to 5	100 to 300	105	3⅜"x4½"x4½"	6½	8.50
466-360	7DD	15 to 5	170 to 500	60	6¼"x5¾"x8¼"	21	15.00
466-250	7A	150 H. CT.	15	10,000	2⅞"x1⅞"x2⅝"	1	1.40
466-240	7A	200 H.	18	5,000	2⅞"x2" x2⅜"	1¼	1.10
466-540	Same as 466-240 but PLASTIC-SEALED				2⅞"x2" x2½"	1⅓	1.30
466-280	7D*	250 H.	18	5,000	2⅞"x2⅝"x2½"	1½	1.25
466-380	7C**	250 H.	18	5,000	2⅞"x2⅝"x2½"	1½	1.25

* Lugs on shield. ** Leads bottom.

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Fig. 7P

DRIVER AND OUTPUT TRANSFORMERS

Liberally designed transformers to efficiently couple Class "A" driver to Class "AB" or Class "B" stage. Designed to give maximum regulation when the input resistance of the driver stage varies from a few hundred ohms to thousands of ohms.

Jefferson Output Transformers are supplied in a full range of sizes, in strap and universal mountings for coupling either single or push pull power tubes to the dynamic voice coil.

Fig. 7Q

Fig. 7R

UNIVERSAL TAPPED INPUTS

Catalog No.	Series	Style Mtg.	Overall Ratio	Frequency Response	Size	Wt., Lbs.	List Price
467–168	Universal	7B	1 to 3	—3 D.B. at 100 cycles.....	2⅜"x2⅛"x2"	1	$2.00
467–175	Universal	7B	1 to 3	—2.7 D.B. at 100 cycles.....	2⅜"x2¼"x2"	1⅓	2.25
467–424	Universal	7A	1 to 3	—2.7 D.B. at 100 cycles.....	2⅞"x2¼"x2⅜"	1⅓	2.20

PUSH-PULL INTERSTAGE TRANSFORMERS

467–420	Shielded	7F	1 to 2	—3 D.B. at 100 cycles.....	2¾"x2½"x3¾"	2⅓	$3.25
467–454	Encased	7U	1 to 4	±2 D.B. 30 to 10,000 cycles.	2¾"x2⅜"x3¾"	2¾	5.00

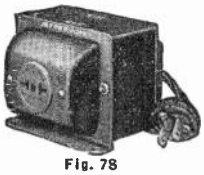
Fig. 7S

CLASS "AB" DRIVERS

Catalog No.	Style Mtg.	FOR COUPLING Pri. Class "A"	Sec. Class "AB"	Size	Wt., Lbs.	List Price
467–415	7J	P.P. 56's (76's).....	P.P. 2A3's.....	2¾"x2⅞"x3⅛"	2½	$3.00
467–455	7H	P.P. 56's (76's).....	P.P. 2A3's.....	2¾"x2⅞"x3⅛"	2½	3.00
467–422	7F	Single 59.....	P.P.P. 45's.....	2¾"x2½"x3⅛"	2½	4.50
467–528	7Z	P.P. 6F6's or 42's.....	P.P. or P.P.P. Cl. AB₂ 6L6's..	2¾"x2½"x3⅛"	2½	3.50
467–461	7F	Single 6F6.....	P.P. 6F6's.....	2¾"x2 11/16"x3⅛"	2½	3.00

Fig. 7T

CLASS "B" DRIVERS

467–458	7A	Single 30 (56).....	Single 19.....	2⅞"x1⅝"x1¾"	½	$1.50
467–449	7A	Single 30 (56).....	Single 19.....	3¼"x1⅞"x2"	1	2.25
467–448	7A	Single 56 (6A6, 53).....	Single 53 (6A6).....	3¼"x2⅛"x2"	1¼	2.35
467–428	7M	P.P. 76's (56's).....	P.P. 53's (6A6's).....	2⅞"x2⅛"x2½"	1½	2.35
467–271	7M	Single or P.P. 59 (46)....	P.P. or P.P.Par. 59's (46's)...	2¾"x3⅛"x3⅛"	2½	3.00
467–462	7Z	P.P. 2A3's.....	Four 46's P.P. Par.....	2 11/16"x2½"x3⅝"	2½	3.00
467–441	7M	P.P. 2A3's (45's).....	P.P. 210's.....	2¾"x2⅞"x3⅝"	2	3.50
467–450	7M	P.P. 2A3's (45's).....	P.P. 800's, RK18's.....	2¾"x3⅝"x3⅝"	3	5.00
467–451	7M	P.P. 2A3's (Fixed Bias)..	P.P. 203A's, 203B's, 211's....	2¾"x3¾"x3⅝"	3½	6.00
467–444	7M	P.P. 50.....	P.P. 203A's, 203B's, 211's....	2¾"x3¼"x3⅝"	3¾	6.00
467–540	7Z	500 ohm. line.....	P.P. 203A's, or 203B's.....	2¾"x3¾"x3⅝"	3½	6.00
467–539	7H	500 ohm line.....	P.P. or P.P.P. Cl. AB₂ 6L6's..	2¾"x2½"x3⅛"	2½	3.50

Fig. 7U

AUTOMATIC BIAS DRIVER TRANSFORMERS

467–537	7Z	P.P. 2A3's (Fixed Bias)..	P.P. 210's and Bias Tubes....	2¾"x2½"x3⅝"	2½	$4.50
467–529	7Z	P.P. 2A3's (Fixed Bias)..	P.P. 800's and Bias Tubes....	2¾"x3¼"x3⅝"	3	5.00

Write for Jefferson Bulletin PA-14 for complete discussion of Class "B" Automatic Bias.

Fig. 7W

UNIVERSAL OUTPUTS

Catalog No.	Style Mtg.	Watts	Impedance Ratio Pri.—Sec.	Tubes S.—Single P.P.—Push Pull	Size	Wt., Lbs.	List Price
467–177	7D		25,000 ohm pri. to 200/500 ohms. low level.....		2⅞"x2⅜"x2½"	1⅓	$2.50
467–459	7A	2	7000 to 2, 3, 6, 9	S. or P.P.—42's to Voice Coil	2⅜"x1⅝"x1⅝"	½	1.50
467–438	7A	12	250/500/1000 ohms to 3, 6, 9, 15 ohms.....		4" x2⅛"x2½"	2¼	3.00
467–170	7B	4	Primary 2000, to 20,000 Ohms Secondary 3 to 15 ohms	Single and P.P. 71A, 45, 47, 89A, 42, 43, 46A, 12A.....	2⅜"x2⅝"x2"	1	2.00
467–425	7A	4			2⅞"x2⅝"x2⅜"	1	1.75
467–176	7B	6		S. and P.P.—71A, 45, 89, 42, 43, 46A, 12A, 2A5, 6A4,31, 33, 38, 47, 48, etc.....	2⅜"x2½"x2"	1⅓	2.25
467–426	7A	6			2⅞"x2½"x2⅜"	1⅓	2.00
467–171*	7J	6		S. & P.P.—71A, 45, 50, 47, 89A, 31, 33, 42, 43, etc.	2¾"x2⅞"x3⅛"	2¼	4.00

* Sec. also for 500 or 2000 ohms.

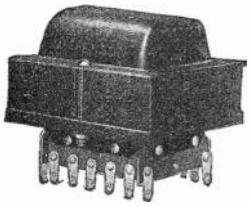
Fig. 7X

STANDARD OUTPUTS

467–409	7A	2	7000	4–6	P.P.—71A, 45, etc. S-33, 42, 47, etc.	2⅞"x1⅝"x1¾"	½	$1.15
467–410	7A	3½	7000	6–8	P.P.—71A, 45, etc. S-33, 42, 47, etc.	3¼"x1⅞"x2"	1	1.40
467–411	7A	6	14000	10–15	P.P. Pentodes, 41, 42, 47, etc.....	3¼"x2⅛"x2"	1¼	1.60
467–412	7A	10	6000	10–15	P.P.—45, 50, 2A3, S-50.....	4" x2⅛"x2½"	2¼	1.90

PLASTIC SEALED OUTPUTS

467–509	7L	2	7000	4–6	P.P.—71A, 45, etc. S-33, 42, 47, etc.	2⅞"x1⅝"x1⅞"	¾	$1.35
467–510	7L	3½	7000	6–8	P.P.—71A, 45, etc. S-33, 42, 47, etc.	3¼"x1⅞"x2⅛"	1¼	1.60

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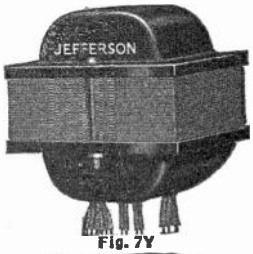

Fig. 7Y

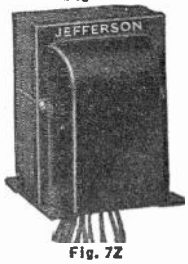

Fig. 7Z

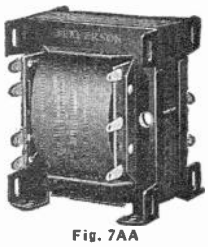
Fig. 7AA

Fig. 7BB

Fig. 7CC

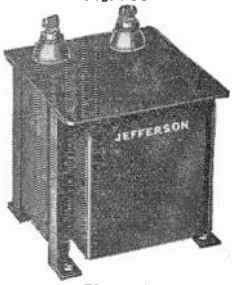

Fig. 7DD
Fig. 7EE

MODULATION TRANSFORMERS

Cat. No.	Style Mtg.	PRIMARY Imped. Ohms	PRIMARY Tubes	SECONDARY Impedance Ohms	SECONDARY D.C.-M.A. in Sec.	Size	Wt. Lbs.	List Price
467-445	7D	10,000	19	2,700	50	2⅞"x2 13/16"x2½"	1½	$4.00
467-446	7N	10,000	53, 6A6, 6N7, RK34	3,000	100	2¾"x3"x3⅛"	2½	5.00
467-457	7N	3,000	2A3's, 45's	10,000 Tap 8,300	60	2¾"x3½"x3 5/16"	3¾	6.00
467-440	7N	6,000	46's, 59's, 250's	10,000 Tap 5,000	100	2¾"x3½"x3⅝"	3¾	6.50
467-442	7N	8,000	210's	5,000 Tap 3,000	120	3⅛"x4⅛"x4½"	5½	9.00
467-453	7Q	1,500	4-45's, P.P.P. Class "AB"	14,000	80	3 15/16"x5⅜"x5¾"	7½	12.00
467-526	7Z	3,800	6L6's, AB_2	7,200 Tap 3,000	200	4"x4"x5 7/16"	8½	9.00
467-536	7Z	1,900	4-6L6's AB_2	11,000 Tap 7,500	175	3 15/16"x5 33/32"x5 13/32"	12	12.50
467-452	7Q	2,500	4-46's, 4-59's, 4-250's P.P.P.	7,200 Tap 2,900	140	3 15/16"x4¼"x5⅝"	9	15.00
467-447	7Q	12,000	800's, RK18's, RK30's, RK31's	10,000 Tap 7,000	140	3 15/16"x7½"x5½"	16	16.00
467-443	7EE	8,000	203A's, 203B's, 211's, T-55's, 830B's	6,600 Tap 3,300	300	6¼"x6½"x8"	22	24.00
467-527	7EE	8,000	805's, 822's, HD 203A's	10,000 Tap 6,000 4,000, 3,000	500	7¾"x6¾"x10¾"	46	40.00

PLATE TRANSFORMERS

Cat. No.	Style Mtg.	Input Volt Amps.	Primary Volts	SECONDARY (CHOKE INPUT) A.C. Voltage	SECONDARY (CHOKE INPUT) D.C. Ratings*	Insulation Test	Size	Wt. Lbs.	List Price
465-151	7M	80	115	425-0-425	350 V.-125 M.A.	1500 V.	3⅜"x4"x4¼"	6	$5.00
465-261	7Z	210	120/110	498-0-498	410 V.-340 M.A.	1500 V.	3 15/16"x5⅝"x5 13/32"	17	12.50
				380-0-380	305 V.-130 M.A.	1500 V.			
465-161	7CC	145	115	750-0-750	650 V.-150 M.A.	2500 V.	3⅞"x4"x4⅝"	9	9.00
465-221 (d)	7Z	195	120/110	600-0-600	1000 V.-150 M.A. 500 V.-300 M.A.	3000 V. 3000 V.	4"x4½"x5 7/16"	12½	11.00
465-171	7M	230	115	885-0-885	750 V.-200 M.A.	3000 V.	4"x5¾"x5 7/16"	15	12.00
465-181	7EE	420 500	115	1265-0-1265	1000 V.-300 M.A.	4000 V.	6¼"x6½"x8⅛"	30	23.00
				1520-0-1520	1250 V.-300 M.A.	4000 V.			
465-291 (b)	7EE	650	115(b)	1770-0-1770	1500 V.-300 M.A.	5000 V.	7¾"x7"x10⅜"	45	30.00
				2050-0-2050	1750 V.-300 M.A.	5000 V.			
465-211 (c)	7EE	500	115 (c)	Two sections each 1150 V.	1000 V.-400 M.A. 2000 V.-200 M.A.	5000 V. 5000 V.	6¼"x6¾"x7⅞"	28	25.00
465-191 (a)	7EE	700 850	115 (a)	1500-0-1500 3000-0-3000	1250 V.-500 M.A. 2500 V.-250 M.A.	7000 V. 7000 V.	8¾"x8½"x11¾"	60	40.00
465-201 (b)	7EE	1300	115 (b)	2260-0-2260	1800 V.-500 M.A.	7000 V.	8¾"x7½"x13½"	85	56.00
				2400-0-2400	2000 V.-500 M.A.	7000 V.			

(a) Sec. arranged for series or parallel operation. Has tap for reducing voltages 25%. (b) Sec. voltages obtained by Pri. Taps. (c) Sec. arranged for series or parallel connections and Bridge type rectification. (d) 1000 V. D.C. Bridge Rectifier. 500 V. D.C. Conventional Rectifier.
*D.C. rating at output of appropriate filter.

VIBRATOR TRANSFORMERS

Cat. No.	Style Mtg.	Voltage on ½ Pri. for Operation with Vibrator Unit	D.C. Voltage With 8 MFD. Input Condenser	Size	Wt. Lbs.	List Price
465-271	7R	6 V. D.C.	245 at 40 M.A.	2½"x2⅛"x3⅛"	2	$2.50
465-281	7R	6 V. D.C.	295 at 45 M.A. or 270 at 67 M.A.	2½"x2⅝"x3⅛"	2¾	3.00

FILAMENT TRANSFORMERS

Cat. No.	Style Mtg.	Primary Volts 60 Cycles	V.A. Rating	SECONDARY Volts	SECONDARY Amps.	SECONDARY Insulation Test	Size	Wt. Lbs.	List Price
464-211	7A	115	13	2.5 C.T.	5.25	1500	3¼"x1⅞"x2"	1	$1.60
464-221	7A	115	25	6.3 & 5 C.T.	4.0	1500	4"x2⅜"x2½"	2	2.25
464-201	7A	115	30	2.5 C.T.	12.0	7500	4"x2¼"x2½"	2	2.50
464-281	7Q	115	30	2.5 C.T.	12.0	7500	3¼"x5⅜"x4½"	4	6.00
464-321	7A	115	49	7.5 C.T.	6.5	2000	3¼"x2½"x4"	3¼	3.00
464-271	7Q	115	49	7.5 C.T.	6.5	2000	3¼"x5⅜"x4½"	4¼	6.00
464-461	7R	115	60	5.0 C.T.	12.0	3000	2 13/16"x2⅝"x3⅜"	3	3.50
464-441	7R	115	40	10.0 C.T.	4.0	2500	2½"x2⅛"x3⅛"	2½	3.00
464-241	7R	115	80	10.0 C.T.	8.0	5000	3¼"x3⅛"x4"	4½	4.00
464-291	7Q	115	80	10.0 C.T.	8.0	5000	3⅜"x5¾"x4½"	5½	6.00
464-451	7R	120/110	100	5.0 C.T.	20.0	3000	3¼"x3½"x4"	5	6.00
464-261	7BB	120/110	100	5.0 C.T.	20.0	8000	4⅞"x8¾"x4¾"	13½	16.00
464-191	7M	120/110	64	2.5 C.T. 2.5 C.T. 5.0 C.T.	14 1.75 3	1500	3⅜"x3⅝"x4½"	4½	4.00
464-231	7R	115	38	2.5 C.T. 7.5 C.T. 7.5 C.T.	3.5 2.5 2.5	2000	3¼"x2⅜"x4"	3	3.50
464-311	7R	115	60	5.0 C.T. 5.0 C.T. 5.0 C.T.	3.0 3.0 6.0	3000	3¼"x2½"x4"	3½	5.00

JEFFERSON AMPLIFER CIRCUITS

Powerful amplifiers, simple to construct and easy to wire, with assurance of superior performance, are built, using Jefferson circuits developed in the Jefferson laboratories. Detailed information may be had upon request.

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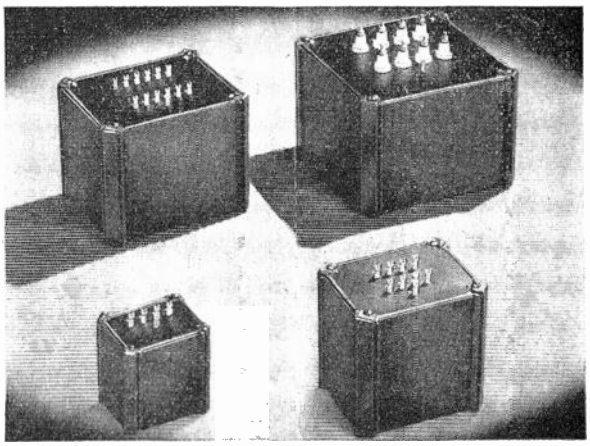
World Radio History

LINEAR STANDARD TRANSFORMERS

UTC LINEAR STANDARD Components represent the closest approach to the ideal transformer from the standpoint of uniform response, low wave form distortion, high efficiency, thorough shielding and dependability.

The multiple tap windings used make possible a wide combination of impedance connections without impairing the audio range or efficiency.

UTC engineers have spent considerable time studying the many annoying hum pickup difficulties which are prevalent in high gain A.C. operated amplifying equipment. As a result, a special cast alloy has been developed to house all UTC Linear Standard units. In addition, low level input transformers use the new UTC dual and quadruple alloy shields thus making possible a transformer with the lowest hum pickup of any available commercially.



LINEAR STANDARD UNITS FEATURE:

- **True Hum Balancing Coil Structure . . .** maximum neutralization of stray fields.
- **Balanced Variable Impedance Line . . .** permits highest fidelity on every tap of a universal unit . . . no line reflections or transverse coupling.
- **Reversible Mounting . . .** permits above chassis or subchassis wiring.
- **Full Electrostatic Shielding . . .** brought out to separate terminal.
- **Alloy Shields . . .** maximum shielding from inductive pickup.
- **Multiple Coil, Semi-Toroidal Coil Structure . . .** minimum distributed capacity and leakage reactance.
- **Precision Winding . . .** accuracy of winding .1%, perfect balance of inductance and capacity; exact impedance reflection.
- **Hiperm-Alloy . . . a Stable** high permeability nickel-iron core material.
- **High Fidelity . . .** UTC Linear Standard transformers are the **only** audio units with a **guaranteed** uniform response, from 30 to 20,000 cycles ± 1 db.

OVERALL DIMENSIONS						
Case	L	W	H	Mtg.	Dim.	Weight Lbs.
LS-1	2 9/16	3 3/16	3 11/16	1 15/16	2 7/16	4
LS-2	3½	4⅜	4⅝	2 11/16	3 11/16	8
LS-3	5	5¾	5 5/16	4 3/16	5 1/32	15
LS-4	6 7/16	6 7/16	5⅝	5¾	5¾	23
CC-1	7⅝	10½	5½	6¼	4½	33
CC-2	11	11	9¼	9⅝	4¾	83
LS-6	16	14	16	8	14½	200
LS-7	21	18	21	11¾	19¾	500

LOW IMPEDANCE TO GRID TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-10	Low impedance mike, pick-up, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	Dual Alloy shield -74DB	LS-1 $15.00
LS-10X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1 20.00
LS-12	Low impedance mike, pick-up or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall in two sections	Dual alloy shield -74DB	LS-1 20.00
LS-12X	As above	As above	80,000 ohms overall in two sections	Quadruple alloy shield -92DB	LS-1 25.00
LS-14	Low impedance mike, pick-up, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	Dual alloy shield -74DB	LS-1 20.00
LS-14X	As above	As above	50,000 ohms	Quadruple alloy shield -92DB	LS-1 25.00
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	Dual Alloy shield -74DB	LS-1 20.00
LS-15X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 25.00
LS-18	High level multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	50,000 ohms overall, in two sections	Alloy casting -50DB	LS-2 22.00

PLATE, CRYSTAL, PHOTOCELL AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-50	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 $15.00
LS-51	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-37	Crystal microphone or pick-up to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-38	Crystal microphone or pick-up to multiple line, with internal equalizer	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00
LS-39	Photocell, high-mu triode, diode or over-biased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-150	Bridging transformer from 50 to 500 ohm line to multiple line	4,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 15.00
LS-151	Bridging transformer from 50 to 500 ohm line to multiple line	16,000 ohms, bridging	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield 74DB	LS-1 15.00

MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-30	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 $15.00
LS-30X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 20.00
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00
LS-31X	As above	As above	As above	Quadruple alloy shield -92DB	LS-1 25.00
LS-32	Mixing, low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125, 200, 250, 333, 500 ohms	Dual alloy shield -74DB	LS-1 20.00

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INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Shielding and hum reduction	Case No. List Price
LS-19	Single plate to PP grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms; split primary	95,000 ohms; turn ratio 1.25; 1 each side; split secondary	Alloy casting -50 DB	LS-1 $15.00
LS-20	Single plate to single grid	8,000 to 15,000 ohms. Also for bridging 50/500 ohm line	60,000 ohms; 2:1 turn ratio	Dual alloy shield -74DB	LS-1 10.00
LS-21	Single plate to push pull grids	8,000 to 15,000 ohms. Also for bridging 50/500 ohm line	135,000 ohms; turn ratio 1.5:1 each side. Primary and secondary each in two sections	Dual alloy shield -74DB	LS-1 13.00
LS-22	Push pull plates to push pull grids	8,000 to 15,000 ohms	38,000 ohms each secondary, turn ratio 1.6:1 each side of center. Primary and secondary each in two sections	Alloy casting -50DB	LS-2 22.00
LS-24	Single plate or multiple line to one or two grids	High impedance primary 8,000 to 15,000 ohms. Low impedance primary 50, 125, 200, 250, 333, 500 ohms	60,000 ohms; 2:1 turn ratio Secondary impedance 60,000 ohms overall	Dual alloy shield -74DB	LS-1 20.00
LS-25	P.P. plates to P. P. grids. Medium level	8,000 to 15,000 ohms; split primary	100,000 ohms overall; 25,000 ohms each side. Turn ratio 1.3:1, Split secondary	Alloy casting -50DB	LS-1 18.00

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Reflected Secondary Impedance	Case No. List Price
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200 250, 333, 500 ohms	2,000 ohms; 1:2 overall turns ratio	LS-2 $30.00
LS-6	Driver, push pull 45's, 59's, 2A3's, 6A5's, etc. to push pull 845 or 211D grids	800 to 2,000 ohms	.6 primary impedance turns ratio 1.3:1 overall	LS-2 22.00
LS-7	Push pull 56, 6C5 or similar plates to A prime 45's, 42's, 6F6's, 2A3's	8,000 to 15,000 ohms	.45 primary impedance turn ratio 1:5:1 overall	LS-2 22.00
LS-47X	Driver from push pull 2A3's, 6A5G's, or 300A's to Class B 838's, 203A's 805's, or ZB120's	800 to 1,000 ohms	.1 pri. impedance turns ratio. Pri./½ Sec. 3.2:1	LS-2 22.00
LS-48	Driver transformer push pull 845's, to 204 or 849 grids in class B	1,000 to 2,000 ohms	.038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1	LS-4 35.00
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838, 203A, 805, or ZB120 tubes	800 to 2,000 ohms	.028 pri. impedance turns ratio, Pri./½ Sec. 6.0:1	LS-4 30.00

OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

Type No.	Primary will match the following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's. +36DB	5,000 ohms plate to plate and 3,000 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 $20.00
LS-845M	845 tubes Class AB +42DB	8,800 ohms plate to plate	5,000, 3,500, 2,500, 2,100, 1,250, 600	CC-1 50.00
LS-66	Class B 203A, 838, ZB120, 805 +46DB	9,000 ohms plate to plate	5,000, 3,500, 2,500, 2,100, 1,250, 600	CC-1 70.00
LS-67	Class B 203A, 838, ZB 120, 805 +46DB	9,000 ohms plate to plate	10,000, 2,500	CC-1 70.00
LS-69	Class B 849, 204A +52DB	10,500 ohms plate to plate	6,000, 5,000, 4,000, 1,800, 1,500, 1,000	LS-6* 200.00
LS-169	Push pull parallel 849's Class B or six push pull parallel 204A's +55DB	5,250 ohms plate to plate	5,000, 4,200, 3,300, 1,500, 1,250, 830	LS-7* 400.00

*Special oil filled construction

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following tubes	Primary Impedance	Secondary Impedance	Case No. List Price
LS-52	Push pull 245, 250, 6V6, 42 or 2A5 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 $20.00
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 20.00
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4 30.00
LS-61	Push pull 6B5, 6A6, 53, 6F6, 71A, 59, 79, 89, Class B46, 59's	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 20.00
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 14.00
LS-64	Push pull 845's Class A	18,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4 35.00
LS-2451	Push pull 45's, A prime, class B 46's-59's, 48's, 25L6's	6,000 ohms plate to plate and 3,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-2 20.00
LS-6L1	Push pull 6L6's self bias	6,600 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3 30.00
LS-6L3	Same as above	6,600 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-3 20.00
LS-6L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 3,300 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	LS-4 35.00
LS-845	845 tubes class AB	8,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	CC-1 50.00

HIGH LEVEL MATCHING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary	Case No. List Price
LS-33	High level line matching, 15 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-2 $15.00
LS-34	High level line matching, 30 watts	50, 125, 200, 250, 333, 500 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500 ohms	LS-3 20.00

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LINEAR STANDARD POWER COMPONENTS

(SEE PAGE 2 FOR DIMENSIONS)

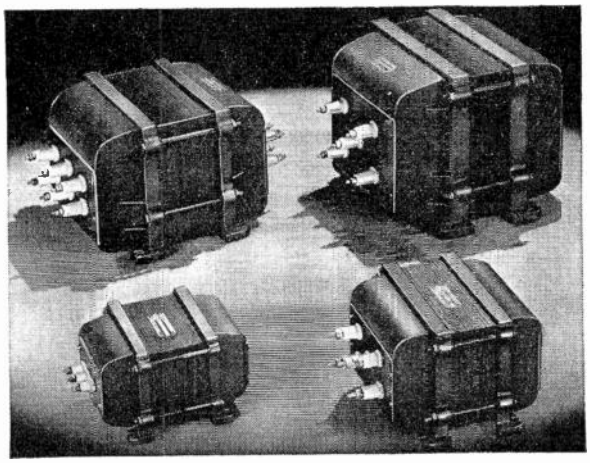

PLATE TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	DC Current	List Price
LS-181	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	200 MA	$45.00
LS-182	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	350 MA	60.00
LS-183	100, 110, 120, 220, 230, 240	1750-1500-0-1500-1750	400 MA	75.00
LS-184	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	500 MA	110.00
LS-185	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	1.2 amp.	250.00

FILAMENT TRANSFORMERS

Type No.	Application	Primary Voltage 50/60 Cycles	Secondary Voltage	Insulation Voltage	Case No. List Price
LS-80	866A rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	12,000	LS-3 $15.00
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	12,000	LS-3 20.00
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	12,000	LS-3 15.00
LS-85	Combined filament transformer for 866 rectifiers and 845 or 203A audio tubes	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 10 V.C.T.-8A	10,000	LS-3 25.00
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	LS-1 7.50
LS-87A	7.5 volt tubes	105, 115, 125	7.5 V.C.T.-9A	2,500	LS-3 15.00
LS-118	849, 204A, HF300	100, 110, 120, 220, 230, 240	11 V.C.T.-10A	2,500	LS-3 20.00
LS-120	866 bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5. V.C.T.-5A	12,000	LS-3 25.00
LS-121	872 bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	LS-4 35.00
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	LS-4 40.00
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	CC-1 60.00

COMBINED PLATE AND FILAMENT TRANSFORMERS

Type No.	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No. List Price
LS-180	115	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-5A	LS-1 $10.00
LS-180H	Same as above but in hum-balanced construction (dual coils			LS-1 13.00
LS-190	100, 105, 110, 115, 120, 125	350-300-0-300-350 125 MA	5 V.C.T.-3A 2.5 V.C.T. -6A 6.3 V.C.T.-3A	LS-3 18.00
LS-190H	Same as above but in hum-balanced construction (dual coils)			LS-3 25.00
LS-191	100, 105, 110, 115, 120, 125	325-250-0-250-325 35 MA	5 V.C.T.-3A 2.5 V.C.T.-2A 6.3 V.C.T.-2A	LS-2 15.00
LS-70	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-2A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3. V.C.T.-3A	LS-4 25.00
LS-72	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 2.5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-6A	LS-4 25.00
LS-73	100, 105, 110, 115, 120, 125	500-400-0-400-500 500 MA 70-0-70 50 MA	5 V.C.T.-6A 2.5 V.C.T.-10A 2.5 V.C.T.-3A 6.3 V.C.T.-4A 6.3 V.C.T.-6A tapped at 5 V.C.T.-6A	CC-1 35.00

FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Application	Inductance	DC Current	DC Resistance	Case No. List Price
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	510 ohms 128 ohms	LS-2 $8.50
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	LS-2 8.50
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	96 ohms 24 ohms	LS-3 15.00
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.25 hy	200 MA 400 MA	112 ohms 28 ohms	LS-4 25.00
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	LS-1 10.00
LS-95	Parallel feed and filter choke	Series-720 hy Parallel-180 hy	5 MA 10 MA	3600 ohms 900 ohms	LS-2 20.00
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 75 MA	1000 ohms 250 ohms	LS-2 10.00
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp.	90 ohms 22.5 ohms	CC-1 40.00
LS-97	Swinging choke	8-40 hy	200 MA	100 ohms	LS-3 15.00
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	90 ohms 22.5 ohms	LS-4 25.00
LS-98	Swinging choke	8-40 hy	400 MA	90 ohms	LS-4 25.00
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp. 2 amp.	50 ohms 12.5 ohms	CC-2 60.00
LS-105	Swinging choke	8-40 hy	1 amp.	50 ohms	CC-2 60.00
LS-1110	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	350 MA 700 MA	80 ohms 20 ohms	CC-1 32.00
LS-1120	Filter choke with hum bucking tap	Series-12 hy Parallel-3 hy	700 MA 1.4 amp	65 ohms 16 ohms	CC-1 40.00
LS-101	Modulation reactor	50 hy	175 MA	350 ohms	LS-4 25.00
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	CC-1 40.00
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	CC-2 60.00
LS-104A	Modulation reactor	50 hy	1.3 amp	75 ohms	Spec. 300.00

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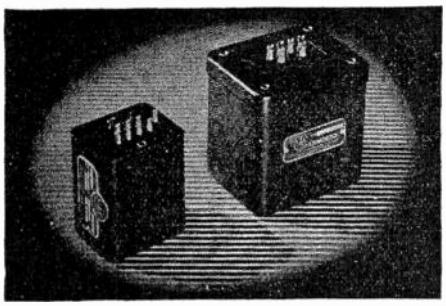
UTC HIPERM ALLOY TRANSFORMERS



The UTC Hiperm Alloy audio and power transformers are specifically designed for portable and compact high fidelity service. The frequency characteristic of the Hiperm Alloy audio units is uniform from 30 to 20,000 cycles. The outer case is of high conductivity alloy finished in high polish black anodic. Through the use of tapped metallic inserts, these transformers can be mounted with the terminals either up or down, and with no waste space. A hum balanced coil structure is used on all audio units to insure minimum pickup. The electrostatic shields are brought out to separate terminals on the terminal strip.

The H-1 case units weigh 1¾ lbs. and are 2" x 2⅜" x 3" high with 1⅜" mtg. centers. The H-2 case units weigh 2¼ lbs. and are 2⅞" x 3⅝" x 3¾" high with 2" x 2¾" mtg. centers.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	60,000 ohms in two sections	H-1 $12.50
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 17.50
HA-101	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 200, 250, 333, 500 ohms	120,000 ohms overall, in two sections	H-1 15.00
HA-101X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 20.00
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	H-1 15.00
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup			H-1 17.50
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	H-1 20.00

PLATE, CRYSTAL AND PHOTOCELL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 $12.50
HA-111E	Crystal microphone or pickup, to multiple line, with internal equalizer	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 17.50
HA-112	Photocell, high-mu triode, diode or overbiased detector to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-113	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50
HA-114	Push pull low level plates to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	H-1 12.50

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
HA-104	Single plate to P.P. grids like 2A3, 59, 46, 6L6	8,000 to 15,000 ohms	95,000 ohms; turn ratio 1.25:1	H-1 $13.00
HA 105	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms 2:1 turn ratio	H-1 9.00
HA-106	Single plate to push pull grids	8,000 to 15,000 ohms	135,000 ohms 1.5:1 ratio, each side	H-1 11.00
HA-107	Push pull plates to push pull grids	8,000 to 15,000 ohms	35,000 ohms each secondary 1.5:1 turn ratio overall	H-3 15.00
HA-109	P. P. plates to P. P. grids	8,000 to 15,000 ohms	25,000 ohms each secondary turn ratio 1.3:1 overall	H-1 15.00

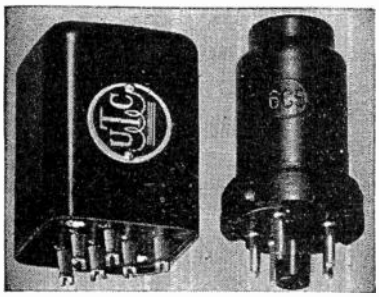
POWER TRANSFORMERS

Type No.	Primary Voltage 50/60 Cycles	High Voltage	Filament Windings	Case No. List Price
HP-122	115	220-0-220 15 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-1.2A	H-1 $10.00
HP-123	115	275-0-275 35 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-2A	H-3 15.00

FILTER AND AUDIO CHOKES

Type	Inductance	DC Current	DC Resistance	Case No. List Price
HC-115	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	7,000 ohms 1,750 ohms	H-1 $8.50
HC-116	Series-600 hy Parallel-150 hy	8 MA 16 MA	4,000 ohms 1,000 ohms	H-3 15.00
HC-117	60 hy	15 MA	3,000 ohms	H-1 8.50
HC-127	60 hy	40 MA	1,000 ohms	H-3 15.00

UTC ULTRA COMPACT AUDIO UNITS



The UTC Ultra Compact audio units are small, light-weight units ideal for remote pickup and similar equipment. Through the use of new design methods, high fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles. There is no need to resonate one unit n an amplifier to compensate for the droop of another unit. All units employ true hum balancing coil structures, which combined with a high conductivity outer case, afford a maximum of inductive shielding.

Ultra Compact audio units weight 5½ ounces and have overall dimensions of 1 7/16" x 1 7/16" x 1 15/16". Mounting dimensions are 1⅛" between centers, top and bottom.

Type No.	Application	Primary Impedance	Secondary Impedance	Case No. List Price
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125, 200, 250, 333, 500 ohms	50,000 ohms	$10.00
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125, 2500, 250, 333, 500 ohms	80,000 ohms overall, in two sections	10.00
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	9.00
A-16	Single plate to single grid	8,000 to 15,000 ohms	60,000 ohms, 2:1 turn ratio	8.00
A-18	Single plate to two grids	8,000 to 15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	9.00
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125, 200, 250, 333, 500 ohms	50, 125, 200, 250, 333, 500 ohms	$10.00
A-24	Single plate to multiple line	8,000 to 15,000 ohms	50, 125, 200, 250, 333, 500 ohms	10.00
A-26	Push pull low level plates to multiple line	8,000 to 15,000 ohms each side	50, 125, 200, 250, 333, 500 ohms	10.00
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125, 200, 250, 333, 500 ohms	10.00
A-30	Audio choke, 300 henrys @ 2 MA 6000 ohms D.C., 75 henrys @ 4 MA 1500 ohms D.C., inductance with no D.C. 450 henrys			7.00

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OUNCER HIGH FIDELITY AUDIO UNITS

The new UTC OUNCER series represents the acme in compact quality transformer practice. These units are ideal for hearing aid, aircraft, glider, portable, concealed service, and similar applications. The overall dimensions are 7/8" diameter by 13/16" height, including lugs. Mounting is effected by two screws, opposite the terminal board side, spaced 13/16". Weight approximately one ounce. Units not carrying D.C. have high fidelity characteristics being uniform from 40 to 15,000 cycles. Items with D.C. in pri. and O-14 and O-15 are for voice frequencies from 150 to 4,000 cycles.

OUNCER HIGH FIDELITY AUDIO UNITS (MAX. LEVEL 0 DB)

200 ohm balanced winding may be used for 250 ohms.

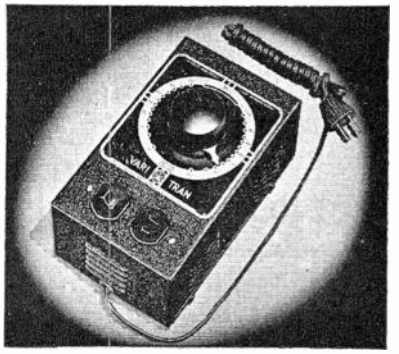
Type No.	Application	Pri. Imp.	Sec. Imp.	List Price
0-1	Mike, pickup or line to 1 grid	50, 200, 500	50,000	$10.00
0-2	Mike, pickup or line to 2 grids	50, 200, 500	50,000	10.00
0-3	Dynamic mike to 1 grid	7.5/30	50,000	9.00
0-4	Single plate to 1 grid	8,000 to 15,000	60,000	8.00
0-5	Single plate to 1 grid, D.C. in Pri.	8,000 to 15,000	60,000	8.00
0-6	Single plate to 2 grids	8,000 to 15,000	95,000	9.00
0-7	Single plate to 2 grids, D.C. in Pri.	8,000 to 15,000	95,000	9.00
0-8	Single plate to line	8,000 to 15,000	50, 200, 500	10.00
0-9	Single plate to line, D.C. in Pri.	8,000 to 15,000	50, 200, 500	10.00
0-10	Push pull plates to line	8,000 to 15,000 each side	50, 200, 500	10.00
0-11	Crystal mike or pickup to line	50,000	50, 200, 500	10.00
0-12	Mixing and matching	50,200	50, 200, 500	9.00
0-13	Reactor, 200 Hys.—no D.C.; 50 Hys.—2 MA. D.C., 6,000 ohms			7.00
0-14	50:1 mike or line to 1 grid	200	½ megohm	10.00
0-15	10:1 single plate to 1 grid	8,000 to 15,000	1 megohm	10.00

UTC VARITRAN CONTROL UNITS

For controlling: Rectifier output . . . motors . . . heaters . . . lights . . . line voltage

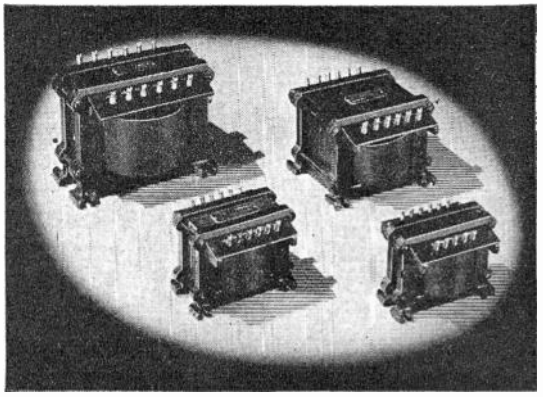
The standard UTC VARITRAN is an auto-transformer designed for 115 volts input and zero to 130 volts output. Stepless control of the output voltage from zero to maximum is effected by taking the tap from the unit with a sliding contact riding over the transformer turns. The circuit is never interrupted. V-1 unit is supplied complete with cord plug and switch. Other units are cased and with terminal strip.

VARITRAN units are designed to work into a load equal to the transformer rating at 115 volts. As the voltage is reduced, the corresponding output current is reduced proportionately. Units are available up to 50 K.V.A. in rating and also for automatic voltage regulator service. 220 volt units are priced at 30% more than 115 volt units.



Type No.	Watts Rating	Max. Amps.	Dimensions	Weight Lbs.	Net Price
V-1	570	5	7½ x 6 x 4	14	$10.00
V-2	570	5	7 x 5 x 4	13	9.00
V-3	850	7.5	8 x 8 x 6	20	14.00
V-4	1,250	11	10 x 10 x 7	35	20.00
V-5	2,000	17.5	10 x 10 x 8½	45	32.00

VARIPOWER AUTO-FORMERS



Designed for line voltage control, filament voltage control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the **tube socket** to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

Type No.	Watts Output	Dimensions	Weight Lbs.	List Price
VA-1	150	4¾ x 3¼ x 3½	6	$6.00
VA-2	250	4¾ x 4½ x 3½	9	7.50
VA-3	500	5½ x 4½ x 4	11	10.00
VA-4	1000	5½ x 6 x 4	19	15.00
VA-5	2000	7 x 6 x 5¾	25	20.00

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VARIMATCH TRANSFORMERS

(For dimensions of cases see following page)

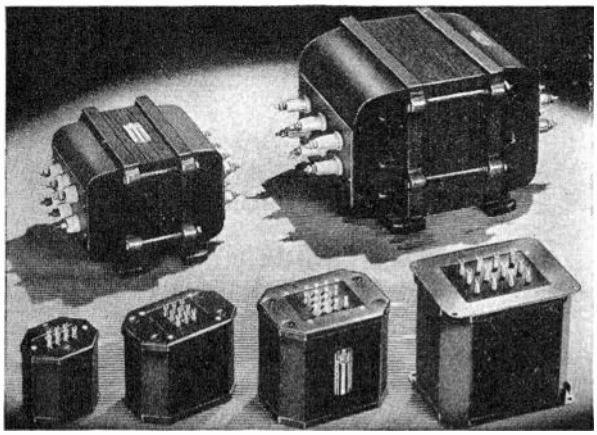
UTC VARIMATCH transformers are available in various types for every PA and transmitter requirement. Thru unique construction high efficiency and good response are obtainable on all terminations.

Pri. Ohms P to P	SECONDARY RF LOAD IMPEDANCES AVAILABLE											‡AUDIO LOAD IMPEDANCE	
2000	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400	200	350
3000	1620	2950	3240	5500	5900	6500	9400	10000	11800	13000	17000	300	520
4000	1380	1850	2160	2850	3450	4300	5500	7300	8650	12500	17400	250	400
5000	1730	2300	2700	3500	4300	5400	7000	9150	10800	15700	21600	300	500
6000	1070	2140	2180	2750	3620	4250	4300	5150	6350	8300	8600	200	370
7000	1250	2400	2500	3200	4280	5000	5050	6000	7300	9700	10000	230	430
8000	1440	2760	2900	3700	4900	5650	5800	6900	8400	10000	12000	270	500
9000	1620	2050	3100	3240	3900	4150	6200	6500	7750	9400	12500	300	550
10000	1800	2300	3500	4300	4600	6100	6900	7100	8600	10500	14000	330	600
12000	2070	2150	2750	4250	4320	5150	7250	8300	8700	12500	17400	370	400
14000	2440	3200	4900	6000	9700							430	
16000	2780	3700	5600	6900	11000							500	
18000	3140	4150	6300	7750	12500							550	
500*	1070	1950	2150	3620	3920	4300	6350	6550	7900	8600	11400		

* In some cases it is desired to match an RF load to the 500 Ohm output of a PA amplifier. The terminal arrangement noted will take care of this application.

‡ These impedances are suitable for PA applications. If a monitor speaker is desired, proper distribution of power is obtained by operating this low impedance into the high impedance primary of the speaker transformer.

Intermediate P.P. primary impedance values available in addition to those shown.



VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No. List Price
PA-51AX	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	PA-1 $5.50
PA-53AX	P. P. tube like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	PA-2 7.50
PA-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	PA-2 7.50
PA-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	PA-3 17.50
PA-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	PA-3 20.00

VARIMATCH MODULATION TRANSFORMERS

Will match any modulator tube to any RF load

Here's the answer to your modulation problem. A line of transformers providing a universal range of load impedances for any modulator combination. The VARIMATCH transformer can never become obsolete. All units carry class C current and are supplied with charts giving impedance combinations.

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case	List Price
VM-0	12	25	30, 49, 79, 6A6, 53, 2A3, 6B5	PA-1	$5.00
VM-1	30	60	6V6, 6B5, 2A3, 42, 46, 6L6, 210	PA-2	8.00
VM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	PA-3	12.50
VM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	PA-4	20.00
VM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	CA-1	32.50
VM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	CA-3	70.00

VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained from the LVM-1, LVM-2, LVM-3, and the actual impedances are as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.	List Price
LVM-1	15	500 ohms	.2 to 75 ohms	PA-1	$4.50
LVM-2	40	500 ohms	.2 to 75 ohms	PA-2	7.00
LVM-3	75	500 ohms	.2 to 75 ohms	PA-3	10.00

PA VARIMATCH OUTPUTS

Universal units designed to match **any tubes** within the rated output power, to line or voice coil. Output impedance **500, 200, 50, 15, 8, 5, 3, 1.5** ohms.

Type No.	Audio Watts	Typical Tubes	Case No.	List Price
PVM-1	12	42, 43, 45, 47, 2A3, 6A6, 6F6, 25L6	PA-1	$5.00
PVM-2	30	42, 45, 2A3, 6L6, 6V6, 6B5	PA-2	8.00
PVM-3	60	46's, 50's, 300A's, 6L6's, 801, 807	PA-3	12.50
PVM-4	125	800's, 801's, 807's, 4-6L6's, 845's	PA-4	20.00
PVM-5	300	211, 242A's, 203A's, 838's, 4-845's, ZB-120's	CA-1	32.50

VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformers will match one to ten 500 ohm lines or LVM-500 ohm windings to the 500 ohm output of an audio amplifier. The LVM-10 to LVM-14 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 62, 50.

Type No.	Audio Watts	Case No.	List Price
LVM-10	15	PA-1	$4.50
LVM-11	30	PA-2	7.00
LVM-12	60	PA-3	10.00
LVM-13	125	PA-4	18.00
LVM-14	300	CA-1	25.00

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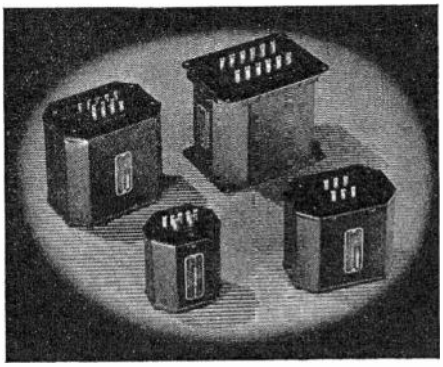
UTC PUBLIC ADDRESS AUDIO COMPONENTS



A quality line of popular-priced transformers incorporating conservative design and construction to assure dependability under the most adverse operative and climatic conditions. Uniform drawn cases finished in telephone black enamel with threaded inserts for top or bottom mounting. These units are professional in appearance and suited for continuous commercial service in amplifiers and transmitters. All items are poured with special moisture-proof sealing compound in addition to vacuum impregnation of coil structures. Items in same case size have approximately the same weights, as noted below.

PA-132, PA-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear, ±1½ DB from 60 to 8,500 cycles. 200 ohm windings on input transformers are balanced and may be used for 250 ohm circuits.

OVERALL DIM., IN.				Mtg. Dim.		Weight Lbs.
Case	L	W	H	L	W	
PA-1	2½	3	3	1 13/16	...	2
PA-2	3 1/16	4½	4½	1⅝	3 1/16	5
PA-3	3⅝	4⅞	4¼	1 13/16	3⅞	10
PA-4	6	4 9/16	6	3¾	5¼	18
CA-1	7⅜	9	5½	...	...	28
CA-2	11	11	9	...	...	83

VARITONE UNITS

The UTC VARITONE is a revolutionary audio device incorporating a transformer and frequency response corrective network. Using the VARITONE, tone correction can be effected for defects in acoustic conditions or overall audio response from microphones, pickups, loud speakers, etc. It is also possible to produce new tonal effects from phonograph recordings or radio reception, bringing back notes which would be practically lost otherwise. Due to the high equalization obtainable, an additional stage of amplification is sometimes necessary if the equalizer is to be used at maximum setting. The VT-1 and VT-2 require an external 50,000 ohm potentiometer as the control device.

Type No.	Matching	Equalization	List Price
VT-1	Triode plate, low impedance mike or line—to 1 or 2 grids	High end, low end, or both	$8.50
VT-2	Connects across triode plate or low impedance mike or line	High end, low end, or both	6.00
VT-3	Connects across triode plate	10 DB at 70 and 8,000 cycles	5.00
VT-4	Connects across triode plate-built in potentiometer	High end, low end, or both	6.00

INPUT TO GRID TRANSFORMERS

PA-1 CASE

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	List Price
PA-131	1 plate to 1 grid	8,000/15,000	90,000 3:1 ratio	$4.50
PA-132	1 plate to 2 grids hum-bucking	8,000/15,000	160,000 centertapped 2:1 ratio each side	5.00
PA-133	2 plates to 2 grids	8,000/15,000	30,000 each side 1.75:1 ratio each side	6.00
PA-134	Line to 1 grid hum-bucking	50, 200, 500	100,000	6.50
PA-135	Line to 2 grids hum-bucking	50, 200, 500	150,000 overall	7.50
PA-136	Single plate and low impedance mike or line to 1 or 2 grids. Hum-bucking	8,000/15,000 50, 200, 500	120,000 overall	7.50
PA-233	PP 6C5, 56, similar triodes to AB 45's, 2A3's, 6L6's, etc.	8,000/15,000	8,000 .9:1 ratio	6.00
PA-333	PP 6C5, 56, similar triodes to fixed bias 6L6's	8,000/15,000	2,500 .5:1 ratio	6.00
PA-433	PP 45, 2A3, similar tubes to fixed b as 2 or 4 6L6's	5,000	1,250 .5:1 ratio PA-2 case	6.50

OUTPUT TRANSFORMERS

Secondary Impedances 500, 200, 50, 16, 8, 5, 3, 1.5 ohms

Type No.	Imped. P.P. Ohms	Typical Tubes	Case	List Price
PA-15	8,000	45's, 50's, 6F6 triodes	PA-2	$7.00
PA-16	3,000/5,000	2A3's, 6A5G's	PA-2	7.00
PA-19	6,000/10,000	6B5, 6A6, 6F6, 89, 46	PA-2	7.00
PA-710	14,000/20,000	10's, 47's, 2A5 pentodes	PA-2	7.00
PA-2L6	6,600	6L6's self bias	PA-3	10.00
PA-4L6	3,300/3,800	2-6L6's, AB2 or 4-6L6's AB	PA-4	15.00

MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

PA-1 CASE

Type No.	Application	Pri. Imp. Ohms	Sec. Imp. Ohms	List Price
PA-137	Mixing	50, 200, 500	50, 200, 500	$5.50
PA-140	Triode plate to line	8,000/15,000	50, 200, 500	6.50
PA-141	PP triode plates to line	8,000/15,000	50, 200, 500	7.50

TELEVISION COMPONENTS

Type No.	Application	Case	List Price
PA-320	Deflecting yoke for 1800 and 1801 tubes	2½" O.D.	$12.00
PA-321	Power transformer 4,500 V. and two 2.5 V. windings	PA-4	15.00
PA-322	Power transformer 2,300 V. and two 2.5 V. windings	PA-3	10.00
PA-323	Vertical output auto-transformer	PA-1	4.50
PA-324	Vertical oscillation transformer	PA-1	4.50
PA-325	Horizontal oscillation transformer	PA-1	4.50
PA-326	Horizontal output transformer	PA-2	12.00
PA-327	1,500 Hy. High voltage filter reactor	PA-2	7.00

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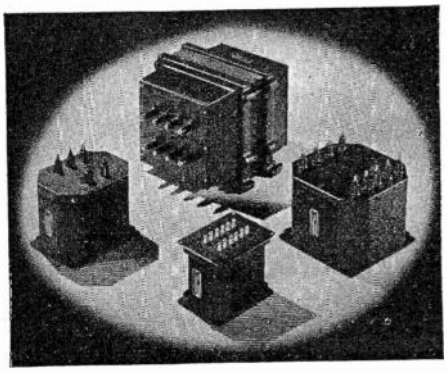
NEW COMMERCIAL TYPE POWER SUPPLY COMPONENTS



The new UTC PA power transformers and chokes have been designed to commercial standards. Temperature rise and insulation requirements are in accordance with the conservative specifications of the A.I.E.E. and Fire Underwriters. Ratings are conservative, for continuous duty, and suitable for all commercial and amateur applications. All items are vacuum impregnated in addition to sealing with special insulating compound. Rugged ceramic bushings are used for high voltage terminals.

These transformers and reactors are designed for temperature rise less than 55 degrees C., and are tested for breakdown on all windings at twice working voltage plus 1,000 volts. In addition, plate transformers are given a surge test at 2½ times normal applied voltage using a 500 cycle supply. In view of the conservative ratings and manufacturing procedure, these units are suitable for use on most types of government and standard commercial communication equipment. However, these same quality features make these units ideal for amateur transmitter equipment and also for quality PA units.

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 volts 50/60 cycles. *Tapped for either voltage.
¶ Replaces former transformer types PA-22, PA-425 and PA-426

Type No.	High Voltage	DC. MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No. List Price
¶PA-422	435-365-0-365-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	PA-3 $10.00
PA-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	*6.3 VCT-3A 2.5 VCT-3A	PA-4 14.00
PA-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	*7.5 VCT-3A 6.3 VCT-3A		PA-4 15.00
PA-431	500-400-0-400-500 80-0-80	500 100	5V-6A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	CA-1 22.50

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V. 50/60 cycles. No filament windings.

Type No.	D.C. Voltage	D.C. Ma.	Case No. List Price
PA-315	Tapped for any voltage from 15 to 100 V. within 6%	250	PA-2 $8.50
PA-316	Tapped for any voltage from 75 to 400 V. within 6%	250	PA-4 15.00

HIGH POWER PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts.

Type No.	High Voltage	D.C. Voltage	D.C. MA	Case No.	List Price
PA-380	625-515-0-515-625	500/400	200	PA-3	$10.00
PA-301	580-530-300-0-300-530-580	475/425/250	500	PA-4	14.00
PA-302	950-750-0-750-950	760/610	325	PA-4	17.00

Type No.	High Voltage	D.C. Voltage	D.C. MA.	L	W	H	Wt. lbs.	List Price
PA-303	1500-1235-400-0-400-1235-1500	1250/1000 300	300 175	8	7½	5½	32	$25.00
PA-304	1500-1235-0-1235-1500	1250/1000	800	14	11	9¼	118	65.00
PA-305	2400-1750-0-1750-2400	2000/1500	300	10	7½	5½	50	35.00
PA-306	2400-1750-0-1750-2400	2000/1500	500	14	11	9¼	120	65.00
PA-307	3500-3000-2400-0 2400-3000-3500	3000/2500/2000	300	13	11	9¼	110	60.00
PA-308	3500-3000-2400-0-2400-3000-3500	3000/2500/2000	500	15	11	9¼	140	85.00
PA-309	3500-3000-2400-0-2400-3000-2500	3000/2500 2000	1000	17	14	11¼	210	135.00
PA-310	4600-4050-3500-0-3500-4050-4600	4000/3500/3000	600	15	14	11¼	168	105.00
PA-311	1500-1235-0-1235-1500	1250/1000	500	10	7½	5½	50	35.00

LOW POWER FILTER CHOKES

Type No.	Inductance Henrys	D.C. MA	D.C. res. Ohms	Case No.	List Price
PA-40	10	200	110	PA-2	$4.50
PA-41	5–25	200	100	PA-2	4.50
PA-44	30	100 max.	375	PA-2	4.00
PA-45	250	15 max.	4500	PA-1	4.50
PA-48C	100	50 ma.	2500	PA-1	4.50

SMOOTHING CHOKES

Tapped for humbucking circuit. Commercial safety factors. Inductance rating at max. DC.

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-100	12	150	115	PA-2	$5.00
PA-102	12	200	105	PA-3	8.00
PA-104	12	300	90	PA-4	12.00
PA-108	10	500	60	CA-1	20.00
PA-1S	10	1000	50	CA-1	35.00

SWINGING INPUT CHOKES

Type No.	Inductance Henrys	D.C. M.A.	D.C. res. Ohms	Case No.	List Price
PA-101	5–25	150	115	PA-2	$5.00
PA-103	5–25	200	105	PA-3	8.00
PA-105	5–25	300	90	PA-4	12.00
PA-109	5–25	500	60	CA-1	20.00
PA-1C	5–25	1000	50	CA-1	35.00

FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

*Two Windings.

Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.	List Price
PA-34	2½	10	2500	6000	PA-2	$7.50
PA-120	2½	10	5000	11000	PA-3	9.00
PA-121	5	22	5000	11000	PA-3	14.00
PA-122	7.5/6.3	8	1500	4000	PA-3	11.00
PA-124	10	10	1500	4000	PA-3	12.00
PA-125	14/12/11	10	1500	4000	PA-3	14.00
PA-126	*14/11/10 14/11/10	10 10	1500	4000	PA-4	20.00

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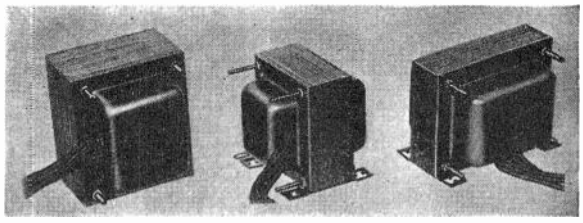
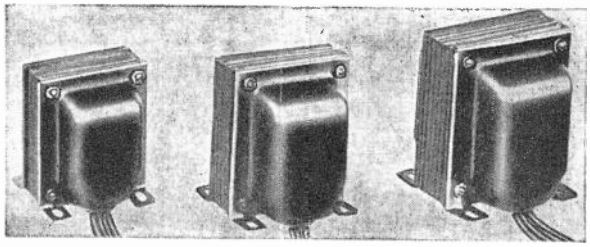
RADIO SET
REPLACEMENT TRANSFORMERS

The new UTC replacement type transformers represent the culmination of years of development in this field. All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.

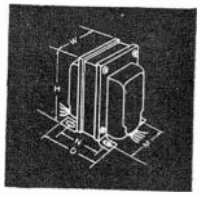
The new UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore. Using Varitap coil construction a minimum number of transformers have been developed to cover any requirement in the replacement field.





Through unique construction the five UTC Varitap Duplicate replacement transformers will service as many types of radio receivers as the 15 or 20 units more customarily employed for such service. The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.

UTC vertical power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel. The Varitap coil structure assures flexibility of application and permits the three units described to take the place of 5 to 8 units customarily employed for equivalent service.



VARITAP DUPLICATE REPLACEMENT POWER TRANSFORMERS

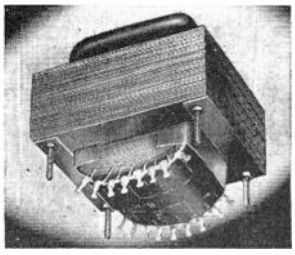
Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-1	325-0-325 40MA	5V-2A	6.3 VCT-2A or 2.5-VCT-4A		3	2½	2¾	2½	2	2½	$2.50
R-2	350-0-350 70MA	5V-3A	6.3 VCT-2.5A or 2.5-VCT-8A		3⅜	2⅞	3	2 13/16	2¼	3¼	3.00
R-3	350-0-350 95MA	5V-3A	6.3 VCT-4.5A or 2.5-VCT-4.5A	2.5 VCT -9A	3¾	3⅛	3⅝	3⅛	2½	6½	4.00
R-4	375-0-375 120-MA	5V-4A	6.3 VCT-5A or 2.5-VCT-5A	2.5 VCT -15A	4½	3¾	3¾	3¾	3	6½	5.00
R-5	385-0-385 180-MA	5V-4A	6.3 VCT-4A or 2.5-VCT-6A	6.3 VCT -5A	4½	3¾	4½	3¾	3	8½	6.00

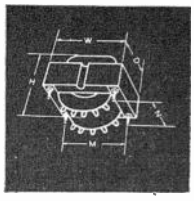
VERTICAL SHIELDED POWER TRANSFORMERS FOR RECEIVERS AND AMPLIFERS

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-11	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3	3¼	3½	2¼	2¼	4	$4.25
R-12	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -8A	3¼	3⅝	4	2½	2½	6½	5.25
R-13	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	3⅞	4½	4⅝	3	3⅝	8½	7.50

VARITAP FLUSH TYPE POWER TRANSFORMERS

The UTC flush type transformers are husky units designed for low temperature rise and good regulation. By employing a Varitap universal coil structure, (brought out to sturdy lugs) the five units described take the place of 12 to 15 units normally found in a flush type series.





Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt Lb.	List Price
R-6	300-0 300 50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		3	2½	3	2½	2	2½	$2.50
R-7	350-0-350 75MA	5V-3A	6 3 VCT-3A or 2.5-VCT-3A	2.5 VCT -8A	3⅜	2⅞	3¼	2 5/16	2¼	3	3.25
R-8	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5 VCT-4A	2.5 VCT -10A	3¾	3⅛	3¾	3⅛	2½	5½	4.25
R-9	400-0-400 125-MA	5V-3A	6.3 VCT 4A or 2.5-VCT-4A	6.3 VCT -2A or 2.5 VCT -10A	4½	3¾	4	3¾	3	6½	5.50
R-10	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT -3A or 2.5 VCT -12A	4½	3¾	4¾	3¾	3	8½	6.50

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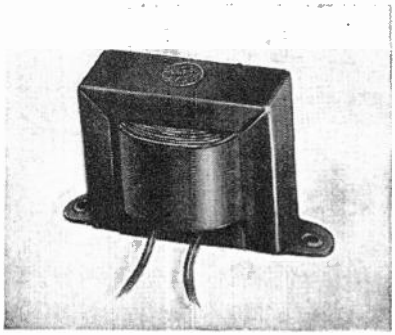
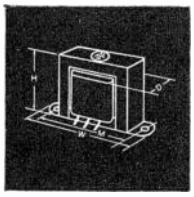
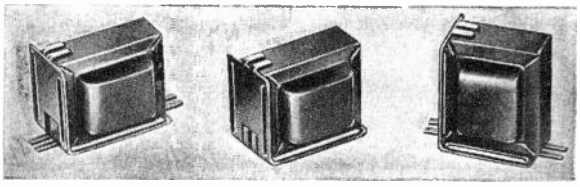




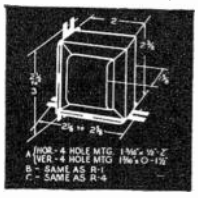
UTC filter chokes are conservatively designed and rated. Standard black enamel mounting channels are employed. Coils are completely sealed against adverse humidity conditions.

FILTER AND AUDIO CHOKES

Type No.	Induct. Hys.	Current	Resistance Ohms	Dimensions, Ins. W	D	H	M	Wgt. Lbs.	List Price
R-14	12	40MA	250	2⅞	1⅜	1 11/16	2⅜	¾	$.90
R-15	15	30MA	450	2⅞	1⅜	1 11/16	2⅜	¾	.90
R-16	20	30MA	600	2⅞	1⅜	1 11/16	2⅜	¾	1.10
R-17	25	30MA	850	3 5/16	1⅜	2	2⅞	1	1.20
R-18	10	75MA	250	3 5/16	1⅜	2	2⅞	1	1.20
R-19	15	100MA	450	3¾	1¾	2 5/16	3¼	1½	1.75
R-20	8	160MA	100	4⅛	2	2⅝	3⅝	2½	2.00
R-21	5/25	160MA	100	4⅛	2	2⅝	3⅝	2½	2.00
R-22	500	5MA	4000	3 5/16	1⅜	2	2⅞	1	1.75



The Varitap Duplicate audio units represent the acme in replacement transformer development. The units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the new UTC universal bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and completely sealed with a special compound to assure complete protection against adverse climatic conditions.



VARITAP DUPLICATE AUDIO TRANSFORMERS AND FILTER CHOKES

(Completely Shielded Units, Universal Mtg.)

Type No.	Application	Description	Fig.	Wgt. Lbs.	List Price
R-23	1 plate* to 1 grid	3½:1 ratio	A	1	$1.75
R-24	1 plate* to 2 grids	2:1 ratio	A	1	1.85
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1¼	2.00
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46 to AB 6L6's, 42's, 2A5's, 6F6's, 46's	A	1¼	2.00
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1¼	1.75
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2½	2.50
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1¼	1.85
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7	5.00
R-31	Filter choke	10 Hys—80 MA—250 ohms	A	2½	1.50
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2¼	2.25

*Will match tubes like 27, 37, 56, 6C6 triode, 6C5. Can be used with high mu triodes with loss in low frequencies.

UTC channel frame audios are excellently designed. In addition to good frequency range, coils are vacuum impregnated and completely sealed against moisture absorption. Standard channels with black enamel finish are employed.

CHANNEL FRAME AUDIO TRANSFORMERS

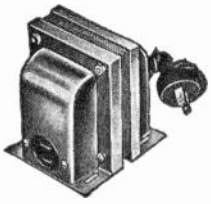
Type No.	Application	Description	Dimen., Ins. W	D	H	M	Wt. Lbs.	List Price
R-33	1 plate* to 1 grid	4:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	$1.20
R-34	1 plate* to 2 grids	2:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	1.25
R-35	Mike to 1 grid	17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	1.50
R-53	Plate and mike to grid	3:1 and 17:1 ratio	2⅞	1⅜	1 11/16	2⅜	¾	1.65
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2⅞	1⅜	1 11/16	2⅜	¾	1.50
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2⅞	1⅜	1 11/16	2⅜	¾	1.60
R-38	10 watt Universal Output	Any tubes up to 10 watts to any voice coil, .1 to 30 ohms	2½	1⅝	1⅜	2⅛	½	1.50
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2⅞	1⅜	1 11/16	2⅜	¾	1.60
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4⅛	2¼	2⅝	3⅜	2¼	2.50

*Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

STEP DOWN AUTO-TRANSFORMERS

220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.	List Price
R-41	85 watt capacity	4	$4.50
R-42	125 watt capacity	5	5.00
R-43	175 watt capacity	5½	6.00
R-44	250 watt capacity	6½	7.00
R-45	500 watt capacity	13	14.00
R-46	1000 watts, no cord	26	25.00



CHANNEL FRAME FILAMENT TRANSFORMERS

Pri. 115 V.—50/60 Cycles

Type No.	Secondary	Dimensions, Inches W	D	H	M	List Price
FT-1	2.5 V. C. T.-3A	2⅞	1⅜	1 11/16	2⅜	$1.25
FT-2	6.3 V. C. T.-1.2A	2⅞	1¾	1 11/16	2⅜	1.25
FT-3	2.5 V. C. T.-6A	3 5/16	1⅜	2	2⅞	1.50
FT-4	6.3 V. C. T.-2.5A	3 5/16	1⅜	2	2⅞	1.75
FT-5	2.5 V. C. T.-10A	3¾	1¾	2 5/16	3¼	1.75
FT-6	5 V. C. T.-3A	3¾	1¾	2 5/16	3¼	1.75
FT-7	7.5 V. C. T.-3A	3¾	1¾	2 5/16	3¼	1.75

EXPORT VOLTAGE ADAPTERS

Auto-transformers designed to accommodate receivers and appliances to the various line voltages encountered in export service. Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Weight, Lbs.	List Price
R-47	85 watts	4½	$6.50
R-48	150 watts	5½	7.50
R-49	250 watts	7	8.50

LINE VOLTAGE CORRECTORS

Auto-transformers complete with cord, plug and tap switch. Switch will effect 115 volts plus or minus 2½ volts output for any input voltage from 88 to 137 volts, 50/60 cycles. Switch can also be used to obtain any output voltage from 95 to 130V. with 115V. line.

Type No.	Rating	Weight, Lbs.	List Price
R-50	100 watts	4	$6.50
R-51	250 watts	5½	8.00
R-52	1000 watts	18	25.00

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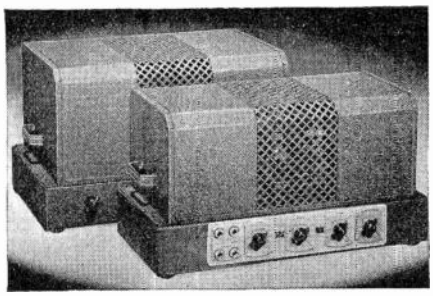
NEW BEAM POWER-COMPRESSOR
AMPLIFIER KITS

The new improved UTC PA amplifier and modulator kits incorporate every advanced circuit feature desirable for PA and amateur work.



The kits are provided complete with panels, covers, resistors, condensers, sockets, jacks, etc. All components are completely mounted and ready to wire; complete constructional details and diagrams are furnished.

VOLUME LIMITING

Volume limiting in amplifier equipment is ideal for the home and PA application inasmuch as the equipment can be operated at high levels without any fear of blasting on peaks of power. In PA service the changes in level encountered when a speaker moves toward the microphone is minimized by the amplifier compression. In modulator work the limiting action minimizes the tendency for over-modulation due to sudden increase of input signals, thus permitting a higher gain control setting **doubling the effective transmitter power.**

COMPONENTS

The new UTC PA amplifier kits are unusually trim in appearance, employing blackchrome etched panels contrasting with the gray commercial wrinkle finish of the chassis and perforated metal cover.

All kits are furnished with four input jacks providing for dual input (high or low gain) to both channels of the mixer. The mixing system is completely cross-talk proof. The unique UTC VARITONE equalizer is incorporated to equalize high frequencies or low frequencies, as desired. VARIMATCH output transformers are employed in kits for PA, modulator and driver service.

The output impedances on PA kits are 500, 200, 15, 8, 5, 3, and 1½ ohms.

TECHNICAL CHARACTERISTICS

P-1A

PA kit, self bias, 30 watts output, audio and power units on separate chassis for rack or cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Output impedances for line and voice coil as above. Weight, 60 pounds.

List price..... **$87.50**

P-1M

Modulator amplifier kit, same as above, but for modulation purposes. VARIMATCH output has the following impedances: 200, 405, 1180, 2350, 2400, 3000, 4000, 4670, 4750, 5660, 7000, 9100, 9500. Weight 60 pounds.

List price..... **$87.50**

Tubes required for P-1A or P-1M kits are: two 6J7, one 6N7, two 6C5, two 6L6, one 83, one 6H6.

P-2A

PA kit, fixed bias, 50 watts output, audio and power units on separate chassis for rack and cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Has output for line or voice coils, as specified. Weight, 64 pounds.

List price..... **$97.50**

P-2M

Modulator kit, same as above, but has VARIMATCH output having impedances of 360, 660, 2050, 3740, 4100, 7000, 7500, 8200, 12000, 12600, 15000, 16400, 21500, 29800 on the 3800 ohm plate to plate terminals. Also has 237, 1300, 1750, 2700, 3270, 5200 ohms on the 4000 ohm plate to plate input terminals. Weight, 64 pounds.

List price..... **$97.50**

Tubes required for the P-2A or P-2M kits: two 6J7, one 6N7, two 6C5, two 6L6, one 83, one 80, one 6H6.

P-3A

PA kit, fixed bias, 100 watts output. Audio and power on separate chassis for rack or cabinet mounting. Four jack, dual channel, high impedance input, two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Line and voice coil output. Weight, 110 pounds.

List price..... **$142.50**

P-3M

Same as P-3A, but has VARIMATCH output with impedances of 270, 500, 1440, 2760, 2900, 3700, 4900, 5650, 5800, 6900, 8400, 11000, 12000. Weight, 110 pounds.

List price..... **$142.50**

Tubes required for the P-3A and P-3M kit: two 6J7, one 6N7, two 6C5, four 6L6, two 6F6, three 83, one 5Z3, one 6H6.

P-4D

10 watt compressor driver amplifier, self bias. 10 watts output, sufficient to drive any class AB, or class B amplifier of 100 watt to 250 watt rating. The ideal driver, incorporating: compression, low reflected drive impedance, multi-channel input, high gain, and VARITONE equalizer. One chassis. Four jack, dual channel, high impedance input, two high gain (117DB), two low gain (77DB). VARITONE equalizer and **compression controls.** VARIMATCH driver transformer incorporated as output unit. Weight, 36 pounds.

List price..... **$65.00**

P-4A

Ideal 10 watt home amplifier. Same as above, but with PA VARIMATCH output transformer to 500, 15, 8, 5, 3, 1½ ohms. Weight, 36 pounds.

List price..... **$65.00**

Tubes required for the P-4D and P-4A kit: two 6J7, one 6N7, one 6C5, two 2A3, one 5Z3, one 6H6.

P-5A

PA kit, self bias, 15 watts output. One chassis. Four jack, dual channel, high impedance input: two high gain (120DB), two low gain (80DB). VARITONE equalizer and **compression controls.** Output impedance for line and voice coils, as specified. Weight, 36 pounds.

List price..... **$62.50**

P-5M

Modulator kit, same as P-5A, but with VARIMATCH output having impedances of 270, 500, 1440, 2760, 2900, 3700, 4900, 5650, 5800, 6900, 8400, 11000, 12000. Weight, 36 pounds.

List price..... **$62.50**

Tubes required for P-5A or P-5M kit: two 6J7, one 6N7, one 6C5, two 6V6, one 83, one 6H6.

P-7A

AC operated pre-amplifier kit designed especially for amateurs and PA service. Very efficient filtering assuring freedom from hum. Has a gain of 70DB, and a two channel high impedance, high level mixer with jack input for each channel. Output impedances are 50, 200, and 500 ohms. Weight, 15 pounds.

List price..... **$30.00**

Tubes required for the P-7A: two 6J7, one 6N7, one 6X5.

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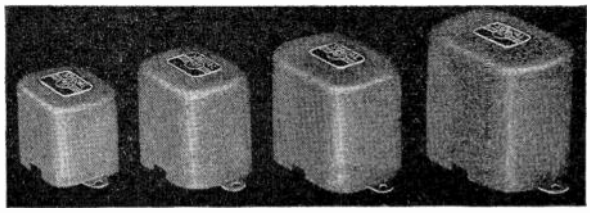
World Radio History

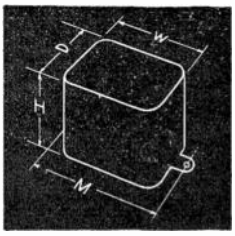
SPECIAL SERIES AUDIO TRANSFORMERS

UTC Special Series transformers represent unprecedented value. These items are specifically designed for amateur and popular-priced PA service. For commercial equipment the PA or LS series of units are recommended. The Special Series units are finished in a rich, commercial type gray crinkle enamel. Small units are poured with humidity-proof sealing compound in modern drawn cases A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current in the class C stage and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting and louvres for good ventilation.



CASE SIZES

Type No.	H	W	D	M	Weight Lbs.
G-1	1 7/8	2	1 3/4	2 7/16	1
G-2	2 5/16	2 3/8	1 15/16	2 7/8	1 1/2
G-3	2 1/2	2 3/4	2 1/8	3 1/4	2
G-4	2 15/16	3 1/8	2 5/16	3 3/8	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case No.	Net Price
S-1	1 plate* to 1 grid	3½:1	G-2	$1.35
S-2	1 plate* to 2 grids	2:1	G-2	1.50
S-3	1 plate* to 1 or 2 grids compact type	4:1 2:1 P P.	G-1	1.20
S-4	1 plate*to 2 grids wide range response	1:1	G-3	2.10
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2	1.80
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1	1.20
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2	2.10

*Will match tubes like 56, 6C5, 6C6 triode, 77 triode, 37, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No. Net Price
S-8	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	G-3 $1.65
S-9	P. P. tubes like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	G-4 2.25
S-10	P. P. 56, 6C5, etc.	AB 45, 42, 2A3, 6L6	G-3 2.10
S-73	500 or 200 ohm line to all Class B grids up to 400 watts		G-4 2.25

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case No. Net Price
S-11	Single 56, 6C6 triode, 6C5 or Similar tube to line.	10,000	200/500	G-2 $1.80
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2 2.10
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4 2.70

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Tubes and Pri. Ohms	Sec. Ohms	Power	Case No. Net Price
S-14	Single tubes: 2500 ohms for 2A3, 6A3, 6A5 G. 6B4 G, 6L6, 6Y6, 25L6 4,000 ohms for 2A5, 6F6 triode, 12A5, 25A6, 43, 45, 50, 71A 7,000 ohms for 2A5, 6F6, 6K6, 20, 31, 33, 47 10,000 ohms for 6G6, 38, 41	2, 8, 15, 500	10 W	G-2 $1.95
S-15	P. P. tubes: 4,000 ohms for 25L6, 6Y6G 5,000 ohms for 2A3, 6A3, 6A5G, 6B4G, 45 10,000 ohms for 19, 7J6G, 30, 49, 89, 6Z7G, 6AC5G, 53, 6A6, 6N6, 6N7, 6B5	2, 8, 15, 500	12 W	G-2 2.10
S-16	3,000 ohms for 2A3, 6A3, 6A5G, 6B4G, AB 6,000-6,600 ohms for 2A5-6F6-42 triodes AB, 46, 59, 6L6 10,000 ohms for 6B5, 6V6, 2A5-6F6-42 pentodes AB	2, 8, 15, 500	30 W	G-4 2.85
S-17	3,300 ohms for 4 6L6's, 4-46's 3,800 ohms for 2 6L6's, AB2 6,000 ohms for 1608, 809	2, 8, 15, 500	55 W	G-5 3.90

COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages *	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No. Net Price
S-39	490-400-0-400-490 175 Ma.	400/310	5V.-3A.	2.5 V. C. T. 6A	6.3 V. C. T. 4A	G-6 $3.30
S-40	525-425-0-425-525 250 Ma.	400/310	5V.-3A.	6.3 V.C.T.-3A	6.3 V.C.T.-3A	G-7 3.60
S-41	600-0-600 200 Ma.	475	5V.-3A.	7.5V. tapped 6.3V-3A	6.3 V.C.T.-2A	G-7 3.60
S-42	600-525-0-525-600 300 Ma.	480/400	5V.3A-	7.5V. tapped 6.3V.-3A	6.3 V.C.T.-3A	G-8 5.10
S-43	525-0-525 450 Ma. 40-0-40, 200 Ma.	400	5V.-3A 5V.-6A	6.3 V.C.T.-2A	6.3 V.C.T.-5A	G-9 7.20

*Based on two section filter, choke input.

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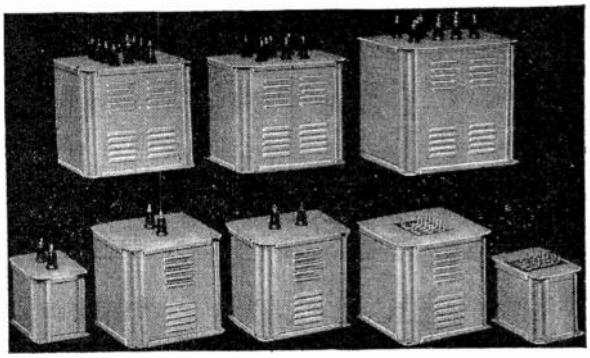
World Radio History

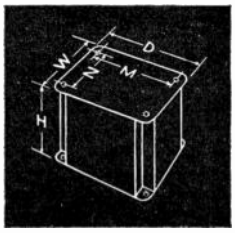
SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for intermittent service. For commercial applications, PA or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Large stand-off insulators and conservative coil insulation are provided on all high voltage units.



CASE SIZES

Type	H	W	D	M	N	Wt. Lbs.
G-5	3 7/8	3 1/8	4 9/16	3 7/8	2 7/16	4 1/2
G-6	4 5/8	3 3/4	5 1/2	4 13/16	3 3/32	8
G-7	5 3/8	4 9/16	5 9/16	4 27/32	3 25/32	9
G-8	5 3/8	5 1/2	5 1/2	4 25/32	4 3/4	13
G-9	6 1/8	5 5/16	6 13/16	6 3/32	4 19/32	18
G-10	6 1/8	6 3/16	6 11/16	5 15/16	5 13/32	24
G-11	7 1/8	6 9/16	7 3/8	6 21/32	5 29/32	31



FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Case No.	Net Price
S-23	Audio	500 Hy.	5 Ma.	4,500 ohms	G-2	$1.35
S-24	P.P. Choke	500 Hy. C.T.	3 Ma.	4,000 ohms	G-2	1.50
S-25	Filter	30 Hy.	30 Ma.	800 ohms	G-2	1.20
S-26	Filter	15 Hy.	60 Ma.	230 ohms	G-2	1.20
S-27	Filter	30 Hy.	75 Ma.	350 ohms	G-4	1.65
S-28	Filter	20 Hy.	100 Ma.	350 ohms	G-4	1.65
S-29	Filter	6 Hy.	175 Ma.	95 ohms	G-4	1.65
S-30	Swinging	5/25 Hy.	175 Ma.	95 ohms	G-4	1.65
S-31	Filter	15 Hy.	225 Ma.	120 ohms	G-5	2.10
S-32	Swinging	5/25 Hy.	225 Ma.	120 ohms	G-5	2.10
S-33	Filter	15 Hy.	300 Ma.	90 ohms	G-7	3.00
S-34	Swinging	5/25 Hy.	300 Ma.	90 ohms	G-7	3.00
S-35	Filter	15 Hy.	400 Ma.	85 ohms	G-8	3.90
S-36	Swinging	5/25 Hy.	400 Ma.	85 ohms	G-8	3.90
S-37	Filter	15 Hy.	550 Ma.	60 ohms	G-9	5.40
S-38	Swinging	5/25 Hy.	550 Ma.	60 ohms	G-9	5.40

UNIVERSAL BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles **No Filament Windings**

Type No.	Application	D.C. Current	Case No. Net Price
S-51	Will supply any bias voltage from 15 to 100 volts D.C. within approximately 6% of desired value.	200 Ma.	G-5 $3.00
S-52	Will supply any bias voltage from 75 to 400 volts D.C. within approximately 6% of desired value.	200 Ma.	G-7 4.20

UNIVERSAL OUTPUT TRANSFORMERS

Any modulator tubes to any RF load.

Type No.	Audio Power	Case No.	Net Price
S-18	12 watts	G-3	$2.10
S-19	30 watts	G-4	2.85
S-20	55 watts	G-5	3.90
S-21	110 watts	G-7	6.00
S-22	250 watts	G-9	8.40

PLATE TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	D.C. Voltages*	D.C. Current	Case No. Net Price
S-44	575-525-0-525-575	470/430	500 Ma.	G-9 $5.70
S-45	900-750-0-750-900	750/620	200 Ma.	G-8 3.90
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9 5.70
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10 7.20
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11 11.70
S-49	2100-1800-1500-0-1500-1800-2100	1815/1540/1275	300 Ma.	G-11 10.80
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-11 12.90

*Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.

Note: Using a bridge rectifier circuit D.C. Voltages shown are **doubled** but available D.C. current reduced to **half**. S-49 and S-50 are not suitable for bridge rectifiers.

SINGLE SECONDARY FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.	Net Price
S-53	2.5 VCT	10 A.	1500 V.	G-3	$1.35
S-54	5 VCT	4 A.	2500 V.	G-3	1.35
S-55	6.3 VCT	3 A.	1,500 V.	G-3	1.35
S-56	7.5 VCT	3 A.	1,500 V.	G-3	1.35
S-57	2.5 VCT	10 A.	10,000 V.	G-5	1.80
S-58	2.5 VCT	20 A.	10,000 V.	G-5	2.40
S-59	5 to 5.25 VCT	13 A.	5,000 V.	G-5	2.10
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7	4.50
S-61	7.5 VCT tapped 6.3 VCT	8 A.	3,000 V.	G-5	2.10
S-62	10 VCT	10 A.	3,000 V.	G-5	2.40
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5,000 V.	G-7	4.50

MULTIPLE SECONDARY FILAMENT WINDINGS

Primary Tapped 105, 115 Volts—50/60 Cycles

Type No.	Fil. 1	Fl. 2	Fil. 3	Insulation V.	Case No.	Net Price
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3,000	G-5	$2.40
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3,000	G-5	2.40
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3,000	G-5	2.40
S-67	5 VCT-6A	6.3 VCT-5A		3,000	G-5	2.40
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3,000	G-5	2.70
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3,000	G-5	2.70
S-70	6.3 VCT-5A	6.3 VCT-5A		3,000	G-5	2.70
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10,000	G-7	4.50
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5,000	G-5	3.00

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World Radio History

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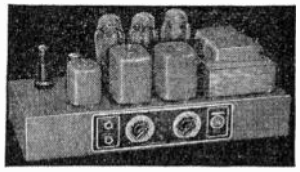
TRANSMITTER AND AMPLIFIER KITS



S-15A The S-15A audio amplifier is an ideal medium power amplifier for P. A. and modulator service, delivering 15 watts of audio power. The power supply and audio amplifier are combined on one compact chassis. High gain, sufficient for crystal microphone operation, is effected through proper choice of tubes, including 6V6G tubes in the output stage. High impedance dual input is provided for either low or high gain, using standard jacks. A universal output plug is supplied at the back of the unit. A tone control is mounted on the common etched panel which sets off the modern beauty of the slate-gray crinkle chassis. The tubes required are one 6J7, one 6C5, two 6V6G's and one 83. This kit is supplied completely mounted ready to wire, less dust cover and tubes, including all components, accessories, etched plate, etc. Size 17" long x 7" wide x 8" high. Weight 23 pounds.
Net price **$24.00**

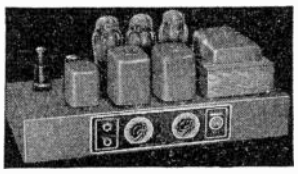
If kit is desired with Special Series universal modulation transformer, use amplifier kit No. S-15M.
Net price **$24.00**

If kit is desired with 2A3 output tubes and additional stage of amplification, line and voice coil output, use Kit No. S-10A. Net price **$25.20**

2A3 kit as above, but universal driver output transformer, use Kit No. S-10D. Net price **$25.20**

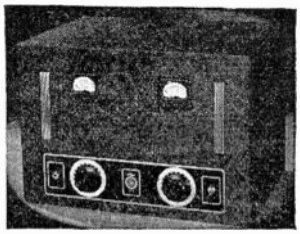
Tubes for S-10A and S-10D are one 6V7, one 6F8G, two 2A3's, one 83.

Dust cover for above amplifiers, type S-15D. Net price **$1.50**



S-25A The S-25A audio amplifier has been designed specifically for the high power P. A. and modulator field. This unit employs 6L6 tubes in the output stage to obtain 25 watts of undistorted power. The circuit is simple but highly efficient, effecting sufficient gain in three stages to operate from crystal or similar microphones. The tone and volume controls are mounted with the dual high impedance, high and low gain input jacks on one etched panel. A universal output plug is provided on the back of the chassis. The power supply is unusually rugged and employs a two-section filter for optimum regulation and hum reduction. The kit is normally supplied with universal voice coil output impedances. The tubes required are one 6J7, one 6C5, two 6L6's and one 83. The S-25A kit is supplied completely mounted, ready to wire, less tubes, including all components, accessories, dust cover, etched plate, etc. Size 17" long x 7" wide x 9¼" high. Weight 32 pounds.
Net price **$30.00**

If kit is desired with Special Series universal modulation transformer use amplifier kit No. S-25 .
Net price **$30.00**



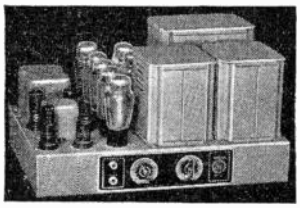
SX-80 The SX-80 transmitter kit is a complete 80 watt C.W. transmitter of modern design. Operation on all bands is obtained through the use of plug-in coils. Keying is accomplished in the oscillator cathode circuit to permit break-in operation. A rugged power supply using choke input filter is incorporated on the same chassis.

The output of the SX-80 consists of a link circuit terminated at two Isolantite feed-through insulators at the rear of the chassis, and may be connected to a twisted pair feeder or to an external antenna coupling system.

The SX-80 combines modern appearance with simplicity of control and flexibility of operation. It may be used either as a complete 80 watt C.W. unit or as an exciter to drive a high power final stage. It lends itself to the possibility of being incorporated in future equipment should higher power be desired. The tubes required are three 6L6G's and one 83. The kit includes the cabinet and all components and accessories such as resistors, condensers, sockets, coil forms, etched plate, line cord, etc.

This unit is supplied completely mounted, ready to wire, less 2"-100MA and 200MA meters, tubes, and crystal. Size 18" long x 13" wide x 12½" high.
Weight 46 pounds.
Amateur net price **$37.50**

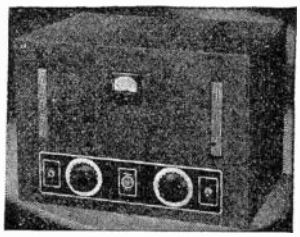
SX-82A Antenna matching kit, similar to SX-80 and SX-200 in appearance . . . will handle any transmitter up to 300 watts input. Complete including cabinet and accessories less 2.5A—2" meter.
Amateur net price **$19.60**



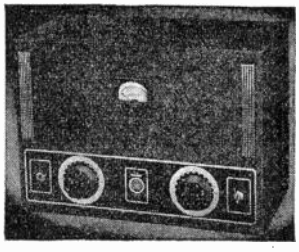
S-100 The S-100 audio amplifier is an ideal inexpensive unit for amateur use. Four highly efficient stages are employed, permitting crystal, microphone input and 100 watt undistorted output. Four 6L6 tubes are employed in the output stage for maximum tube economy and minimum plate potential. Fixed bias is employed on the output stage, permitting peak power handling ability appreciably over the normal rating. A modern etched panel sets off the attractive appearance of the gray crinkle cabinet, which is similar to that of the SX-80 and SX-200 transmitter kits. Tone and volume controls are provided. High impedance, high or low gain, dual input is arranged using standard jacks. A Special Series universal modulation transformer is employed to effect maximum flexibility for matching any RF stage. Tubes required are one 6J7, one 6C5, two 6F6's, four 6L6's, three 83's. The kit is supplied completely mounted, ready to wire, less tubes and dust cover, including all components, accessories, etched plate, etc. Size, less cabinet, 17" long x 12" wide x 9¼" high; with cabinet, 18" long x 13" wide x 12½" high. Weight 59 pounds.
Net price **$52.50**

If this kit is desired with a P. A. output transformer for universal voice coil impedances, order by No. S-100PA.
Net price **$55.00**

Cabinet for above to match SX-80 and SX-200 in appearance—Type S-100C. Net price **$3.75**



SX-200 The UTC SX-200 transmitter kit is a high power output stage designed to be used in conjunction with the SX-80 to form a complete 300 watt C. W. transmitter. When supplemented by the UTC type S-100 modulator amplifier, it becomes a 200 watt phone transmitter. The SX-200 is of modern design, employing four type 809 tubes in a push pull parallel circuit, thus effecting high power at moderate plate potentials and permitting operation at lower power by eliminating one pair of tubes, if so desired. The SX-200 may be used as a power amplifier stage following any exciter which has a power output of 40 watts. It will operate at all frequencies up to 30 megacycles. A rugged, highly efficient power supply is combined on the same chassis with the RF amplifier. Single section high efficiency choke input filtering is employed to obtain good regulation. The tubes required are two 866's or 866A's and four 809's. This unit is supplied completely mounted, ready to wire, less 2"-500MA meter and tubes, including all components, accessories, and cabinet. Size 18" long x 13" wide x 12½" high. Weight 66 lbs.
Amateur net price **$43.50**



SX-25 The UTC SX-25 kit is an ideal unit for the beginner and also as a stand-by transmitter for the experienced amateur. Its low price represents unprecedented value. With a good antenna this transmitter has made contacts over a range of several thousand miles.

The circuit of the SX-25 is very simple, being a straight crystal controlled oscillator of high power output (25 watts CW) and stability. It is constructed with a self-contained power supply and antenna tuning condenser. Keying is accomplished in the cathode circuit of the oscillator, thus permitting break-in operation. The SX-25 will operate on all amateur bands from 160 to 10 meters. It is supplied completely mounted, ready to wire, less 2"-200MA meter, tubes, and crystal. The kit includes the cabinet and all components and accessories, such as resistors, condensers, coil form, sockets, etched plate line cord, etc. The tubes required are one 6L6G and one 83. Size 15" long x 7½" wide x 10½" high. Weight 20½ pounds.
Amateur net price **$18.00**

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World Radio History

HALLDORSON Replacement Transformers

POWER TRANSFORMERS

Cat. No.	Plate Voltage C.T.	5 V. Fil.	2.5 V. Fil.	6.3 V. Fil.	Tube Combinations	Mtg Type	Dimensions H. W. D.	Mounting Centers	Wtg. Lbs.	Price
51	700 V.— 70 M.A.	3 A.	10 A., C.T.		1-45, 47, 2A5; 5-2-2, 27, or 9-56, 57	S T U	4" x3¼"x3⅜" 3¼"x3⅜"x3⅛" 3¼"x3¾"x3⅛"	2½"x2⅛" Universal 3⅛"x2⅛"	5 4½ 4½	$4.50 4.00 3.75
52	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 3.5 A., C.T. (3) 9 A., C.T.		2 45, 47, 2A5 2-45, 47, 2A5 5-24, 27, or 9-56, 57	S T U	4¾"x4" x4" 3¾"x4½"x3¾" 4" x4½"x3¾"	3" x2⅞" Universal 3¾"x2½"	8¾ 7¾ 7¾	5.50 5.00 4.75
53	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 12.25 A., C.T.		2-45, 47, 2A5 7-24, 27 or 12-56, 57	S T U	4¾"x4" x3½" 3¾"x4½"x3¼" 4" x4½"x3¼"	3" x2⅝" Universal 3¾"x2½"	9 8½ 8½	6.25 5.25 5.00
56	700 V.— 90 M.A.	3 A.	(1) 3.5 A., C.T. (2) 8.75 A., C.T.		2-45, 47, 2A5 5-24, 27, or 9-56, 57	S T U	4¾"x4" x3⅜" 3¾"x4½"x3⅜" 4⅛"x4½"x3⅜"	3" x2⅝" Universal 3¾"x2⅝"	7¼ 6¼ 6	4.75 4.25 3.90
57	600 V.— 80 M.A.	(1) 3 A. (2) ½ A., C.T.	10.5 A., C.T.		6-24, 27, or 10-56, 57	S T U	4" x3¼"x3⅜" 3⅛"x3¾"x3⅛" 3⅛"x3¾"x3⅛"	2½"x2⅛" Universal 3⅛"x2⅛"	5 4½ 4½	4.80 4.25 4.00
47	650 V.— 40 M.A.	2 A.	3.75 A., C.T.		1-2A5; 2-57, 58	M	1¾"x3" x2½"	2½"x2"	2¼	1.95
48	650 V.— 40 M.A.	3 A.	(1) 1.75 A., C.T. (2) 3.5 A.		1-47, 2A5 2-24, 27, or 3-56 57	M	2⅛"x3⅜"x2¾"	2 13/16"x2¼"	3¼	2.65
448	650 V.— 40 M.A.	3 A.	(1) 1.75 A., C.T., or 1.6 A., C.T. (2) 3.5 A., C.T.		1-47, 2A5 or 3-77, 6K7; 1-42, 6F6 2-24, 27, or 3-56, 57	M S	2⅛"x3⅜"x2¾" 3½"x2⅞"x3¼"	2 13/16"x2¼" 2¼"x2½"	3½ 3½	2.90 3.15
476	650 V.— 40 M.A.	2 A.		1.6 A., C.T.		M	1¾"x3" x2½"	2½"x2"	2¼	2.00
49	650 V.— 40 M.A.	3 A.	5.25 A., C.T.		2-24, 27, or 3-56, 57; 1-47, 2A5	M S	1⅞"x3" x2½" 3⅛"x2⅝"x2¾"	2½"x2" 2" x1¾"	2½ 2½	2.10 2.40
60	650 V.— 50 M.A.	3 A.	(1) 1.75 A., C.T. (2) 5.25 A.		1-47, 2A5 3-24, 27, or 5-56, 57	M S	2⅛"x3⅜"x2¾" 3½"x2⅞"x3⅛"	2 13/16"x2¼" 2¼"x2⅛"	3½ 3¾	2.90 3.10
660	650 V.— 50 M.A.	3 A.	(1) 1.75 A., C.T., or 1.9 A., C.T. (2) 5.25 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 3-24, 27, or 5-56, 57	M	2⅛"x3⅜"x2¾"	2 13/16"x2¼"	3½	3.10
61	700 V.— 60 M.A.	3 A.	7 A., C.T.		3-2-2, 27 or 6-56, 58; 1-47, 2A5	M S	2½"x3¾"x3⅛" 4" x3¼"x3⅜"	3⅛"x2½" 2½"x2⅝"	4½ 5	3.10 3.40
661	700 V.— 60 M.A.	3 A.	(1) 1.75 A., C.T., or 1.9 A., C.T. (2) 7 A., C.T.		1-47, 2A5, or 4-77, 6K7; 1-42, 6F6 4-24, 27 or 7-56, 58	M	2½"x3¾"x3⅛"	3⅛"x2½"	4¾	3.40
61-C	700 V.— 60 M.A.	2 A.	7 A., C.T.		3-24, 27 or 6-56, 58; 1-47, 2A5	S	4¼"x3¾"x3¼"	2½"x2"	4½	2.90
62	700 V.— 70 M.A.	3 A.	(1) 3.5 A., C.T. (2) 9 A.		2-47, 2A5 5-24, 27, or 9-56, 58	M S	2½"x3¾"x3⅛" 4" x3¼"x3¼"	3⅛"x2½" 2½"x2¼"	5 5½	3.75 4.00
662	700 V.— 70 M.A.	3 A.	(1) 3.5 A., C.T., or 2.5 A., C.T. (2) 9 A., C.T.		2-47, 2A5, or 6-77, 6K7; 1-42, 6F6 5-24, 27, or 9-56, 58	M	2½"x3¾"x3⅛"	3⅛"x2½"	5	3.90
63	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T. (2) 10.5 A.		2-47, 2A5 6-24, 27, or 10-56, 57	M	2⅝"x4⅛"x3 7/16"	3 7/16"x2¾"	6	4.20
663	700 V.—110 M.A.	3 A.	(1) 3.5 A., C.T., or 3.5 A., C.T. (2) 10.5 A., C.T.		2-47, 2A5, or 7-77, 6K7; 2-42, 6F6 6-24, 27, or 10-56, 57	M	2⅝"x4⅛"xx3 7/16"	3 7/16"x2¾"	6¼	4.40
64	700 V.—100 M.A.	3 A.	(1) 3.5 A., C.T. (2) 15 A.		2-47, 2A5 8-24, 27, or 15-56, 57	M	2⅞"x4⅛"x3 7/16"	3 7/16"x2¾"	7	4.75
65	650 V.— 40 M.A.	3 A.		1.6 A., C.T.	3-77, 78, 6K7; 1-42, 6F6	M S	2" x3" x2½" 3⅛"x2⅜"x2¾"	2½"x2" 2" x1¾"	2½ 2¼	2.40 2.65
66	650 V.— 50 M.A.	3 A.		2 A., C.T.	4-77, 78, 6K7; 1-42, 6F6	M S	2⅛"x3⅜"x2¾" 3½"x2⅞"x3¼"	2 13/16"x2¼" 2¼"x2⅛"	3½ 3¾	2.90 3.10
67	700 V.— 70 M.A.	3 A.		3 A., C.T.	5-77, 78, 6K7; 2-42, 6F6	M S	2¼"x3¾"x3⅛" 4" x3¼"x3⅜"	3⅛"x2½" 2½"x2⅛"	4¼ 5	3.70 4.00
68	700 V.—120 M.A.	3 A.		4.5 A., C.T.	10-76, 6C6, 6K7; 2-42, 6F6	M	2½"x4⅛"x3 7/16"	3 7/16"x2¾"	6	4.50
58	700 V.—100 M.A.	3 A.		5 A., C.T.	12-76, 6C6, 6K7; 2-42, 6F6	S	4¾"x4" x3½"	3" x2⅝"	7½	5.75
59	800 V.—120 M.A.	3 A.	(1) 3.5 A., C.T. (2) 14.5 A., C.T.		2-47, 2A5 8-24, 27 or 14-56, 57	S	4¾"x4" x3¾"	3" x2⅞"	9	7.25
70	700 V.— 100 M.A.	3 A.	6 A., C.T.	3.3 A., C.T.	Including 77, 78, 6K7; 42, 6F6, 47 2A5, 24, 27, 56, 58	S	4¾"x4" x3½"	3" x2½"	8	5.75
80	800 V.—150 M.A.	3 A.		2.5 A., C.T	6J7, 6Y7, 2-6L6	S	4¾"x3⅞"x3¾"	3 1/16"x2⅞"	7¾	7.50
75	750 V.—180 M.A.	3 A.	6 A., C.T.	3.5 A., C.T.		M S	2⅞"x4½"x3¾" 4¾"x3⅞"x3¾"	3¾"x3" 3 1/16"x2 13/16"	8 8	7.25 7.50
77	800 V.—200 M.A.	3 A.		5.5 A., C.T.		S	4¾"x3⅞"x3⅞"	3 1/16"x3"	9	7.75
74	745 V.—145 M.A.	3 A.		5 A., C.T.	6L6, 42, 6F6	S M	4¾"x4" x3½" 2¾"x4½"x3¾"	3" x2½" 3¾"x3"	8¾ 8¾	6.75 6.50
					7.5 V. Fil. / 1.5 V. Fil.					
50	600 V.— 70 M.A.	(1) 3 A. (2) ½ A. C.T.	3.5 A., C.T.		(1) 4.2 A. (2) 1.05 A.	S T U	4¼"x3¼"x3⅜" 3¼"x3¾"x3⅛" 3¼"x3¾"x3⅛"	2½"x2⅜" Universal 3⅛"x2¼"	5 4½ 4½	4.75 4.20 4.00
54	800 V.—110 M.A.	3 A.	(1) 3.5 A. (2) 3 A., C.T.		(1) 1.05 A. (2) 5.25 A.	S T U	4¾"x4" x4" 3¾"x4½"x3¾" 4⅛"x4½"x3¾"	3" x3" Universal 3¾"x2½"	8¾ 8¼ 8¼	5.75 5.25 5.00
73	900 V.— 110 M.A.		10.5 A.		(1) 2.5 A. (2) 2.5 A., C.T.	S	4¾"x4" x4½"	3" x3⅜"	10½	8.25
76	700 V.—100 M.A.	3 A.	(1) 2 A., C.T. (2) 3 A., C.T		(1) 5A. (2) 1A.	S	4" x3¼"x3½"	2½"x2 7/16"	5¼	6.75

The above are 50-60 cycle; for 25 cycle, add 60% to price, and for 220 volt, 50-60 cycle, add 10%.

FILAMENT TRANSFORMERS

Capacity at 50-60 Cycles	Number	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.	Price
115 V. to 2½ Volts, 12 A. C.T.	E4-1051	E4	3 9/16"	1 "x1"	2½"x4" x2¼"	2¼	$2.15
115 V. to 6.3 Volts, 3 A.	B5-860	B5	2 3/8"	¾"x ¾"	2⅜"x2⅞"x1¾"	1	1.75
115 V. to 2½ Volts, 6 A. C.T.	B5-861	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1	1.75
115 V. to 6.3 V., 4 A. C.T., 5 V., 3 A.	S-25	S	2½"x2⅛"	1¼"x1⅛"	4⅛"x3¼"x3¾"	3	3.90
115 V. to 5 V., 3 A.	B5-859	B5	2⅜"	¾"x ¾"	2⅜"x2⅞"x1¾"	1	1.60

DRIVER TRANSFORMERS

Drivers	Class	Driving	Number	Mounting	Ratio Pri. to ½ Sec.	Mounting Centers	Size H. L. W.	Wt.	Price
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	E-1045	E	5-1	2"x1¾"	3¼"x2⅜"x2¾"	2½	$3.40
6C5, 6R7 or 6F6 Triode	AB	6L6 P.P.	B7-830	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1	2.10
6A6 or 53 Paralleled		6N7 P.P.	B7-831	B7	5-1	2⅜"	2½"x2⅞"x1⅞"	1	2.10
30	B	1-19 or 2-30	B4-819	B4	2.5-1	2 13/16"	2" x3⅜"x1¾"	1	1.60
89 Triode or 46 or 59	B B	1-79 2-46 or 2-59	B7-832	B7	2.2-1	2⅜"	2½"x2⅞"x1⅞"	1	2.10

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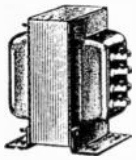
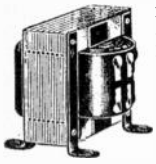
World Radio History

HALLDORSON REPLACEMENT TRANSFORMERS

OUTPUT TRANSFORMERS



R Mtg.



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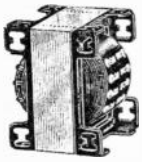
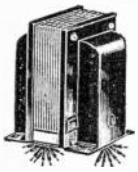


T Mtg.

To Feed From	Voice Coil Impedance	Number	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.	Price
Universal		B6-816	B6	Universal	¾"x ¾"	2" x2⅜"x1¾"	1	$1.60
		B5-816	B5	2⅜"	¾"x ¾"	2⅜"x2¾"x1¾"	1	1.60
		B4-816	B4	2 13/16"	¾"x ¾"	2" x3⅜"x1¾"	1	1.60
P. P. 6L6—(60 Watt)	4, 8, 15, 500	S-72	S	2¼"x2½"	1¼" 1¼"	4¼"x3¼"x3⅝"	5½	4.25
P. P. 6L6, 2A3, 6B5 (30 Watt)	4, 8, 15, 500	E-1042	E	2" x1¾"	1" x1"	3" x2⅝"x2⅜"	2½	3.00
P. P. 6L6, Reverse Feedback (35W.)	4, 8, 15, 500	S-81	S	2½"x2¼"	1¼"x1½"	4" x3¼"x3⅜"	4¾	5.00
2A3, 43, 45 50, 59, 71A	6 to 12 Ohm Voice Coil	B5-850	B5	2¾"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
31, 33, 42, 47, 79, 2A5		B5-851	B5	2⅞"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
6A4, 10, 38, 41, 53		B5-852	B5	2¾"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5		B5-853	B5	2⅝"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
P. P. 31, 33, 42, 47, 79, 2A5		B5-854	B5	2⅜"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
P. P. 6A4, 10, 38, 41, 53		B5-855	B5	2⅜"	¾"x ¾"	2⅜"x2⅛"x1¾"	1	1.60
P. P. 2A3, 43, 45, 50, 59, 71A, 6B5		A5-700	A5	2"	⅝"x ⅝"	2" x2½"x1½"	10 oz.	1.20
2A5, 42, 47, 79 — For Midget — 43 —and A.C.-D.C. Sets— 41, 19, 38 —	3 to 6 Ohm Voice Coil	D4-600	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½	.90
		D4-601	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½	.90
		D4-602	D4	2"	½"x ⅝"	1⅜"x2⅜"x1¼"	½	.90
Universal Types for Midget and A.C.-D.C. Sets 2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A4-770	A4	2 5/16"	⅝"x ⅝"	1¾"x2⅜"x1½"	10 oz.	1.10
2A5, 19, 38, 41, 42, 43, 47, 79		A5-771	A5	2"	⅝"x ⅝"	2" x2½"x1½"	10 oz.	1.10
P. P. 2A5, 19, 38, 41, 42, 43, 47, 79	3 to 6 Ohm Voice Coil	A5-772	A5	2"	⅝"x ⅝"	2" x2½" x1½"	10 oz.	1.20

AUDIO TRANSFORMERS



S Mtg.

M Mtg.

Application	Number	Mounting	Over All Ratio	Mounting Centers	Core	Sizes H. L. W.	Wt.	Price
Single Plate to Single Grid Class A From general purpose tubes such as 27, 56, etc. To 27, 45, 2A5, etc	B -805	B	2½—1	1½"x2¼"	⅜"x¾"	2⅛"x2¾"x2⅜"	1½	$2.10
	B -806	B	3—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½	2.10
	B4-805	B4	2½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	1.70
	B5-806	B5	3—1	2⅜"	¾"x¾"	2⅜"x2¾"x1¾"	1	1.70
	B4-807	B4	3½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	1.70
	B4-808	B4	2½—1	2 13/16"	¾"x⅝"	2" x3⅜"x1⅝"	15 oz.	1.30
	A4-751	A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	1.30
	A4-752	A4	2½—1	2⅝"	⅝"x⅝"	1¾"x2⅛"x1½"	9 oz.	1.05
Single Plate to Pushpull Grids Class A From general purpose tubes such as 27, 56, etc. To 27's, 45's, 2A5's, etc., in Push Pull.	E- 1027	E	4—1	2"x2"	1"x1"	3" x2⅝"x2⅜"	2½	3.40
	E 4-1027	E4	4—1	3 9/16"	1"x1"	2½"x4" x2¼"	2¼	2.75
	B -810	B	4—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½	2.15
	B4-810	B4	4—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	1.85
	B5-810	B5	4—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1	1.85
	B7-893	B7	3—1	2⅜"	¾"x¾"	2½"x2⅛"x1⅞"	1⅛	2.10
	B4-815	B4	3½—1	2 5/16"	¾"x⅝"	1¾"x2⅛"x1½"	15 oz.	1.50
	A4-761	A4	3½—1	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	9 oz.	1.10
	A4-760	A4	3—1	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	1.40
	B5-809	B5	4—1	2⅜"	¾"x1"	2⅜"x2⅛"x2"	1¼	1.90
Universal Pushpull Input To replace any input transformer used in Class A Circuit.	B6-818	B6	3—1	Universal	¾"x¾"		1	1.60
	B4-818	B4	3—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	1.60
	B5-818	B5	3—1	2⅜"	¾"x¾"	2⅜"x2⅞"x1¾"	1	1.60
Two Plates to Two Grids—Class A	B -811	B	1½—1	1½"x2¼"	¾"x¾"	2⅛"x2¾"x2⅜"	1½	2.40
	B4-811	B4	1½—1	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	2.00

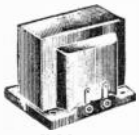
MICROPHONE AND LINE TRANSFORMERS

A4, B4, E4 D4 Mtg.

B5 A5 Mtg.

Application	Pri. Impedance	Sec. Impedance	Number	Mtg.	Mounting Centers	Size H. L. W.	Wt.	Price
Microphone, Line or Mixer to Single Grid	*500 C.T., 250, *200 C.T., 50	Grid of Tube C.T	E-1040	E	2"x2"	3"x2⅝"x2⅜"	2½	$4.20
Line to Line or Line to Voice Coil	*500 C.T., 250, *200 C.T., 50	4, 8, 15, 500	E-1041	E	2"x2"	3"x2⅝"x2⅜"	2½	4.00
Microphone to Single Grid	200 C.T.	Grid of Tube	F-822	F	2½"	3"x2¾" diam.	1¾	2.40
Line to Multiple Speakers—60 Watt	250 or 500	Adjustable to Match 1 to 6 Speakers	P-300	Special		3"x5" x4½"	6½	12.50

FILTER CHOKES



B Mtg.

E Mtg.

Number	Ohms	Henries	At M.A.	Mounting	Mounting Centers	Core	Size H. L. W.	Wt.	Price
E -1030	250	23	110	E	2"x2"	1"x1"	3" x2½"x2½"	2½	$2.20
E4-1030	250	23	110	E4	3 9/16"	1"x1"	2⅝"x4" x3"	2¼	1.90
C4-967	350	31	80	C4	3 1/16"	7/16"x7/16"	2¼"x3¾"x2¼"	1½	1.60
C4-968	1400	50	60	C4	3 1/16"	7/16"x7/16"	2¼"x3¾"x2¼"	1½	1.60
B4-836	700	30	35	B4	2 13/16"	¾"x¾"	2" x3⅜"x1¾"	1	1.10
B4-837	400	15	40	B4	2 13/16"	¾"x¾"	2" x2⅜"x1¾"	1	1.10
T -1002	300	11	50	A4	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	.90
T -1001	400	12	40	A4	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	.90
T -391	350	14.5	35	A4	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	.90
T -333	200	6.5	60	A4	2 5/16"	⅝"x⅝"	1¾"x2⅛"x1½"	10 oz.	.90
T -341	400	12.5	30	D4	2"	½"x⅝"	1¾"x2½"x1⅜"	6 oz.	.80
T -343	200	5.5	35	D4	2"	½"x⅝"	1¾"x2½"x1⅜"	6 oz.	.80
E -1031	2200	80	28	E	2"x1¼"	1"x1"	3¼"x2⅝"x2¾"	2½	4.00
E -1032	160	7.5	150	E	2"x2"	1"x1¼"	3¼"x2⅝"x3"	2½	2.50

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World Radio History

KENYON TRANSFORMERS

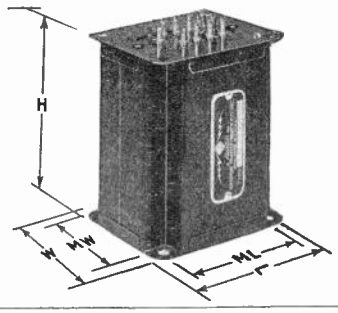
AMATEUR TRANSMITTER AND PUBLIC ADDRESS COMPONENTS

Kenyon engineers have designed this complete line of audio and power transformers and reactors to make possible a popular priced line particularly suited for amateur transmitter and public address use. Each unit is housed in a metal case finished in a durable black eggshell enamel presenting a pleasing appearance to suit exacting commercial requirements. This case also acts as an electrostatic and electromagnetic shield.

Universal mounting facilities permit all units to be top or bottom mounted to chassis or panels. With the exception of the high voltage units which are provided with glazed ceramic insulators, all units are provided with sturdy solder lug terminals.

Case	Mounting Dimensions ML	MW	Overall Dimensions Length	Width	Height
1A	2 1/32	1 9/16	2 7/16	2	2 7/8
2A	2 1/8	1 13/16	2 3/4	2 3/8	3 3/16
3A	2 7/16	1 15/16	3 1/16	2 9/16	3 5/8
4A	3 7/8	2 7/16	4 1/2	3	3 7/8
5A	4 5/16	3 3/16	5	3 7/8	5
6A	4 1/2	4 5/16	5	5 1/8	5
7A	5 1/2	4 5/16	6 5/16	5 3/16	6 3/8
8A	5 3/4	4 13/16	6 9/16	5 11/16	7 1/8
9A	6 15/16	5 3/4	7 3/4	6 5/8	7 3/16
10A	8 5/8	7 11/32	9 1/2	8 1/4	10 5/8

T LINE DIMENSIONS



INPUT TRANSFORMERS

Type No.		Case No.	List Price
T-1	Single or double-button microphone to one grid Input—400-300-200-100-50 ohms. Hum bucking type	1A	$4.00
T-2	Multiple line to one grid. Input—500-333-250-200-125-50 ohms. Hum bucking type	1A	4.00
T-3	Multiple line to P. P. grids. Input—500-333-250-200-125-50 ohms. Hum bucking type	1A	4.00
T-4	Detector plate, high impedance pickup, or double-button microphone to single grid	2A	5.00

LINE TRANSFORMERS

T-25	Line-to-line matching transformer. Primary—500-200-50 ohms. Secondary—500-200-50 ohms	2A	5.00
T-27	500 or 200 ohms to 15-8-4 ohms—Level 15 watts	3A	5.00
T-28	500 or 200 ohms to 15-8-4 ohms—Level 30 watts	4A	6.00
T-29	500 or 200 ohms to 15-8-4 ohms—Level 60 watts	5A	9.00

KEN-O-LINE UNIVERSAL LINE-TO-SPEAKER TRANSFORMERS

	Audio Level	Case No.	List Price
T-30	10 watts	2A	$5.50
T-31	30 watts	4A	7.00
T-32	60 watts	5A	10.00

Designed to couple one or more speakers from a 500-ohm line. Makes possible the use of from one to six units in parallel on a 500-ohm line. Tapped secondary provides impedances from .16 to 16 ohms.

CLASS "A" INPUT TRANSFORMERS

		Case No.	List Price
T-51	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to single Class "A" Grid. Ratio 1:4	1A	$3.50
T-52	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to P. P. Class "A" Grids. Ratio 1:4 (total primary to total secondary)	1A	3.50
T-53	Detector plate or single button microphone to single grid	1A	3.50
	For portable applications use open type KA114M. List Price $2.25		
T-54	P. P. Class "A" Plates 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to P. P. Class "A" Grids. Ratio 1:1.8 (total primary to total secondary)	2A	4.50
T-55	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to single Class "A" Grid. Ratio 1:3	2A	4.50
T-56	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to P. P. Class "A" Grids. Ratio 1:2 (total primary to total secondary)	2A	4.00
T-57	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to single Class "A" Grid. (Ratio 1:2.) Hum bucking type	2A	5.00
T-58	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to P. P. Class "A" Grids. Ratio 1:2 (total primary to total secondary). Hum bucking type	2A	5.00

CLASS "AB" AND "B" INPUT TRANSFORMERS

T-251	Single 53, 6A6, 56, 6C5, etc. to P. P. 53, 6A6, etc. (Single 53, 6A6, etc. in P. P.)	2A	$4.50
T-252	Single 30, 49, 89 to P. P. 19, 30, or 49's	1A	3.50
	For portable applications use open type KR19. List Price $1.50		
T-253	Single 46 or 59 to P. P. 46's or 59's, 6F6's, etc.	2A	4.50
T-254	Single 45, 6F6, 2A5, 42, etc. to P. P. 6F6, 45's, 2A5's, 42's, etc.	2A	4.50
T-255	P. P. 56, 76, 6C5, 53, 6A6, 6N7 to P. P. 6L6's	2A	4.50
T-256	P. P. 56, 76, 6C5, to P. P., 45's, 2A3's, 6F6's, etc.	2A	4.50
T-257	P. P. 45's to P. P. Parallel 46's	2A	4.50
T-258	P. P. 45's to P. P. 800's	3A	5.00
T-259	P. P. 2A3's to P. P. 203A's, 838's, etc.	4A	6.00
T-260	P. P. Parallel 2A3's to P. P. H.D. 203A's, P. P. Parallel 838's, etc.	4A	8.00
T-271	P. P. 45's, 2A3's, 6F6's (triode) to P. P. Class "AB$_2$" 6L6's	3A	5.00
T-261	500-ohm line to P. P. Class "B" grids. Level 7 watts Primary and Secondary tapped to drive any Class "B" grids	3A	6.50
T-262	500-ohm line to P. P. Class "B" grids. Level 15 watts Primary and Secondary tapped to drive any Class "B" grids	4A	8.00

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World Radio History

KENYON TRANSFORMERS

KEN-O-DRIVE UNIVERSAL DRIVER TRANSFORMERS

Type No.		Case No.	List Price
T-264	Universal Multi-tapped Driver Transformer to match a 500-ohm line or any driver plates to any Class "B" grids whose audio requirements range up to 7 watts	3A	$7.00
T-263	Universal Multi-tapped Driver Transformer to match a 500-ohm line or any driver plates to any Class "B" grids whose audio requirements range up to 18 watts	4A	9.00

CLASS "A" OUTPUT TRANSFORMERS

T-101	Single Class "A" Plate 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to 500 or 200 ohms	1A	3.50
T-102	P. P. Class "A" Plates 56, 76, 6C5, 77 (triode), 6C6 (triode), etc. to 500 or 200 ohms	1A	3.50
T-103	P. P. 45's, or 43's to 500-200 or 15-8-4 ohms	2A	5.00
T-104	Single 2A5, 6F6, 89, 47, etc. to 500-200 or 15-8-4 ohms	2A	4.50
T-105	P. P. 2A5, 6F6, 89, 47, etc. to 500-200 or 15-8-4 ohms	2A	5.00
T-106	P. P. 6B5, 2B6, to 500-200 or 15-8-4 ohms	3A	5.50
T-107	P. P. 25L6's to 500-200 or 15-8-4 ohms	2A	4.50

CLASS "AB" AND "B" OUTPUT TRANSFORMERS

T-306	P. P. 25L6's Class "AB" to 500-200 or 15-8-4 ohms. Primary 2000 ohms	2A	5.00
T-301	P. P. 45's, 2A3's (Class "AB"), 6L6's (Class "A") to 500-200 or 15-8-4 ohms. Primary 5000 or 3000 ohms	4A	6.00
T-302	P. P. 6N7, 53, RK-34, 49's, 19 to 500-200 or 15-8-4 ohms	3A	5.50
T-303	P. P. 46, 59's, 6F6's (triode or pentode), 2A5's, 42's to 500-200 or 15-8-4 ohms. Primary 6000 or 10,000 ohms	4A	6.00
T-304	P. P. Parallel 45's, 2A3's, to 500-200 or 15-8-4 ohms. Primary 1500 or 2500 ohms	4A	8.00
T-305	P. P. Parallel 46's, 59's, 6F6's (triode or pentode) 2A5's, 42's to 500-200 or 15-8-4 ohms. Primary 3000 or 5000 ohms	4A	8.00
T-317	P. P. 6L6's Class "AB_1" (6600 or 3800 ohms—34 watts) to 500-200 or 15-8-4 ohms	4A	8.00
T-319	P. P. 6L6's "AB_2" (6000 or 3800 ohms—60 watts) to 500-200 or 15-8-4 ohms	5A	8.50
T-307	P. P. RK39's Class "AB" or P. P. Parallel 6L6's Class "AB^2" to 500-200 or 15-8-4 ohms. Primary 6400 or 1900 ohms	6A	16.00

KEN-O-DYNE UNIVERSAL OUTPUT TRANSFORMERS

Type No.	Level	Case No.	List Price
T-108	15 watts	3A	$5.00
T-109	30 watts	4A	8.00
T-110	60 watts	5A	12.50

Will match any set of Push-Pull or Push-Pull Parallel—or a single plate to 500-200 or speaker voice-coils. Low impedance connections for speaker voice-coils range from .5 to 25 ohms.

MODULATION OUTPUT TRANSFORMERS

T-452	Class "B" 19, to 5000 or 3000 ohms. Max. Sec. D.C. 50 M.A.	1A	$3.50
	For portable applications use open type KR19M. List Price $1.50		
T-451	Class "B" 6N7, 53, 6A6, RK34, to 5000 or 3000 ohms. Max. Sec. D.C. 100 M.A.	2A	4.50
T-490	Single 2A5, 42 or 6F6 grid modulation transformer to grid modulate 203A's, 211's, etc.	2A	4.50
T-491	Single 45 grid modulation transformer to grid modulate 203A's, 211's, etc.	2A	4.50
T-492	Grid or suppressor modulation transformer—P. P. 45's to 10,000 ohm load	3A	5.00
T-453	Class "AB" 2A3's, 45's or Class "A," 6L6's to 5000 or 3000 ohms. Max. Sec. D.C. 130 M.A.	4A	8.50
T-454	Class "B" 46's or 59's, 6F6's (triode or pentode), 2A5's, 42's, etc. to 4000-6000-8000 ohms. Max. Sec. D.C. 140-100-75 M.A. Primary 6000 or 10,000 ohms	4A	8.50
T-459	P. P. 6L6's Class "AB_2" to 2500-5000-7000 ohms. Max. Sec. D.C. 300-250-200 M.A.	5A	8.50
T-455	Class "B"—210's to 5000-7000-9000 ohms. Max. Sec. D.C. 180-150-130 M.A.	5A	10.00
T-456	P. P. Parallel 45's or 2A3's Class "AB" to 5000-7000-9000 ohms. Max. Sec. D.C. 150-100-75 M.A.	5A	10.00
T-457	P. P. Parallel 46's, 59's, 6F6's (triode or pentode), 2A5's, 42's, etc. to 3000-5000-7000 ohms. Max. Sec. D.C. 220-160-120 M.A. Primary 3000 or 5000 ohms	5A	10.00
T-458	P. P. 801's to 5000-7000-9000 ohms. Max. Sec. D.C. 150-135-110 M.A.	6A	12.50
T-460	P. P. 800's to 6000-8000-10,000 ohms. Max. Sec. D.C. 200-175-150 M.A.	6A	15.00
T-461	P. P. 35T's, RK31's, RK18's, to 5000-7500-10,000 ohms Max. Sec. D.C. 240-200-175 M.A.	6A	16.00
T-462	P. P. RK39's, to 4000-6000-8000 Max. Sec. D.C. 300-250-200 M.A.	6A	16.50
T-465	P. P. 838's, T-55's, 203A's to 4000-6000-8000 ohms. Max. Sec. D.C. 400-320-270 M.A.	7A	25.00
T-470	P. P. H.D. 203A's, 150T's, to 4000-6000-8000 ohms. Max. Sec. D.C. 500-400-350 M.A.	8A	42.00

KEN-O-TAP MODULATION TRANSFORMERS

Type No.	Audio Output Primary	Class "C" Secondary	Case No.	List Price
T-493	40 watts	80 watts	4A	$7.00
T-494	75 watts	150 watts	5A	10.00
T-495	125 watts	250 watts	7A	20.00
T-496	300 watts	600 watts	8A	30.00

These tapped modulation output transformers may be used with any type of tube or tube combination in any amateur transmitter up to 600 watts. Complete instruction sheet packed in each carton. The various multi taps provide impedances which will match any combination of audio and Class "C" R. F. conditions encountered in amateur transmitter practice.

POWER LINE AUTO TRANSFORMERS

Type No.	Capacity V.A.	Case No.	List Price
T-217	150	3A	$6.50
T-218	300	4A	8.50
T-219	500	5A	11.00

These transformers make it possible to adjust primary voltage within two volts of rated value with line fluctuation from 90 to 130 volts. Voltage taps are from 90 to 130 volts in steps of 2 volts. Especially recommended for filament control on transmitting tubes.

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KENYON TRANSFORMERS

FILTER REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Resistance	Insulation Test	Case No.	List Price
T-155	290	10	4700	1000 V.	2A	$4.00
T-158	*350	10	10000	1000 V.	3A	4.50
T-156	30	25	800	1000 V.	1A	3.00
T-157	20	50	200	1000 V.	1A	3.00
T-153	30	90	350	1000 V.	3A	3.50
T-154	15	165	210	1000 V.	3A	4.00
T-151	10	250	100	1000 V.	4A	6.50
T-152	10	200	100	1000 V.	3A	4.00
T-164	14	250	135	1500 V.	5A	9.00
T-166	11	300	125	1500 V.	5A	9.00
T-159	12	500	77	1500 V.	6A	12.50
T-165	10	150	275	3000 V.	3A	4.00
T-168	13	250	125	3000 V.	5A	10.00
T-160	11	300	120	3000 V.	5A	10.00
T-167	11	400	80	3000 V.	6A	12.00
T-175	10	200	140	5000 V.	4A	7.00
T-176	10	300	110	5000 V.	5A	11.00
T-178	10	400	90	5000 V.	6A	15.00
T-177	12	500	95	5000 V.	7A	18.00
T-161	10	600	90	5000 V.	7A	20.00

*Center tapped.

SWINGING REACTORS

Type No.	Inductance Henries	Max. M.A.	D.C. Re-Test	Insulation No.	Case No.	List Price
T-517	15-45	90-20	350	1000 V.	3A	$3.50
T-515	10-25	165-30	210	1000 V.	3A	4.00
T-506	5-20	200-30	100	1000 V.	3A	4.00
T-501	5-15	250-30	100	1000 V.	4A	6.50
T-507	7-25	250-50	135	1500 V.	5A	9.00
T-510	6-19	300-30	125	1500 V.	5A	9.00
T-502	6-18	500-50	77	1500 V.	6A	12.50
T-511	5-20	170-20	275	3000 V.	3A	4.00
T-508	7-26	250-50	125	3000 V.	5A	10.00
T-514	5-20	300-50	120	3000 V.	5A	10.00
T-516	5-20	400-50	80	3000 V.	6A	12.00
T-509	6-19	200-30	140	5000 V.	4A	7.00
T-512	5-15	300-30	110	5000 V.	5A	11.00
T-513	5-18	400-50	90	5000 V.	6A	15.00
T-521	6-21	500-60	95	5000 V.	7A	18.00
T-505	5-17	600-60	90	5000 V.	7A	20.00

PLATE TRANSFORMERS

Type No.	Primary	A.C. Secondary Volts	D.C. MA	Case	List Price
T-664	.....	740-0-740	150	5A	$8.00
T-655	Tapped	460-0-460 575-0-575	250	5A	9.00
T-656	Tapped	740-0-740 925-0-925	300	6A	12.00
T-657	Tapped	900-0- 900 1170-0-1170 1800-0-1800 2340-0-2340 (2 separate secondaries)	400 or 200	7A	26.00
T-658	Tapped	520-0-520 570-0-570 570-0-570 (3 separate secondaries)	175 175 175	7A	21.00
T-654	Tapped	490-0-490 630-0-630 630-0-630 (3 separate secondaries)	250 250 250	8A	30.00
T-659	Tapped	520-0-520 570-0-570 570-0-570 (3 separate secondaries)	350 350 350	9A	30.00
T-665	Tapped	1180-0-1180 1470-0-1470	250	7A	22.00
T-666	.....	1460-0-1460	350	8A	26.00
T-667	.....	1460-0-1460	500	9A	34.00
T-660	....	1460-0-1460 630-0- 630 (2 separate secondaries)	500 200	9A	38.00
T-661	.....	2080-0-2080	200	7A	22.00
T-651	Tapped	1760-0-1760 2080-0-2080	300	9A	32.00
T-652	Tapped	1760-0-1760 2080-0-2080	450	9A	38.00
T-653	.....	2360-0-2360	300	9A	36.00
T-663	.....	2360-0-2360	600	10A	70.00

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For 230 volt 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation add 60% to list prices. For 230 volt 25 cycle operation add 100% to list prices. Case sizes for 25 cycle application are different than those specified for standard 115 volt 50 to 60 cycle operation.

In addition to the components shown in this catalog the Kenyon Transformer Co. Inc. also manufactures a high-class Laboratory Standard line of audio and power components. The audio transformers are flat ± ½ db. from 30 to 15,000 cycles. Available for top or bottom mountings. All audio transformers in the Laboratory Standard line are unconditionally guaranteed for a period of 5 years from date of purchase.

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KENYON TRANSFORMERS

FILAMENT TRANSFORMERS

Single Winding

Type No.	F1	F2	F3	F4	Case No.	List Price
T-352	2.5 V.-10 A. CT. 2000 V. Test	.....	.....	.....	2A	$4.00
T-354	5 V.-3 A. CT. 2000 V. Test	.....	.....	.....	2A	4.00
T-351	6.3 V.-3 A. CT. 2000 V. Test	.....	.....	.....	2A	4.00
T-353	7.5 V.-4 A. CT. 2000 V. Test	.....	.....	.....	2A	4.00
T-357	5.25 V.-12 A. CT. 2000 V. Test	.....	.....	.....	4A	6.00
T-359	7.5 V.-8 A. CT. 2000V. Test	.....	.....	.....	4A	6.50
T-358	5.25 V.-20 A. CT. 2000 V. Test	.....	.....	.....	5A	8.00
T-360	2.5 V.-10 A. CT. 5000 V. Test	.....	.....	.....	3A	6.00
T-365	10 V.-4 A. CT. 5000 V. Test	.....	.....	.....	3A	6.50
T-361	10 V.-8 A. CT. 5000 V. Test	.....	.....	.....	4A	8.00

Two Windings

T-369	2.5 V.-8 A. CT. 1000 V. Test	6.3 V.-4 A. CT. 1000 V. Test	.....	.....	4A	6.00
T-368	6.3 V.-4 A. CT. 2000 V. Test	6.3 V.-4 A. CT. 2000 V. Test	.....	.....	4A	6.00
T-366	2.5 V.-10 A. CT. 5000 V. Test	2.5 V.-10 A. CT. 5000 V. Test	.....	.....	4A	8.00
T-363	10 V.-6.5 A. CT. 5000 V. Test	10 V.-3.25 A. 5000 V. Test	.....	.....	5A	9.00
T-362	11-12 V.-8 A. CT. 5000 V. Test	10-11 V.-3.5 A. CT. 5000 V. Test	.....	.....	5A	11.00

Three Windings

T-376	6.3 V.-4 A. CT. 2000 V. Test	6.3 V.-4 A. CT. 2000 V. Test	5 V.-3 A.	.....	4A	7.00
T-364	2.5 V.-8 A. CT. 750 V. Test	2.5 V.-10 A. CT. 750 V. Test	5 V.-6 A. 750 V. Test	.....	4A	7.00
T-356	6.3 V.-3 A. CT. 750 V. Test	5 V.-4 A. CT. 3000 V. Test	5 V.-8 A. CT. 3000 V. Test	.....	4A	9.00
T-355	5 V.-3 A. CT. 4000 V. Test	5 V.-3 A. CT. 4000 V. Test	5 V.-6 A. CT. 4000 V. Test	.....	4A	7.50
T-375	2.5 V.-5 A. CT. 6000 V. Test	2.5 V.-5 A. CT. 6000 V. Test	2.5 V.-10 A. CT. 6000 V. Test	.....	4A	9.00

Four Windings

T-373	2.5 V.-5 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	7.5 V.-3.25 A. CT. 3000 V. Test	7.5 V.-8 A. CT. 3000 V. Test	5A	9.00
T-374	2.5 V.-5 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	6.3 V.-3 A. CT. 3000 V. Test	7.5 V.-8 A. CT. 3000 V. Test	5A	9.00
T-370	6.3 V.-3 A. CT. 750 V. Test	6.3 V.-3A CT. 750 V. Test	2.5 V.-4 A. CT. 750 V. Test	5 V.-3 A. 750 V. Test	4A	7.50
T-371	5 V.-3 A. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	7.5 V.-8 A. CT. 2500 V. Test	5A	8.50
T-372	5 V.-3 A. 750 V. Test	5 V.-3 A. CT. 750 V. Test	6.3 V.-3 A. CT. 750 V. Test	7.5 V-4 A. CT. 2000 V. Test	5A	8.50
T-367	6.3 V.-5 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	5 V.-6 A. CT. 2000 V. Test	5 V.-3 A. CT. 2000 V. Test	5A	9.00

Five Windings

	F1	F2	F3	F4	F5		
T-377	5 V. 3 A. 2000 V. Test	5 V.-6 A. 2000 V. Test	6.3 V.-1 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	6.3 V.-5 A. CT. 2000 V. Test	5A	9.50

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World Radio History

KENYON TRANSFORMERS

PLATE AND FILAMENT TRANSFORMERS

Type No.	Sec. Volts	D.C. M.A.	F1	F2	F3	F4	Case	List Price
T-249*	235-0-235	20	6.3 V.-.6 A. CT.	6.3 V.-.9 A. CT.	.....	.....	2A	$4.50
T-245*	320-0-320	40	5 V.-2 A.	6.3 V.-2 A. CT.	.....	.....	3A	5.00
T-201§	0-75	70	5 V.-2 A.	.....	.....	.....	2A	4.50
T-205*	350-0-350	75	5 V.-2 A.	6.3 V.-3 A. CT.	.....	.....	4A	6.50
T-206*	325-0-325	100	5 V.-3 A.	6.3 V.-3 A. CT.	6.3 V.-2 A. CT.	.....	5A	8.50
T-212	420-0-420	125	5 V.-3 A.	6.3 V.-3 A. CT.	2.5 V.- 4 A. CT.	.....	5A	9.50
T-214	420-360-125-0-360-420	150	5 V.-3 A.	2.5 V.-3 A. CT.	2.5 V.- 5 A. CT.	6.3 V.-3 A. CT.	5A	10.00
T-244*	425-0-425	165	5 V.-3 A.	6.3 V.-3 A. CT.	6.3 V.- 3 A. CT.	.....	6A	12.00
T-248	425-0-425	165	5 V.-3 A.	2.5 V.-6 A. CT.	2.5 V.- 6 A. CT.	.....	6A	12.00
T-213	520-110-0-520	180	5 V.-3 A.	2.5 V.-3 A.	6.3 V.-3 A. CT.	6.3 V.-3 A. CT.	5A	11.50
T-215	360-125-0-360	200	5 V.-3 A.	2.5 V.-3 A. CT.	2.5 V.-10 A. CT.	6.3 V.-2.1 A. CT.	5A	11.50
T-247	590-0-590	200	5 V.-3 A.	6.3 V.-3 A. CT.	6.3 V.- 3 A. CT.	.....	5A	12.00
T-216	520-85-0-520	250	5 V.-3 A.	2.5 V.-3 A.	6.3 V.- 3 A. CT.	6.3 V.-3 A. CT.	6A	13.00
T-207†	0-275-375	10	6.3 V.-.6 A.	6.3 V.-1 A.	2.5 V.-1.4 A.	.....	3A	4.00
	0-180	6						
T-202‡	0-150	20	6.3 V.-.6 A.	.....	.....	.....	1A	4.00
T-220§	125-0-125	200	5 V.-3 A.	.....	.....	.....	4A	6.00
T-246	625-0-625	250	5 V.-3 A.	6.3 V.-3 A. CT.	6.3 V.-3 A. CT.	.....	6A	13.00

* Indicates unit designed for condenser input to filter. (All other units should be used with choke input).
† For RCA 913 Cathode Ray Tube. ‡ For oscillators, wave meters, etc. § For bias supplies.

KENYON RECOMMENDED POWER SUPPLIES

D.C. Volts	D.C. MA	A.C. Sec. Volts	Input Choke	Output Choke	Rectifier Tubes	Plate Transformers	Filament Transformers
350 450	250	460-0-460 575-0-575	T-501	T-151	1-83	T-655	T-354
600	150	740-0-740	T-515	T-154	1-83	T-664	T-354
600 750	300	740-0-740 925-0-925	T-510	T-166	2-66	T-656	T-352
750 1000	400	900-0-900 1170-0-1170	T-502	T-159	2-66	T-657	T-360
1500 2000	200	1800-0-1800 2340-0-2340	T-509	T-175			
400 to 3000	175 175 175 250 250 250 350 350 350	520-0-520 570-0-570 570-0-570 490-0-490 630-0-630 630-0-630 520-0-520 570-0-570 570-0-570	Ask for Free Bulletin giving full details on the various applications of these three triple winding plate transformers. These units entirely eliminate plate transformer obsolescence.			T-658 T-654 T-659	
1000 1250	250	1180-0-1180 1470-0-1470	T-508	T-168	2-66	T-665	T-360
1250	350	1460-0-1460	T-516	T-167	2-66	T-666	T-360
1250	500	1460-0-1460	T-521	T-177	2-66	T-667	T-360
1250 500	500 200	1460-0-1460 630-0-630	T-521 T-506	T-177 T-152	2-66 1-83	T-660	T-360 T-354
1750	200	2080-0-2080	T-509	T-175	2-66	T-661	T-360
1500 1750	300	1760-0-1760 2080-0-2080	T-512	T-176	2-66	T-651	T-360
1500 1750	450	1760-0-1760 2080-0-2080	T-521	T-177	2-66	T-652	T-360
2000	300	2360-0-2360	T-512	T-176	2-66	T-653	T-360
2000	600	2360-0-2360	T-505	T-161	2-66	T-663	T-360

AMATEUR TRANSMITTER MANUAL

The most popular amateur transmitter manual published to date. Contains design details for the construction of phone and c. w. transmitters from 20 watts to 1 kilowatt with 13 pages of useful radio data, such as formulas, conversion tables, inductance calculations, coil specifications and antenna tables, etc. Fourteen additional pages are full page Ken-O-Grafs, permitting easy calculation or conversion of various units or terms. An excellent reference book for the licensed or prospective amateur.

YOUR NET PRICE **25c**

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World Radio History

KENYON TRANSFORMERS

The components listed on the following pages are the result of careful design based on complete practical knowledge of radio receiver requirements. Since they furnish satisfactory performance at low prices they are ideal for numerous applications for P. A., amateur radio and other branches in the field.

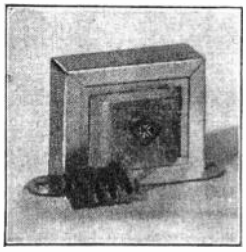

Fig. 1

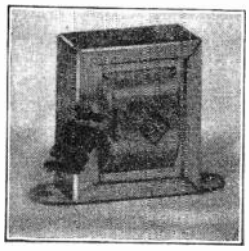

Fig. 2

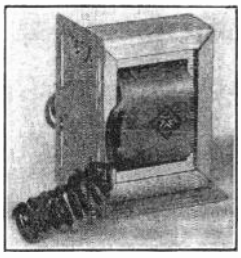

Fig. 3

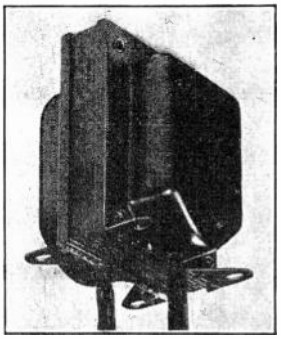

Fig. 4

AMPLIFIER COMPONENTS

CLASS "A" INPUT TRANSFORMERS (Fig. 1 and Fig. 2)

Type No.	Size		List Price
KA-114	C	Input transformer, 1 plate (a) to 1 grid. Ratio (c) 1:4	$1.90
KA-114M	C	Input transformer, 1 plate (a) or single button microphone to grid, 1:4 ratio (c). (For use in transceiver)	2.25
KA-115	C	Input transformer, 1 plate (a) to 2 grids. Ratio (c) 1:4	1.90
KA-116	C	Input transformer, 1 plate (a) to 2 grids. Ratio (c) 1:4 (split secondary with 4 leads)	1.90
KA-154	B	Input transformer, midget type, similar to KA-114, requires less chassis space	1.50
KA-155	B	Input transformer, midget type, similar to KA-115, requires less chassis space	1.50
KR-119	C	Same as KA-114, upright mounting requires less chassis space	1.90
KR-115	C	Same as KA-115, upright mounting, requires less chassis space	1.90
KA-34	D	Same as KA-114, has better low frequency response	2.25
KA-35	D	Same as KA-115, has better low frequency response	2.25
KA-36	D	Same as KA-116, has better low frequency response	2.25
KA-23	E	Push-pull plates (a) to push-pull grids. Ratio (c) 1:1½	3.00
KPG	C	High impedance pickup to 1 grid	2.00
KSMG	C	Single button microphone to 1 grid	2.00
KMG	C	Double button microphone to 1 grid	2.00
KRG	C	Ribbon microphone to 1 grid	2.25
KVL	C	Velocity ribbon microphone to 500 or 200 ohms	2.25
KA-55	E	Power detector plate to push-pull grids	3.00

MIDGET INPUT TRANSFORMERS

R-50	A	Single button microphone or detector plate to single grid	$1.10
R-51	C	Single button telephone microphone (75 ohms) to single grid	2.00
R-54	A	Single button microphone to single grid	1.00
R-55	A	Double button microphone to single grid	1.00
R-52	A	Input transformer 1 plate (a) to 1 grid. Ratio (c) 1:4	1.00
R-53	A	Input transformer 1 plate (a) to 2 grids. Ratio (c) 1:4	1.00

Notes: 1—(a) indicates plates of such tubes as 55, 56, 76, 27, 37, 864, 30, 01A, 26, 77 (triode connected), 57 (triode connected), 6C6 (triode connected) or any similar tube having plate resistance of approximately 10,000 ohms.
2—(c) indicates turns ratio total primary to total secondary.

CLASS "A" OUTPUT TRANSFORMERS (Fig. 1)

KO-381	C	Single 38 plate to voice coil	$1.50
KO-382	C	Push-pull 38, 10, 12A, 26 to voice coil	1.75
KO-451	C	Single 45, 12A5, 31, 43, 50, 53, 71A, to voice coil	1.50
KO-452	C	Push-pull 45, 19, 31, 43, 53, 71A, 6A6, 6N7, to voice coil	1.50
KO-471	C	Single pentode plate, 2A5, 33, 41, 42, 47, 79, 89, to voice coil	1.50
KO-472	C	Push-pull pentode plates, 2A5, 33, 41, 42, 47, 79, 89, to voice coil	1.75
KO-482	C	Push-pull 48 plates to voice coil	1.50
KA-32	E	Push-pull 2A3 plates to 8 ohms and 4 ohms	2.25
KPO	C	Single triode plate (a) to 500 ohms or 200 ohms	1.75
KPM	C	Single plate (a) to magnetic speaker	1.50
KPPM	C	Push-pull plates (a) to magnetic speaker	1.50
R308	CV	Same as KUO except mounting	1.75

MIDGET PLATE TO VOICE COIL TRANSFORMERS

R-300	A	Single 38	$1.00
R-301	A	Single 48	1.00
R-303	A	Single 45, 12A5, 31, 43, 50, 53, 71A	1.00
R-305	A	Single 2A5, 33, 41, 42, 47, 79, 89	1.00
R-302	A	P. P. 38, 10, 12A, 26	1.00
R-304	A	P. P. 45, 19, 31, 43, 53, 71A, 6A6, 6N7	1.00
R-306	A	P. P. 2A5, 33, 41, 42, 47, 79, 89	1.00
R-307	A	P. P. 48	1.75

UNIVERSAL MOUNTING AUDIO TRANSFORMERS (Fig. 3)

KUO	C	Universal output for single triode or pentode plate; push-pull triode or pentode plates, to low impedance secondary tapped from .1 to 29 ohms	$1.75
KUMO	C	Universal output for single triode or pentode plate; push-pull triode or pentode plates, to tapped high impedance line for connection to one or more magnetic speakers	1.75

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World Radio History

KENYON TRANSFORMERS

POWER TRANSFORMERS (Half-Shell Type)

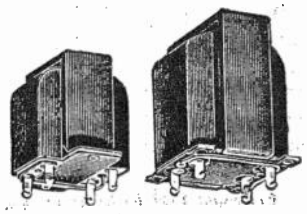
Type Number	High Voltage Secondary	Filament Secondaries	Base	Mounting	List Price
K-40M	640 v. C.T., 40 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 5.5 Amp.	2½x3	2 x2½	$2.25
K-40	650 v. C.T., 40 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 5.5 Amp.	3⅜x2 15/16	2¼x2 15/16	$2.25
K-40MY	640 v. C.T., 40 M.A.	5.0 Volts 2 Amp. 6.3 V. C.T. 2.1 Amp.	2½x3	2 x2½	$2.25
K-54	670 v. C.T., 50 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 7 Amp.	3⅜x2 15/16	2¼x2 15/16	$2.75
K-54-Y	670 v. C.T., 50 M.A.	5.0 Volts 2 Amp. 6.3 V. C.T. 3 Amp.	3⅜x2 15/16	2¼x2 15/16	$2.75
K-54-X	700 v. C.T., 50 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 5.25 Amp. 2.5 V. C.T. 1.75 Amp.	3⅜x2 15/16	2¼x2 15/16	$3.00
K-67	700 v. C.T., 75 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 9 Amp.	3¾x3⅛	2½x3⅛	$3.25
K-67-Y	700 v. C.T., 75 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 3 Amp. 6.3 V. C.T. 3 Amp.	3¾x3⅛	2½x3⅛	$3.50
K-67-X	700 v. C.T., 75 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 9 Amp. 2.5 V. C.T. 3 Amp.	3¾x3⅛	2½x3⅛	$3.50
K-87	650 v. C.T., 100 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 12 Amp.	3¾x3⅛	2½x3⅛	$4.00
K-87-Y	650 v. C.T., 100 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 3 Amp. 6.3 V. C.T. 4 Amp.	3¾x3⅛	2½x3⅛	$4.25
K-87-X	650 v. C.T., 100 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 12 Amp. 2.5 V. C.T. 3 Amp.	3¾x3⅛	2½x3⅛	$4.25
K-90	750 v. C.T., 100 M.A.	5.0 Volts 2 Amp. 2.5 V. C.T. 4 Amp. 2.5 V. C.T. 12 Amp.	3¾x3⅛	2½x3⅛	$4.50
K-90-Y	750 v. C.T., 100 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 3 Amp. 6.3 V. C.T. 4 Amp.	3¾x3⅛	2½x3⅛	$4.50
K-92	800 v. C.T., 115 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 5 Amp. 2.5 V. C.T. 12 Amp.	4⅝x3¾	3¾x3	$5.75
K-A3	850 v. C.T., 165 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 5 Amp. 2.5 V. C.T. 14 Amp.	4⅝x3¾	3¾x3	$8.00
K-59	1000 v. C.T., 150 M.A.	5.0 Volts 3 Amp. 2.5 V. C.T. 5 Amp. 2.5 V. C.T. 10 Amp.	4⅝x3¾	3¾x3	$9.50

DOUBLE SHELL REPLACEMENT TRANSFORMERS (Fig. 4)

Type Number	High Voltage Secondary	Filament Secondaries	H	W	D	Mounting	List Price
R-200	640 v. C.T., 40 M.A.	5 Volts 2 Amp. 6.3 Volts 2 Amp. or 2.5 V. C.T. 5 Amp.	3 1/8	2 5/8	2 11/16	2 x1 11/16	$3.00
R-201	650 v. C.T., 50 M.A.	5 Volts 2 Amp. 6.3 Volts 3 Amp. or 2.5 V. C.T. 6 Amp.	3 1/8	2 5/8	3 1/8	2 x2 1/8	$3.50
R-202	680 v. C.T., 70 M.A.	5 Volts 2 Amp. 6.3 Volts 3 Amp. or 2.5 V. C.T. 7.5 Amp.	3 1/2	2 15/16	3 1/2	2¼x2 5/16	$4.25
R-203	700 v. C.T., 90 M.A.	5 Volts 2 Amp. 6.3 Volts 4 Amp. or 2.5 V. C.T. 10.5 Amp.	4 5/8	3⅞	3½	3 3/16x2 7/16	$5.25
R-204	700 v. C.T., 105 M.A.	5 Volts 3 Amp. 2.5 V. C.T. 4 Amp. 6.3 Volts 4 Amp. or 2.5 V. C.T. 10 Amp.	4 5/8	3⅞	3½	3 3/16x2 7/16	$5.50
R-205	750 v. C.T., 120 M.A.	5 Volts 3 Amp. 2.5 V. C.T. 12.5 Amp. 6.3 Volts 5 Amp. or 2.5 V. C.T. 5 Amp.	4 5/8	3⅞	3¾	3 3/16x2 5/8	$6.25
R-206	850 v. C.T., 165 M.A.	5 Volts 3 Amp. 6.3 Volts 3 Amp. 6.3 Volts 5 Amp.	4 5/8	3⅞	4 5/8	3 3/16x3¼	$8.00

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For 230 volt 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation add 60% to list prices. For 230 volt 25 cycle operation add 100% to list prices.

PHILCO TYPE CASED AUDIO TRANSFORMERS



F G

Type No.	Ratio	Use	H	D	W	Type Mtg.	Mtg. Dim.	List Price
R 56	1:3	P to G	2⅜	2⅛	2⅞	F	2⅜	$2.50
R 57	1:3	P to PPG	2⅜	2⅛	2⅞	F	2⅜	2.50
R 58	1:4	P to G	3⅛	2⅝	2¾	G	2x2	3.25
R 59	1:4	P to PPG	3⅛	2⅝	2¾	G	2x2	3.25

World Radio History

KENYON TRANSFORMERS

Type No.	Size	CLASS "B" AND CLASS "AB" INPUT TRANSFORMERS (Fig. 1)	List Price
KR-46	D	Driver 46 plate to two 46 grids	$2.50
KR-49	D	Driver 49 plate to two 49 grids	2.50
KR-53	D	Driver 53 plate to two 53 grids	2.50
KR-59	D	Driver 59 plate to two 59 grids	2.50
KR-79	D	Driver 89 plate to two 79 grids	2.50
KR-19	A	Driver 30 plate to 19 grids. (Midget type for use in transceiver)	1.50
KR-45	C	Driver 56 plate (a) to Class "AB" 45's or to Class "AB" 2A3's	2.50
		CLASS "B" OUTPUT TRANSFORMERS (Fig. 1)	
KR-462	D	Push-pull 46 plates to 8 ohms and 4 ohms	2.50
KR-492	D	Push-pull 49 plates to 8 ohms and 4 ohms	2.50
KR-532	D	Push-pull 53 plates to 8 ohms and 4 ohms	2.50
KR-592	D	Push-pull 59 plates to 8 ohms and 4 ohms	2.50
KR-792	D	Push-pull 79 plates to 8 ohms and 4 ohms	2.50
KR-892	D	Push-pull 89 plates to 8 ohms and 4 ohms	2.50
KR-46M	D	Push-pull 46 plates to 4000 ohns	2.50
KR-49M	D	Push-pull 49 plates to 5000 ohms	2.50
KR-53M	D	Push-pull 53 plates to 4000 ohms	2.50
KR-59M	D	Push-pull 59 plates to 4000 ohms	2.50
KR-79M	D	Push-pull 79 plates to 4000 ohms	2.50
KR-19M	A	Push-pull 19 plates to headphones. (Midget type for use in transceiver)	1.50
		FILTER AND AUDIO CHOKES (Fig. 1)	
KC-40	EW	Filter choke, 1 henry, 250 M.A. Resistance 40 ohms D.C.	2.50
KC-90	EW	Filter choke, 8 henries, 165 M.A. Resistance 90 ohms D.C.	2.50
KC-91	EW	Class "B" input choke, max. D.C. 165 M.A. Resistance 92 ohms D.C.	2.50
KC-200	C	Filter choke, 20 henries, 65 M.A. Resistance 200 ohms D.C.	1.25
KC-320	C	Filter choke, 15 henries, 40 M.A. Resistance 320 ohms D.C.	1.25
KC-350	DW	Filter choke, 30 henries, 75 M.A. Resistance 350 ohms D.C.	2.00
KC-800	C	Filter choke, 30 henries, 25 M.A. Resistance 800 ohms D.C.	1.25
KAC	E	Center tapped high impedance plate choke, Resistance 10,000 ohms D.C.	3.00
KOC	B	Detector plate filter choke, Max. D.C. 2 M.A. Resistance 6,000 ohms D.C.	2.00
R-150	A	Filter choke, 8 henries, 40 M.A. Resistance 160 ohms D.C. for Universal A.C.-D.C. Receivers	.90
R-151	A	Filter choke, 15 henries, 30 M.A. Resistance 250 ohms D.C. for Universal A.C.-D.C. Receivers	.90
R-152	A	Filter choke, 20 henries, 25 M.A. Resistance 400 ohms D.C. for Universal A.C.-D.C. Receivers	.90
R-153	A	Filter choke, 30 henries, 30 M.A. Resistance 500 ohms D.C. for Universal A.C.-D.C. Receivers	.90
		FILAMENT AND PLATE TRANSFORMERS (Fig. 1)	
K-5	D	Filament transformer, Pri. 115 Volts, Secondary 5 Volts at 4 amps.	1.75
K-6	C	Filament transformer, Pri. 115 Volts, Secondary 2.5 Volts at 6 amps.	1.50
K-6.3	D	Filament transformer, Pri. 115 Volts, Secondary 6.3 Volts at 2.5 amps.	1.75
K-7.5	D	Filament transformer, Pri. 115 Volts, Secondary 7.5 Volts at 3 amps.	1.75
K-10	D	Filament transformer, Pri. 115 Volts, Secondary 2.5 Volts at 10 amps.	1.75
KAT		For use with full wave vibrator rectifier to deliver 180 volts D.C. capacity of winding 60 M.A.	2.25
KBT	DW	Plate transformer for "B" eliminator. Pri. 115 Volts, Secondaries: 500 Volts C.T., 50 M.A., 5 Volts 2 amps.	2.25
KTT	D	Multiple winding filament transformer, modernizes previous models of standard tube testers. Secondary voltages available: 1.1, 1.5, 2, 2.5, 3.3, 5, 6.3, 7.5, 12, 15, 25, 30 volts.	3.00
K45C	D	Bias transformer to supply 60-70 volts D.C. at approximately 30 M.A. when used with half-wave rectifier.	2.50

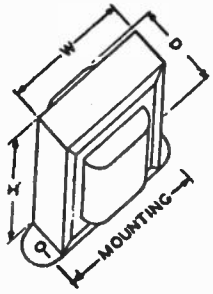


TABLE OF DIMENSIONS

Size	H	W	D	Mounting
A	1⅜"	1¾"	1⅜"	2"
B	1⅝"	2"	1⅜"	2⅜"
C	2"	2⅜"	1⅝" to 1¾"	2¾"
D	2¼"	2¾"	1¾" to 1⅞"	3⅜"
DW	2¼"	2¾"	2¼"	3½"
E	2½"	3"	2"	3½"
EW	2½"	3"	2½"	3½"
CV	2¼"	2"	1¾"	2⅜"

GUARANTY — All Kenyon Transformers are guaranteed against defects in materials and workmanship for a period of ninety days from the time of sale.

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World Radio History

STANCOR REPLACEMENT TRANSFORMERS

THE ONLY 100% COMPLETE TRANSFORMER SERVICE

POWER TRANSFORMERS — NEW UNIVERSAL TYPE

Fourteen units to service the majority of radios in use today. Four black-enameled brackets furnished with each transformer to permit choice of four mounting positions—horizontal, half-shell, vertical or Underwriter's type. Electro-statically shielded—R.M.A. color coded flexible leads.

Stancor Number	No. of Tubes	Plate Volts C.T.	Plate M.A.	Filament 1 Volts	Filament 1 Amps.	Filament 2 Volts	Filament 2 Amps.	Filament 3 Volts	Filament 3 Amps.	Type Mounting	Mounting Area	Mounting Centers	Wgt. in Ctn.	List Price
P-6001	4-5	650	40	5.0-C.T.	2.0	2.5-C.T.	4.0	.....	...	M	2 1/2" x3"	2" x1 3/4"	3.3	$2.35
P-6002	5-6	700	50	5.0-C.T.	2.0	2.5-C.T.	7.25	.....	...	M	2 1/2" x3"	2" x1 3/4"	3.3	3.00
P-6003	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	.....	...	M	2 13/16"x3 3/8"	2 1/4" x2 1/8"	3.8	3.25
P-6004	8-9	700	90	5.0-C.T.	3.0	2.5-C.T.	12.5	.....	...	M	3 1/8" x3 3/4"	2 1/2" x2 5/16"	5.4	4.00
P-6005	6-7	700	70	5.0-C.T.	3.0	2.5-C.T.	9.0	2.5-C.T.	3.5	M	2 13/16"x3 3/8"	2 1/4" x2 1/8"	5.4	4.00
P-6006	11-13	700	120	5.0-C.T.	3.0	2.5-C.T.	12.5	2.5-C.T.	3.5	M	3 1/8" x3 3/4"	2 1/2"x2 5/16"	5.9	5.00
P-6007	10-12	800	110	5.0-C.T.	3.0	2.5-C.T.	15.0	2.5-C.T.	3.5	M	3 1/8" x3 3/4"	2 1/2"x2 5/16"	6.3	5.00
P-6008	14-16	750	180	5.0-C.T.	3.0	6.3-C.T.	3.3	2.5-C.T.	6.0	M	3 7/16" x4 1/8"	2 11/16"x2 7/8"	6.5	6.00
P-6009	6-7	550	70	5.0-C.T.	3.0	5.0-C.T.	0.5	2.5-C.T.	10.5	M	2 13/16"x3 3/8"	2 1/4" x2 1/8"	4.2	3.50
P-6010	4-5	650	40	5.0-C.T.	3.0	6.3-C.T.	2.0	.....	...	M	2 1/2" x3"	2" x1 3/4"	3.3	2.50
P-6011	6-7	700	70	5.0-C.T.	3.0	6.3-C.T.	2.5	.....	...	M	2 1/2" x3"	2" x1 3/4"	3.3	3.00
P-6012	8-9	700	90	5.0-C.T.	3.0	6.3-C.T.	3.5	.....	...	M	2 13/16"x3 3/8"	2 1/4" x2 1/8"	5.2	3.75
P-6013	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	.....	...	M	3 1/8" x3 3/4"	2 1/2" x2 5/16"	5.3	4.25
P-6014	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	.....	...	M	3 1/8" x3 3/4"	2 1/2" x2 5/16"	5.8	5.75

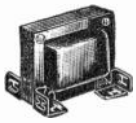
POWER TRANSFORMERS (Fully Cased)

Stancor No	No. of Tubes	Plate Volts	Plate Mls.	Filament 1 Volts	Filament 1 Amps.	Filament 2 Volts	Filament 2 Amps.	Filament 3 Volts	Filament 3 Amps.	Mounting Type	Mounting Area	Mounting Centers	Wgt. in Carton	List Price
Fully Shielded With Leads — 2.5 Volts														
P-4039	4	650	40	5.0	2.0	2.5-C.T.	3.75	..	..	C	2 5/8"x2 5/8"	2" x1 9/16"	2.4	$3.00
P-4040	4-5	650	40	5.0	2.0	2.5-C.T.	1.75	2.5	3.5	C	2 5/8"x2 5/8"	2" x1 11/16"	2.7	3.50
P-4041	5-6	700	50	5.0	2.0	2.5-C.T.	1.75	2.5	5.25	C	3" x3"	2 1/4"x1 15/16"	3.2	3.70
P-4042	6-7	700	70	5.0	3.0	2.5-C.T.	3.5	2.5	7.5	C	3 1/4"x3"	2 1/2"x1 7/8"	3.7	4.25
P-4043	8-9	700	90	5.0	3.0	2.5-C.T.	3.5	2.5	9.0	C	3 9/16"x3 3/8"	2 11/16"x2 1/2"	4.5	4.90
P-4044	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	C	3 1/2"x3 5/8"	2 11/16"x2 7/8"	4.7	6.10
P-3004*	11-14	800	175	5.0	3.0	2.5-C.T.	5.0	2.5-C.T.	3.0	C	3 7/8"x3 7/8"	3" x2 13/16"	9.0	7.80
*This transformer has 80 volt bias tap and separate 2.5 volt, 1.75 amp. filament for bias rectifier.														
Fully Shielded With Leads — 6.3 Volts														
P-4076	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	....	....	C	2 5/8"x2 5/8"	2" x1 3/4"	2.7	$3.10
P-4077	5-6	700	50	5.0	2.0	6.3-C.T.	2.6	....	....	C	3" x3"	2 1/4"x2"	3.2	3.60
P-4078	6-7	700	70	5.0	3.0	6.3-C.T.	3.0	....	....	C	3 1/4"x3"	2 1/2"x1 7/8"	4.0	4.20
P-4079	8-9	700	90	5.0	3.0	6.3-C.T.	3.5	....	....	C	3 9/16"x3 1/8"	2 3/4"x2 5/8"	4.9	4.75
P-4080	10-12	700	110	5.0	3.0	6.3-C.T.	4.5	....	....	C	3 7/8"x3 3/8"	3" x2 3/8"	5.4	5.50
P-4081	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	....	....	C	3 7/8"x3 1/8"	3" x2 3/8"	5.0	6.40
P-5059	11-14	675	200	5.0	3.0	6.3-C.T.	5.0	....	....	C	3 7/8"x4 3/8"	3" x3 5/16"	10.0	7.25
P-4004*	11-14	800	175	5.0	3.0	6.3-C.T.	2.5	6.3-C.T.	2.5	C	3 7/8"x4 1/8"	3" x3 1/16"	11.0	8.50
P-6143	8-9	880	130	5.0	3.0	6.3-C.T.	3.5	....	....	C	3 5/8"x4 1/2"	2 3/4"x3"	5.0	6.40
*This transformer has 80 Volt bias tap and separate 2.5 Volt 1.75 Amp. filament for bias rectifier														
Fully Shielded With Leads — 2.5 and 6.3 Volt Combination														
P-4045	4-5	600	40	5.0	2.0	2.5-C.T.	5.25	6.3	2.0	C	2 5/8"x2 5/8"	2" x1 3/4"	2.7	$3.40
P-4046	5-6	700	50	5.0	2.0	2.5-C.T.	7.25	6.3	2.6	C	3" x3"	2 1/4"x2"	3.2	3.80
P-4047	6-7	700	70	5.0	3.0	2.5-C.T.	9.0	6.3	3.0	C	3 1/4"x3"	2 1/2"x1 7/8"	3.7	4.60
P-4048	8-9	700	90	5.0	3.0	2.5-C.T.	10.0	6.3	3.5	C	3 9/16"x3 1/2"	2 3/4"x2 5/8"	5.0	5.20
P-4049	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3 7/8"x3 3/8"	3" x2 3/8"	5.3	5.70
P-4050*	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3 7/8"x3 3/4"	3" x2 3/4"	6.2	7.10
P-5057	10-12	750	125	5.0	3.0	2.5-C.T.	3.5	6.3-C.T.	3.6	C	3 7/8"x3 7/8"	3" x2 13/16"	5.0	5.30
P-3005	10-12	720	125	5.0	3.0	2.5-C.T.	10.0	6.3-C.T.	4.0	C	3 7/8"x4 1/8"	3" x2 13/16"	5.5	5.65
*This transformer has 80 Volt bias tap and separate 2.5 Volt 1.75 Amp. filament for bias rectifier														
Fully Shielded With Leads — 1.5, 2.5, 5, 6.3 Volt Combination														
P-1501	..	600	60	5.0	3.0	1.5-C.T. 1 2.5-C.T. 4	1.5 5.0	4 .5		C	3 1/2"x3 3/8"	2 1/2"x2 7/8"	5.0	$4.40
P-1502	..	700	70	5.0	3.0	2.5-C.T.	1.75	2.5	9	C	3 1/2"x3 3/8"	2 1/2"x2 7/8"	5.0	4.25
P-1503	..	700	120	5.0	3.0	1.5-C.T. 1 2.5-C.T. 4		1.5 2.5-C.T.	5 3.5	C	4" x3 3/4"	3 1/8"x3 1/8"	7.5	5.75
P-1504	..	700	120	5.0	3.0	2.5-C.T.	12.5	....	....	C	4" x3 3/4"	3 1/8"x3 1/8"	7.5	5.50
P-1505	..	700	120	5.0	3.0	2.5-C.T. 4 2.5-C.T. 3.5		2.5-C.T.	9	C	4" x3 3/4"	3 1/8"x3 1/8"	7.5	5.70
P-1570	..	700	85	5.0	3.0	6.3-C.T.	3	....	....	C	3 1/2"x3 3/8"	3 1/8"x3 1/8"	5.0	4.50

All of the above power transformers are for operation on 110-115 volts, 50-60 cycles. Any of them may be supplied for 220-230 volt operation, or for 25 cycles or both. For 220-230 volts, increase list price 15%; for 25 cycles, 60%; for 220-230 volts 25 cycles, 75%.

TYPE "M" Mounted Vertically

TYPE "M" Mounted Half Shell



TYPE "M" Mounted Horizontally

TYPE "M"

TYPE "M" May Also Be Mounted Underwriters

TYPE "C"

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STANCOR

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World Radio History

STANCOR POWER TRANSFORMERS — CHOKES

TYPE "G"

TYPE "A"

TYPE "C"

TYPE "N"

TYPE "Q"

TYPE "D"

HALF SHELL TRANSFORMERS

Stancor No.	No. of Tubes	Plate Volts	Plate Mills	Filament 1 Volts	Filament 1 Amps.	Filament 2 Volts	Filament 2 Amps.	Filament 3 Volts	Filament 3 Amps.	Mounting Type	Mounting Area	Mounting Centers	Wgt. in Carton	List Price
Half Shell With Lugs — 2.5 Volts														
P-2750	4	650	40	5.0	2.0	2.5-C.T.	3.75	....	....	G	2½"x3"	2"x2½"	2.2	$2.25
P-2770	4-5	650	40	5.0	2.0	2.5-C.T.	4.5	....	....	G	2½"x3"	2"x2½"	2.5	2.50
P-2868	4-5	650	40	5.0	2.0	2.5-C.T.	1.75	2.5	3.5	G	2½"x3"	2"x2½"	2.5	2.80
P-2869	5-6	700	50	5.0	2.0	2.5-C.T.	1.75	2.5	5.25	G	2 13/16"x3⅜"	2¼"x2 13/16"	3.0	3.00
P-2859	6-7	700	70	5.0	3.0	2.5-C.T.	3.5	2.5	7.5	G	3⅛"x3¾"	2½"x3⅛"	3.6	3.50
P-2860	8-9	700	90	5.0	3.0	2.5-C.T.	3.5	2.5	9.0	G	3 7/16"x4⅛"	2¾"x3 7/16"	5.2	4.00
P-950	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	G	3¾"x4½"	3"x3¾"	5.5	5.50
Half Shell With Lugs — 6.3 Volts														
P-2751	4	650	40	5.0	2.0	6.3-C.T.	1.6	.....		G	2½"x3"	2"x2½"	2.2	$2.25
P-2771	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	.....		G	2½"x3"	2"x2½"	2.5	2.50
P-947	4-5	700	50	5.0	2.0	6.3-C.T.	2.0	.....		G	2 13/16"x3⅜"	2¼"x2 13/16"	3.3	2.75
P-948	5-6	675	70	5.0	3.0	6.3-C.T.	2.5	.....		G	3⅛"x3¾"	2½"x3⅛"	4.7	3.60
P-949	7-10	700	120	5.0	3.0	6.3-C.T.	3.0	.....		G	3 7/16"x4⅛"	2¾"x3 7/16"	5.5	4.00
P-955	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	.....		G	3¾"x4½"	3"x 3¾"	6.5	6.00
P-3700	11-14	950	175	5.0	4.0	6.3-C.T.	4.5		‡	G	3¾"x4½"	3"x3¾"	9.8	7.50
P-6142	10-12	620	125	5.0	2.0	6.3-C.T.	2.0	.....		G	3⅛"x3¾"	2½"x3⅛"	4.7	3.75
P-3880	11-14	800	175	5.0	3.0	6.3-C.T.	4.75	.....		G	3¾"x4½"	3"x3¾"	9.0	7.00
Half Shell With Lugs — 2.5 and 6.3 Volt Combination														
P-4070	4-5	650	40	5.0	2.0	2.5-C.T.	5.25	6.3	2.0	G	2½"x3"	2"x2½"	2.5	$3.00
P-4071	5-6	700	50	5.0	2.0	2.5-C.T.	7.25	6.3	2.6	G	2 13/16"x3⅜"	2¼"x2 13/16"	3.0	3.40
P-4072	6-7	700	70	5.0	3.0	2.5-C.T.	9.0	6.3	3.0	G	3⅛"x3¾"	2½"x3⅛"	3.6	4.00
P-4073	8-9	700	90	5.0	3.0	2.5-C.T.	10.0	6.3	3.5	G	3 7/16"x4⅛"	2¾"x3 7/16"	5.2	4.50
P-4074	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	G	3¾"x4½"	3"x3¼"	5.5	5.30
P-4075	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	G	3¾"x4½"	3"x3¾"	6.5	6.10

‡This transformer has separate 40 volt tap on high voltage.

All of the above power transformers are for operation on 110-115 volts, 50-60 cycles. Any of them may be supplied for 220-230 volt operation, or for 25 cycles or both. For 220-230 volts, increase list price 15%; for 25 cycles, 60%; for 220-230 volts 25 cycles, 75%.

FILTER CHOKES (REPLACEMENT TYPES)

Stancor Number	Radio Inductance in Henries	Maximum Current in M.A.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price
C-1706	5	40	300	1650	A	1⅝"	2"	1 1/16"	0.5	$ .90
C-1707	7	40	500	1650	A	1⅝"	2"	1 1/16"	0.5	.90
C-1708	10	65	460	1650	A	1 9/16"	2⅞"	2 13/16"	1.1	1.20
C-1709	9	85	250	1650	A	1 9/16"	2⅞"	2 13/16"	1.5	1.60
C-1710	8	150	200	1650	A	2½"	3¼"	2 1/16"	2.3	2.00
C-1515	50	15	750	1650	A	1⅝"	2 13/16"	1½"	.7	1.00
C-1362	15	40	550	1650	A	1⅝"	2 13/16"	1½"	.7	1.00
C-1277	15	50	300	1650	A	1⅝"	2 13/16"	1½"	.7	1.00
C-1003	30	50	550	1650	A	2"	3 5/16"	1⅝"	1.4	1.25
C-1002	30	75	400	1650	A	2¼"	3 11/16"	1⅞"	1.7	1.55
C-1420	30	80	350	1650	C	3⅛"	2⅝"	2⅝"	2.6	2.90
C-1001	30	110	200	3000	A	2⅝"	4 1/16"	2"	2.4	1.85

A.C.-D.C. CHOKES

C-1711	4.5	40	325	1600	Q	1 5/16"	1 1/16"	2⅜"	.5	$ .80
C-1723	4.4	40	330	1600	A	1 5/16"	1 1/16"	2⅜"	.5	.80
C-1080	15	40	200	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1325	15	40	250	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1277	15	40	300	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1227	15	40	350	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1279	15	40	400	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1333	15	40	450	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1215	15	40	500	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90
C-1362	15	40	550	1600	A	1⅝"	2 13/16"	1⅜"	.6	.90

SIX VOLT UNIVERSAL VIBRATOR TRANSFORMERS

These units equipped with mounting brackets for universal replacement work. For exact duplicate vibrator transformers consult the No. 125 Stancor Service Guide.

Stancor Number	Secondary D.C. Volts to Filter	Secondary M.A.	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
P-4060	225	40	N	3⅛	2½	3	2.2	$2.50
P-4061	250	50	N	3⅛	2½	3	2.3	3.00
P-4062	260	65	N	3⅛	2½	3	2.6	3.50
P-4063	285	75	N	3⅛	2½	3¼	3.0	4.00
P-6131	330	100	N	3½	2 13/16	3¼	3.5	4.75

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World Radio History

AUDIO TRANSFORMERS

STANCOR

Audio transformers for most radio and amplifier replacements. Ideal for experimental construction. The transformers are engineered for both universal or specific applications. For cased types see page J-68.

PLATE TO GRID INTERSTAGE TRANSFORMERS

Stancor Number	From	To	Primary Impedance	Secondary Impedance	Turns Ratio	D.C. Primary M.A.	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
A-4155	10,000 ohm plate	Grid	10,000	90,000	3:1	10	L	2"	2 1/16"	2 5/16"	1.2	$1.85
A-52	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	1.15
A-53	10,000 ohm plate	Grid	10,000	90,000	3.1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	1.15
A-62	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.35
A-63	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.35
A-72	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	2"	3 5/16"	1 5/8"	1.	1.70
A-73	10,000 ohm plate	Grid	10,000	90,000	3.1	10	A	2"	3 5/16"	1 5/8"	1.	1.70
A-74	10,000 ohm plate	Grid	10,000	160,000	4:1	10	A	2"	3 5/16"	1 5/8"	1.	1.70
A-82	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.30
A-83	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.30
A-84	10,000 ohm plate	Grid	10,000	160,000	4:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.30
A-102	10,000 ohm plate	Grid	10,000	40,000	2:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.70
A-103	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.70
A-104	10,000 ohm plate	Grid	10,000	160,000	4:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.70

TYPE "A"

TYPE "L"

PUSH-PULL INPUT TRANSFORMERS

A-52-C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	$1.25
A-53-C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1 3/8"	2 3/8"	1 1/2"	.5	1.25
A-62-C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.45
A-63-C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.75	1.45
A-72-C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	2"	3 5/16"	1 5/8"	1.	1.80
A-73-C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2"	3 5/16"	1 5/8"	1.	1.80
A-74-C	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	A	2"	3 5/16"	1 5/8"	1.	1.80
A-82-C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.40
A-83-C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.40
A-84-C	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	A	2 1/4"	3 11/16"	1 7/8"	1.5	2.40
A-102-C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.80
A-103-C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.80
A-104-C	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	A	2 5/8"	4 1/16"	2"	2.2	2.80
A-2132	Screen Grid Tube	P.P. Grids	10,000	10,000	1:1	10	A	3"	3 3/8"	2 1/16"	2.4	3.10
A-4155	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	L	2"	2 1/16"	2 5/16"	1.2	1.85
A-4717	10,000 ohm plate	P.P. Grids	10,000	10,000	1:1	10	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.80
A-4718	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.80
A-4719	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.80
A-104CP	10,000 ohm plate	P.P. Grids	10,000	160,000	4:1	10	E	2 3/8"	2 7/8"	2 3/8"	2.4	3.50

TYPE "E"

PUSH-PULL INTERSTAGE TRANSFORMERS

A-4711	P.P. Plates	P.P. Grids	20,000	20,000	1:1	10	A	1 5/8"	2 13/16"	1 1/2"	.8	1.75
A-4155	P.P. Plates	P.P. Grids	10,000	90,000	3:1	10	L	2"	2 1/16"	2 5/16"	1.2	1.85

TYPE "J"

DRIVER TRANSFORMERS

Stancor No.	From	To	Class	Primary Impedance	One Half Secondary Impedance	Turns Ratio Pri. to ½ Sec.	D.C. Primary M.A.	Type Mounting	Mounting Dimensions H	W	D	Wgt. in Carton	List Price
A-4712	P.P. 27, 37, 56, 76, 6C5, 30	P.P. 53, 6A6, 19	B	20,000	2,200	3:1	10	A	1 5/8"	2 13/16"	1 1/2"	.7	$1.40
A-4713	1-46, 45, 2A5, 6F6, etc. as Triodes	P.P. Grids 19, 79, 2A5, 6A6 6F6	B	22,500	2,500	3:1	30	A	1 5/8"	2 13/16"	1 1/2"	.7	1.40
A-4723	2A5, 30, 6A6, etc. as Triodes	P.P. Grids 19, 79, 2A5, 6A6 6F6	B	10,000	2,500	2:1	30	A	1 5/8"	2 13/16"	1 1/2"	.7	1.40
A-4722	1-42, 47, 2A5, Triode	P.P. 42, 2A5, 6F6	AB	10,000	10,000	1:1	30	E	2 1/4"	2 3/4"	2 1/8"	1.5	2.40
A-4401	1-27, 30, 37, 56, 76	1-19, 79	B	10,000	1,400	2.66:1	15	J	2 3/8"	2 3/4"	2 1/4"	1.3	1.85

TYPE "C"

TYPE "D"

SPEAKER FIELD SUPPLY TRANSFORMERS

Stancor Number	Primary Voltage	Secondary D.C. Volts	Secondary M.A. Output	Filament Winding	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
P-6149	115	100	150	5 V @ 3 A	C	3 1/2"	2 15/16"	3 1/4"	3.2	$3.00
P-6146	115	115	Up to 250	5 V @ 3 A	C	4"	3 7/32"	3 1/4"	5.0	4.20
P-6147	115	300	Up to 200	5 V @ 3 A	C	4 3/8"	3 9/16"	3 3/4"	7.5	5.75

STANCOR

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World Radio History

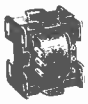
STANCOR OUTPUT TRANSFORMERS

TYPE "Q"

TYPE "A"

TYPE "C"

TYPE "E"



TYPE "L"

TYPE "B"

TYPE "D"

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Stancor Number	Output Tubes	Class	Impedance Pri.	Impedance Sec.	D. C. Pri. M. A.	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Wgt. in Carton	List Price
A-3822	1-2A5, 6F6, 41, 42, 47	A	7,000	1, 2, 4	45	5	Q	1 3/8"	2 3/8"	1 1/2"	0.5	$1.15
A-2201	P.P. 2SA6, 43, 45, 48, 71 A 1-6A6, 6N7, 53	A B	8,000	6-15	40	10	A	2"	2 3/8"	1 5/8"	1.0	1.50
A-2203	1-12A5, 31, 43, 45, 71, 48	A	4,000	6-15	40	5	A	2"	2 3/8"	1 5/8"	0.7	1.10
A-2312	P.P.-2A5, 6F6, 42, 47, 49, 33	A	14,000	6-15	40	10	A	2"	3 5/16"	1 5/8"	1.1	1.50
A-3824	1-6A6, 6N7, 53 or P.P. 46	B	8,000	1-2-4	75	8	Q	1 5/8"	2 3/8"	1 1/2"	1.4	1.90
A-3825	1-6L6	A	2,500	1-2-4	75	8	Q	1 5/8"	2 5/8"	1 1/2"	1.0	1.60
A-3496	P.P. 2A5, 6F6, 42, 47, 49, 33	A	14,000	3-5	45	5	A	1 3/8"	2 1/16"	1 5/16"	0.7	1.35
A-3301	P.P. 2A3, 6A3, 6B4-G P.P. 48, 25L6	AB A	3,000	4, 8, 15, 500	70	30	C	3 1/2"	2 15/16"	3 1/8"	3.7	4.00
A-3831	1-1J6-G, 19, 6E6 P.P.-30-49 P.P. 31	B B A	10,000	2, 4, 8	40	5	A	1 19/32"	2"	1 5/16"	2.6	1.55
A-3303	P.P.-2A5, 6F6, 41, 42, 47 33, 49, 89 1-79	A B	14,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.50
A-3304	P.P.-2B6, 6B5, 6N6-G P.P. 2A5, 6F6, 42 1-6A6, 6N7, 53 P.P. 25A6, 43, 45, 71	A AB2 B A	10,000 8,000	4, 8, 15, 500	60	25	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.70
A-3306	P.P. PAR 4-48, 25L6 P.P. PAR 4-2A3, 6B4-G 45	A AB	 2,500	4, 8, 15, 500	100	25	C	3 1/2"	2 15/16"	3 1/8"	3.6	6.00
A-3307	P.P.-2A5, 6F6, 42 P.P. 46, 59 P.P. PAR, 6A6, 6N7, 53	AB2 B B	6,000	4, 8, 15, 500	100	30	C	3 1/2"	2 15/16"	3 1/8"	3,6	4.00
A-3308	P.P. 845	AB	5,000	4, 8, 15, 500	160	75	C	4 5/8"	3 7/8"	3 7/8"	8.0	6.30
A-3800	P.P. 6L6 P. P. PAR 19 P.P. 2A3, 6A3, 6A5-G 6B4-G, 6L6, 50, 45, 48	A B AB	5,000	4, 8, 15, 500	80	30	C	3 1/2"	2 15/16"	3 1/8"	3.7	4.00
A-3801	P.P. 6L6	AB1	6,600	4, 8, 15, 500	150	35	C	3 7/8"	3 1/4"	3 3/8"	5.0	4.75
A-3802	P.P. PAR 6L6 P.P. 6L6	AB1 AB2	3,300 3,800	4, 8, 250, 500	250	75	C	4 5/8"	3 7/8"	3 7/8"	8.3	6.00
A-3309	P.P. 800, RK-18, 35-T	B	12,500	500	230	60	C	4 5/8"	3 7/8"	3 7/8"	8.3	7.80
A-3310	1-2B6, 6B5, 6N6-G	A	5,000	4, 8, 15, 500	55	20	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.70
A-3311	P.P. 2B6, 6B5, 6N6-G	B	10,000	4, 8, 15, 500	70	25	C	3 1/2"	2 15/16"	3 1/8"	3.8	4.25
A-3840	1-2A5, 6F6, 31 33, 42, 47	A	7,000	1, 2, 4, 8	45	5	E	2 1/4"	2 3/4"	2 1/8"	1.7	2.50
A-3839	1-19, 6E6, 1J6-G P.P.-30, 49 P.P.-31	B A	10,000	4, 8, 15, 2000	30	10	E	2 1/4"	2 3/4"	2 1/8"	1.7	2.50
A-5528	P.P. 25L6	A	4,000	4, 8, 15, 500	65	8	C	3 1/8"	2 5/8"	2 3/8"	2.4	2.75

UNIVERSAL LINE TO VOICE COIL TRANSFORMERS

Stancor Number	For Coupling	Primary Impedance	Secondary Impedance	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
A-3300	Line to voice coil	50, 125, 200, 333, 500	4, 8, 15	25	D	3 1/8"	2 5/8"	2 5/8"	2.6	$3.80
A-3818	Line to voice coil	500, 1000, 1500	4, 8, 15	25	B	3 1/8"	2 3/4"	2 5/8"	2.6	2.80
A-3819	Line to voice coil	500, 1000, 1500, 2000	4, 8, 15	30	D	3 7/8"	3 1/4"	3"	4.2	4.90
A-3820	Line to voice coil	500, 1000, 1500, 2000	4, 8, 15	40	D	4 1/4"	3 1/2"	3 5/8"	5.8	5.80
A-3838	Line to speakers	500 (auto transformer)	250, 166, 125, 100, 84	30	B	3 1/8"	2 5/8"	2 3/4"	2.6	3.00
A-3837	Line to voice coil. 1 to 6 can be paralleled across 500 ohm line	500, 1000, 1500, 2000, 2500, 3000	.06 to 8 ohm when primary is 500 ohms. .12 to 16 when primary is 1000, etc.	15	B	2 1/4"	2 7/8"	2 1/2"	2.0	3.00

UNIVERSAL OUTPUT TRANSFORMERS

Stancor Number	Output Tubes	Impedance Primary	Impedance Sec.	D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price
A-3823	Single or P.P. Plates	4000, 7000, 8000 10,000, 14,000	1 to 30	40	8	Q	1 5/8"	2 13/16"	1 5/8"	0.7	$1.50
A-3830	Single or P.P. Plates	3,000, 5000, 6600, 7000, 8000, 10,000	1 to 30	60	20	Q	2 5/8"	4 1/16"	2"	3.0	3.00
A-2855	Single or P.P. Plates	4000, 7000, 8000, 10,000, 14,000	1 to 30	50	15	L	2"	2 5/16"	2 1/16"	1.3	1.60
A-3841	Universal Single Plate	2500, 4000, 5000, 6000, 7000	500	60	10	B	2 11/16"	2 11/16"	2 3/8""	1.3	3.50
A-3842	Universal P.P. Plates	8000, 10,000, 12,000 14,000	500	55	10	B	2 11/16"	2 11/16"	2 3/8"	2.5	3.50

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World Radio History

EXACT DUPLICATE TRANSFORMERS

EXACT DUPLICATE STANCOR UNITS

Special windings are often incorporated in original transformer equipment. For these features we recommend Stancor Exact Duplicates. They match the original in both finish and physical and electrical characteristics. Many popular numbers are listed below. For a complete listing, write for a copy of the Stancor Service Guide

Model	Manufacturer	Stancor Number	List Price
	ADMIRAL		
A1, A31, L2, L5, M1, ML156, ML226, X8, Z2, 137X, 150X, 171X		P-2872	$3.70
B1, 5M, 5X, 6W		P-3840	3.80
M3, M6, M8		P-3643	5.70
	AIRLINE (MONTGOMERY WARD)		
11-12, 62-29		P-1136	5.70
62-010, 62-012, 62-012X		P-1438	6.40
62-060, 62-070, 1800		P-1405	3.90
	ALL AMERICAN MOHAWK		
D, H		P-1134	6.40
F, 60, 61, 62, 65, 66, SPU, 80, 83, 84, 85, 86, 87, 88		P-1463	6.40
90, 96		P-1038	6.40
	ATWATER KENT		
37, 37C, 38		P-716	4.30
55, 55C (Early)		P-918	7.10
55, 55C (Late)		P-913	7.10
60, 60C (Early)		P-1066	7.10
60, 60C (Late)		P-1500	7.10
70, 72, 72H, 74, 76		P-1068	6.40
80, 83		P-1088	6.40
82, 85		P-1084	6.20
84		P-1086	6.40
86, 96		P-6021	6.40
87, 89, 89P, 99 (1st and 2nd)		P-1089	7.00
92, 94		P-6027	6.40
93SW		P-6025	6.40
99 (3rd)		P-6026	7.10
145, 165 (2nd), 185, 185A, 186, 325, 425, 475, 525, 665, 735, 944		P-6018	4.30
188		P-6022	4.50
217, 427, 667		P-6016	5.00
260 (1st and 2nd)		P-6023	5.50
310 (Early), 510 (Early)		P-6015	6.50
310 (Late), 510 (Late), 559		P-6017	6.00
318, 487, 708, 788, 808A		P-6020	5.00
448		P-6024	5.50
627		P-6028	8.00
856, 976		P-6019	4.40
	BELMONT		
41		P-1000	4.20
51A, 51B		P-597	4.10
740, 840		P-4417	4.60
890A		P-4716	5.20
	BOSCH		
10, 310, 310A		P-6092	4.75
29, 825		P-859	10.00
250, 251, 260, 261		P-6091	5.50
312, 313 (AC)		P-6093	6.75
420, 430, 430J, 430T, 440C, 440T, 450H, 450L		P-6083	4.75
460, A, B, R, 470, G, U		P-6084	5.75
575F, Q, U, 585, Y, Z		P-6094	5.75
605, 605C, 640		P-6095	3.50
670C, 670S		P-6096	5.00
	BRUNSWICK		
2KRO, 3KRO, 3KR6, 5KR, 5KRO, 5KR6		P-791	4.30
3NC8, 5NC8		P-715	5.30
10		P-1499	5.00
11, 12, 16, 18, 33		P-1136	5.70
14, 21, 31, S14, S81, S82, S21, S31, 31, 81, 82		P-1112	6.40
	CLARION		
AC60		P-1438	6.40
AC61, AC70		P-1429	6.40
AC80, AC81, AC84, AC85		P-1928	5.00
AC90, 90A, 91		P-1166	6.45
AC100		P-1558	4.50
AC160		P-1974	6.80
AC260		P-1494	6.00
AC280		P-1927	6.80
AC300		P-1915	6.90
AC320		P-1916	4.50
AC340		P-1871	5.50
40		P-1499	5.00
360		P-1861	7.10
470, 471, 472		P-1562	4.40
480		P-1560	6.50
	CROSLEY		
5V2, 6H3, 50, 50LB, 614, 715, 855		P-5096	3.75
40S, 41S, 42S, 82S		P-1015	6.40
41, 41A, 41B, 42, 704B, 706		P-1472	5.40
146, 146-1		P-1563	6.50
505, 515, 516, 525, 5515, 5516, 6516		P-5095	3.00
517, 537, 547		P-5093	2.75
526, 616, 5526, 5555, 555		P-5094	3.50
534, 635, 655		P-5092	3.25

Model	Manufacturer	Stancor Number	List Price
	DETROLA		
147, 147E, 147ECR		P-3765-1	$5.00
155X, 165		P-3986	6.00
	EDISON (SPLITDORF)		
C1		P-5090	9.50
C2, R1, R2, M5		P-961	6.40
C4, R4, R5		P-1143	7.80
R6, R7		P-5091	7.50
	EMERSON		
117, LW, L117LW, L122LW, L133LW, L135LW, L141LW, L117, L122, L133, L135, L143 (Early), L150, L143 (Late)		P-4260	4.40
Z117, 122, 133, 135, 141, 150, 159, 160, AT170, 1, 2, 3, 4, 6, AR180, AT181, AR185		P-5249	4.50
AC130, AC149, AC168, R152, R153, R156, R158		P-4311	3.70
	EVEREADY (NATIONAL CARBON CO.)		
31, 32, 33, 34		P-1030	6.00
42, 43, 44		P-956	5.70
52, 53, 54		P-901	5.70
	FADA		
RX, 73, 85		P-6100	6.40
78, 79		P-6099	7.10
150, 160		P-6105	3.25
170, 270, 271		P-6101	4.25
212, 312		P-6103	7.00
250, 255, 265, 1255, 1265		P-6104	3.25
290, 291		P-6102	7.25
351, 354		P-4337	4.20
	GENERAL ELECTRIC		
A52, A55		P-6031	5.50
A83, A85		P-6032	6.25
A125		P-6035	7.00
E155		P-5075	9.00
E61, E62, E68		P-6097	3.80
E71, E72, E76, E79		P-6033	4.25
E81, E86		P-6098	5.10
E91, E95, E101, E105, E106		P-6034	5.75
E126, E129		P-5074	9.00
H31, H51, H51R, H71, H91, H91R		P-713	6.40
H32, H72		P-6073	6.40
J70, J75		P-1487	4.30
J72		P-6057	5.80
J80, J85, J82, J86, JZ835, S132		P-1483	5.70
J83, J87		P-6068	6.00
J83A, J87A		P-6058	5.40
J100, J105, J107, J109		P-6048	7.10
J125		P-6054	7.00
K43, M42, M49		P-6052	3.00
K50, K50P, K51, K51P, K52, K53, K53M, K54, K54P, K55, K58		P-6055	4.00
K60, K60P, K63, K65, K65P, M63		P-6056	4.50
K62, KZ62P		P-1474	6.20
K64, M65, M68		P-6060	5.00
K66, K66M		P-6045	4.40
K78, K79		P-6038	4.50
K80, K80X, K85, K88, K88X		P-6050	6.00
K105, K106, P, K107		P-6072	7.80
M41		P-6051	4.75
M50, M52, M55		P-6059	3.80
K126		P-6070	7.20
M51, M51A, M56, M61, M66, M62, M67, M69, M655, S22, S22A, S22X		P-6047	4.30
M81, M85, M86, M89, M106, M107, M125, M129, M130		P-6061	6.20
M128, M128HR		P-6036	6.90
S42, SZ42P		P-1481	4.30
T12, T12E		P-1493	4.30
T41		P-927	5.70
	GENERAL MOTORS		
Little General, 110, 180, 190		P-1485	5.00
S3A, S4A, 252, 253, 254, 256, 257, 258, 292, 293		P-1492	6.40
S9A		P-1291	5.70
S10A, 220		P-1506	4.50
211		P-1271	5.00
	GRAYBAR ELECTRIC		
GB4		P-1493	4.30
GB8		P-1481	4.30
GB8A		P-1482	4.30
GB9		P-1474	6.20
GB100		P-6073	6.40
GB310, GB311, GB320, GB321		P-791	4.30
GB330, GB340		P-715	5.30
GB500, GB550		P-714	5.30

Model	Manufacturer	Stancor Number	List Price
	GRAYBAR ELECTRIC (Continued)		
GB600		P-883	$7.10
GB678		P-927	5.70
GB700, GB770, GB900		P-713	6.40
GB989, GT-8, GC14		P-1483	5.70
GC13, GT7		P-1487	4.30
	GRUNOW (GENERAL HOUSEHOLD)		
460, 460X, 461, 461X		P-6080	5.50
570, 571		P-6082	6.00
580, 581, 640, 641		P-6090	4.70
660, 661, 662, 670, 671, 690, 691		P-6081	6.40
750, 751, 752 753, 861		P-6079	6.00
901, 902, 921		P-6087	7.15
1151, 1152, 1161, 1162		P-6088	8.50
1191, 1191B, 1291, 1297		P-6089	8.20
	MAJESTIC (GRIGSBY GRUNOW)		
21, 22, 23, (20)		P-954	6.40
51, 52, (50)		P-905	6.40
71, 72, (70) Plate Trans.		P-790	4.30
71, 72, (70 and 70B) Fil. Trans.		P-798	4.65
71, 72, (70B) Plate Trans.		P-1486	4.30
90, 91, (90B), 93, 102, 103, (100B)		P-939	6.40
91, 92, (90), 101, (100) All Models		P-757	6.45
130, 131, 132, (130A), 233, (230A)		P-1102	6.40
151, 153, 154, 155, 156, (15, 15B, 150)		P-906	3.55
181, (180) Fil. Trans.		P-805	6.10
181, (180) Plate Trans.		P-789	8.60
211, 214, 215, (210)		P-1507	6.40
251, 251B, 253, 253B, 254, 254B, (25, 25B)		P-1168	6.40
291, 293, 294, (290)		P-1564	6.40
324, (320)		P-1565	7.85
344, (340)		P-1566	7.15
363, (360)		P-1567	7.10
	PHILCO		
14 (Early), 91 (Twin Spkr.)		P-1572	5.50
14 (Late), 118, 18		P-1568	6.00
15		P-5017	7.50
16, (121), 17 (121)		P-1573	8.00
16, 17, (122, 123)		P-1571	7.50
16, (125), 116B, (121)		P-5028	7.00
16, (126, 127)		P-5027	7.00
19, 44, 60, 66, 89, 264, 265		P-5021	3.50
19, (128)		P-5022	4.50
20, 20A, 22		P-762	6.00
29		P-5025	5.25
45, 245		P-5024	4.25
50, 50A, 51, 51A, 52		P-1460	4.20
65		P-711	6.00
70, 70A, 370, 470, 470A		P-1119	6.00
71 (Twin Spkr.)		P-1574	6.50
76, 77		P-785	6.00
80, 81		P-5018	3.25
84		P-5023	3.60
86		P-786	6.00
87		P-763	6.00
90, 90A, (2—45's)		P-1469	6.00
90, 90A, (47), 490		P-1486	6.00
90 (2—47's)		P-1497	6.00
91 (Sgl. Spkr.)		P-1498	5.00
95, 96		P-787	6.00
97, 98		P-5029	7.50
111, 111A, 112, 112A (2—45's)		P-788	6.00
112, 112A (2—47's)		P-882	6.00
116X (122)		P-5033	7.50
144		P-5026	4.25
200, 201		P-1576	7.50
511		P-784	6.00
600, 37-600, 37-601		P-5037	3.25
610, 620, 625, 2620		P-5030	4.00
630, 635		P-5025	5.25
640, 645		P-5036	6.00
650, 655		P-5032	7.50
660, 665		P-5034	6.00
680		P-5035	8.00
37-9, 37-650, 37, 665, 37-2650, 38-3, (121)		P-5040	6.25
37-10, 37-11, (121), 37-670, 37-2670		P-5043	6.50
37-60, 37-61, 37-89, 37-610, (121), 37-2620, 38-60, 38-89, (125), 37-620, 37-630, (121)		P-5038	4.50
37-62, 37-610, 37-630, (122)		P-5042	4.25
37-84		P-5023	3.60
37-93		P-5048	3.60
37-116, (122, 121)		P-5044	7.50
37-640		P-5039	5.25
37-660		P-5041	7.00
37-675, 38-116, (121)		P-5045	7.50
37-690		P-5046	6.50
37-690		P-5047	7.50
38-1, 38-2, (121)		P-5071	6.50
38-4, 38-5, (121)		P-5069	5.50
38-7, (121, 124), 38-8, 38-9, (121), 38-10, (121)		P-5100	4.00
38-12, (121)		P-5049	3.00
	RCA		
R4, R6		P-1487	4.30
R5, R5X		P-1493	4.30
R7, R7LW, R9, RE16		P-1481	4.30

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World Radio History

EXACT DUPLICATE TRANSFORMERS

EXACT DUPLICATE STANCOR UNITS

Model	Manufacturer	Stancor Number	List Price
	RCA (Continued)		
R7A, RE16A		P-1482	$ 4.30
R8, R10, R12, RE19, RO23, R71, R72		P-1483	5.70
R11, RE18, RE18A, R21, RAE26		P-1474	6.20
RAD17, 18, 33, 51		P-791	4.30
RE20, R50, R55, RAE59		P-6073	6.40
R28, R28P, RE40, RE40P, 210, 310, 110, 111, 115		P-6055	4.00
R32, RE45, R52, RE75		P-717	6.00
R35, R39, RE57, RE73		P-718	6.40
R37, R37P, R38, R38P, 120, 124		P-6056	4.50
RAD 42, 48		P-927	5.70
RAD 44, 46, 47		P-714	5.30
RAD 60, 62		P-715	5.30
RAD 64, 67		P-827	17.00
RAD 66		P-883	7.10
RAE 68, RAD. 80, 82, 86, 82R, 86R		P-713	6.40
R70, R70N		P-6057	5.80
R73 (47), R75 (47), RE80, RE80SW		P-6068	6.00
R73A (2A5), R75A (2A5)		P-6058	5.40
R74, R76, R77, RE81		P-6048	7.10
R78, RAE84		P-6054	7.00
RAE79		P-6053	14.00
R90, R90P, 260, 261		P-6072	7.80
100 (Early)		P-6051	4.75
100 (Late), 101, 103, 301, T4-8		P-6052	3.00
M116		P-6066	3.80
117, 119, 214, T5-2		P-6059	3.80
118, 211, 125, 128E, 224, 224E, 225, 322, 322E, 128, 226, ACR136		P-6047	4.30
121, 122, 129, 221, 320, 321		P-6060	5.00
140, 140E, 141, 141E, 240, AVR1, 340, 340E		P-6050	6.00
143, 242, 243, 262, 263, 281, 283, 341, 342		P-6061	6.20
220, 222		P-6045	4.40
280		P-6070	7.20
330, 331		P-6038	4.50
380, 380HR		P-6036	6.90
C6-2, T6-1, T6-9, 6K-3, 7T-1, 7K-1		P-6076	4.20
C6-12, C6-11, 6T, 6K, 7T, 7K, 8T, 8K, 8K1		P-6074	3.50
C7-6, D7-7, T7-5, C8-19, C8-20, T8-18		P-6077	4.30
C7-14, T7-12, 7U, 6T-2, 6K-2, 7U-2		P-6069	4.10
C8-15, C8-17		P-6071	4.20
C9-4, C9-5		P-6075	4.90
C9-6, D9-19, T9-9		P-6064	5.90
C11-1, T10-1, 10K-1		P-6062	4.50
C13-2, C15-3		P-6078	6.00
D8-28, T9-10, 8U, 8U-2		P-6039	4.10
D11-2, T10-3, T11-8, 9K3		P-6063	6.75
T4-8A, T4-9A, 4T		P-6049	3.30
T8-14, T8-16		P-6071	4.20
5T, 6K1, 6T5, 5T4, 5T5, 5U, 85T5, 85T, 85T1, U101, U103		P-6067	3.80
8T2, 8T11, 8K11		P-6065	5.60
9K, 9K1		P-6040	4.00
9T, 9K2, 9U, 9U2, 10T, 10K		P-6043	5.00
AP736, 10-70, 12-15, AZ744B, 10-5, 10-69		P-1473	10.00
13K, 15K		P-6042	7.00
15U		P-6037	8.00
86E, 86K, 86K7, 86T, 86T1, 87K, 87T		P-6044	4.30
88K		P-6046	5.20
AP736B, 916X		P-1430	9.80
811K, 812K		P-6041	6.75
	SENTINEL		
6A, 8100B, 8200B		P-2803	5.80
19A, 20A, 40B		P-3116-1	3.80
47A		P-3520	6.50
48A, 52A, 54A, 70A		P-3486	3.00
108, 108A, B, 110		P-420	4.55
114, 115, 116		P-1253	7.30
513		P-3359	2.90
622, 623, 5700, 5700B, 5721, 5800, 6315, 6317, 6321		P-2068	4.00
	SILVER-MARSHALL		
B, J		P-1496	5.50
D, E, F		P-1439	6.60
Q DeLuxe (Early), V-S.W., 728 S.W.		P-1467	7.20
Q DeLuxe (Late), R		P-1491	7.00
726, 726 S.W.		P-1490	7.00
	SPARTON		
7, 62, 63		P-1373	4.20
9A, 410 and 420, 600A, 610A, 620A		P-1196	6.40
25, 26, 26AW, 27, 27A, 27X, 30, 45		P-1204	7.10
35, 101, 110, 111A, 574, 870		P-1412	9.50
55 Police		P-1569	6.40
67, 68, 68XS, 85XS, 86X, 616, 616M, 616MX, 616X, 666, 666M, 666MX, 666X, 685, 686, 691, 716, 766, 766X, 766XP, 766XS		P-6116	7.00
	SPARTON (Continued)		
71, 71B, 72, 78, 478		P-6114	$ 4.00
76		P-6115	4.50
89A		P-921	8.50
99, 109		P-1411	8.50
103, 301, 564, 570, 578, 740, 750		P-1372	9.20
104, 105X, 105XS, 135, 966, 966X		P-6118	5.20
235, 737		P-5097	5.60
589		P-909	7.00
591, 593, 931		P-864	7.00
930		P-5098	5.70
1116X, 1166, 1166XP, 1166XS, 1176, 1176XP, 1176XS, 1186, 1196, 1496		P-6117	6.00
	STEWART-WARNER		
R100A, B. & E., 901, 902, 903, 911, 912, 913, 950, 952, 953		P-1470	6.40
R102, A. B. and E., R104		P-6085	5.50
801 Series A, 801 Series B, 801A Series B, 802, 811, 811A		P-1108	6.00
1341 to 1349, 1361 to 1369		P-6086	5.50
	STROMBERG-CARLSON		
10, 11, 25, 26		P-1209	7.10
38, 39, 40, 41		P-6106	6.70
48, 49, 50, 51		P-6108	8.60
52, 54		P-6107	9.50
55, 56		P-6109	10.00
58T, 58L, 58W, 61T, 61L, 61W		P-6112	4.60
65, 66, 67		P-6110	9.20
74		P-6111	12.50
145L, 145B		P-6113	9.00
641, 642, 652, 654		P-834	6.40
846, 848		P-1053	7.10
	U.S. RADIO AND TELEVISION (APEX)		
7		P-1461	6.40
8		P-1479	5.70
9, 19		P-1495	6.50
10, 10C		P-1016	7.10
20		P-1070	5.00
26		P-1405	3.90
26P		P-1358	3.90
32		P-1291	5.70
36, 37		P-340	7.15
	WESTINGHOUSE		
WR-4		P-927	5.70
WR5, WR6, WR6R, WR7, WR7R		P-713	6.40
WR10, WR12, WR13, WR13A		P-1481	4.30
WR10A		P-1482	4.30
WR14, WR14CR		P-1493	4.30
WR15		P-1474	6.20
WR15A, WR16, WR18, WR19		P-1483	5.70
WR17		P-1487	4.30
WR20		P-6048	7.10
WR21		P-6057	5.80
WR22		P-6068	6.00
WR27, WR29, WR35		P-6055	4.00
WR28, WR36		P-6056	4.50
WR31, WR38, WR39		P-6050	6.00
WR32		P-6052	3.00
WR37		P-6060	5.00
WR45, WR45A		P-6061	6.20
WR46, WR46A, WR48, WR48A, WR49, WR50, WR53		P-6047	4.30
WR208		P-4260	4.40
	ZENITH		
10, 11, 12, 102, 112, 122		P-851	6.45
50, 52, 54, 60, 61, 62, 64, 67, 70, 71, 72, 73, 77		P-712	7.80
273, 410, 411, 412, 414, 420, 443, 444, 473		P-5072	7.10
430, 440, 441, 442, 619		P-5073	6.00
476, 770, 775, 780		P-5078	7.00
476B, 770B, 775B, 777, 788		P-5079	6.00
705, 706, 707, 711, 712, 750		P-5076	6.00
715, 755, 757, 760, 765, 767, 970, 975		P-5077	5.50
805, 845, 808, 809, 860, 861, 908, 909, 960, 961, 1117, 1161, 1167, S827, S829, S870, S871, 1170, 5S29, 5S56		P-5081	3.75
825, 827, 829		P-5080	3.75
835, 880, 935, 978, 983, 1101, 1105, 980, 985, 990		P-5082	5.75
4P26, 4P51, 4T26, 4T51, 5R123, 5R135, 5R165, 5S119, 5S126, 5S127, 5S151, 5S161		P-5087	2.50
6S27, 6S52, 6S128, 6S137, 6S147, 6S152, 6S157, 7S28, 7S53, 8S129, 8S154		P-5083	3.50
9S54, 9S55		P-5084	4.50
10S130, 10S147, 10S153, 10S155, 10S156, 10S157, 10S160		P-5088	5.00
12L57, 12L58		P-5086	6.00
12U158, 12U159		P-5089	6.00

Servicemen rely on Stancor for the only complete transformer service. Should you be unable to locate the proper transformer in these listings, we refer you to the Stancor Service Guide, furnished free on request.

AUDIO DUPLICATES

Model	Manufacturer	Stancor Number	List Price
	AIRLINE (MONTGOMERY WARD)		
62-010, 62-012, 62-012X (Input)		A-2132	3.10
	ATWATER KENT		
70, 72, 72H, 74, 76 (Input)		A-4724	2.30
	BRUNSWICK		
14, 21, 31, S31 (First Audio)		AU101	$ 4.50
14, S14, 21, S21, 31, S31, S81, S82 (Input)		AU-102	4.15
10 (Output)		A-2814	1.45
14, S14, 21, S21, 31, S31, S81, S82, (Output)		AU-103	3.70
	CLARION		
AC60 (Input)		A-2132	3.10
AC61 (Input)		A-2133	2.70
AC160, AC280 (Input)		A-4271	2.50
AC300 (Input)		A-4126	2.85
360 (Input)		A-4016	1.85
AC60, AC61, AC70 (Output)		A-3084	1.80
AC80, AC81, AC84, AC85, AC90, 90A, 91 (Output)		A-2774	2.05
AC160 (Output)		A-2836	1.85
AC220, AC240, AC260, 241 (Output)		A-3085	1.70
AC280 (Output)		A-2811	2.15
AC320 (Output)		A-2718	2.15
40 (Output)		A-2814	1.45
	ERLA (SENTINEL)		
224AC, 224B (Input)		A-104-CE	4.60
224AC, 224B (Output)		A-2512	1.40
	GENERAL ELECTRIC		
H31, H51, H51R, H71 (Input and Output)		AU-100	3.30
	GRAYBAR ELECTRIC		
GB700, GB770, GB900 (Input and Output)		AU-100	3.30
	MAJESTIC (GRIGSBY GRUNOW)		
71, 72, (70), 71, 72, (70B), (First Audio)		A-4321	5.15
101, (100) (First Audio)		A-4327	3.40
233, (230A) (First Audio)		A-4328	2.90
31, (30) (Input)		A-4325	4.65
51, 52, (50), 211, 214, 215, (210) (Input)		A-4323	5.45
61, 62, 163, (60 and 160) (Input)		A-4329	4.30
71, 72, (70), 71, 72, (70B), 91, 92, (90), 101, (100), 181, (180), (Input)		A-4322	5.45
90, 91, 93, (90B), 102, 103, (100B) (Input)		A-4320	5.45
91, 92, (90), 101, (100) (Input)		A-4324	5.45
130, 131, 132, (130A), 233, (230A) (Input)		A-4326	5.00
51, 52, (50) (Output)		A-3220	3.25
71, 72, (70), 71, 72, (70B), 181, (180) (Output)		A 223	4.40
90, 91, (90B), 91, 92, (90), 93, (90B), 101, (100), 102, 103, (100B) (Output)		A-3221	4.40
91, 92, (90), 101, (100) (Output)		A-3224	4.40
	PHILCO		
86, 87 (First Audio)		A-74YP	2.25
511 (First Audio and Input)		A-72YP	2.25
20, 20A, 21 (Input)		A-74CP	1.75
65, 95, 96, 111, 111A, 112, 112A (2—45's) (Input)		A-104CP	2.90
76, 77, 86, 87 (Input)		A-72YCP	2.25
20, 20A, 21, 65, 76, 77, 86, 87, 90, 90A, (2—45's), 95, 96, 111, 111A, 112, 112A (2—45's) (Output)		A-2318-P	2.15
70, 70A, 90, 90A (47), 370, 470, 470A, 490 (Output)		A-2392-P	2.15
	RCA		
R32, R35, R39, R52, RE45, RE57, RE73, RE75, RAE68, RAD80, RAD82, RAD82R, RAD86, RAD86R (Input and Output)		AU-100	3.30
	SPARTON		
9A, 410 and 420, 600A, 610A, 620A (Input)		A-2128	4.75
103, 578 (Input)		A-4330	2.15
591, 593, 931 (Input)		A-2120	2.15
55 Police, 103, 235, 301, 564, 570, 574, 578, 591, 593, 740, 750, 870, 931 (Output)		A-2462	2.00
930 (Output)		A-3225	2.00
	STROMBERG-CARLSON		
10, 11, 25, 26 (Input)		A-4715	7.85
70, 72 (Output)		A-3827	5.00
74 (Output)		A-3828	6.00
	WESTINGHOUSE		
WR5, WR6, WR6R, WR7, WR7R, WR21, WR23, WR24 (Input and Output)		AU-100	3.30
	ZENITH		
50, 52, 54, 60, 61, 62, 64, 67, 70, 71, 72, 73, 77 (Input)		A-4716	4.30

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STANCOR THE COMPLETE AMATEUR LINE

BUILT TO BROADCAST SPECIFICATIONS

Presenting a complete amateur line built to broadcast specifications. Listed in the most practical voltage and current ranges to meet the needs of the most exacting users. This line was designed by engineers long familiar with amateur and professional requirements. Tested both in laboratory and in transmitters, these units will render long, satisfactory and trouble-free service.

PLATE TRANSFORMERS

Conservatively rated to supply maximum rated current under continuous operation. D.C. voltages listed are those obtained at maximum rated current drain, after allowance for voltage drop in the rectifier and two section filter.

Stancor Number	Primary Voltage	D.C. Voltage After Filter	Taps	Current in M.A.	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price	Net Price
P-5060	115	400	....	250	H	4 5/8"	3 3/4"	3 3/4"	9.2	**$6.50**	**$3.90**
P-4024	105-115	400	40 Volt Bias	300	C	4 5/8"	3 7/8"	4 7/8"	12.3	**9.00**	**5.40**
P-4016	105-115	400	40 Volt Bias	500	F	7"	6 1/8"	6 3/8"	22.0	**15.00**	**9.00**
P-3010	105-115	500	400	175	C	4 5/8"	3 7/8"	3 5/8"	7.3	**8.00**	**4.80**
P-3699	115	600	....	200	H	4 5/8"	3 3/4"	4 1/8"	9.4	**6.50**	**3.90**
P-3535	115	750	600-400	300	H	4 5/8"	3 3/4"	5 1/2"	15.5	**9.95**	**5.97**
P-5050	105-115	750	600	250	C	4 5/8"	3 7/8"	5 1/8"	15.0	**10.50**	**6.30**
P-4030	115	1000	750	250	D	4 5/8"	3 7/8"	5 7/8"	17.2	**11.50**	**6.90**
P-3012	105-115	1000	750	400	F	7"	6 1/8"	6 7/8"	31.5	**19.00**	**11.40**
P-6152	115	1250	1000	300	F	7"	7 1/8"	6 1/2"	26.0	**16.00**	**9.60**
P-6153	115	1250	1000	500	F	7"	7 1/8"	7 1/4"	36.0	**23.00**	**13.80**
P-5053	115	1500	1250	300	F	7"	7 1/8"	6 5/8"	30.0	**18.50**	**11.10**
P-6157	115	1500	1250	500	F	7"	7 1/8"	7 1/2"	43.0	**29.50**	**17.70**
P-6156	115	1750	1500	300	F	7"	7 1/8"	6 7/8"	31.0	**20.00**	**12.00**
P-6159	115	1750	1500	500	F	11"	7 1/8"	6 1/4"	52.0	**37.50**	**12.50**
P-6151	115	2000	....	250	F	7"	7 1/8"	6 3/4"	30.0	**19.50**	**11.70**
P-6154	115	2000	1750	300	F	7"	7 1/8"	7"	31.5	**21.50**	**12.90**
P-6162	115-230	2000	1750	500	F	11"	7 1/8"	6 3/4"	57.0	**42.50**	**25.50**
P-6155	115	2500	2000	300	F	7"	7 1/8"	7 3/8"	43.0	**29.50**	**17.70**
P-6163	115-230	2500	2000	500	F	11"	7 1/8"	7 1/2"	60.0	**50.00**	**30.00**
P-6150	115-230	3000	....	375	F	11"	7 1/8"	8"	55.0	**40.00**	**24.00**

All of the above power transformers are for operation on 110-115 volts, 50-60 cycles. Any of them may be supplied for 220-230 volt operation, or for 25 cycles or both. For 220-230 volts, increase list price 15; % for 25 cycles, 60 %; for 220-230 volts 25 cycles, 75 %.

CHOKES — SWINGING

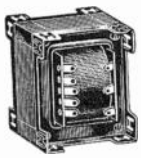
Choke inductances rated for full load to no load current values. All units well insulated and conservatively rated.

Stancor Number	Inductance in Henries	Maximum Current in M.A.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price	Net Price
C-1400	8-40	175	100	2000	C	3 1/8"	2 5/8"	2 5/8"	2.7	**3.00**	**1.80**
C-1401	8-30	200	100	2000	C	3 1/2"	2 15/16"	3 1/8"	3.5	**3.70**	**2.22**
C-1645	8-35	200	70	3000	C	3 7/8"	3 1/4"	3 3/8"	4.7	**4.10**	**2.46**
C-1402	8-30	250	60	3000	C	3 1/2"	2 15/16"	3 1/2"	4.6	**4.40**	**2.64**
C-1403	8-25	300	80	5000	D	4 5/8"	3 7/8"	3 7/8"	8.4	**6.50**	**3.90**
C-1404	5-25	400	60	5000	D	4 5/8"	3 7/8"	4 7/8"	12.3	**9.60**	**5.76**
C-1405	5-20	500	65	5000	F	7"	6 1/8"	5 7/8"	19.0	**14.00**	**8.40**
C-1718	8-30	150	130	2000	C	3 1/8"	2 5/8"	2 1/2"	2.5	**3.25**	**1.95**
C-1719	5-25	200	120	3000	N	3 3/4"	3 1/8"	3 1/4"	5.0	**3.80**	**2.28**
C-1702	8-30	250	70	3000	B	3 1/2"	2 15/16"	3 1/2"	3.9	**3.75**	**2.25**
C-1720	5-25	300	80	3000	N	4 1/2"	3 3/4"	3 1/2"	8.5	**5.00**	**3.00**

CHOKES — FILTER

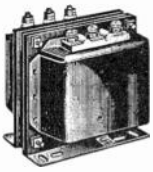
Companions to the swinging choke group. These units will give the same satisfactory long life.

C-1421	25	140	160	3000	C	3 1/8"	2 5/8"	2 5/8"	2.7	**$3.10**	**$1.86**
C-1410	20	175	100	3000	C	3 1/8"	2 5/8"	2 5/8"	2.7	**3.00**	**1.80**
C-1411	15	200	100	3000	C	3 1/2"	2 15/16"	3 1/8"	4.0	**3.70**	**2.22**
C-1646	20	200	70	3000	C	3 7/8"	3 1/4"	3 3/8"	4.7	**4.10**	**2.46**
C-1412	15	250	60	3000	C	3 1/2"	2 15/16"	3 1/2"	4.8	**4.40**	**2.64**
C-1413	12	300	80	5000	D	4 5/8"	3 7/8"	3 7/8"	8.5	**6.50**	**3.90**
C-1414	10	400	60	5000	D	4 5/8"	3 7/8"	4 7/8"	13.5	**9.60**	**5.76**
C-1415	8	500	65	5000	F	7"	6 1/8"	5 7/8"	19.0	**14.00**	**8.40**
C-1721	15	200	120	3000	N	3 3/4"	3 1/8"	3 1/4"	4.5	**3.80**	**2.38**
C-1722	13	300	80	3000	N	4 1/2"	3 1/4"	3 1/2"	8.5	**5.00**	**3.00**
C-1703	15	250	60	3000	B	3 1/2"	2 15/16"	3 1/2"	3.9	**3.75**	**2.25**



TYPE "H"

TYPE "C"



TYPE "F"

TYPE "D"

TYPE "N"

TYPE "B"

STANCOR

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World Radio History

STANCOR FILAMENT TRANSFORMERS

TYPE "A"

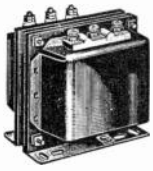
TYPE "E"

TYPE "N"

TYPE "C"

TYPE "B"

TYPE "D"



TYPE "F"

Single Secondary

Stancor Number	Primary Voltage	Secondary Volts	Secondary Amperes	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Insulation in Volts	Weight in Carton	List Price	Net Price
P-4026	115	2.5	1.5	A	1 9/16"	1 5/16"	2 13/16"	1,650	0.5	$1.25	$ .75
P-4082	105-115	2.5	2.5	E	2 3/8"	2 5/8"	2 1/8"	1,650	1.4	2.30	1.38
P-6133	115	2.5	5	N	2 11/16"	2 1/2"	2 3/4"	10,000	2.7	1.75	1.05
P-6140	115	2.5	5.25	N	2 11/16"	2 1/2"	2 3/4"	1,650	1.6	1.60	.96
P-4083	105-115	2.5	6	C	3 1/8"	2 5/8"	2 3/8"	1,650	2.2	2.85	1.71
P-3024	105-115	2.5	10	C	3 1/8"	2 5/8"	2 5/8"	1,650	2.7	3.40	2.04
P-3060	115	2.5	10	B	3 1/8"	2 1/2"	2 1/8"	10,000	2.5	1.75	1.05
P-3025	105-115	2.5	10	D	3 1/2"	2 15/16"	3"	10,000	3.3	3.70	2.22
P-5007	105-115	4.5	3	C	3 1/8"	2 5/8"	2 3/8"	2,500	2.2	2.80	1.68
P-4099	105-115	5	2	E	2 3/8"	2 5/8"	2 1/8"	2,500	1.6	2.50	1.50
P-3026	105-115	5	3	C	3 1/8"	2 5/8"	2 5/8"	2,500	2.5	3.00	1.80
P-4088	115	5	3	B	3 1/8"	2 1/2"	2 1/8"	1,650	2.0	2.00	1.20
P-3062	115	5	6	B	3 1/8"	2 1/2"	2 3/4"	2,500	2.5	2.50	1.50
P-5000	105-115	5	6	C	3 1/8"	2 5/8"	2 7/8"	2,500	3.2	3.50	2.10
P-6135	115	5	10	N	3 1/8"	2 5/8"	3 1/4"	1,650	3.1	3.25	1.95
P-4086	105-115	5	14	D	4 1/4"	3 1/2"	4 1/8"	10,000	7.5	6.10	3.66
P-4085	105-115	5	22	D	4 5/8"	3 7/8"	4 7/8"	10,000	11.6	8.80	5.28
P-6136	115	5.25	4	N	2 11/16"	2 1/2"	2 3/4"	2,500	2.3	2.00	1.20
P-6137	115	5.25	13	N	3 7/8"	3 1/4"	3 5/8"	2,500	4.2	3.25	1.95
P-5011	105-115	5.25	13	C	3 7/8"	3 1/4"	3 5/8"	2,500	5.8	5.00	3.00
P-4087	105-115	6.3	1	E	2 3/8"	2 5/8"	2 1/8"	1,650	1.3	2.30	1.38
P-6134	115	6.3	1.2	A	1 5/8"	2 3/8"	1 1/2"	2,500	0.6	1.25	.75
P-5014	115	6.3	3	B	3 1/8"	2 1/2"	2 1/4"	1,650	2.0	1.60	.96
P-4019	105-115	6.3	4	C	3 1/8"	2 5/8"	2 5/8"	1,650	2.8	3.40	2.04
P-3064	115	6.3	6	B	3 1/8"	2 1/2"	2 3/4"	1,650	2.4	2.50	1.50
P-4089	105-115	6.3	6	C	3 1/2"	2 15/16"	3 1/8"	1,650	3.7	3.75	2.25
P-3022	105-115	7.5	3.5	C	3 1/8"	2 5/8"	2 5/8"	1,650	2.6	3.20	1.92
P-5015	115	7.5	4	B	3 1/8"	2 1/2"	2 1/2"	2,500	2.5	2.00	1.20
P-4091	105-115	7.5	5	C	3 1/2"	2 15/16"	3 1/8"	2,500	4.0	3.85	2.31
P-6138	115	7.5	8	N	3 7/8"	3 1/4"	3 1/2"	2,500	4.1	3.00	1.80
P-4092	105-115	7.5	8	C	3 7/8"	3 1/4"	3 5/8"	2,500	5.6	4.75	2.85
P-4094	105-115	7 5	12	C	4 5/8"	3 1/8"	3 3/4"	5,000	7.3	6.20	3.72
P-4093	105-115	7 5	24	D	4 5/8"	3 7/8"	5 3/8"	5,000	13.6	10.40	6.24
P-4095	105-115	10	3.25	C	3 1/2"	2 15/16"	3"	2,500	3.3	3.70	2.22
P-5016	115	10	4	B	3 1/2"	3"	2 7/8"	2,500	3.0	2.75	1.65
P-4096	105-115	10	5	C	3 7/8"	3 1/4"	3 1/4"	2,500	4.6	4.50	2.70
P-6139	115	10	8	N	3 7/8"	3 1/4"	3 1/2"	2,500	4.1	3.40	2.04
P-4097	105-115	10	8	C	3 7/8"	3 1/4"	3 5/8"	2,500	5.8	4.75	2.85
P-5002	105-115	10	12	C	4 5/8"	3 7/8"	4 3/8"	7,500	9.6	7.55	4.53
P-5005	105-115	10	20	D	4 5/8"	3 7/8"	5 5/8"	2,500	13.6	10.80	6.48
P-4098	105-115	11	5	C	3 7/8"	3 1/4"	3 5/8"	2,500	4.8	4.50	2.70
P-3020	105-115	11	10	C	4 5/8"	3 7/8"	3 7/8"	2,500	7.8	6.50	3.90
P-6158	115	11	16	D	4 5/8"	3 7/8"	3 3/8"	1,650	13.0	9.00	5.40
P-5003	105-115	12.6	1	C	3 1/8"	2 5/8"	2 5/8"	1,650	2.3	2.60	1.56
P-5006	105-115	14.0	12	C	4 5/8"	3 7/8"	4 3/8"	2,500	10.0	8.20	4.92
P-5004	105-115	14	30	F	7"	6 1/8"	6 7/8"	2,500	27.0	28.00	16.80
P-6164	115	6.3,5,2.5	2.5	B	2 5/8"	2 1/4"	2 3/8"	2,500	1.8	2.00	1.20

All secondaries center tapped except P-6164.

Multiple Secondary

Stancor Number	Primary Voltage	Secondary Volts	Secondary Amperes	Type Mounting	H	W	D	Insulation in Volts	Weight in Carton	List Price	Net Price
P-5012	105-115	2.5 C.T. 5 C.T.	10.0 3.0	D	3 1/2"	2 15/16"	3 3/4"	10,000	5.5	$4.30	$2.58
P-3061	115	2.5 C.T. 7.5 C.T.	5.0 4.0	B	3 1/2"	3"	3"	2,000	3.5	2.30	1.38
P-5009	105-115	5.0 C.T. 6.3 C.T.	3.0 6.0	C	3 7/8"	3 1/4"	3 1/4"	2,500	4.7	4.80	2.88
P-5010	105-115	5.0 C.T. 7.5 C.T.	3.0 3.25	C	3 1/2"	2 15/16"	3 1/4"	2,500	3.8	4.30	2.58
P-5008	105-115	5.0 C.T. 6.3 C.T.	4.0 3.6	C	3 1/2"	2 15/16"	3 1/4"	2,500	4.0	4.30	2.58
P-4022	105-115	5.0 C.T. 6.3 C.T.	6.0 6.0	C	3 7/8"	3 1/4"	3 3/4"	2,500	5.0	5.00	3.00
P-5013	105-115	5.5 C.T. 6.3 C.T.	4.0 3.0	C	3 7/8"	3 1/4"	3 1/8"	2,500	4.3	4.50	2.70
P-4090	115	6.3 C.T. 7.5 C.T.	3.0 4.0	B	3 1/2"	3"	3"	2,500	3.7	2.80	1.68
P-6132	105-115	2.5 C.T. 2.5 C.T. 2.5 C.T.	5.0 5.0 10.0	D	5 1/4"	3 7/8"	3 1/2"	10,000	7.5	7.00	4.20
P-6144	115	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	C	3 1/2"	3"	3 1/4"	1,650	4.0	4.75	2.85
P-3032	105-115	5.0 C.T. 5.0 C.T. 5.0 C.T.	3.0 3.0 6.0	D	3 7/8"	3 1/4	3"	7,500	5.0	7.25	4.35
P-4084	105-115	5.0 C.T. 6.3 C.T. 7.5 C.T.	3.0 3.6 3.25	C	3 7/8"	3 1/4"	3 5/8"	2,500	5.6	5.50	3.30

For 220-230 volt primaries add 15%. For 25 cycles add 60%.

Net

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World Radio History

MODULATION TRANSFORMERS

STANCOR

PLATE MODULATION TRANSFORMERS

Conservatively rated for continuous duty at maximum current and audio wattage. Well insulated against voltage breakdown. Excellent construction and impregnation assure quiet operation and long life.

Stancor No.	Output Tubes	Class	Impedance Pri.	Impedance Sec.	D.C. Pri. M.A.	D.C. Sec. M.A.	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price	Net Price
A-3321	6A6, 19, 53, 79, 6N7	B	10,000	3000	100	125	25	C	3 1/8"	2 5/8"	2 5/8"	3.2	$3.00	$1.80
A-3806	P.P. 2B6, 6B5, 6N6	A	10,000	3300, 4000 5000, 6250	90	150	20	D	3 7/8"	3 1/4"	3 3/8"	4.7	5.50	3.30
A-2906	P.P. 46, 59	B	6,000	3300, 4000, 5000, 6250	200	125	40	D	4 5/16"	3 9/16"	4"	7.0	6.00	3.60
A-3320	P.P. PAR-46, 59	B	3,200	3300-4000 5000, 6250	330	225	80	D	4 5/8"	3 7/8"	4 3/8"	10.0	9.60	5.76
A-2907	P.P. 10, 801, 841, 35T, TZ20, @ 600V on plates	B	8,000	3300, 5000 6800,9000 12,500	200	150	90	D	4 5/8"	3 7/8"	4 3/8"	10.2	8.70	5.22
A-2908	P.P. 809 @ 750V	B												
	P.P. 35T, RK-18, TZ-40, 800, 825, 830-B @ 1000 V on plates	B	7,200	3,400, 4400 5,000, 5880	260	220	120	D	4 5/8"	3 7/8"	4 3/8"	10.4	10.00	6.00
	P.P. TZ-20, 830-B using 750 V on plates		12,000											
A-3808	P.P. 6L6	AB2	3,800	4,000, 5000	260	170	60	D	4 5/8"	3 7/8"	3 7/8"	7.7	7.30	4.38
	P.P. Par 6L6	AB1	3,300	7,500,10,000										
A-3807	P.P. Par 6L6	AB2	1,900	3400, 4400 5000,5880	500	230	130	F	7"	6 1/8"	6 1/8"	20.5	26.50	15.90
A-3844	P.P. TZ-40, 203A, 203Z, 838	B	6,900	2,500 10,000	300	400 200	300	F	7"	6 1/8"	6 1/8"	26.5	20.00	12.00
	P.P. 242-A, 211	AB	9,000											
A-3812	1-19	B	10,000	4,000	32	50	5	A	1 5/8"	2 3/16"	1 1/2"	.7	1.30	.78
A-3835	P.P.2A3,6A3,45	AB	3,000	5350, 8350, 10,000										
	P.P.-2A3,6A3,50, 45	AB	5,000		80	100	25	C	3 7/8"	3 1/4"	3 3/8"	5.2	4.70	2.82
	P.P. 6L6	A1	5,000											
	P.P. 45	AB2	5,000											
A-3834	Line to R.F. load		500, 200	4,000,6000, 9500		150	30	C	4 5/16"	3 9/16"	3 3/4"	6.5	6.00	3.60
A-3829	P.P. TZ-40's, etc.	B	6,900 9,000	3,300,4000 5,000,6250	250	300	175	D	4 5/8"	3 7/8"	5"	11.8	10.80	6.48
A-3843	P.P. 6L6's	AB1	6,600	5,000,7500 14,500	150	150	40	D	4 5/16"	3 9/16"	3 3/4"	7.0	6.50	3.90
A-3816	P.P. 822's, 838's HF200,'s etc.	B	8,000 10,000	4,000, 6,250 9,000	500	500	500	F	11	7 1/8	7 3/8	68.0	40.00	24.00

PLATE AND SCREEN MODULATION TRANSFORMERS

A-3805	P.P. 6L6	AB2	3,800	Plate 6250, 12,500	260	120	60	D	4 5/8"	3 7/8"	3 7/8"	8.0	8.20	4.92
	P.P.Par 6L6	AB1	3,300	S.G. 950		85								
A-3813	P.P. Par 2-6A6 6N7, 53	B	5,000	9400 Plate S.G. 500	150	75 80	25	C	4 5/16"	3 9/16"	3 3/4"	3.4	6.25	3.75
	P.P. 6L6	A1												
	P.P. 2A3, 45	AB												
A-3814	P.P.-10, 801, RK-10,T-20,TZ-20	B	10,000	12,500 plate 690 screen	130	90 50	60	C	4 5/8"	3 7/8"	3 5/8"	7.0	7.00	4.20

GRID MODULATION TRANSFORMERS

Stancor No.	Output Tubes	Class	Impedance Pri.	Impedance Sec.	D.C. Pri. M.A.	D.C. Sec. M.A.	Max. Audio Watts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Wgt. in Carton	List Price	Net Price
A-3811	1-89, 42	A	10,000	10,000 suppressor grid of single pentode	30	14	5	A	1 5/8"	2 5/8"	1 5/8"	3.7	$1.00	$ .60
A-3322	1-42, 45, 46, 59, 2A5, 6F6, 89	A	6,200	7,500 control or suppressor grid of RK-20, RK-20A, RK-28, RCA, 804, RCA 803, etc.	45	22	10	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-3323	P.P. 42, 45, 46, 59, 2A5	A	15,000	7,500 control or suppressor grid of RK-20, RK20A, RK-28, RCA 803, 804, etc.	45	36	15	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10

ISOLATING TRANSFORMERS

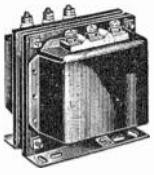
These transformers are designed with electro-static shield to isolate line noises and interference from the apparatus being used. Especially suitable for screen test booth.

Stancor Number	Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price	Net Price
P-6160	100	K	4 5/8"	3 7/8"	3 3/8"	5.5 lbs.	$ 9.00	$ 5.40
P-6161	250	K	5 11/16"	6 1/8"	5 1/2"	14.0 lbs.	17.50	10.50

TYPE "C"

TYPE "D"

TYPE "A"



TYPE "F"

TYPE "E"

TYPE "K"

STANCOR

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STANCOR AUDIO TRANSFORMERS

TYPE "C"

TYPE "E"

TYPE "A"

TYPE "D"

TYPE "B"

TYPE "L"

TYPE "M"

Listed here are the many popular audio components. Additional listings may be found on page J-61.

PLATE TO GRID INTERSTAGE TRANSFORMERS

Stancor Number	From	To	Impedance Pri.	Impedance Sec.	Turns Ratio	D. C. Pri. M.A.	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price	Net Price
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	$4.25	$2.44
A-4414	10,000 ohm plate	Grid	10,000	90,000	3:1	15	E	2 3/8"	2 5/8"	2 1/8"	1.7	2.80	1.68

PUSH-PULL INPUT TRANSFORMERS

A-4206	20,000 ohm plate	P.P. Grids	20,000	180,000	3:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	4.15	2.49
A-4402	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	15	E	2 3/8"	2 5/8"	2 1/8"	1.6	3.00	1.80
A-4730	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.40	2.04
A-4415	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	15	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.90	1.74
A-4700	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	15	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.85	1.71

PUSH-PULL INTERSTAGE TRANSFORMERS

A-4207	P.P. Plates	P.P. Grids	20,000	80,000	2:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	4.40	2.64
A-4208	P.P. Plates	P.P. Grids	25,000	18,000	1:39:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.45	2.07
A-4725	P.P. Plates	P.P. Grids	25,000	6,250	2:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.75	2.25

DRIVER TRANSFORMERS

Stancor Number	From	To	Class	Impedance Pri.	Impedance 1/2 Sec.	Ratio Pri. to 1/2 Sec.	D.C. Pri. M.A.	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price	Net Price
A-4292	1-30, 49, 6C5	1-1J6G, 19, 2-30, 2-49	B	10,000	1,600	2.5:1	10	A	1 5/8"	2 13/16"	1 1/2"	.7	$1.40	$ .84
A-4721	1-46, 42, 2A5, 6A6, 53, 30, 6L6, 2A3, 6A3, 6N7, 49, 59, 45, 37, 76, 6C6, 89, Triodes.	P.P. 46, 6A6, 59, 53, 1-19, 79, P.P. 46, 59, 2A5, 42, 45, 89	B	22,500	2,500	3:1	30	E	2 1/4"	2 3/4"	2 1/8"	1.5	2.40	1.44
A-4216	1-53, 79, 6A6, 6N7, 6E6, Triodes.	1-53, 6A6, 6E6, 6N7, 6N6-G, 89, 6L6, 6V6	B	25,000	1,000	5:1	15	E	2 3/8"	2 5/8"	2 1/8"	1.5	2.50	1.50
A-4210	1-30, 46, 6L6, 2A3, 6A3, 6N7, 49, 59, 45, 37, 76, 6C6, 2A5, 42, 89, Triodes.	1-19, 79, P.P.46, 59, 2A5, 42, 45, 89	B B AB	22,500	2,500	3:1	40	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.25	1.95
A-4404	P.P. 42, 45, 50, 59, 2A3, 6A3, 6L6, P.P. Par. 2A3, 6A3, 6L6, 45, 50	P.P.-849 P.P.-10, 801, RK-18, 35-T, 800, 825, 830, 838, 203-A, 203-Z, 50-T, 211A, 242A, 830B, 204A, HF-300, 150T, HF200, TZ40	A B	14,000	3,500	2:1	80	C	3 1/2"	2 15/16"	3 1/8"	3.7	4.15	2.49
A-4212	P.P. 45	P.P. Par. 46 or 59	B	25,600	2,500	3.2:1	50	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.25	1.95
A-4405	1-2A5, 6F6, 42, Triodes.	P.P. 2A5, 6F6, 6V6, 89, 42	B	10,000	6,400	1.24:1	40	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-4406	P.P. 2A3, 6A3, 45	P.P. 10, 801	B	18,500	6,250	1.71:1	95	C	3 1/8"	2 5/8"	2 5/8"	2.6	3.50	2.10
A-4416	P.P 46, 59	P.P. Par. 46, 59	B	30,000	1,200	5:1	40	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-4701	P.P. 6C5, 27, 37, 56, 76	P.P. 6L6	AB1	20,000	2,200	3.1:1	25	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.50	2.10
A-4702	1-2A5, 6F6, 89, 42 Triodes.	P.P. 6L6 P.P. Par. 6L6	AB2 AB1	50,000	2,000	5:1	80	C	3 1/8"	2 5/8"	2 5/8"	2.7	3.30	1.98
A-4703	P.P.2A5,6F6 6V6, 89, 42, Triodes.	P.P. Par 6L6	AB2	10,000	325	5.6:1	95	C	3 1/2"	2 15/16"	3 1/8"	3.8	4.00	2.40
A-4208	P.P.6C5,6C6, 6L5-G, 6N7, 6R7, 27, 30, 37, O1A, 55, 56, 76, 85, 864	P.P. Grids	AB	25,000	3,200	2.79:1	15	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.50	2.10

TECHNICAL SERVICE

In an endeavor to assure complete satisfaction with Stancor products, the factory maintains a technical Service Department, whose function is to correctly diagnose your transmitter and amplifier problems. All inquiries will be promptly answered if addressed to the (Transmitter) (Amplifier) Service Department, Standard Transformer Corp., 1500 N. Halsted St., Chicago, Ill.

SPECIAL TRANSFORMERS

Our facilities permit unparalleled service in providing special transformers for new tubes and new applications. Your inquiries will receive prompt attention and serious consideration given to the design of efficient units. When ordering, please submit complete specifications of your requirements, allowing sufficient time for their manufacture.

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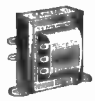
World Radio History

TRANSCEIVER — TRANSFORMERS

Small compact, efficient, light weight transformers for transceiver and aeronautical applications.

Stancor Number	Type	Impedance Pri.	Impedance Sec.	D.C. Pri. M.A.	Max. Audio Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price	Net Price
A-3833	Sgl. Button Mike and Plate to Single Grid.	5,000 200	100,000	10	5	A	1 5/8	2 13/16	1 1/2	0.7	$1.50	$ .90
A-3836	Pentode Plate to Low or High Impedance Phone or Oscillator	10,000 ...	2,000 50	30	5	A	1 5/8	2 13/16	1 1/2	0.7	1.50	.90
A-4413	Sgl. Button Mike and Plate to Single Grid.	10,000 200	90,000	45	10	J	2 3/8	2 3/4	2 1/4	1.5	2.20	1.32

TYPE "A"



TYPE "J"

MICROPHONE, PICKUP OR LINE TO GRID TRANSFORMERS

A complete line of well engineered low level, microphone line and mixer transformers designed to meet the varied requirements of the amplifier and amateur requirements.

Stancor Number	From	To	Impedance Pri.	Impedance Sec.	Ratio Overall	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price	Net Price
A-4706	Single Button Microphone	Single Grid	100	60,000	1:24.6	A	1 3/8"	2 3/8"	1 1/2"	0.6	$1.20	$ .72
A-4707	Single Button Microphone	Single Grid	100	58,500	1.24:2	J	2"	2 1/2"	1 1/2"	0.8	1.50	.90
A-4708	D.B. Microphone	Single Grid	200 C.T.	57,000	1:17	J	2"	2 1/2"	1 1/2"	0.8	1.75	1.05
A-4727	D.B. Microphone	Single Grid	200 C.T.	100,000	1:22.2	E	2 3/8"	2 3/4"	2 1/8"	1.8	2.80	1.68
A-4411	D.B. Microphone Low Imp. Pickup	Single Grid	200 C.T. or 500	144,000	1:17.5	C	3 1/8"	2 5/8"	2 5/8"	2.6	4.00	2.40
A-4709	Low Imp. Pickup or Dynamic Mike.	Single Grid	4, 8, 15, 30	106,000	1:84	E	2 3/8"	2 3/4"	2 1/8"	1.8	2.80	1.68
A-4726	D.B. Microphone & 200 ohm line	P.P. Grids	200 C.T.	100,000	1:22.3	E	2 3/8"	2 3/4"	2 1/8"	1.8	2.80	1.68
A-4351	S.B. or D.B. Microphone or Line	Single Grid	50, 100, 125, 200, 333, 500	89,000	1:13.3	Q	2"	3 5/16"	1 5/8"	1.0	2.00	1.36
A-4408	S.B. or D.B. Microphone or Line	Single Grid	50, 100, 125, 200, 333, 500	87,000	1:13.2	D	3 1/8"	2 5/8"	2 5/8"	2.6	4.40	2.64
A-4352	S.B. or D.B. Microphone or Line	P.P. Grids	50, 100, 125, 200, 333, 500	89,000	1:13.3	Q	2"	3 5/16"	1 5/8"	1.0	2.00	1.20
A-4409	S.B. or D.B. Microphone or Line	P.P. Grids	50, 125, 200, 333, 500	157,000	1:17.7	D	3 1/8"	2 5/8"	2 5/8"	2.6	5.00	3.00
A-4728	1, 2, 3, or 4 Circuit Mixer	Single Grid	50, 100, 150, 200	100,000	1:22.2	E	2 3/8"	2 3/4"	2 1/8"	1.8	3.30	1.98
A-4729	1, 2, 3, or 4 Circuit Mixer	Single Grid	200, 400, 600, 800	100,000	1:11.2	E	2 3/8"	2 3/4"	2 1/8"	2.0	3.30	1.98
A-4705	S.B. Microphone	Single Grid	200 or 70 @ 25 MA	80,000	1:20	A	1 3/8"	2 3/8"	1 3/8"	0.5	1.00	.60
A-4704	Line	P.P. Grids Cl. B. of 203A's, 203Z's, 822's, 830B's, 930B's, TZ-40's, etc.	500	2,540	1:2.25	C	3 1/8"	2 5/8"	2 5/8"	2.5	3.25	1.95

TYPE "E"

TYPE "C"

TYPE "Q"

TUBE TO LINE TRANSFORMERS (UNIVERSAL)

Low level tube to line transformers for pre-amplifiers and remote line amplifiers.

Stancor Number	From	To	Impedance Pri.	Impedance Sec.	D.C. Pri. M.A.	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	List Price	Net Price
A-3250	Sgl 27, 30, 37, 55, 56, 76, 112A, 6C5, 6C6, etc.	Line	10,000	50, 125, 200, 333, 500.	10	Q	2"	3 5/16"	1 5/8"	1.2	$2.00	$1.20
A-3251	P.P. 27, 30, 37, 55, 56, 76, 112A, 6C5, 6C6, etc.	Line	20,000	50, 125, 200, 333, 500.	10	Q	2"	3 5/16"	1 5/8"	1.2	2.00	1.20
A-3315	Sgl. 27, 30, 37, 55, 56, 76, 112A, 6C5, 6C6, etc.	Line	10,000	50, 125, 200, 333, 500.	35	D	3 1/8"	2 5/8"	2 5/8"	2.6	3.70	2.22
A-3316	P.P. 27, 30, 37, 55, 56, 76, 112A, 6C5, 6C6, etc.	Line	20,000	50, 125, 200, 333, 500.	35	D	3 1/8"	2 5/8"	2 5/8"	2.6	4.20	2.52

TYPE "D"

TYPE "G"

MICROPHONE OR LINE TO LINE TRANSFORMERS

A-4350	Sgl. or D.B. microphone	Line	50, 100, 125, 200, 333,500	50, 125, 200, 333, 500.	150	Q	2"	3 5/16"	1 5/8"	1.0	2.00	1.20
A-4407	Sgl. or D.B. microphone	Line	50, 100, 125, 200, 333,500	50, 125, 200, 333, 500	150	E	2 3/8"	2 3/4"	2 1/8"	2.6	2.75	1.65

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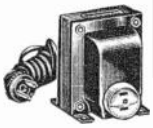
STANCOR TRANSFORMERS — MISCELLANEOUS

TYPE "C"

TYPE "B"



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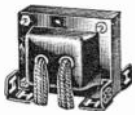


TYPE "M"

OSCILLOSCOPE TRANSFORMERS

Transformers designed especially for cathode-ray tubes, with low flux density to reduce stray magnetic fields which affect the operation of these tubes.

Stancor Number	Primary	Section No. 1	Section No. 2	Section No. 3	Section No. 4	Section No. 5	Weight in Carton	Type Mounting	List Price	Net Price
P-4025	115 V. 60 Cycles	275-375 V. @10 MA.	180 V. @6 MA.	6.3 V. @1 Amp.	2.5 V. @1.5 Amp.	6.3 V. @.6 Amp.	2.6	C	**$3.85**	**$2.31**
P-4027	115 V. 60 Cycles	400 V. @15 MA.	5 V. @2 Amps.	6.3 V. @.9 Amp.	....	....	2.6	C	**3.75**	**2.25**
P-4028	115 V. 60 Cycles	500 C.T. @30 MA.	5 V. @2 Amps.	2.5 V. @4.5 Amp.	....	....	3.6	C	**4.25**	**2.55**

TRANSFORMER FOR THE NEW 902 — 2" CATHODE RAY TUBE

P-6130	115 V. 60 Cycles	430 V. @30 MA.	6.3 V. @.6 Amp.	6.3 V. @2 Amp.	5 V. @2 Amp.	5 V. @2 Amp.	4.2	C	**5.50**	**3.30**

VARIABLE LINE AUTO TRANSFORMERS

These transformers designed so that associated equipment may be kept at a specific input voltage regardless of line voltage.

Stancor Number	Primary Volts	Primary Cycles	Secondary Volts	Secondary Cycles	Output Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price	Net Price
P-5066*	85-125	50-60	85-125	50-60	35	B	3 1/8"	2 1/2"	2 1/2"	2.0	**$2.90**	**$1.74**
P-5067*	85-125	50-60	85-125	50-60	75	B	3 1/2"	3"	2 3/4"	3.4	**3.60**	**2.16**
P-5068*	85-125	50-60	85-125	50-60	125	B	3 1/2"	3"	3 1/8"	4.0	**4.20**	**2.52**
P-6145*	85-125	50-60	85-125	50-60	500	B	4 1/2"	3 3/4"	4 1/2"	10.0	**8.00**	**4.80**

*Line regulating transformers continuously variable in 5 volt steps from 85-125 volts.

SPECIAL AUTOFORMER

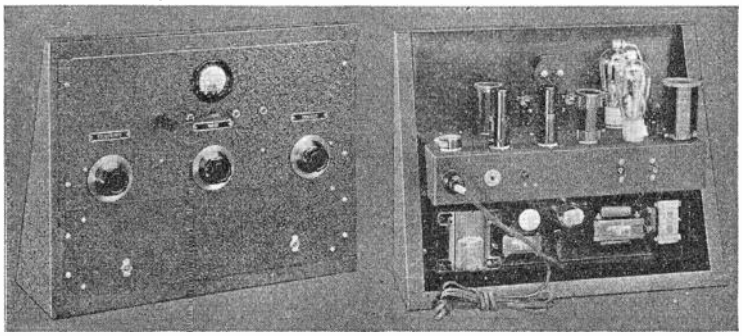
P-6148	25-55-75 95-105-110 115-120 125-130	50-60	25-55-75 95-105-110 115-120 125-130	50-60	250	B	4 1/2"	3 3/4"	3 3/4"	8.0	**$7.50**	**$4.50**

These Autoformers will deliver full output wattage at any secondary voltage specified above or can be used to supply any voltage in 5 volt steps from zero to 130 volts for special experimental applications.

STEP DOWN TRANSFORMERS

These transformers are excellent units to be used with standard apparatus on 220-250 volt lines. May also be wired to step up 110-125 volts to 220-250 volts for test. May be used to step down the plate supply primary from 110-120 volts to 55-60 volts for local QSO.

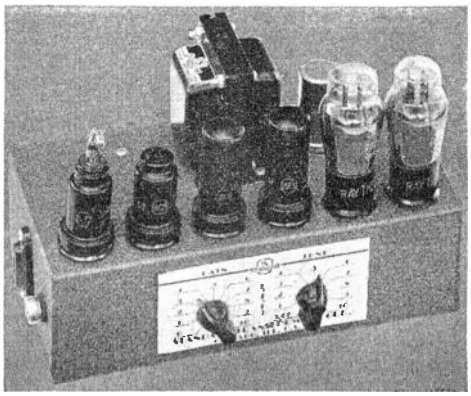
Stancor Number	Primary Volts	Primary Cycles	Secondary Volts	Secondary Cycles	Output Watts	Type Mounting	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Weight in Carton	List Price	Net Price
P-5062	220-250	50-60	110-125	50-60	75	K	3 1/2"	2 15/16"	3 1/4"	4.5	**$4.50**	**$2.70**
P-5063	220-250	50-60	110-125	50-60	100	K	3 7/8"	3 1/4"	3 1/4"	5.2	**5.00**	**3.00**
P-5064	220-250	50-60	110-125	50-60	150	K	4 1/4"	3 1/2"	3 5/8"	6.6	**6.00**	**3.60**
P-5065	220-250	50-60	110-125	50-60	250-300	K	4 5/8"	3 7/8"	4 1/8"	9.8	**7.50**	**4.50**
P-6141	220-250	50-60	110-125	50-60	500	K	4 5/8"	3 7/8"	5 1/4"	14.5	**10.50**	**6.30**



48-C TRANSMITTER KIT

Versatile in design and application. Permits 48 circuit combinations. Easily changed. Keeps rig modern at all times. Complete parts for building various circuits. Rack and panel construction. Adequately filtered power supply delivers 100 watt input to final stage. Only tried and proven circuits are used. Designed to work satisfactorily on four bands, 160, 80, 40, 20. Circuits permit use of such tubes as 6F6, RK-39, 6L6, T-20, 6N7, 6A6, 6E6. Soldering iron, screw driver and pliers only tools needed to construct. Completed unit comparable in appearance and performance, with best commercial rigs in same power class. Packed complete with all parts and wiring instruction, less tube, crystal, crystal holder and meter.

Net Price **$49.95**



AC-DC AMPLIFIER KIT

Compact in size 89 DB gain. 4 watts output with 4, 8, 15, 500 ohms output impedance. Has excellent tone quality. Six tubes are used, 1-6J7, 1-6C5, 2-25L6, 2-25Z5. Master tone and volume controls. Crystal mike and phono inputs. Attractive grey crackle punched chassis which measures 5"x10"x3". Kit furnished complete, less tubes microphone and speaker.

Catalog No. Hi-Fi-11 List **$17.95** Net Price **$10.77**

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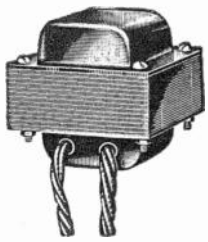
TRANSFORMERS—Power • Vibrator • Chokes THORDARSON

UNIVERSAL DUPLICATE POWER TRANSFORMERS

Easy to mount in any position (adjustable mounting brackets included) — A Type for practically every application — Electrostatic Shields — RMA Color Coded Flexible Leads — Primary 115 Volts 50-60 Cycles

Type No.	List Price	Pri. V.A.	Secondary Volts	Secondary M.A.	Filament Windings: Rect.	Filament Windings: Fil. No. 1	Filament Windings: Fil. No. 2	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13R01	$2.50	60	650 Ct.	40	5V—3A	2.5V—4A Ct.		3A	2 1/2	2 15/16	3	3 1/4
T-13R02	3.25	60	700 Ct.	50	5V—3A	2.5V—7.25A Ct.		3A	2 1/2	2 15/16	3	3 1/4
T-13R03	3.50	75	700 Ct.	70	5V—3A	2.5V—9A Ct.		3A	2 15/16	3 5/32	3 3/8	4
T-13R04	4.25	115	700 Ct.	90	5V—3A	2.5V—12.5A Ct.		3A	3 1/8	3 1/2	3 3/4	5 1/4
T-13R05	4.00	110	700 Ct.	70	5V—3A	2.5V—9A Ct.	2.5V—3.5A Ct.	3A	3 1/8	3 1/2	3 3/4	5 1/4
T-13R06	5.25	130	700 Ct.	120	5V—3A	2.5V—12.5A Ct.	2.5V—3.5A Ct.	3A	3 3/4	3 3/8	4 1/2	6 1/2
T-13R07	5.50	140	800 Ct.	110	5V—3A	2.5V—15A Ct.	2.5V—3.5A Ct.	3A	3 3/4	3 1/2	4 1/2	6 3/4
T-13R08	4.50	105	700 Ct.	90	5V—3A	6.3V—3.3A Ct.	2.5V—6A Ct.	3A	3 1/4	3 1/2	3 3/4	5 1/4
T-13R09	6.50	160	750 Ct.	180	5V—3A	6.3V—3.3A Ct.	2.5V—6A Ct.	3A	3 3/4	3 9/16	4 1/2	7 1/2
T-13R00	4.00	70	550 Ct.	70	5V—3A	5V—.5A Ct.	2.5V—10.5A Ct.	3A	2 13/16	3 3/16	3 3/8	4
T-13R11	2.50	60	650 Ct.	40	5V—3A	6.3V—2A Ct.		3A	2 1/2	2 15/16	3	3 1/4
T-13R12	3.25	65	700 Ct.	70	5V—3A	6.3V—2.5A Ct.		3A	2 1/2	3 1/8	3	3 1/4
T-13R13	4.00	90	700 Ct.	90	5V—3A	6.3V—3.5A Ct.		3A	3 1/8	3 3/8	3 3/4	5 1/4
T-13R14	4.25	115	700 Ct.	120	5V—4A	6.3V—4.7A Ct.		3A	3 1/8	3 1/2	3 3/4	5 1/4
T-13R15	5.75	140	750 Ct.	150	5V—4A	6.3V—5A Ct.		3A	3 3/4	3 3/8	4 1/2	6 1/2
T-13R16	6.50	180	800 Ct.	200	5V—4A	6.3V—5.14A Ct.		3A	3 3/4	3 5/8	4 1/2	7 3/4
T-13R17	4.00	85	600 Ct.	60	5V—3A	6.3V—2.5A Ct.	2.5V—7.5A Ct.	3A	2 13/16	3 5/16	3 3/8	4 1/2
T-13R18	4.75	115	700 Ct.	90	5V—3A	6.3 & 2.5V—3.5A Ct.	2.5V—9A Ct.	3A	3 3/4	3 1/4	4 1/2	5 3/4

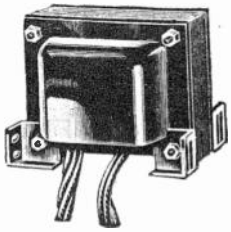


3A

FILTER CHOKES

This listing offers a wide choice of mountings, current rating, inductance and prices for receiver, amplifier and transmitter use. All Thordarson chokes are rated in actual inductance as measured under full rated load.

Type No.	List Price	Current Rating M.A.	Inductance Henries	D.C. Res. Ohms	Volts Ins.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13C26	$ .90	40	7	530	1600	3B	1 3/4	1 3/8	1 3/8	1/2
T-13C27	1.10	40	10	475	1600	3B	2	1 5/8	1 5/8	3/4
T-13C28	1.20	65	10	460	1600	3B	2 3/8	1 3/4	2	1
T-43C92	1.65	75	10	266	1600	2C	1 7/8	2 1/8	2 1/2	1 1/4
T-47C07	1.65	75	12	290	1600	3B	2	2 5/8	2 1/4	1 1/4
T-44C02	1.50	80	12	405	1600	3B	1 1/2	2 3/8	2	1 1/4
T-57C51	1.50	80	5	138	1600	2B	2	2	2 3/8	1 1/4
T-57C52	1.75					2F	2	2	2 3/8	1 1/2
T-13C29	1.60	85	9	250	1600	3B	2 3/8	2	2	1 1/2
T-68C07	2.00	85	15	375	1600	2B	2	2 1/2	3	2
T-16C07	2.25					2F	3 3/8	2 1/2	3	2 1/4
T-14C31	2.50					2A	2 1/2	2 1/2	3	2 1/4
T-57C53	2.00	110	9.5	200	1600	2B	2	2 1/2	3	2 1/4
T-57C54	2.25					2F	2 1/2	2 1/2	3	2 1/4
T-49C91	1.50	120	4.2	160	1600	2F	2	2	2 1/2	1 1/4
T-75C49	1.50	120	7.2	290	1600	3B	2	2 3/8	2	1 1/2
T-53C19	1.50					2B	2	2	2 3/8	1 1/4
T-17C00-B	2.75	150	12	231	1600	2F	2 7/8	3	3 1/2	3 3/4
T-17C00	3.00					2D	3	3 5/8	3 7/8	3 3/4
T-13C30	2.00	150	8	200	1600	2B	2 1/2	2	2 15/16	2 1/4
T-74C29	3.75	150	10	200	2000	2G	3 1/2	3 3/8	4 5/8	5 1/4
T-67C49	2.75	200	5	80	1600	2F	3	2 7/8	3 1/2	3 3/4
T-23C53-A	3.00					2D	3	2 7/8	3 1/2	3 1/2
T-54C50	5.00	250	13	121	1600	3C	3	3 3/4	4 5/8	7 1/4
T-75C51	5.00					2G	3 7/8	3 3/4	5	8



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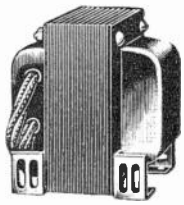
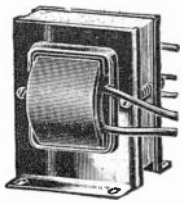


3A

SIX VOLT VIBRATOR TRANSFORMERS

These transformers, while primarily designed for replacements using original mounting brackets, are equipped with mounting feet for use in experimental or original equipment.

Type No.	List Price	Secondary: D.C. Volts to Filter	Secondary: M.A.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-14R33	$2.75	225	40	3C	2 1/2	2 3/8	3 1/8	2
T-14R34	3.25	250	50	3C	2 1/2	2 1/2	3 1/8	2 1/4
T-14R35	3.75	260	60	3C	2 1/2	2 5/8	3 1/8	2 1/2
T-14R36	4.25	285	75	3C	2 1/2	2 7/8	3 1/8	3
T-14R37	4.75	350	75	3C	2 1/2	3 1/8	3 1/8	3 1/2



3C

115 V. 50-60 CYCLE OR 6 V. D. C. VIBRATOR TRANSFORMER

T-14R40	$5.50	350 Fil.-6.3 Ct.	135 2.25 A	2G	3 3/4	4 1/2	4 5/8	7 1/4

Replacement Transformer Encyclopedia, No. 243, and Supplement, No. 243-S. Free — Complete information regarding correct choke, audio and power transformer replacements. Covers almost 6000 receivers as listed in Rider's Manuals, Volumes I to VIII. Includes data on AC, AC-DC and battery models. This is the only complete listing available and will save valuable time for the serviceman. Ask your distributor for a copy.

World Radio History

THORDARSON TRANSFORMERS — Power • Audio

AMPLIFIER AND GENERAL PURPOSE POWER TRANSFORMERS

For continuous duty in high quality receivers or amplifiers where a specific style of mounting is desired.

Fig. 2G

Type No.	List Price	Pri. V.A.	Secondary A.C. Volts	Secondary D.C. M.A.	Bias Tap	Rect. Fil.	Fil. No. 1	Fil. No. 2	Fil. No. 3	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-60R49	$2.25	30	560 Ct.	30		5V—2A	2.5V—3.5A Ct.			2H	3	2½	2⅜	2
T-50R02–	2.75	40	620 Ct.	40		5V—2A	2.5V—5A Ct.			2H	3½	3	3	3¼
T-49R00–	3.25	65	700 Ct.	70		5V—2A	2.5V—8.5A Ct.			2H	3⅞	3¼	3⅜	4½
T-63R62–	3.50	65	700 Ct.	70		5V—2A	2.5V—7A Ct.	2.5V—1.5A Ct.		2H	3⅞	3¼	3⅝	4½
T-50R03–	3.75	75	700 Ct.	80		5V—2A	2.5V—12A Ct.			2H	3⅞	3¼	3⅝	5½
T-63R63–	4.00	75	700 Ct.	80		5V—2A	2.5V—9A Ct.	2.5V—3A Ct.		2H	3⅞	3¼	3⅝	5¼
T-70R21–	3.50	70	700 Ct.	70		5V—2A	2.5V—4A Ct.	6.3V—3A Ct.		2H	3⅞	3¼	3⅜	4½
T-70R20	2.75	45	600 Ct.	50		5V—2A	6.3V—2A Ct.			2H	3⅜	2⅞	3	3
T-75R47	3.75	75	610 Ct.	125		5V—2A	6.3V—2A Ct.			2H	3⅞	3¼	3⅝	6
T-70R78	3.25	50	680 Ct.	55		5V—2A	6.3V—1.5A Ct.			2G	3⅜	3	4⅝	4
T-70R61	4.00	60	770 Ct.	70		5V—2A	6.3V—2.5A Ct.			2G	3¾	3¼	4⅝	4¾
T-56R02–	4.25	70	700 Ct.	70		5V—2A	2.5V—9A Ct.	2.5V—1.5A Ct.		2G	3¾	3¾	4⅝	6
T-56R01*	4.75	60	650 Ct.	70		5V—2A	2.5V—3A Ct.	1.5V—1A 1.5V—4A	5V—.5A Ct.	2G	3¾	3¾	4⅝	5¾
T-56R03	5.50	85	700 Ct.	105		5V—3A	2.5V—3A Ct.	2.5V—1.75A Ct.	1.5V—5A 1.5V—1A	2G	3¾	3¾	5	7¼
T-56R04*–	5.25	90	700 Ct.	105		5V—3A	2.5V—12A Ct.			2G	3¾	3¾	5	7½
T-70R62	5.50	110	700 Ct.	145		5V—3A	6.3V—4.5A Ct.			2G	3¾	3⅞	5	8½
T-56R05	5.75	115	700 Ct.	110		5V—3A	2.5V—9A Ct.	2.5V—3A Ct.	2.5V—3A Ct.	2G	3¾	3¾	5	7¾
T-89R91–	6.25	140	700 Ct.	150		5V—3A	2.5V—9A Ct.	2.5V—3A Ct.	2.5V—3A Ct.	2G	3¾	4	5	8¼
T-37R70-C	7.50	95	700 Ct.	80		5V—2A Ct.	3V—10A Ct.	5V—2.5A Ct.		2G	4	3¼	4⅝	6¾
T-92R21	7.50	150	800 Ct.	200		5V—3A	6.3V—5A Ct.			2G	4¼	3¾	4⅞	9
T-17R30	7.75	200	740 Ct.	280		5V—3A	6.3V—3.5A Ct.			2G	3¾	3½	4⅝	9½
T-17R31	12.50	300	860 Ct.	325		5V—6A	6.3V—4.25A Ct.			2G	4⅜	5¼	6⅛	13½
T-74R28	6.50	105	880 Ct.	125	38V	5V—3A 2.5V—3A	6.3V—3.3A Ct.			2G	3¾	3¾	5	8
T-87R85	7.00	105	660 Ct.	160	77V	5V—3A 5V—2A	6.3V—2A Ct.	2.5V—5A Ct.		2G	3⅜	3⅞	5	8½
T-68R26	6.75	160	1100 Ct.	150		5V—3A	7.5V—2.5A Ct.	2.5V—5A Ct.		2G	3¾	4⅜	5	10¼
T-69R35	6.25	135	775 Ct.	200		5V—3A	6.3V—3A Ct.			2G	3¾	4¾	5	9½
T-67R93	8.00	135	700 Ct.	200		5V—3A	2.5V—15A Ct.	5V—2A		2G	3¾	4⅜	5	10
T-75R50	7.50	160	870 Ct.	250	80V	5V—3A 2.5V—3A	6.3V—1.5A Ct.	2.5V—10A Ct.		2G	3¾	4⅜	5	10½
T-83R82	10.00	200	1480 Ct.	140	150V	5V—3A 2.5V—3A	7.5V—2.5A Ct.			2G	3¾	4¾	5	11½
T-83R85	12.00	290	1480 Ct.	200	150V	5V—3A 2.5V—3A	7.5V—5A Ct.			2G	3¾	5¼	5	13½
T-89R28	11.00	250	1150 Ct. 640 Ct.	275 75		5V—3A 5V—2A	6.3V—6A Ct.			2G	3¾	5¼	5	15

*Primary 110 volts — all others 115 volts.

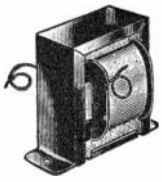


Fig. 2B

SPEAKER-FIELD SUPPLY TRANSFORMERS

T-67R97	4.25	55	115 V. D.C. 50 to 250	5V—3A	2G	3⅞	3¼	3¼	4¾
T-92R53	5.75	120	300 V. D.C. 200	5V—3A	2G	3⅞	3⅞	3¼	6¼

POWER TRANSFORMERS FOR CATHODE RAY TUBES

Specially constructed with large cores for low flux density.

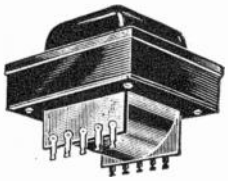


Fig. 2H

Type No.	List Price	Volts D.C.	M.A.	Rect. Fil.	Fil. No. 1	Fil. No. 2	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-92R25– For 913 tube	$2.25	500 tap—430	3	6.3V—.9A*			2F	2	2⅛	2⅜	1½
T-92R33 For 913 tube	4.00	400 **500	15 3	6.3V—.9A	6.3V—.6A No. 3(2.5V—1.4A)	6.3V—.6A	2G	3¼	4⅝	3¾	3½
T-14R32	5.50	400 **500	15 3	5V—2A 5V—2A Ct.	6.3V—.6A	2.5V—2A No. 3(6.3V—.6A)	2G	2 5/16	3⅜	3 11/16	4

For Dumont 24-XH; RCA 902, 913; National 2002 Tubes.

**With half wave rectification. *For 1V rectifier and 913 filament.

AUDIO REACTORS

For use in interstage coupling systems where the voltage drop caused by resistor coupling is objectionable, also for isolating plate current from transformer primaries.

Types T-81C15 and T-93C20 are for use in tuned circuits to accentuate a pre-determined band of frequencies, as described in the Thordarson Amplifier Guide, No. 346-B.

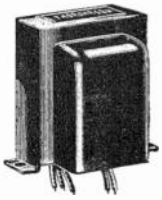


Fig. 2F

Type No.	List Price	Application	Type Tubes	Induct. Hen.	At M.A.	Max. M.A.	D.C. Ohms	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-37C36	$2.00	Plate Impedance	56-30-76-6C5-55-85, etc.	510	5	10	6470	2F	2	2⅛	2⅜	1½
T-67C46	1.75							2B	2	2	2⅜	1¼
T-52C98–	1.75	Plate Impedance for Detector tubes or grid impedance	24-57-56-76-6C5-6F5-6J7	1080	.5	8	6150	2F	2	1⅞	2⅜	1¼
T-29C27	1.50							2B	2⅜	1½	2	1
T-68C08	2.00	Plate Impedance or Filter	45-46-10, etc.	22	35	35	405	2F	2	2⅛	2⅜	1½
T-18C92	1.75							2B	2⅝	2	2¼	1½
T-81C15	2.50	Tuned Audio Circuits		.75	.5	100	30	2B	1⅝	1⅝	2	¾
T-93C20	3.00	Tuned Audio Circuits		250	.5	8.0	6400	2B	2	2	2⅜	1¼
T-74C30	1.50	Tuned Audio Circuits or Filter		42	15	15	2100	2B	1½	2⅜	2	1
T-14C70	2.50	Tone Control, Hum Bucking Type		22	0	5	220	3Y	1½	1½	2½	½

World Radio History

TRANSFORMERS — Input · Microphone

THORDARSON

PLATE TO GRID INTERSTAGE TRANSFORMERS

Here is a variety of units designed for the same general application but varying in size and style of mounting. Type T-75A74 will couple a super-regenerative detector to an audio stage; any tendency toward outside noise is reduced by the static shield between windings.

Type No.	List Price	Application	Ratio	Imped. in ohms Pri.	Imped. in ohms Sec.	Pri. M.A.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13A34	$1.35	10,000 ohm plate to grid	3:1	10,000	90,000	8	3B	2	1 5/8	1 5/8	3/4
T-29A99	1.75	10,000 ohm plate to grid	3.26:1	10,000	106,300	8	2B	2	2	2 3/8	1 1/4
T-86A04–	1.75						3B	2 3/8	2	2	1 1/2
T-57A36	2.00						2F	2	2 1/8	2 3/8	1 1/2
T-47A25	1.75		3:1	10,000	90,000	8	2C	2	1 5/8	2 3/8	1
T-57A37–	2.50	Similar to above but larger	3:1	10,000	90,000	8	2B	2 1/2	2	3	2
T-57A38	2.75						2F	2 1/2	2 1/2	3	2 1/4
T-29A56–	3.00						2A	2 1/2	2 1/2	3	2 1/4
T-75A74	2.50	10,000 ohm plate to grid Static Shield between primary and secondary.	2:1	10,000	40,000	8	2F	2	2 1/8	2 3/8	1 1/2

Fig. 2A

PUSH-PULL INPUT TRANSFORMERS

This group serve similar applications, varying in size and frequency response. T-74A31, ordinarily a push-pull input transformer, may also be used as a tapped push-pull grid impedance with ratios of 1 to 1, 1 to 2 or 1 to 4 by connecting the primary and secondary in series, according to instructions furnished.

T-13A35	$1.50	10,000 ohm plate to P.P. grids	3:1	10,000	90,000	8	3B	1 5/8	2	1 5/8	3/4
T-33A91	2.00	10,000 ohm plate to P.P. grids	3.26:1	10,000	106,300	8	2B	2	2	2 3/8	1 1/4
T-86A03	2.00						3B	2 3/8	2	2	1 1/2
T-14A29	2.25						2C	2 1/8	1 7/8	2 1/2	1 1/4
T-57A39	2.25						2F	2	2 1/8	2 3/8	1 1/2
T-57A40	2.75	Similar to above but larger	3:1	10,000	90,000	8	2B	2 1/2	2	3	2
T-57A41	3.00						2F	2 1/2	2 1/2	3	2 1/4
T-43A04–	3.25						2A	2 1/2	2 1/2	3	2 1/4
T-74A31	3.25	10,000 ohm plate to P.P. grids	1:1	10,000	10,000	8	2F	2 1/2	2 1/2	3	2 1/4
T-57A42–	3.25	10,000 ohm plate to P.P. grids	3:1	10,000	90,000	8	2B	2 1/2	2	3	2
T-57A43–	3.50						2F	2 1/2	2 1/2	3	2 1/4
T-71A97–**	5.00	8,000 ohm plate to P.P. grids	2.7:1	8,000	44,000	40	2D	2 7/8	3	3 1/2	3 1/4

**Single 6F6 Triodes to P.P. 845 grids.

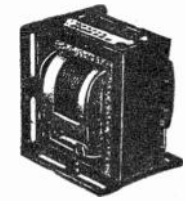


Fig. 2C

PUSH-PULL INTERSTAGE TRANSFORMERS

For connecting push-pull plates to push-pull grids, these types offer a choice of size and ratio. Suitable for replacement or amplifier circuits.

T-13A36	$1.75	P.P. 10,000 ohm plates to P.P. power tube grids	1:1	20,000	20,000	8*	3B	2	2 3/8	1 3/4	1
T-67A91†–	3.00	P P. 10,000 ohm plates to P.P.	1.5:1	20,000	45,000	10*	2B	2 1/2	2 1/2	3	2
T-58A70†	3.25	or P.P. par. power tube grids					2F	2 1/2	2 1/2	3	2 1/4
T-75D57–	5.00	P.P. 6F6 Triodes to 845's P.P.	2.35:1	16,000	117,000	40*	2D	2 7/8	3	3 1/2	3 3/4

*Per side. †Split sec.

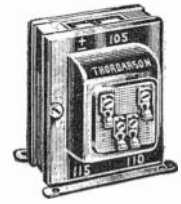


Fig. 2D

UNIVERSAL AUDIO REPLACEMENT TRANSFORMERS

To couple single plate to single grid · single plate to push-pull grids; push-pull plates to push-pull grids. Has split secondary.

T-17A02	$2.25	Universal	3:1	Universal	10	2F	2	2 1/8	2 3/4	1 1/2

LOW IMPEDANCE SOURCE (MICROPHONE, LINE, MIXER) TO GRID TRANSFORMERS

A complete line of low level input, microphone, line, and mixer transformers to fit all applications. Special winding methods result in low leakage reactance so essential to good frequency response. Several styles of mountings are offered for the most popular types.

Type No.	List Price	Application	Impedance in ohms Pri.	Impedance in ohms Sec.	Overall Ratio	Mtg. Fig.	W.	D.	H.	Wt. Lbs.
T-65A73	$2.75	DB mike to grid	200 Ct.	100,000	1:22.2	2F	2 1/2	2 1/2	3	2
T-68A22–	2.50					2B	2 1/2	2	3	2
T-30A20–	3.00					2A	2 1/2	2 1/2	3	2
T-58A37	2.25	DB mike to grid	200 Ct.	100,000		2F	2	2 1/8	2 3/8	1 1/2
T-83A78	2.00	Single button mike to grid	100	400,000	1:64	2F	2	1 7/8	2 3/8	1 1/4
T-86A02	1.75					2B	2	1 5/8	2 3/8	1
T-23A57–	2.25					2A	2	1 7/8	2 3/8	1 1/4
T-55A16	2.75	Dyn. mike, line or mixer to single or P.P. grids	200/50	100,000 Ct.	1:22.3	2F	2	2 1/8	2 3/8	1 1/2
T-63A72	3.75	1, 2, 3 or 4 circuit mixer to grid	50, 100, 150, 200	100,000	1:22.2	2F	2 1/2	2 1/2	3	2 1/4
T-63A71	3.75	1, 2, 3 or 4 circuit mixer to grid	200, 400, 600, 800	100,000	1:11	2F	2 1/2	2 1/2	3	2 1/4
T-61A94	3.25	Line to single or P.P. Cl. A grids	500/125	100,000 Ct.	1:14.1	2F	2 1/2	2 1/2	3	2 1/4
T-62D65–	6.00	Line to 845 Class AB grids	500	7,220	1:3.8	2D	3 3/8	3 5/8	4	5
T-93A12–	6.00	Line to P.P. Class A 845's, etc.	500	50,000 Ct.	1:9.85	2D	3 3/8	3 5/8	4	4 3/4
T-83D21	3.50	Line to P.P. grids of 6L6's or 50's Class AB	500	5,100 12,500	1:3.2 1:5	2F	2 1/2	2 1/2	3	2 1/4
T-67D34–	7.50	Line to P.P. Par. 203A, 838, 211 grids, Class B	500	900	1:1.34	2D	3 3/8	3 5/8	4	5

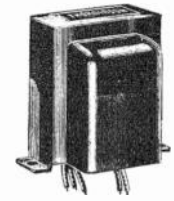


Fig. 2F

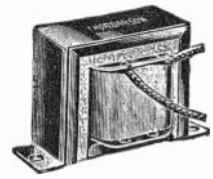


Fig. 3B

MICROPHONE OR PICK-UP TO LINE OR MIXER TRANSFORMERS

Type No.	List Price	Application	Impedance in ohms Pri.	Impedance in ohms Sec.	Mtg. Fig.	Wt. Lbs.
T-63A73–	$3.25	DB or dynamic mike to	200 Ct.	200/50	2F	2 1/4
T-67A45–	3.50	line or mixer			2A	2 1/4
T-70A82	3.50	DB mike to line	200 Ct.	500/125	2F	2 1/4
T-70A83	3.50	Crystal mike to line or mixer	100,000	200/50	2F	2 1/4
T-61A96–	3.50	Pick-up or line to line or mixer	500/125	200/50	2F	2 1/4
T-63A74–	2.50	Pick-up to line or mixer	5,000/2,000	200/50	2F	1 1/2

TUBE TO LINE OR MIXER TRANSFORMERS (LOW LEVEL)

Type No.	List Price	Application	Impedance in ohms Pri.	Impedance in ohms Sec.	Pri. M.A.	Mtg. Fig.	Wt. Lbs.
T-55A15–	$2.25	Plate to line or mixer	15,000/10,000	200/50	8	2F	1 1/2
T-62A26–	2.25	Plate to line or mixer	15,000/10,000	500/125	8	2F	1 1/2
T-72A11–	2.50	P.P. plates to line	20,000 Ct.	500/125	8**	2F	1 1/2
T-75A73–	2.50	P.P. plates to line or mixer	20,000 Ct.	200/50	8**	2F	1 1/2
T-14A90	2.50	Sgl. or P.P. Plates to line or mixer	20,000 Ct.	500/125	8	2F	1 1/2
T-14A91	2.50	Sgl. or P.P. Plates to line or mixer	20,000 Ct.	200/50	8	2F	1 1/2

**Per Side.

World Radio History

THORDARSON OUTPUT TRANSFORMERS

UNIVERSAL OUTPUT TRANSFORMERS

Preferred by many because of their wide plate impedance and voice coil coverage. Proper matching of load impedances to speaker voice coils is accomplished by using taps as specified in the instructions sheet.

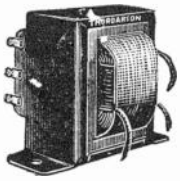


Fig. 2E

Type No.	List Price	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13S38	$1.50	Univ.	A	4,000/7,000	Adjustable	36	8	3E	2	1⅝	1⅝	¾
T-57S01	2.00	Single	A	8,000/10,000	.1 to			2E	2	2	2⅜	1¼
T-17S57	2.25	or P-P Tubes	A	14,000 Ct.	29			2C	2⅛	1⅞	2½	1¼
T-13S42	1.50	Universal Single Tube	A	1,500/2,000 4,000/5,000 7,000	Adjustable .1 to 29	55	10	3E	2	1⅝	1⅝	¾
T-13S41	3.00	Universal P-P Tubes	A	3,000/5,000 6,600/7,000 8,000/10,000	Adjustable .1 to 29	60	20	2E	2½	2	3	2¼
T-61S25	3.50	Univ. Single Tube		2,500/4,000 5,000/6,000/7,000	500	60	10	2E	2½	2	3	2¼
T-61S26	3.50	Univ. P-P Tubes		8,000/10,000 12,000/14,000 Ct.	500	55	10	2E	2½	2	3	2¼

UNIVERSAL LINE TO SPEAKER TRANSFORMERS

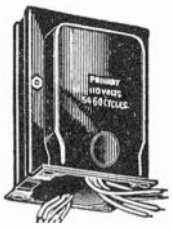
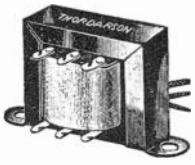


Fig. 2G

Type No.	List Price	Application	Pri.	Sec.	Max. Watts	Mtg. Fig.	W.	D.	H.	Wt. Lbs.
T-53S81	$4.00	Line to Voice Coil	500/250	4-8-15	35	2D	2⅞	3	3¾	3½
T-60S48	3.00	Line to Voice Coil 1 to 6 may be con. in par. to 500 ohm line	500/1,000 1,500/2,000 2,500/3,000	Pri. as 500 ohm- .06 to 8.; pri. as 1,000 ohm .12 to 16, etc.	10	2E	2½	2	3	2
T-14S80	2.00	Line to Voice Coil	500	2-4-6-8	12	2E	2	2	2⅜	1¼
T-76S74	3.00	Line to multiple spkrs. (auto transformer)	500	250/166/125 100/84	30	2E	2½	2	3	2½

OUTPUT TRANSFORMERS TO LINE OR SPEAKER (HIGH LEVEL)



3E

Type No.	List Price	Tube Type	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A. Per Side	Max. Watts	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-13S37	$1.25	1-6F6, 42, 2A5, 47	A	7,000	1-2-4	36	5	3E	1¾	1⅜	1⅜	½
T-13S39	1.25	1-45, 12A5 1-31, 43, 71A	A	4,000	1-2-4	36	5	3E	1¾	1⅜	1⅜	½
T-13S43	1.35	1-1F4, 1D4, 1F5G	A	16,000	1-2-4	10	5	3E	1¾	1⅜	1⅜	½
T-33S99	1.50	2-45, 71, 43, 25A6 P-P 1-6N7, 6A6, 53 P-P	A B	8,000	6 to 12	36	10	2B	2	2	2⅜	1¼
T-13S40	1.75	2-6F6, 42 P-P 2-2A5, 47 P-P	A A	14,000	1-2-4	40	10	3E	2	1⅝	1⅝	¾
T-81S01	1.65	1-19, 1J6G P-P 2-30, 49 P-P 2-31 P-P	B B A	10,000	2-4-8	15	8	2B	1⅝	1⅝	2	¾
T-17S10	3.50	1-6L6	A	2,500	2-4-8-500	80	8	2F	2½	2½	3	2¼
T-17S11	4.00	2-6V6 P-P	AB1	8 000*	4-8-15-250-500	52	15	2F	2⅞	3	3½	3½
T-17S12	4.00	2-6L6 P-P	AB1	4,300* (with 300 V. on plate and screen)	4-8-15-250-500	95	25	2F	2⅞	3	3½	3½
T-17S13	6.50	2-6L6 P-P	AB1	6,600*	4-8-15-250-500	80	34	2G	3⅜	3⅝	4⅝	5¼
T-17S14	6.50	2-6L6 P-P	AB2	5,500*	4-8-15-250-500	90	40	2G	3⅜	3⅝	4⅝	5¼
T-17S15	7.00	4-6L6 P-P Par.	AB1	3,300*	4-8-15-250-500	155	60	2G	3¾	3⅞	4⅝	5½
T-68S06	2.50	1-6F6, 42, 2A5 1-47, 31, 33	A A	7,000	10 or 2,000	36	5	2F	2	1⅞	2¾	1
T-67S51	3.50	2-6F6, 42, 2A5, 47 P-P 1-79 P-P	A B	14,000	4-8-15-500	40	20	2F	2½	2½	3	2¼
T-67S48	3.50	2-45, 71, 43, 25A6 P-P 1-6N7, 6A6, 53 P-P	A B	8,000	4-8-15-500	36	25	2F	2½	2½	3	2¼
T-67S60-	2.50	1-19, 1J6G P-P 2-30, 49 P-P 2-31 P-P	B B A	10,000	4-8-2000	15	10	2F	2	2⅛	2¾	1½
T-67S52	4.00	2-45, 59 P-P 2-6F6, 42, 2A5 P-P 2-6N7, 6A6, 53 P-P Par.	B AB2 B	5,800	4-8-15-500	60	30	2F	2⅞	3	3½	3½
T-58S72	3.75	2-2A3, 6B4G P-P 2-48, 25L6 P-P	AB A	3,000	4-8-15-500	60	30	2F	2⅞	3	3½	3¼
T-67S54	4.00	2-6L6 P-P 2-2A3, 6B4G, 45 P-P 2-19 P-P Par.	A AB B	5,000	4-8-15-500	60	30	2F	2⅞	3	3½	3½
T-67S92	4.00	4-2A3,6B4G,45P-PPar. 4-48, 25L6 P-P Par.	AB A	1,500	4-8-15-500	80	40	2F	2⅞	3	3½	3½
T-65S94	4.00	2-50 P-P 2-6F6, 42, 2A5 P-P 1-79 P-P	A AB2 B	8,000	4-8-15-500	55	40	2F	2⅞	3	3½	3½
T-75S75	4.00	2-6F6, 42 or 2A5 1-6N7, 6A6, 53 P-P 2-6N6G, 6B5, 2B6 P-P	AB2 B A	10,000	4-8-15-500	45	40	2F	2⅞	3	3½	3½
T-84S58	6.00	2-6L6 P-P	AB2	3,800	4-8-15-500	115	60	2G	3⅜	3¾	4⅝	6
T-89S75	4.00	2-6L6 P-P	AB1	6,600	4-8-15-500	80	40	2F	2⅞	3	3½	3½
T-89S74	3.75	1-6L6	A	4,000	4-8-15-500	70	15	2F	2½	2½	3	2¼
T-89S68	6.50	4-6L6 P-P Par.	AB1	3,300	50-125-200 250-333-500	150	75	2G	3⅜	3⅝	4⅝	5¾
T-83S84-	6.00	2-50 P-P	AB2	5,000	4-8-15-500	80	45	2G	3⅜	3½	4⅝	5¼
T-83S87	8.00	4-50 P-P Par.	AB2	3,000	4-8-15-500	160	90	2G	3⅞	3⅝	5	7¾
T-61S67-	12.00	2-845 P-P	AB	8,000	500	150	110	2L	4¼	4½	6¼	12¾
T-67S55-	12.00	2-800 P-P	B	12,500	500	150	110	2L	4¼	4½	6¼	12½

*Tertiary winding to provide 10% feed back voltage.

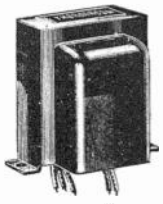


Fig. 2F

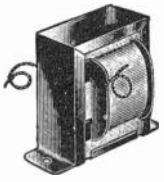


Fig. 2B

World Radio History

TRANSFORMERS—Driver • Modulation

THORDARSON

UNIVERSAL DRIVER TRANSFORMERS

Type No.	List Price	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to ½ Sec.	Mtg. Fig.	Wt. Lbs.
T-19D01	$6.00	15	60	1:1, 1.2:1, 1.4:1, 1.6:1, 1.8:1	4D	4½
T-19D02	6.00	15	60	2:1, 2.2:1, 2.4:1, 2.6:1, 2.8:1	4D	4½
T-19D03	6.00	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	4D	4½
T-19D04	6.00	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	4D	4½

UNIVERSAL MODULATION TRANSFORMERS

Tapped coils are provided to give this series a wide range of applications.

Type No.	List Price	Cap. Watts	Pri. M.A. Per Side	Sec. M.A. Series	Par.	Mtg. Fig.	Wt. Lbs
T-19M14	$ 7.00	30	75	75	150	2N	4½
T-19M15	10.00	60	125	125	250	2N	6½
T-19M16	15.00	100	175	175	350	2N	12½
T-19M17	24.00	250	225	225	450	2Q	25

DRIVER TRANSFORMERS FOR SPECIFIC APPLICATIONS

The driver transformer is an important link in a Class AB or Class B amplifier system. The flow of current in the power tube grid circuit requires exceedingly good regulation of driver tubes and coupling transformer. Thordarson driver transformers have the correct primary to secondary ratio for the tubes specified, insuring minimum driver distortion on the positive grid peaks.

Type No.	List Price	Driver Tubes	Output Tubes	Class	Ratio Pri. to ½ Sec.	Pri. M.A.	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-78D46	$1.50	1-30	1-1J6G, 19 2-30	B B	2.4:1	7	2B	1⅝	1⅝	2	¾
T-17D01	2.25	1-6F6 Triode 1-42 Triode 1-2A5 Triode	2-6F6, 6L6, etc.	AB	1.7:1 1.5:1 1.3:1	31	3B	2⅜	2	2	1½
T-54D63	2.50	1-30 1-49 1-6C5	1-1J6G, 19 2-49 2-6V6	B B AB2	2.4:1	7	2F	2	1⅞	2⅜	1¼
T-67D50	2.75	1-89 Triode	1-79	B	2:1	32	2F	2	2⅛	2⅜	1½
T-67D89–	3.25	1-89 Triode	2-79	B	3:1	32	2F	2½	2½	3	2¼
T-67D47	2.50	1-6N7, 6A6, 53	1-6N7, 6A6, 53	B	5.25:1	10	2F	2	2⅛	2⅜	1½
T-81D52	3.50	1-6C5, 76 1-56	2-6F6 Triode 2-42, 2A5 Triode	AB AB	1.82:1 1.67:1	8	2F	2½	2½	3	2¼
T-84D59*	3.50	2-6C5, 6N7 2-6A6, 53	2-6L6, 6V6 2-6N7, 6A6, 53	AB2 B	5:1	10	2F	2½	2½	3	2¼
T-72D01–	3.75	2-6C5, 76, 56	2-45	AB	2.7:1	10	2F	2½	2½	3	2¼
T-74D32	3.50	2-6C5, 76, 56	2-6F6, 42, 2A5 4-2A3, 6B4G	AB2 AB	3:1	10	2F	2½	2½	3	2¼
T-65D78–	4.00	1-6F6 Triode 1-42 Triode 1-2A5 Triode	2-6F6 Triode 2-42 Triode 2-2A5 Triode	AB2 AB2 AB2	2:1	40	2F	2⅞	3	3½	3¾
T-81D42	3.25	1-6F6 Triode 1-42 Triode 1-2A5 Triode	2-6F6 Triode 2-42 or 2-2A5 Pentode	AB2 AB2 AB2	1.7:1 1.5:1 1.3:1	31	2F	2½	2½	3	2¼
T-67D78 T-52D89–	3.00 3.75	1-46, 59, 6F6, 42, 2A5 Triode	2-46, 59	B	2.2:1	32	2F 2A	2½ 2½	2½ 2½	3 3	2¼ 2¼
T-66D98–	5.25	2-46, 6F6, 42, 45, 59, 2A5 P-P Triodes	4-46 4-59	B B	4:1	32	2R	2¾	4⅛	3⅛	4¼
T-83D83–	3.75	2-45 P-P	2-250	AB2	1.6:1	40	2F	2½	2½	3	2¼
T-51D00–*	4.50	2-6F6, 42, 45, 2A5 P-P	2-210, 801, 35T	B	2:1	40	2A	2⅞	3	3½	3¼
T-64D22–*	5.00	2-45, 2A3	2-800, 830B, etc.	B	1.55:1	40	2[illegible]	2¾	3⅛	4⅛	4¼
T-80D54–*	5.50	2-6F6 P-P Triodes 2-42 P-P Triodes	2-838 2-830B, 800	B B	4:1	40	2G	3⅜	3½	4⅝	5½
T-83D86–	3.75	2-2A3 P-P	4-250	AB2	1.47:1	40	2F	2½	2½	3	3½
T-61D40–*	5.50	2-2A3 P-P	2-50T, 150T 2-203A, 801	B B	1.67:1	130	2D	3⅜	3⅝	4	5
T-75D10*	5.50	2-2A3 P-P	2-838 2-805, TZ-40	B B	3.2:1	130	2D	3⅜	3⅝	4	5

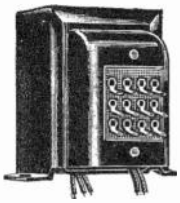


Fig. 4D

Fig. 2N

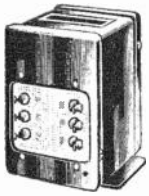


Fig. 2T

MODULATION TRANSFORMERS FOR SPECIFIC APPLICATIONS

This series of modulation transformers meets the need for efficient, quiet, long life units at reasonable costs. Engineered and constructed for specific tube types, their efficiency is high and the frequency characteristics are good.

Type No.	List Price	Tube Type	Class	Ohms Impedance Pri.	Sec.	Max. D.C. Sec. M.A.	Max. Audio Pwr. Watts	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-67M69	$2.75	1-19	B	10,000	2,700	50	10	2F	2	2	2⅜	1½
T-17M59	3.50	1-6A6, 6N7	B	10,000	3,000, 3,750, 4,500	100	10	2F	2½	2½	3	2
T-64M26	6.00	2-46 or 59-2-250	B–AB	5,800	5,000, 10,000	100	40	2D	3⅜	3⅝	4	5
T-19M21	7.00	2-TZ-20	B	10,000	3,750, 6,600	200–150	75	2D	3½	4¼	4	5
T-19M22	10.00	2-809-2-RK-12	B–B	8,400	5,000, 7,850	200–160	100	2D	4½	4½	6½	13
T-84M70	10.00	2-6L6 2-35T 4-210	AB B B	3,800	2,500 5,000 7,500	250 200 150	75	2D	4⅜	5½	6¼	14¾
T-14M49	16.50	2-TZ-40	B	6,900	2,850 4,500 6,500	350 300 235	175	2Q	5⅞	7¾	6¼	20
T-67M59–	3.00	1-53	B	10,000	3,000	100	20	2F	2½	2½	3	2
T-72M02–	6.00	2-2A3	AB	5,000	3,000, 5 000	125	50	2D	4½	4¾	5	5
T-64M25–	7.50	2-TZ-20, 210	B	8,000	5,000, 10,000	200	40	2D	3⅞	4¼	4⅝	8
T-70M84–	15.00	2-801, TZ-20, 35T	B	10,000	4,500, 6,250, 12,500	200	150	2Q	5⅞	8	6¼	20¾
T-82M08–	15.00	2-800-2-809	B–B	6,000	5,000, 20,000	200–100	150	2Q	5¾	8	6¼	20¼
T-64M24–	22.00	2-838, 203B 203Z, 203A, T55	B B	8,000	2,500 10,000	400 200	300	2Q	5	8½	7¼	30¼
T-75M11–	22.00	2-ZB-120-HK-154, 838	B	10,000	2,500, 10,000	400–200	300	2Q	5⅞	8½	7¼	30
T-82M09–	24.00	2-50-T	B	20,000	2,500, 10,000	400–200	300	2Q	5¾	9½	7¼	29½
T-82M10–	40.00	2-806-2-HK-354E	B	11,000	4,000, 9,000	500–330	650	2Q	7⅝	7⅛	9¾	45
T-82M25	40.00	2-805, HD-203A, 822	B	9,000	4,000, 6,000, 8,000	500	650	2Q	8	6¾	8	47

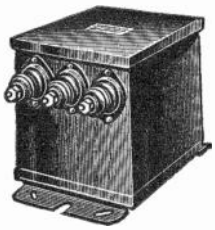


Fig. 2Q

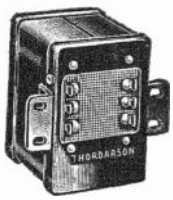


Fig. 2R

World Radio History

THORDARSON PLATE TRANSFORMERS · CHOKES

PLATE SUPPLY TRANSFORMERS (AMATEUR)
Primary 115 Volts 50-60 Cycles

These plate transformers are rated in D.C. voltages from a two section filter, including the voltage drop through the rectifier tubes. Designed especially for Amateur Short Wave equipment. Ratings are ample for this type of intermittent service. Electrostatic shield between primary and secondary.

Type No.	List Price	Sec. A.C. Load Volts	D.C. Volts	Bias Tap	D.C. M.A.	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-19P55	$ 7.50	660-0-660/550-0-550	500/400	30 V.	250	2G	3⅞	3½	4⅞	8
T-19P56	8.00	900-0-900/800-0-800	750/600		225	2G	3⅞	4	4⅞	9
T-19P57	10.00	1260-0-1260/550-0-550	1000*/400		125/150	2G	3⅞	4¼	4⅞	9½
T-19P58	13.00	1200-0-1200/900-0-900	1000*/750		200/150	2G	4½	5½	6⅛	17
T-19P59	16.00	1560-0-1560/1250-0-1250	1250/1000		300	2K	5⅞	7	7	26½
T-19P60	18.50	1875-0-1875/1560-0-1560	1500/1250		300	2K	6¾	4⅛	7	29
T-19P61	20.00	2125-0-2125/1875-0-1875	1750/1500		300	2K	6¾	4½	7	31
T-19P62	21.50	2500-0-2500/2125-0-2125	2000/1750		300	2K	6¾	5	7	34
T-19P63	23.00	1560-0-1560/1265-0-1265	1250/1000		500	2K	6¾	5¼	7	36
T-19P64	29.50	1875-0-1875/1560-0-1560	1500/1250		500	2K	6¾	6	7	42
T-19P65	29.50	3000-0-3000/2420-0-2420	2500/2000		300	2K	6¾	6	7	42
T-19P66	37.50	2125-0-2125/1875-0-1875	1750/1500		500	2K	6¾	4½	10	50
T-19P67	42.50	2450-0-2450/2125-0-2125	2000/1750		500	2K	6¾	4¾	10	56
T-19P68	50.00	3000-0-3000/2450-0-2450	2500/2000		500	2K	6¾	5¾	10	62

*These transformers designed for double rectifiers and will deliver both secondary ratings simultaneously.

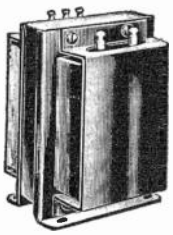


Fig. 2L

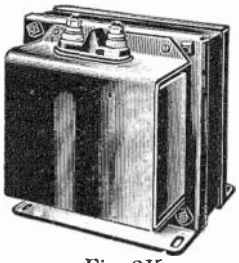


Fig. 2K

PLATE SUPPLY TRANSFORMERS (COMMERCIAL DUTY)

These plate transformers are rated in D.C. voltages from a two section filter, including the voltage drop through the rectifier tubes. Designed for continuous duty at full ratings specified and may be safely exceeded by as much as 20% in amateur or intermittent service.

Type No.	List Price	Sec. A.C. Load Volts	D.C. Volts‡	D.C. M.A.	Pri. Volts	Pri. V.A.	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-62P80-	$ 7.75	725-0-725	525	150	110	125	2L	4½	4⅛	6¼	11¼
T-70P41-	9.00	725-0-725	525	250	110	210	2L	4½	5	6¼	15¼
T-53P03-	5.50	465-0-465	400	150	115	90	2G	3⅜	4¼	4⅝	7½
T-84P60	7.75	515-0-515	400§	250	115	190	2G	3⅞	4¾	5	11¾
T-62P57-	9.00	750-0-750	625	200	115	180	3C	4½	3⅝	6¼	12¼
T-54P48-	6.75	800-0-800	680	150	115	130	3C	4½	3½	6¼	10¾
T-71P27-	10.00	800-0-800	600	250	110	240	2L	4½	4⅞	6¼	14¾
T-64P12-	16.50	980-0-980	750	350	110	400	2M	6¾	6⅜	8	32½
T-64P11-*	21.00	1600-0-1600/1290-0-1290	1250/1000	280	110	520	2M	6¾	7½	8	36¾
T-70P33-*	30.00	1620-0-1620/1330-0-1330	1250/1000	500	110	900	2S	6¾	6½	11	43
T-54P89-	18.50	1270-0-1270	1000	400	115	600	2M	6¾	6⅞	8	33
T-62P82-	32.00	1335-0-1335	1000	500	110	750	2S	6¾	6¼	11	42½
T-73P51-*	45.00	2275-0-2275/1950-0-1950	1750/1500	500	110	1300	2S	6¾	7½	11	61¼
T-62P83-	32.00	2350-0-2350	2000	250	110-220†	740	2S	6¾	6½	11	42¼
T-62P84-	50.00	2420-0-2420	2000	500	110-220†	1500	2S	6¾	8¾	11	80¼
T-62P85-	60.00	3630-0-3630	3000	380	110-220†	1750	2S	6¾	10	11	87

§Bias tap at 30 volts. *Variation in secondary voltages obtained by changing primary taps. †Primary for 110 or 220 volts, or 220 volt tap may be used on 110 volts to reduce sec. voltage 50%. ‡D. C. volts measured out of filter with choke input. If transformer is used with bridge rectifier (choke input) current should be reduced to 50% of this rating.

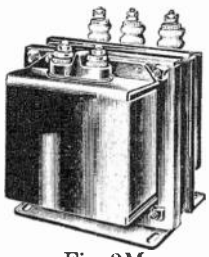


Fig. 2M

Fig. 2S

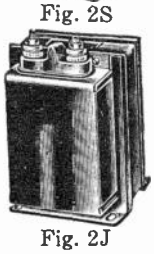


Fig. 2J

FILTER CHOKES

All Thordarson filter chokes are listed at measured inductance at rated currents. All are adequately insulated for recommended service.

INPUT OR SWINGING CHOKES

Type No.	List Price	Cap. D.C. M.A.	Inductance Hen.	D.C. Res. Ohms	Volts Insulation	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-19C35	$4.75	200	5-20	130	3000	2D	3½	3⅜	4¼	5
T-19C36	6.50	300	5-20	105	3000	2D	3⅞	3¾	4⅝	10
T-19C37	9.00	400	5-20	90	4000	2J	4½	5½	6⅛	18
T-19C38	11.50	500	5-20	75	4000	2J	5⅛	6	7½	26
T-64C05-	4.25	150	10-30	200	2000	2D	3½	3⅜	4⅝	5
T-63C15-	8.50	280	12-38	156	5000	2J	4	4¼	6¼	11½
T-64C06-	12.00	380	10-19	93	5000	2J	4¾	5	6⅞	18¼
T-63C16-	14.00	500	8-17	70	5000	2J	5	5½	6⅞	22¾
T-72C16-	16.00	650	8-22	55	5000	2K	6¾	6⅝	7⅝	27¾

SMOOTHING CHOKES

Type No.	List Price	Cap. D.C. M.A.	Inductance Hen.	D.C. Res. Ohms	Volts Insulation	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-19C42	$4.75	200	12	130	3000	2D	3½	3⅜	4¼	5
T-19C43	6.50	300	12	105	3000	2D	3⅞	3¾	4⅝	10
T-19C44	9.00	400	12	90	4000	2J	4½	5½	6⅛	18
T-19C45	11.50	500	12	75	4000	2J	5⅛	6	7½	26
T-64C09-	5.50	150	19.7	275	2000	2D	3⅞	4	4½	7
T-64C08-	10.00	280	23.6	190	5000	2J	4½	4½	6¾	14
T-64C07-	16.00	380	20	160	5000	2K	6	6¾	7⅝	25
T-64C10-	17.00	500	16.5	110	5000	2K	6½	6¾	7⅝	27½
T-72C15-	24.00	650	17	70	5000	2K	6¾	8½	7⅝	40¾

World Radio History

TRANSFORMERS — FILAMENT • MODULATION • TRANSCEIVER •

THORDARSON

FILAMENT TRANSFORMERS

THORDARSON FILAMENT TRANSFORMERS give improved voltage regulation and minimize heat rise. Many types are furnished with primary taps to compensate for low line voltage or voltage drop in filament leads. All units are rated for continuous operation at full load. All primaries 115 volts 50-60 cycles. Those marked with * have primary taps of 105, 110 and 115 volts.

One Secondary

Type No.	List Price	Sec. Volts	Sec. Amps.	Volts Insulation	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-50F61	$1.50	2.5 Ct.	3.5	1600	2B	2	1 7/8	2 3/8	1
T-54F69–	1.75	2.5 Ct.	5.0	1600	2E	2	2	2 3/8	1 1/4
T-19F88	1.75	2.5 Ct.	5.25	2000	3C	2	2	2 3/8	1 1/4
T-19F89	2.25	2.5 Ct.	10	2000	3C	2 1/2	2	3	2
T-54F55–	2.50	2.5 Ct.	10	1600	2B	3	2 3/4	3 3/4	3
T-19F90	3.00	2.5 Ct.	10	7500	3C	2 1/2	2 1/2	3 1/4	2 1/4
T-64F33*	4.50	2.5 Ct.	10	7500	2N	3 3/4	3 3/8	4	4 1/2
T-63F99	3.25	5 Ct.	4	1600	2D	3	2 1/2	3 1/4	2 1/4
T-19F91	2.25	5.25 Ct.	4	2000	3C	2 1/2	2 3/8	3 1/4	2 1/4
T-19F92	3.25	5.25 Ct.	13	2000	3C	3 3/8	2 1/2	4	4
T-74F23*	5.00	5.25 Ct.	13	1600	2D	3 1/2	3 3/8	4	4 1/4
T-74F24*	7.00	5.25 Ct.	21	1600	2D	3 7/8	3 7/8	4 5/8	5 1/4
T-19F97	2.00	6.3 Ct.	3	2000	3C	2	2	2 3/8	1 1/2
T-61F85	2.00	6.3, 5, 2.5	2.5	1600	2E	2 5/8	2	2 1/4	1 1/2
T-73F60*	3.75	6.3 Ct.	5	1600	2D	3	2 7/8	3 3/4	3 1/4
T-19F98	2.75	6.3 Ct.	6	2000	3C	2 1/2	2 3/8	3 1/4	2 3/4
T-19F99	3.50	6.3 Ct.	10	2000	3C	3 3/4	2 3/8	4	4
T-64F13*–	3.25	7.5 Ct.	2.5	1600	2D	3	2 1/2	3 3/4	2 1/4
T-19F93	2.25	7.5 Ct.	4	2000	3C	2 1/2	2 1/4	3 1/4	2 1/4
T-64F35–	4.50	7.5 Ct.	6.5	1600	2D	3 5/8	3 3/8	4	5
T-19F94	3.00	7.5 Ct.	8	2000	3C	3	2 7/8	3 3/4	4
T-92F20	4.75	7.5 Ct.	8	1600	2D	3 5/8	3 3/8	4	4 3/4
T-19F95	2.75	10 Ct.	4	2000	3C	2 3/8	2 3/4	3 1/4	2 3/4
T-19F96	3.50	10 Ct.	8	2000	3C	3	2 7/8	3 3/4	4
T-64F14*	4.75	10 Ct.	8	1600	2D	3 5/8	3 3/8	4	5
T-64F15*–	7.50	11 Ct.	10	1600	2D	4 1/4	3 7/8	4 5/8	8
T-64F19–	9.00	11 Ct.	15.5	1600	2L	4 1/2	4 1/2	6 1/4	13

Two Secondaries

T-64F21–	5.50	2.5, 5 Ct.	10, 3	3000	2N	3 3/4	3 3/8	4	4 3/4
T-75F85–	5.50	5, 5 Ct.	3, 3	3000	2D	3	2 7/8	3 1/4	3 1/4
T-54F66–	3.25	7.5, 7.5 Ct.	2.5, 2.5	1600	2E	3	2 3/4	3 3/4	3 1/4

Three Secondaries

T-79F84	4.75	2.5, 5, 6.3 Ct.	3.5, 3, 3	1600	2G	3 3/8	3 1/4	4 5/8	4 3/4
T-60F94–	6.00	2.5, 2.5, 5 Ct.	3.5, 14, 6	1600	2G	3 1/2	3 3/8	4 5/8	5 1/4
T-85F14*–	17.50	2.5 2.5, 2.5 Ct.	5, 5, 10	10,000	2Q	7 5/8	5 1/2	5 1/2	17
T-70F46–	7.75	5, 5, 5 Ct.	3, 3, 6	5000	2N	4	3 3/8	4	3 1/2
T-64F17*–	9.00	2.5, 7.5 7.5 Ct.	4, 4.5, 6.5	1600	2N	4 1/4	3 7/8	4 5/8	8

Four Secondaries

T-64F16*–	11.50	2.5, 7.5 Ct. 10, 10 Ct.	5, 1.25 3.25, 6.5	1600	2N	4 1/2	4 1/2	6 1/4	13 1/2

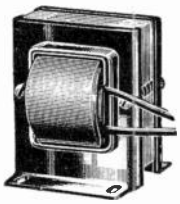


Fig. 3C

Fig. 2G

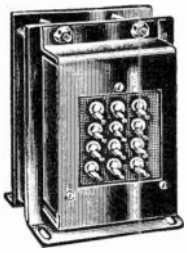


Fig. 2N

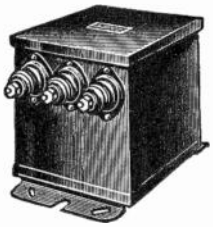


Fig. 2Q

Transmitter Guide — No. 344-C, 15c. Fifty-two pages of up-to-the-minute data on transmitter design and operation. Portable units, beginners transmitters, and larger rigs up to 1000 watts are fully described. Circuit diagrams, parts lists, and photographs illustrate each article.

GRID MODULATION TRANSFORMERS

Type No.	List Price	Tube Type	Class	Ohms Imp. Pri.	Sec.	Max. D.C. Sec. M.A.	Max. Audio Pwr. Watts	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-67M73	$3.50	1-42, 6F6, 46 Triode	A	6,300	5,400	32	10	2D	2 1/2	2 1/2	3	2 1/4
T-67M74	4.50	P.P. 45-2A3	AB	5,000	5,000	60	20	2D	2 7/8	3	3 1/2	3 1/2

PLATE AND SCREEN MODULATION TRANSFORMER

T-79M94–	5.50	42's or 2A5's To Plate & Screen of 2-802	AB	8,000	5,000 plate 800 screen	100 50	40	2G	3 3/8	3 1/2	4 5/8	5 1/4

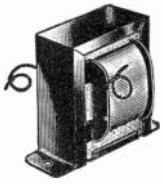


Fig. 2B

MODULATION TRANSFORMERS FOR MATCHING LINES TO R. F. LOADS

Primaries of these transformers may be connected directly to the 500 ohm output terminals of any amplifier or receiver. Type T-83M22 is equipped with a tap at 200 ohms for use with "Breting 14" receivers.

Type No.	List Price	Pri. Ohms	Secondary Ohms Load	Max. D.C. Sec. M.A.	Max. Watts	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-73M52	$16.00	500	5,000-6,000-7,000-8,000-9,000-10,000	215	80	2Q	5 7/8	8	6 1/4	21
T-83M22	8.00	500-200	5,000-6,000-7,000-8,000-9,000-10,000	150	30	2N	3 7/8	4 1/4	4 5/8	8

Fig. 2E

TRANSCEIVER TRANSFORMERS

Smallest practical size — Light weight — Easy to mount — Efficient

Type No.	List Price		Ohms Imped. Pri.	Sec.	Max. D.C. Pri.	Max. Power Watts	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-72A59	$1.65	Pl. and S. B. micro. to grid	5,000, 200	100,000	10	5	2B	1 5/8	1 5/8	2	3/4
T-72S58	1.65	Pent. Pl. to low or high imp. phones or osc.	10,000	2,000, 50	30	5	2B	1 5/8	1 5/8	2	3/4

World Radio History

THORDARSON TRANSFORMERS—"C. H. T." Series

MULTI-MATCH MODULATION TRANSFORMERS

Plug-in-Jack Terminal Board enables quick and accurate matching of tube loads without soldering.

Fig. 3M

Type No.	List Price	Cap. Watts	Pri. M.A. Per Side	Sec. M.A. Series	Sec. M.A. Par.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-11M74	$ 9.00	40	100	80	160	3G	4	4½	4⅜	7¾
T-11M75	12.50	75	145	145	290	3G	4	4½	4⅜	9
T-11M76	19.50	125	210	160	320	3G	5⅛	5½	6	18
T-11M77	30.00	300	250	250	500	3G	6	7½	7¼	30
T-11M78	60.00	500	320	320	640	3G	7	8⅝	7½	51

MULTI-MATCH DRIVER TRANSFORMERS

Plug-in Connectors and recessed sub-base lugs permit single hole sub-panel wiring. See Table in catalog 400.

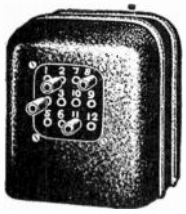


Fig. 3G

Type No.	List Price	Cap. Watts	Max. Pri. M.A. Per Side	Ratio Pri. to ½ Sec.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15D76*	$ 8.25	15	60	1:1, 1.2:1, 1.4:1, 1.6:1, 1.8:1	3H	4	4½	4⅜	7½
T-15D77*	8.25	15	60	2:1, 2.2:1, 2.4:1, 2.6:1, 2.8:1	3H	4	4½	4⅜	6
T-15D78*	8.25	15	60	3:1, 3.2:1, 3.4:1, 3.6:1, 3.8:1	2H	4	4½	4⅜	6
T-15D79*	8.25	15	60	4:1, 4.5:1, 5:1, 5.5:1, 6:1	3H	4	4½	4⅜	6
T-15D80†	11.50	30	120	1:1, 1.25:1, 1.5:1, 1.75:1, 2:1	3H	4	4½	4⅞	8¾
T-15D81†	11.50	30	120	2.25:1, 2.5:1, 2.75:1, 3:1, 3.25:1	3H	4	4½	4⅞	8
T-15D82‡	8.25	15		1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:.85, 1:.75	3H	4	4½	4⅜	5¾
T-15D83‡	11.50	30		1:3.15, 1:2.75, 1:2.5, 1:2.25, 1:2, 1:1.75, 1:1.4, 1:1.25, 1:.85, 1:.75	3H	4	4½	4⅞	8½
T-15D84§	11.50	30	80	1.5:1, 2:1, 2.5:1, 3:1, 3.5:1	3H	4	4½	4⅞	8¾

*P.P. 45's or 2A3's. †P.P. Par. 2A3's. ‡Primary for 500 ohm line. §P.P. 6L6's with inverse feedback.

DRIVER TRANSFORMERS (For Specific Applications)

Fig. 3H

Type No.	List Price	Driver Tubes	Output Tubes	Class	Ratio Pri. to ½ Sec.	Pri. M.A.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15D85*	$7.50	Sgl. 6F6, 42, 2A5 Triode	P.P. 6L6-40W P.P. 6L6-60W	AB2	1.4:1, 1.3:1 1.2:1	40	3M	2¾	3	3½	1¾
T-15D86*	7.50	P.P. 6F6, 42, 2A5 Triodes	P.P. Par. 6L6 120 W.	AB2	2.6:1	32	3M	2¾	3	3½	1¾
T-18D19	18.00	P.P. 845	P.P. 849, 204A	B	5:1	100	3Q	5¼	5½	7	14¾

*With humbucking coil construction.

AUDIO COUPLING TRANSFORMERS

Ultra modern design, balanced windings, hum bucking coil construction and moisture-proof compound-filled cases.

Fig. 3Q

Low Impedance Source to Grid

Type No.	List Price	Primary Ohms	Secondary Ohms	Max. D.C. per side (M.A.)	Max. D.C. unbalanced (M.A.)	Max. Sig. Level (db)	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15A66	$7.25	500, 333, 250, 200, 125, 50	60,000/15,000 Single Grid	100	2.5	+10	3M	2¾	3	3½	2¼
T-15A67	8.00	500, 333, 250, 200, 125, 50	120,000/30,000 P.P. Grids	100	2.5	+20	3M	2¾	3	3½	2¼
T-15A68	7.25	60,38,30,22,15,10,5.5,2.5	60,000/15,000 Single Grid	100	2.5	0	3M	2¾	3	3½	2½

Low Impedance Source to Line or Mixer

T-15A69	6.25	500, 333, 250, 200, 125, 50	500, 333, 250, 200, 125, 50	100	2.5	+20	3M	2¾	3	3½	2
T-15A70	6.25	60,38,30,22,15,10,5.5,2.5	500, 333, 250, 200, 125, 50	100	2.5	+20	3M	2¾	3	3½	2

Tube to Line (Low Level)

T-15A71	7.25	20,000/5,000 Single Plate	500, 333, 250, 200, 125, 50	8	8	+15	3M	2¾	3	3½	1¾
T-15A72	7.25	20,000/5,000 P.P. Plates	500, 333, 250, 200, 125, 50	10	0	+20	3M	2¾	3	3½	1¾

Interstage Coupling Transformers (Class A)

T-15A73	5.00	10,000/2,500 Single Plate	40,000/10,000 Single Grid	0	0	+15	3M	2¾	3	3½	2¼
T-15A74	5.75	10,000/2,500 Single Plate	40,000/10,000 P.P. Grids	0	0	+15	3M	2¾	3	3½	2½
T-15A75	6.25	20,000/5,000 P.P. Plates	45,000/11,250 P.P. Grids	10	0	+20	3M	2¾	3	3½	2¼

Fig. 3K

MULTIPLE-TAP LINE TO GRID TRANSFORMERS

T-15A65	10.50	500, 333, 250, 200, 125, 50	50,000/12,500 P.P. Cl. A845	3K	4	4½	4⅞	8
T-15D87	11.00	500, 333, 250, 200, 125, 50	7220 P.P. Cl. AB 845	3K	4	4½	4⅞	8

World Radio History

TRANSFORMERS—"C. H. T." Series

THORDARSON

MULTI-VOLT PLATE TRANSFORMERS

These units, engineered for continuous operation, provide extreme flexibility, excellent regulation and quiet operation.

Type No.	List Price	D.C. Volts	D.C. M.A.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15P11	$12.50	500/400	200	3K	5 1/8	5 1/2	5 3/8	15 3/4
T-15P12	15.00	650/500	200	3K	5 1/8	5 1/2	6 3/4	19 1/2
T-15P13	20.00	750/600	300	3Q	5 7/8	7 3/4	7 1/4	31 3/4
T-15P14	25.00	1000/750	300	3Q	5 7/8	8 1/4	8 1/4	41
T-15P15	30.00	1250/1000	300	3Q	7	9	8	51 1/4
T-15P16	45.00	1250/1000	500	3P	6 3/8	11 1/4	9	81
T-15P17	32.50	1500/1250	300	3Q	7	9	8	55
T-15P18	60.00	1750/1500	500	3P	6 3/8	12 1/2	9	96
T-15P19	50.00	2500/2000	300	3P	6 3/8	11 3/4	9	85
T-15P20	85.00	2500/2000	650	3P	7 1/2	14 5/8	9 5/8	140
T-15P21	80.00	3000/2500 2000/1500	500	3P	7 1/2	13 7/8	9 5/8	129
T-15P22	50.00	1750/1500 1250/1000	300	3P	6 3/8	10 3/4	9	76

MULTI-VOLT FILAMENT TRANSFORMERS

Terminals are brought out to rugged solder lugs on a recessed base. This permits of mounting on chassis with one hole for lead wiring. Side knock-out holes for bread board wiring.

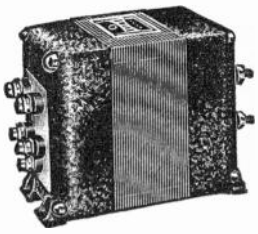


Fig. 3P

Single Secondary Transformers

Type No.	List Price	Primary Volts	Secondary Volts	Amps.	Volts Insulation	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-11F53	$ 6.00	105-115	2.5 Ct.	10	7500	3K	4	4 1/2	4 3/8	5 3/4
T-11F54	12.00	105-115	5 Ct.	20	10,000	3K	5 1/8	5 1/2	6 3/4	16 1/4
T-11F55	10.00	105-115	5.25 Ct.	22	1600	3K	5 1/8	5 1/2	6	14

Tapped Secondary Transformers

T-11F50	7.50	105-115	7.5 tap at 6.3, 5* and 2.5 Ct.	6.5	1600	3K	4	4 1/2	4 3/8	6 1/4
T-11F51	8.00	105-115	10 tap at 7.5 and 6.3 Ct.	8	1600	3K	4	4 1/2	4 7/8	7 3/4
T-11F52	9.00	105-115	11 tap at 10 and 7.5 Ct.	10	1600	3K	5 1/8	5 1/2	6	13 1/2

*Not Center Tapped.

Multiple Secondary Transformers

T-11F56	6.50	105-115	No. 1 = 6.3 Ct., No. 2 = 2.5 Ct. No. 3 = 5 Ct.	3, 3.5 3	1600	3K	4	4 1/2	3 7/8	6
T-11F57	12.50	105-115	No. 1 = 10 Ct., No. 2 = 10 Ct. No. 3 = 6.3 Ct., No. 4 = 5 Ct.	8, 4 3	1600	3K	5 1/8	5 1/2	6 3/4	15
T-11F58	11.00	105-115	No. 1 = 7.5 Ct., No. 2 = 7.5 Ct. No. 3 = 6.3 Ct., No. 4 = 5 Ct.	6.5, 3.25 3	1600	3K	5 1/8	5 1/2	6	13 1/4

Fig. 3Q

MULTI-VOLT POWER TRANSFORMERS

Combination plate and filament transformers for such tubes of medium power as 6L6, 807, T-20, RK-23, RK-39, etc.

Type No.	List Price	Secondaries No. 1 Volts Ct.	No. 1 M.A.	No. 2 Volts (Rect. Fil.)	No. 2 Amp.	No. 3 Volts Ct.	No. 3 Amp.	No. 4 Volts Ct.	No. 4 Amp.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15R00	$10.50	1000	150	5	3	7.5 tap 6.3	5			3K	5 1/8	5 1/2	6	15
T-15R01	15.00	1000	400	5	6	6.3	6			3K	5 7/8	6 3/4	6	24 1/2
T-15R02	13.25	1500	200	2.5	10	7.5 tap 6.3	3			3K	5 1/8	5 1/2	6	17
T-15R03	13.75	800	200	2.5	4	6.3	3	5	3	3K	5 1/8	5 1/2	6	19
T-15R04	4.75	510	25			6.3	2.1			3M	2 3/4	3	3 1/2	2 1/4
T-15R05	10.50	700 77 Bias tap	135	5 5	3 2	6.3 2.5 or	2 5	6.3	2.25	3K	4	4 1/2	5 1/2	10
T-15R06	9.75	725	175	5	3	6.3	2.25			3K	4	4 1/2	5 1/2	10
T-15R07	10.50	760	280	5	3	6.3	3.5			3K	4	4 1/2	5 1/2	11
T-15R08	13.75	860	325	5	6	6.3	4.25			3K	5 1/4	5 1/2	5 5/8	15

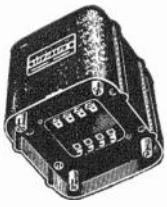


Fig. 3K

MULTI-VOLT BIAS TRANSFORMERS

Rectifier plate and filament terminals on recessed base. Six secondary taps are brought out to plug-in jacks for convenient change of voltage.

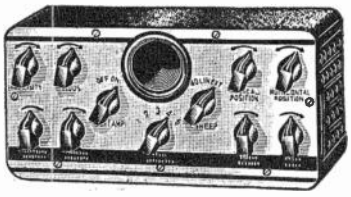
Type No.	List Price	Pri. Volts	D. C. Volts	M.A.	Filament Volts	Filament Amps.	Mtg. Fig.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-15R60	$ 9.50	115	150; 135; 120; 110; 100; 90	200	5	3	3N	4	4 1/2	4 7/8	6 3/4
T-15R61	10.50	115	275; 250; 225; 200; 175; 150	200	5	3	3N	4	4 1/2	4 7/8	8 1/2
T-15R62	12.50	115	500; 450; 400; 350; 300; 275	200	5	3	3N	5 1/8	5 1/2	5 5/8	15 1/4

Fig. 3N

"BUILD-IT-YOURSELF" OSCILLOSCOPE FOUNDATION UNIT

An accurately planned foundation unit with explicit wiring instructions enables the builder to complete a perfectly engineered instrument at reasonable cost. Small overall size makes it ideal for relay rack or serviceman. Magnifying lens gives clear two-inch image.

Type No.	List Price	Description	Description W.	Description D.	Description H.
T-11K16	$3.00	Punched chassis, panel, light shield and instructions	10 1/2	6	5 3/16
T-11K17	2.00	Etched panel	10 1/2		5 3/16
T-11K19	2.25	Cover for T-11K16	10 1/2	6 3/4	5 3/16
T-11K20	2.00	2" lens with retainer ring			
T-92R33	4.00	Power transformer (Described below).			
T 74C30	1.50	Filter choke (see above)			



Circuit diagram, description and parts list given in catalog bulletin SD266

World Radio History

THORDARSON "C. H. T." and TRU-FIDELITY TRANSFORMERS AND CHOKES

INPUT AND SMOOTHING CHOKES

Companion units to the C. H. T. Multi-Volt Plate Transformers, these chokes are accurately rated and the inductance shown is obtained with full rated D.C. applied. Mtg Fig. 3L.

C. H. T. Input Chokes

Type No.	List Price	Ind. Henries	Current M.A.	Volts Ins.	D.C. Res.	Wt. Lbs.
T-15C36	$ 8.00	5-25	200-20	4,000	105	10
T-15C37	10.00	5-25	300-30	4,000	78	22
T-15C38	12.00	5-25	400-30	4,000	95	24
T-15C39	19.00	5-25	500-30	10,000	86	38½
T-15C41	23.00	5-25	650-50	10,000	46	51

C. H. T. Smoothing Chokes

T-15C45	8.00	12	200	4,000	105	10
T-15C46	10.00	12	300	4,000	78	22
T-15C47	12.00	12	400	4,000	95	24
T-15C48	19.00	12	500	10,000	86	38½
T-15C50	23.00	15	650	10,000	46	51
T-15C53*	5.50	12 Par. 50 Series	100 50	1,600	272 1090	3¼
T-15C54*	5.50	8 Par. 32 Series	150 75	1,600	184 735	3½
T-15C55*	7.00	2 Par. 8 Series	500 250	1,600	32½ 130	7½
T-15C56*	9.00	2 Par. 8 Series	700 350	1,600	27 107	9¾

*These types have two windings each. The first line of description applies when connected in parallel, the second for series.

MULTIPLE-TAP OUTPUT TRANSFORMERS

Designed especially for amplifiers featured in Thordarson No. 346-C Sound Guide. Exceptional adaptability and frequency response will dictate their use in other quality sound systems. Mtg Fig. 3H.

Type No.	List Price	Tube Type	Class	Ohms Pri.	Impedance Sec.	Pri. M.A. per side	Max. Watts	Wt. Lbs
T-15S90*	$9.25	2-6V6 P.P. 2-6L6 P.P. 2-2A3 P.P. (self bias)	AB1 AB1 AB	8000 5000 5000	2/3/4/6 8/16/125 250/500	70	15	7½
T-15S91*	11.50	2-6L6 P.P. (300 V. Pl. & Sc.) 2-2A3 P.P. (fixed bias)	AB AB	4300 3000	Same as above	95	25	8
T-15S92*	13.75	2-6L6 P.P. 2-6L6 P.P.	AB1 AB2	6600 5500	Same as above	90	40	14½
T-15S93*	15.00	4-6L6 P.P. Par. 2-6L6 P.P.	AB1 AB2	3800 3300	Same as above	155	60	15½
T-15S94*	17.50	4-6L6 P.P. Par	AB2	1900	500/250/166 125/100/84	230	120	19

*Tertiary winding to give a feedback voltage 10% of full primary.

MULTIPLE-TAP LINE TO VOICE COIL TRANSFORMERS

T-15S96	11.00	Line to Voice Coil	1000/500	50/24/16/8/6/4/3/2	25	8
T-15S97	14.50	Line to Voice Coil	1000/500	50/24/16/8/6/4/3/2	60	15½

Tru-Fidelity

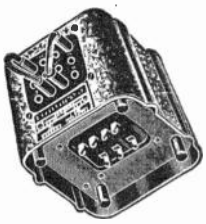


Fig. 3H

Fig. 3L

Fig. 3T

Fig. 3S

CRYSTAL MICROPHONE OR PHOTO CELL TO LINE

Type No.	List Price	Primary Ohms	Secondary Ohms	Max. D.C. per side (M.A.)	Max. D.C. unbalance (M.A.)	Max. Sig. Level (db)	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-90A06	$18.00	250,000/62.500	500*/333/250 200*/125/50	0	0	+10	3T	3⅛	2½	4⅛	4¾
PLATE TO LINE (LOW LEVEL)											
T-90A02	17.50	20,000/5000 Single Plate	500*/333/250 200*/125/50	8	8	+15	3T	3⅛	2½	4⅛	5
T-90A01	16.50	20,000/5000 Single† or P-P Plates	500*/333/250 200*/125/50	10	0	+20	3T	3⅛	2½	4⅛	4½
†With single tube use parallel feed with resistor or T-90C09.											
MIXER											
T-90A10	16.00	500*/333/250 200*/125/50	500*/333/250 200*/125/50	100	.5	+10	3T	3⅛	2½	4⅛	4¾
LINE TO GRID											
T-90A00	17.00	500*/333/250 200*/125/50	75,000/18,750 Single Grid	100	.5	+10	3T	3⅛	2½	4⅛	4
T-90A11	20.00	500*/333/250 200*/125/50	150,000/37,500 P-P Grids	100	.5	+20	3T	3⅛	2½	4½	4
INTERSTAGE											
T-90A03	15.00	10,000/2500 Single Plate Ratio-overall 1 to 2	40,000/10,000 Single Grid	0	0	+15	3T	3⅛	2½	4½	4½
T-90A04	15.00	10,000/2500 Single Plate Ratio-overall 1 to 2	40,000/10,000 P-P Grids	0	0	+15	3T	3⅛	2½	4½	4¾
T-90A05	16.50	20,000/5000 P-P Plates Ratio-overall 1 to 1½	45,000/11,250 P-P Grids	10	0	+20	3T	3⅛	2½	4½	4¾
OUTPUT											
T-90S07	18.00	5000/3000/1250/750 P-P 2A3, etc.	500*/333/250 200*/125/50	60	5	+32	3T	3⅛	2½	4⅛	4¾
T-90S08	17.50	5000/3000/1250/750 P-P 2A3, etc.	15/10/7.5 5/3.75/1.25	60	5	+32	3T	3⅛	2½	4½	4¾
T-90S13	20.00	5000/3000/1250/750 P-P 2A3, etc.	500*/333/250 200*/125/50 or 15/10/7.5 5/3.75/1.25	60	5	+34	3S	4	3⅞	4⅞	11
LINE TO VOICE COIL											
T-90S12	18.00	500*/333/250 200*/125/50	15/10/7.5 5/3.75/1.25	0	0	+32	3T	3⅛	2½	4½	4¾

PLATE REACTOR

Type No.	List Price	Connection	Henries	M.A.	D.C. Ohms	Mtg. Fig.	Dimensions W.	D.	H.	Wt. Lbs.
T-90C09	$12.50	Series Parallel	300 75	8 16	4,000 1,000	3T	3⅛	2½	4½	4½

*Indicates inductive and capacitive balance to center tap for use on balanced transmission lines.

World Radio History

AMPLIFIERS AND MISCELLANEOUS TRANSFORMERS — THORDARSON

COMPLETE AMPLIFIERS WIRED OR FOUNDATION UNIT FORM
Factory Wired and Tested

These five amplifiers have by their very popularity earned another listing in this catalog. While space limitations prevents full description, your jobber will gladly supply Bulletin SD-269A for complete details.

Type No.	List Price (less tubes)	Watts Output	Output Tubes
T-11W06-M-	$59.25	6 watt	Push Pull 6F6
T-11W18-M-	80.90	18 watt	Push Pull 6F6
T-11W30-	93.25	30 watt	P.P. Parallel 2A3
T-10W61-	155.00*	60 watt	P.P. Parallel 6L6
T-10W11	160.00*	10 watt	Tru-Fidelity 2A3

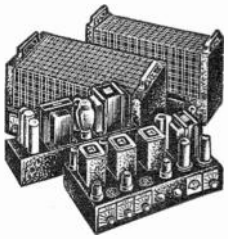


Fig. 10W61

FOUNDATION UNITS AND ACCESSORIES

The above amplifiers are also available in "Build-It-Yourself" Foundation Units. Includes punched chassis with sockets mounted, photos, diagrams, instructions and list of nationally distributed component parts.

Type No.	List Price	Description
T-10K20	$5.50	Metal Screen Cover for T-10W60 and T-10W11 (less handles)
T-10K21	4.75	Metal Screen Cover for power supply T-10W60 and T-10W11 (less handles)
T-10K50	1.90 pair	Chromium Plated Handles for T-10K20 and T-10K21
T-75K06-M-	4.50	Foundation Unit for T-11W06-M
T-75K18-M-	6.00	Foundation Unit for T-11W18-M
T-75K30-	8.00	Foundation Unit for T-11W30
T-10K60-	12.00	Foundation Unit for T-10W61
T-10K10-	10.00	Foundation Unit for T-10W11

*Less covers and handles

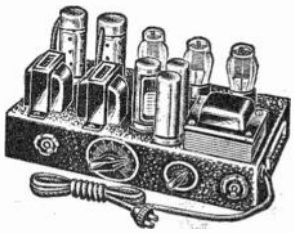


Fig. 11W06

ISOLATION TRANSFORMERS

The fast growing use of electrical therapeutic machines in medicine and surgery, of clippers, hair dryers, permanent wave machines and other electrical equipment in the barber and beauty shop industries has greatly expanded the market for isolation transformers. Their use is also indicated in amateur transmitters for elimination of line noises or to keep RF out of the incoming line. Primary 105-115-125 V. 50-60 cycles; Secondary 115 V. Electrostatic shield between primary and secondary.

Type No.	List Price	Capacity V.A.
T-18V00	$ 9.00	100
T-18V01	17.50	250
T-18V02	27.50	500

PRIMARY REGULATING AUTO TRANSFORMERS

For increasing or decreasing line voltage. Taps for 60, 80, 90, 100, 110, 120, and 125 volts. 50-60 cycles.

Type No.	List Price	Capacity V.A.
T-82V11	$12.50	500
T-82V12	17.50	1000
T-82V13	22.50	2000

VOLTAGE CHANGER AND BOOSTER AUTO TRANSFORMERS

Input side equipped with cord and plug. Output side has standard receptacles.

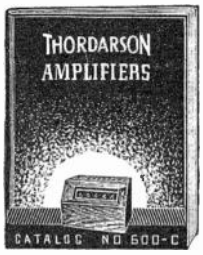
Type No.	List Price	Primary	Secondary	Rating Watts
T-26V04	$4.50	220-250 Volts	110-125 Volts	80
T-50V10	5.50	220-250 Volts	110-125 Volts	125
T-40V15	6.50	220-250 Volts	110-125 Volts	175
T-50V11	7.50	220-250 Volts	110-125 Volts	250
T-61V07	5.00	90 or 100 Volts	115 Volts	150

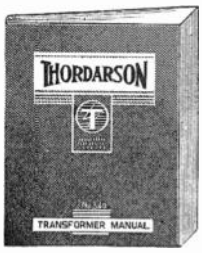
SIGNALING TRANSFORMERS
Listed by Underwriters' Laboratories

Type No.	List Price	Intermittent Duty Rating	Constant Duty Rating
T-47V01	$ 6.00	50 V. A.	35 V. A.
T-47V02	9.75	100 V. A.	85 V. A.
T-47V03	25.00	250 V. A.	190 V. A
T-47V04	35.00	500 V. A.	475 V. A

Radio Service Guide — No. 342 C, 15c. A book full of practical, accurate information for the Serviceman. Gives complete schematics, photos and parts lists for building such needed equipment as a 32 volt DC power supply, an improved condenser analyzer and impedance bridge and details on two high fidelity audio amplifiers. Has charts, tables and short-cuts that are needed every day in the year. Written for Servicemen by Servicemen.

Amplifier Catalog — No. 600 C, Free. Illustrates six models with outputs ranging from 8 to 60 watts. The 15, 25 and 40 watt models are in the new solid walnut cases with illuminated control panels which are recessed and arranged at a convenient operating angle. The catalog contains technical data with regard to each of the models, general information about the line, illustrations and prices of speaker and portable cases, etc 12 pages.





Complete Transformer Manual — No. 340, 50c — The Thordarson Transformer Manual is a complete book, containing the Radio Servicing Guide, Transmitter Guide, Replacement Encyclopedia, and Sound Amplifier Guide, plus Thordarson catalogs and prices. It is bound in an attractive blue and orange cover with loose-leaf arrangement, giving the user opportunity to keep the Manual up-to-date by adding the latest Thordarson releases.

Sound Amplifier Guide — No. 346, 15c— Here is a book every sound man needs. It has circuit diagrams, details and parts lists for amplifiers ranging up to 100 watts output; also information on speaker placement, microphones, and a useful db table. Circuits are given for pre-amplifier tone compensation, inverse feedback and other late developments. All parts specified are nationally known and available from your distributor.

World Radio History

THORDARSON AMPLIFIERS

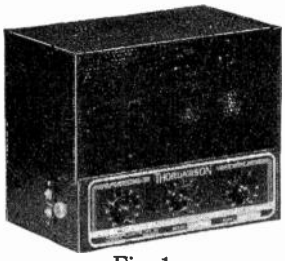


Fig. 1

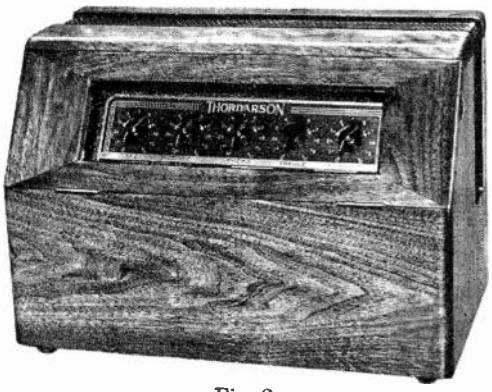


Fig. 2

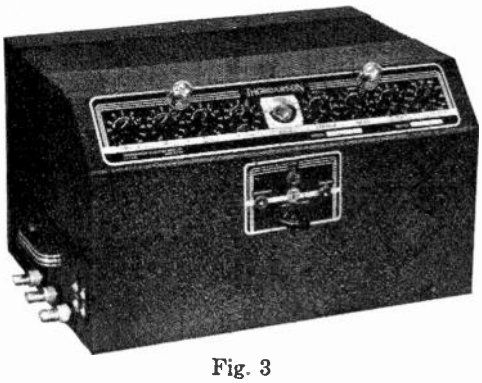


Fig. 3

T-20W08 8 Watt Amplifier ..... $39.50 List
With Selected Tubes — $45.85 List

Some of the outstanding features of this amplifier are: variable impedance output; field supply independent of filter circuit; individual control of microphone and phono for complete mixing; high gain for high impedance crystal, dynamic, velocity, and new static microphones. Conventional chassis type mounting, black wrinkle finished (Fig. 1) has metal screen cover for permanent installations.

It is large enough for a good percentage of amplifier applications such as: political meetings, store window ballyhoo, cabarets, etc.

Tubes: 1-6J7, 1-6F5, 1-6L6G, 1-5Z3.

T-20W15 15 Watt Amplifier ..... $79.50 List
With Selected Tubes — $88.35 List

The circuit is a new Thordarson development featuring a unique mixer circuit and double effective inverse feedback. Microphone and phono controls are entirely independent of one another and mix together without interlocking. No trace of crosstalk prevails. With the special inverse feedback circuit, minimum distortion is maintained not only at one reference frequency but at all audible frequencies. A booster circuit emphasizes the low frequencies below 100 cycles to compensate for the lack of bass in most recordings. The effective tone control removes the needle scratch of noisy records, and corrects for acoustical conditions.

Smallest of the new Thordarson amplifiers in walnut cabinets (Fig. 2), it is ideal or the vocalist or small orchestra.

Tubes: 2-6J7, 1-6C5, 2-6V6G, 1-5Z3.

T-20W25 25 Watt Amplifier ..... $110.00 List
With Selected Tubes — $121.85 List

Mounted in beautiful solid walnut cabinet (Fig. 2), the new inverse feedback circuit insures "distortionless" operation at full output, and tube failures are reduced to a minimum because they are operated considerably below the maximum voltage and current ratings.

The recessed, illuminated panel has five controls. Two of the controls are for microphones, one for phonograph, and two tone controls for both bass and treble. The dual microphone input and dual tone control circuit make this 25 watt amplifier a really flexible and dependable unit. The authoritative unit for large dance halls, and auditoriums where naturalness of voice and music is essential.

Tubes: 3-6J7, 1-6C5, 2-6L6G, 1-5Z3.

T-20W40 40 Watt Amplifier ..... $140.00 List
With Selected Tubes — $154.05 List

Mounted in solid walnut cabinet (Fig. 2), with such outstanding features as: continuous phono reproduction made possible by the double input circuit with individual volume controls, in addition to two microphone input circuits with separate controls. Two double range tone controls enable the operator to increase or decrease the low frequencies as well as increase or decrease the high frequencies at the same time. Never before has a tone control so flexible been offered in an amplifier of this type. The power output is sufficient for large auditoriums and stadiums, in fact it can handle almost any requirement in this respect. Reproduction at full output is perfectly clear and free from distortion.

Tubes: 2-6J7, 1-6F5, 1-6C5, 1-6F6, 2-6L6G, 2-5Z3.

T-20W60 60 Watt Amplifier ..... $180.00 List
With Selected Tubes — $211.85 List

Three high impedance, high gain microphone channels are separately controlled, and may be mixed together and with the high impedance phono channel. When it is desirable to have two phono channels as in installations requiring continuous phono reproduction, one of the microphone channels may be converted to this service at a moment's notice.

Two separate channels (following the input channels) incorporate compressor and expander circuits. These separate circuits make it possible to expand phonograph music while the microphones are in operation with the compressor circuit. The compressor is effective in preventing acoustic feedback and overloading of the amplifier or speakers. An electron ray tube is used for the volume indicator.

The control panel is positioned for maximum convenience and is fully illuminated for easy readability in dark installations. Finished in black wrinkle (Fig. 3) with brushed chrome control panel. Extreme flexibility makes it the choice amplifier for large installations using a large number of loud speakers and microphones.

Tubes: 3-6J7, 1-6F5, 1-6G5, 2-6C5, 2-6L7, 2-6H6, 4-6L6G, 2-5Z3, 1-80.

Portable Speaker Cases and Covers

T-20K09 Metal Screen Cover for T-20W08 $3.25 List — For permanent installations to protect the amplifier against breakage of tubes, etc., 10" long, 5½" high, 6" deep. Net Weight: 1¾ pounds.

T-20K26 Amplifier and Speaker Portable Case for T-20W08 $16.00 List — Fitted with a removable sub-base on which the amplifier is mounted. In operation the amplifier is removed and the case closed to form a speaker compartment and to prevent back radiation of sound, which reduces feedback. The bass reflex principle is maintained by the port located below the speaker opening in the front of case. An 8" electro-dynamic or permanent magnet speaker is required. Hooks and a strap provide for mounting speaker cable and hand microphone. Size: 12" wide, 16" high, 8" deep. Weight: net 7½ pounds; shipping, 13½ pounds.

T-20K27 15-Watt Amplifier Portable Case, $16.00 List — Space is provided beneath amplifier for microphone and associate cable. Size: 16¼" long, 9¼" deep, 12¾" high. Weight: net 7½ pounds; shipping, 13½ pounds.

T-20K23 Regular Twin Portable Speaker Case (Less Speakers) $22.50 List — Regular twin speaker portable case for two 12" speakers. (10-watt speakers are recommended.) Finished in shark leatherette to match portable amplifier case. Dimensions (assembled): 16" wide, 20" high, 12" deep. Weight: net 10 pounds, shipping 17¾ pounds. (Fig. 4)

T-20K24 Bass Reflex Twin Speaker Portable Case (Less Speakers) $32.50 List — Bass reflex twin speaker portable case for two 12" electro-dynamic or permanent magnet speakers such as Jensen model C12R type ST358, or PM12C type ST361 or equivalent. The low frequency ports may be used to store speaker cable when assembled. This twin case is recommended for high quality portable equipment. Dimensions (assembled): 18" wide, 22" high, 16" deep. Weight: net 22½ pounds; shipping 30 pounds.

T-20K28 40-Watt Amplifier Portable Case, $20.00 List — Portable amplifier case for Thordarson 40-watt amplifier finished with durable black shark leatherette. Ample space is provided below amplifier for one or two microphone heads and cable. Dimensions: 20" long, 11" deep, 13¾" high. Weight: net 10 pounds; shipping 16½ pounds.

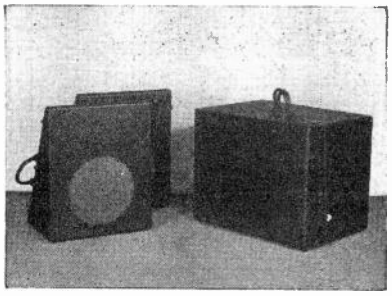


Fig. 4

World Radio History

"MULTI-BAND" TRANSMITTER

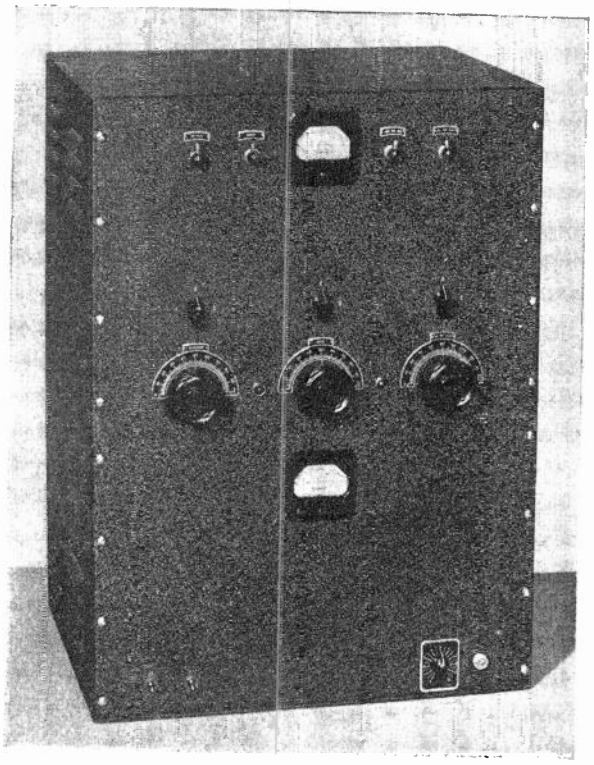
THORDARSON

INSTANTANEOUS BAND-SWITCHING FROM FRONT OF PANEL

- 3 pre-selected amateur bands.
- 100 watts input on all bands.
- Single meter reads all plate currents as well as grid current of final stage.
- Power supply and R-F section on one chassis.
- Band-Switching feature optional, regular plug-in coils may be used.
- Tube lineup: 6L6G—6L6G—TZ-40.

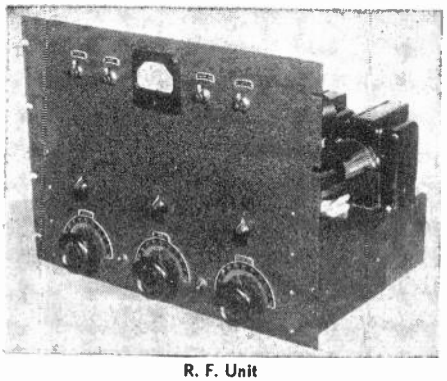
PHONE OPERATION

- Plate modulation by a separate unit using a pair of 6L6's.



RADIO FREQUENCY UNIT

This unit may be plate modulated for phone operation by the 6L6 modulator shown below, or it may be operated as a complete CW transmitter. The band-switch feature permits almost instantaneous switching over any three pre-determined bands, the desired bands being selected by inserting the proper coils. A single power transformer tapped for two rectifier circuits supplies power to the entire R. F. section. A conventional 6L6-G crystal oscillator is capacity coupled to a 6L6-G buffer-doubler which in turn is also capacity coupled to a Taylor TZ-40, providing ample output on all bands including 10 meters. A meter switching arrangement permits metering of all circuits as well as providing an "off" position for the "tune-up" procedure. Fixed neutralization is provided so that no readjustment is required in changing bands. For CW the cathode circuits of both the oscillator and the buffer-doubler stages are keyed simultaneously. If the band-switch feature is not desired, provision is made for the use of regular plug-in coils.



R. F. Unit

T-17K21 FOUNDATION UNIT ..... **List Price $12.00**
Includes punched chassis and panel, coil brackets, grommets and complete instructions.

KIT OF THORDARSON TRANSFORMERS AND CHOKES

KT-101 ..... **List Price $28.25**

KIT OF COMPONENT PARTS

Other than Thordarson parts, foundation unit, tubes, cabinet and crystals. Includes any three sets of coils selected.

PL-100 ..... **List Price $109.00**

CABINET

Will house complete transmitter including radio frequency and modulator units as illustrated above.

CAB-102 ..... **List Price $17.50**

MODULATOR UNIT

Ample power for plate modulation of the R. F. unit is provided by this 6L6 modulator. Fixed bias is accomplished through a separate bias rectifier, and ample driving power is obtained from the single triode connected 6F6. Hum is at an absolute minimum, and transients usually encountered with 6L6 s in class AB_2 have been entirely eliminated. This renders speech clear, natural, and free of distortion. For phone operation, the two line switches of the R. F. unit are replaced with jewels and the filaments and the plates of both units are controlled simultaneously by the two switches on the modulator panel. This measure simplifies operation and allows rapid control of the transmitter. Connections between the two chassis are easily made by regular connector strips.

FOUNDATION UNIT

Includes punched chassis and panel, brackets, mounting strips, grommets and complete instructions for constructing and using the modulator unit.

T-17K22 ..... **List Price $9.00**

KIT OF THORDARSON TRANSFORMERS AND CHOKES

KT-201 ..... **List Price $38.00**

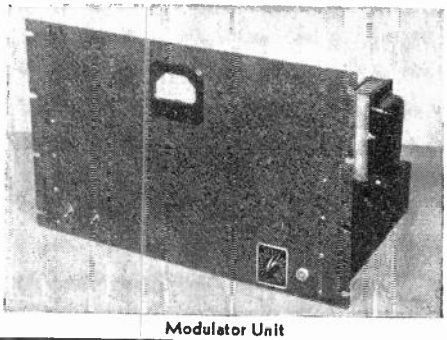
KIT OF COMPONENT PARTS

Other than Thordarson transformers, foundation unit and tubes.

PL-200 ..... **List Price $31.00**

Ask for free BULLETIN SD-378A containing full parts list and circuit diagrams.

SEE AMATEUR SPEECH AMPLIFIER ON THE NEXT PAGE



Modulator Unit

COMPLETE INSTRUCTION BOOK

Full details of building data, photos, diagrams and layout.

SD-386 ..... **List Price 25c**

World Radio History

THORDARSON AMATEUR SPEECH AMPLIFIER

• FLEXIBLE • UNIVERSAL •

Fig. 1
Amplifier Unit

Adaptable For Use with Any Transmitter.
The conservative rating of 15 watts output insures plenty of drive for any tube combination. The extreme flexibility of construction and circuit will meet any operating condition.

Overmodulation Control Circuit. (optional)
Details are given for the addition of a 6L7 overmodulation control circuit in the instruction sheet.

Elimination of R. F. Feedback and Hum.
Careful arrangement of parts and efficient electrical design results in an unusually stable amplifier.

500 Ohm Output or Regular Multi-Match Driver Ratios. (optional)
The circuit makes possible the use of either a 500 ohm output transformer or one of the Thordarson Universal or Multi-Match drivers.

Rack and Panel or Cabinet Construction. (optional)
Many amateurs have their speech equipment on the operating table and run a 500 ohm line to the remotely controlled modulator. Others mount the entire transmitter on one rack and panel. Either choice is possible with the Universal Speech Amplifier. See Fig. 2 and 3.

High Fidelity C. H. T. or Regular Thordarson Transformers. (optional)
The chassis is drilled to accommodate either type transformers and the amateur may thus choose according to his requirements.

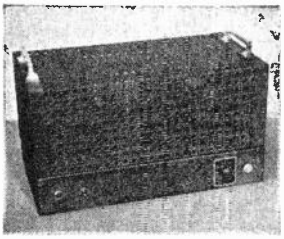


Fig. 2
Table Mounting With Metal Screen Cover

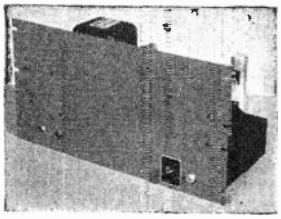


Fig 3
Relay Rack Mounting With Panel

Complete Instruction Book
Full constructional and operating directions, performance data, photos, diagrams and mechanical layout.
SD-387 List Price 15c

ENGINEERED FOR THE AMATEUR

Realizing the need of properly designed speech equipment, Thordarson has engineered this Universal Speech Amplifier, adaptable to any phone transmitter. This unit eliminates the troubles usually encountered by the amateur in the building of dependable speech equipment.

With the present trend toward the use of high mu, low drive class B modulator tubes, the 2A3 output stage provides ample driving power for even the largest class B modulator and insures good condition.

Complete instructions are included with each kit for the assembly and wiring, making it practical and easy for either the beginner or advanced amateur to complete the unit with satisfactory results.

FOUNDATION UNIT

Punched chassis, mounting strips, grommets and complete instructions.
T-17K20 ..... List Price $5.00

KIT OF THORDARSON TRANSFORMERS AND CHOKES

KT-301-C (CHT types) **List Price $33.00**
or
KT-302-R ..... List Price $23.50
regular types for 500 ohm output; if driver transtransformer required — list price $2.00 additional.

KIT OF COMPONENT PARTS

Other than Thordarson transformers, foundation unit, tubes and covers.
PL-300 ..... List Price $17.25

OPTIONAL EQUIPMENT

Metal Screen Cover.
T-10K20 (fig. 2) **..... List Price $5.50**

Pair Chromium Handles.
T-10K50 (fig. 2) **..... List Price $1.90**

Panel 19" x 10½" (fig 3)
PAN. 303 ..... List Price $2.10

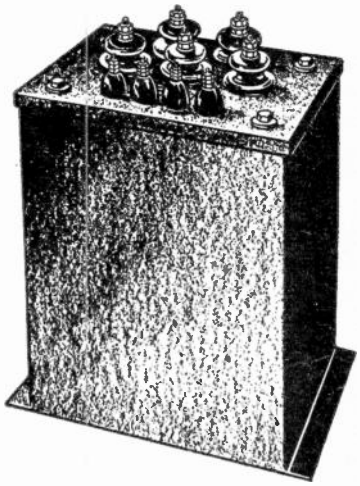
Chassis bottom plate with rubber feet.
T-17K23 ..... $1.50

For Complete Parts List and Circuit Diagram Send for Bulletin SD-389

World Radio History

INCA TRANSFORMERS

INCA transformers are a product of the PHELPS DODGE COPPER PRODUCTS CORPORATION and are manufactured only in the plant at Los Angeles, California. Materials used in their manufacture are under constant supervision from the time the copper leaves the mine until the finished transformer reaches the consumer. No other transformer manufacturer has such complete control over the quality of his products, no other manufacturer builds as complete a line of small transformers.



INCA transformers are liberally designed, strong mechanically and beautiful in appearance. Each unit is treated by the exclusive "Climatite" process, insuring freedom from failure under conditions of extreme humidity and high temperature. **Only INCA transformers have "Climatite" treatment.**

Plate Supply Transformers

TYPE NO.	PRI. VOLTS	SECONDARY OUTPUT				CASE NO.	DIMENSIONS			SHIP'NG WEIGHT LBS.	CODE WORD	LIST PRICE
		D.C. VOLTS	AMPS.	A.C. VOLTS	V. A.		H.	W.	D.			
B-41	115	90 or 180	.160 3.0	440-220 C.T. 5 C.T.	29	V	3¾"	2¾"	3⅛"	4	Braid	**$ 3.60**
B-40	115	125 or 250	.500 6.0	600-300C.T. 5 C.T.	125	V	4¾"	4¼"	4¼"	11	Autua	**9.75**
B-11	115	400	.250 3.0	1000 C.T. 5 C.T.	100	V	4¾"	3⅞"	4¼"	9½	Board	**8.25**
B-15	115	525	.225	1400 C.T.	120	V	4¾"	3⅞"	4¼"	10½	Boast	**8.25**
B-27	115	600 or 750	.300	1550-1940 C.T.	225	IV	6⅜"	5¼"	5¼"	22½	Bland	**12.50**
B-33	115	750 or 1000	.300	1700-2360 C.T.	300	IV	6½"	6"	8½"	25	Bolas	**14.00**
B-24a	115	1000 or 1250	.350	2360-2940 C.T.	440	IV	6½"	7½"	5"	31	Blast	**19.00**
B-26	115	1000 or 1250	.500	2360-2940 C.T.	625	XI	6½"	9¼"	6½"	49	Bliss	**29.50**
B-34	115	1000 or 1500	.300	2360-3530 C.T.	450	IV	6½"	7½"	5"	31	Booth	**19.00**
B-42	230/115	1500 or 2000	.350	3530-4720 C.T.	700	14	11"	11"	7¼"	72	Zenwz	**34.50**
B-43	230/115	1500 or 2000	.500	3530-4720 C.T.	1000	14	11"	11"	7¼"	85	Zejjl	**43.50**
B-45	230/115	1500 or 2000	.750	3530-4720 C.T.	1500	14	13"	9¼"	11"	127	Zejkm	**55.00**
B-44	230/115	2000, 2500 3000	.500	4720-6400 7080 C.T.	1500	14	13"	9¼"	11"	126	Zehxa	**55.00**

Transformers for operation on 105-135 volts, 50-60 cycles may be supplied for 220 volt operation or for 25 cycle, or both. For 220 volt increase price 15 %; for 25 cycle, 60%; and for 220 volt, 25 cycle, 60% and 15%.

World Radio History

Coupling Transformers—Tube to Grid

Class A

From single 8000 to 15000 ohm general purpose plate to single Class A grid. Also from parallel-fed 2500 ohm plate (2A5, 42, 6F6 triodes) to single Class A grid.

TD-11	Case TH-2	Code AUUFK	**$22.50**
TF-11	Case TH-1	Code AUUGL	**12.50**
TJ-10	Case TH-0	Code AUWVY	**10.50**

Same tubes as TD-11 to push-pull Class A grids.

TD-12	Case TH-2	Code AUUHM	**25.00**
TF-12	Case TH-1	Code AUUIN	**14.50**
TJ-11	Case TH-0	Code AUWWZ	**12.00**

Mixing Transformers

LOW LEVEL

Multi-line (500*, 333, 250, 200*, 125, 50 ohms) to multi-line.

TD-21	Case TH-2	Code AUYPR	**25.00**
TF-21	Case TH-1	Code AUURW	**16.00**
TJ-15	Case TH-0	Code AUWYB	**12.00**

Dynamic microphone or low impedance line (60*, 45, 30*, 26, 15, 7.5 ohms) to multi-line (500*, 333, 250, 200*, 125, 50 ohm).

TD-22	Case TH-2	Code AUYRS	**25.00**
TF-22	Case TH-1	Code AUUSX	**17.50**
TJ-17	Case TH-0	Code AUXAC	**13.50**

TUBE-TO-LINE TRANSFORMERS
LOW LEVEL

Single 8000 to 15000 ohm general purpose tube (18000/4500 ohms) to multi-line (500*, 333, 250, 200*, 125, 50 ohms).

TD-28	Case TH-2	Code AUYUV	**25.00**
TF-28	Case TH-1	Code AUUWB	**14.50**
TJ-21	Case TH-0	Code AUXDF	**12.00**

Push-pull general purpose tubes (25000/6250 ohms) to multi-line (500*, 333, 250, 200*, 125, 50 ohms).

TD-29	Case TH-2	Code AUYVW	**25.00**
TF-29	Case TH-1	Code AUUXC	**14.50**
TJ-22	Case TH-0	Code AUXEG	**12.00**

Equalizing Reactors

For use in a simple pentode equalizer to produce increased gain at the very low frequencies.

TJ-305	Case TH-0	Code AUZUU	**10.50**

For use in a simple pentode equalizer to increase gain at the high frequencies.

TJ-306	Case TH-0	Code AUZVV	**8.50**

Push-pull general purpose tubes to push-pull Class A grids.

TD-13	Case TH-2	Code AUUJO	**$25.00**
TF-13	Case TH-1	Code AUUKP	**14.50**
TJ-12	Case TH-0	Code AUWXA	**12.00**

Class AB

Push-pull general purpose tubes to Class AB power tube grids. Secondary tapped for 2A3, 42, 6F6, 6L6, 45, etc. Also (in parallel connection) from single 42, 6F6, 2A5, triode to Class AB grids. Maximum unbalanced primary D.C. 10 ma.

TF-17	Case TH-2	Code AUUNT	**20.00**

Push-pull power driver plates (6E6, 42, 2A5, 6F6, etc.) to Class AB grids. Secondary tapped for 2A3, 42, 6F6, 6L6, 45, etc.

TF-18	Case TH-2	Code AUUPV	**20.00**

Output Transformers

TUBE TO LINE AND VOICE COIL

Class A or AB 42, 6F6, 2A5, triodes or pentodes, Class A 2B6 or 6B5 etc. (10000/2500 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 34 db. (15 watts).

TF-61	Case TH-3	Code AUVOT	**17.50**

Class A or AB 45, 50, 71, 6L6, etc. (8000/2000 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 34 db. (15 watts).

TF-62	Case TH-3	Code AUVPU	**17.50**

Class A or AB 2A3, 6A3, 6B4, 6A5, (5000, 3000/1250, 750 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 34 db. (15 watts).

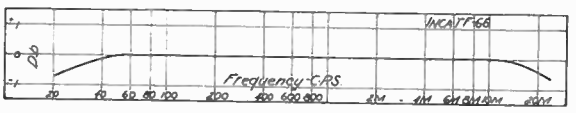
TF-63	Case TH-3	Code AUVRV	**17.50**

Class AB 6L6, (6600/1650 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 37.5 db. (34 watts).

TF-64	Case TH-4	Code AUVSW	**25.00**

From push-pull parallel Class A or AB 2A3, 6A3, 6B4, 6A5, (2500, 1500/625, 375 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 37 db. (30 watts).

TF-66	Case TH-4	Code AUVTX	**25.00**



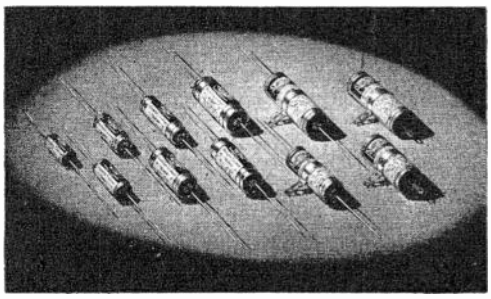
From push-pull parallel 6L6's in AB1 (3300 ohms) or push-pull 6L6's in AB2 (3800 ohms) to 500/125 ohms and 16/12/8/6/4/2 ohms. Level plus 40 db. (60 watts).

TF-65	Case TH-5	Code AUVUY	**35.00**

World Radio History

CORNELL DUBILIER

DRY ELECTROLYTIC CAPACITORS



FEATURES OF TYPE BR

1—**Exclusive Electro-Chemical Etching**—Eliminates corrosion.
2—**Hi-Formation Process**—Affords higher voltage breakdown.
3—**Hi-Pressure Centrifuge**—Better impregnation; lower power factor
4—**Hi-Purity Aluminum Foil**—Better direct current leakage recovery.
5—**Special C-D Super-Purity Cellulose Separator**—Extra long life.
6—**Rigid Chemical Purity Control**—Uniform performance.
7—**Double Ageing**—Stable characteristics.
8—**All Aluminum Tube and Accessories**—Uniform results in all weather.
9—**Special Vent**—Safety under all operating conditions.
10—**Tubular Compact Construction**—Allows ease of wiring into circuit.

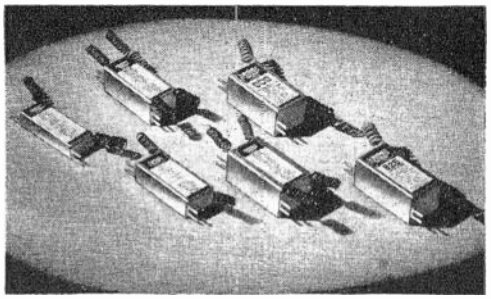
Extremely small, handy to use, and completely eliminating exact duplicate replacement capacitors. Polarity is clearly indicated on a protective varnished cardboard sleeve fitted over a pure aluminum cartridge. Hermetically sealed, vented and very practical to employ in radio receiver circuits. Eliminate drilling of chassis, use of pal nuts, washers and minimize assembly operations as well as save space and afford quick wiring.

Cat. No.	Capacity Mfd.	Size Length	Size Width	List Price	Net Price
		450 V.D.C.			
BR-445	4	1 9/16	x 5/8	$0.55	$0.33
BR-845	8	2 1/8	x 3/4	.60	.36
BR-1245	12	2 1/8	x 3/4	.75	.45
BR-1645	16	2 1/8	x 7/8	.90	.54
BR-2045	20	2 1/2	x 1	1.00	.60
		350 V.D.C.			
BR-435	4	1 9/16	x 5/8	.50	.30
BR-835	8	1 13/16	x 3/4	.55	.33
BR-1235	12	2 1/8	x 3/4	.70	.42
BR-1635	16	2 1/8	x 7/8	.80	.48
		250 V.D.C.			
BR-425	4	1 3/16	x 5/8	.45	.27
BR-825	8	1 9/16	x 3/4	.50	.30
BR-1225	12	2 1/8	x 3/4	.65	.39
BR-1625	16	2 1/8	x 3/4	.75	.45
BR-2025	20	2 1/8	x 7/8	.80	.48
BR-4025	40	2 5/8	x 7/8	.95	.57
		150 V.D.C.			
BR-415	4	1 3/16	x 5/8	.40	.24
BR-815	8	1 3/16	x 5/8	.45	.27
BR-1215	12	1 9/16	x 5/8	.50	.30
BR-1615	16	1 9/16	x 5/8	.55	.33
BR-2015	20	1 13/16	x 5/8	.60	.36
BR-4015	40	2 5/8	x 3/4	.65	.39
		25 V.D.C.			
BR-102	10	1 1/2	x 1/2	.40	.24
BR-252	25	1 7/8	x 5/8	.50	.30

Compact C-D HANDI-MIKES in their silvered cartons and with their superb electrical characteristics have won universal recognition. Equipped with convenient mounting feet, color-coded wire leads, they have specially treated inner liner cartons into which the capacitor winding is potted with pure, moisture-proof wax affording protection against temperature and humidity changes. Types RHM and HM employ plain foil; Type JR uses exclusive C-D etched foil.

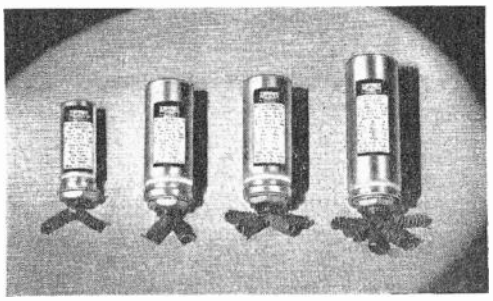
Cat. No.	Capacity Mfd.	Size Length	Size Width	Size Thick.	List Price	Net Price
		TYPE JR—200 V.D.C.				
JR-204	4	2 1/2	x 3/4	x 1/2	$0.65	$0.39
JR-208	8	2 1/2	x 1	x 9/16	.80	.48
JR-210	10	2 1/2	x 1	x 9/16	.90	.54
JR-212	12	2 1/2	x 1 1/8	x 11/16	.95	.57
JR-216	16	2 1/2	x 1 1/8	x 11/16	1.05	.63
JR-244	4-4	2 1/2	x 1 1/8	x 11/16	.90	.54
JR-288	8-8	2 1/2	x 1 1/8	x 1	1.25	.75
JR-2816	8-16	2 1/2	x 1 1/4	x 1 1/8	1.45	.87
JR-2888	8-8-8	2 1/2	x 1 3/4	x 1 1/8	1.90	1.14
		450 V.D.C.				
JR-502	2	2 1/2	x 3/4	x 1/2	.65	.39
JR-504	4	2 1/2	x 1	x 9/16	.75	.45
JR-508	8	2 1/2	x 1 1/8	x 11/16	.95	.57
JR-512	12	2 1/2	x 1 1/8	x 1	1.30	.78
JR-516	16	2 1/2	x 1 3/8	x 1 1/8	1.45	.87
JR-544	4-4	2 1/2	x 1 1/8	x 7/8	1.20	.72
JR-588	8-8	2 1/2	x 1 3/8	x 1 1/8	1.50	.90
JR-5816	8-16	2 1/2	x 2	x 1 1/2	1.90	1.14
JR-5888	8-8-8	2 1/2	x 2	x 1 1/2	2.20	1.32
		TYPE RHM—450 V.D.C.				
RHM-9040	4	2 1/2	x 1 1/8	x 3/4	.75	.45
RHM-9080	8	2 1/2	x 1 3/8	x 1 1/8	.95	.57
		TYPE HM—475 V.D.C.				
HM-11080	8	2 1/2	x 1 3/8	x 1 1/8	1.35	.81

Types RHM and HM are made of highest purity plain foil, hence slightly larger than Type JR. 8" Wire Leads, plainly color-coded and firmly anchored to inner carton flap relieve strain on connecting tab and avoid open-circuit and corrosion at terminal connection. Dual and triple units have separate sections, the corresponding positive and negative leads being opposite each other. Eliminate the need of exact duplicate replacements to a large extent.



FEATURES OF TYPE JR

1—**Exclusive Electro-Chemical Etching**—Eliminates corrosion.
2—**Hi-Formation Process**—Affords higher voltage breakdown.
3—**Hi-Pressure Centrifuge**—Better impregnation; lower power factor.
4—**Hi-Purity Aluminum Foil**—Better direct current leakage recovery.
5—**Special C-D Super-Purity Cellulose Separator**—Extra long life.
6—**Rigid Chemical Purity Control**—Uniform performance.
7—**Double Ageing**—Stable characteristics.
8—**Triple Potting**—Better weather-proofing.
9—**Double Carton Containers**—Better resistancy to humidity.
10—**Outer Carton Wax-Dipped**—Added protection.



FEATURES OF TYPE KR

1—**Exclusive Electro-Chemical Etching**—Eliminates corrosion.
2—**Hi-Formation Process**—Affords higher voltage breakdown.
3—**Hi-Pressure Centrifuge**—Better impregnation; lower power factor.
4—**Hi-Purity Aluminum Foil**—Better direct current leakage recovery.
5—**Special C-D Super-Purity Cellulose Separator**—Extra long life.
6—**Rigid Chemical Purity Control**—Uniform performance.
7—**Double Ageing**—Stable characteristics.
8—**All Aluminum Can & Accessories**—Uniform results in all humidities.
9—**Anchored Leads**—Eliminates open and short-circuits.
10—**Universal Mounting**—Unit mounts in any position on or under sub-panel.

Extremely compact etched foil dry electrolytic capacitors. Withstand severe mechanical stress. Available in single, dual and triple sections with color-coded leads. Made in two popular voltage ratings: 250 V. D.C. for use in A.C-D.C. or voltage-doubler midgets and 450 V. D. C. to serve a purposeful function in A.C. operated sets.

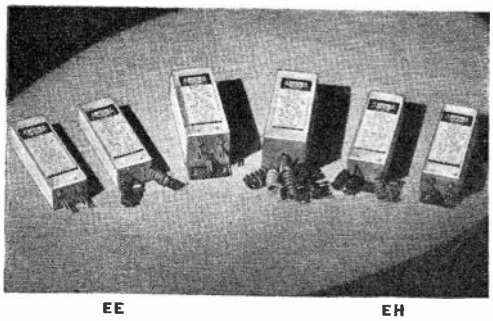
Cat. No.	Capacity Mfd.	Size Length	Size Diam.	List Price	Net Price
		250 V.D.C.			
KR-204	4	2 9/16	x 1	$0.75	$0.45
KR-208	8	2 9/16	x 1	.95	.57
KR-216	16	3 7/16	x 1	1.35	.81
KR-288	8-8	2 15/16	x 1 3/8	1.45	.87
		450 V.D.C.			
KR-504	4	2 15/16	x 1	.85	.51
KR-508	8	2 3/4	x 1	1.05	.63
KR-512	12	3 7/16	x 1	1.40	.84
KR-516	16	3 7/16	x 1 3/8	1.55	.93
KR-548	4-8	3 7/16	x 1 3/8	1.45	.87
KR-588	8-8	3 7/16	x 1 3/4	1.60	.96
KR-5816	8-16	4 7/16	x 1 3/4	2.25	1.35
KR-5888	8-8-8	4 5/8	x 1 1/2	2.30	1.38

The substantial reduction in size of these capacitors allows their use in compact and portable amplifiers and receivers. Equipped with pal nut. Fully wax-potted sections are carefully and completely insulated from one another as well as from the metal container.

World Radio History

CORNELL DUBILIER

DRY ELECTROLYTIC CAPACITORS



EE EH

FEATURES OF TYPE EH

1—Hi-Formation Process—Affords higher voltage breakdown.
2—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
4—Special C-D Super-Purity Cellulose Separator—Extra long life.
5—Rigid Chemical Purity Control—Uniform performance.
6—Double Ageing—Stable characteristics.
7—Complete Wax Potting—Better weather-proofing.
8—Waxed Outer Container—Added protection.
9—Lead or Lug Terminals—Convenient choice at no extra cost.
10—Mounting Flange Provided—Simple and easy to install.

C-D "HI-MIKES" are standby real "heavy-duty" units for every radio set's filter circuit. Extensively used wherever an extra-dependable filter capacitor is needed. Type EH have mounting flanges (which may be easily cut off if necessary, while type EE employs a simple little mounting strap).

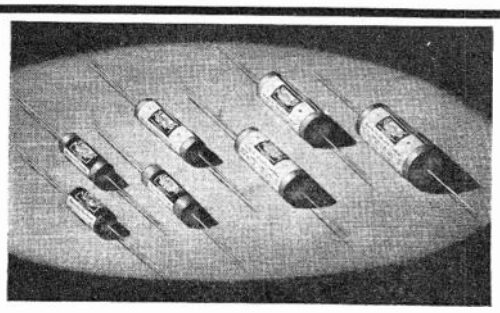
Cat. No.	Capacity Mfd.	Size Length	Width	Thick.	List Price	Net Price
		450 V.D.C.				
EH-9400	4	4 1/8	x 1 3/16	x 3/4	$0.75	$0.45
EH-9400L	4	4 1/8	x 1 3/16	x 3/4	.75	.45
EH-9800	8	4 1/8	x 1 3/8	x 1	.95	.57
EH-9800L	8	4 1/8	x 1 3/8	x 1	.95	.57
EH-9160	16	4 1/8	x 1 9/16	x 1 5/16	1.45	.87
EH-9404	4-4	4 1/8	x 1 9/16	x 1 5/16	1.20	.72
EH-9404SL	4-4	4 1/8	x 1 9/16	x 1 5/16	1.20	.72
EH-9408	4-8	4 1/8	x 1 9/16	x 1 5/16	1.35	.81
EH-9408SL	4-8	4 1/8	x 1 9/16	x 1 5/16	1.35	.81
EH-9808	8-8	4 1/8	x 1 9/16	x 1 1/2	1.50	.90
EH-9808SL	8-8	4 1/8	x 1 9/16	x 1 1/2	1.50	.90
EH-94441L	4-4-4	4 1/8	x 1 9/16	x 1 9/16	1.80	1.08
EH-9888L	8-8-8	4 1/8	x 2	x 2	2.20	1.32
		TYPE EE—450 V.D.C.				
EE-9080	8	4 1/8	x 1 3/8	x 9/16	.95	.57
EE-9080L	8	4 1/8	x 1 3/8	x 9/16	.95	.57

(Type EE has same features except mounting flange.) Type EH dual units are available in separate section construction, having four color-coded wire leads; also in common negative three lug-terminal assembly, with two positive and one negative terminals. Triple section units have four leads, three of which are positive and the fourth, common negative. No deviations are made from the above practice because most circuit combinations can be successfully met by the use of one or more of the capacitors listed. (L denotes wire leads; SL—separate leads.)

New C-D Development, Type EDJ tubular etched foil dry electrolytics, remarkable for their handy size, ease of wiring and other fine characteristics. Units are slightly longer than Type BR because tube ends are generously potted with high melting point wax helping to firmly embed the wire leads and keep the capacitor moisture-proof. The polarity of the leads is clearly defined by a large "plus" and "minus" sign at respective ends of tube.

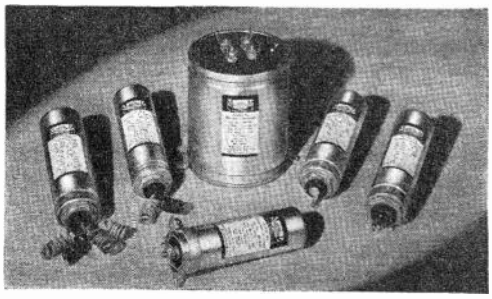
V.D.C.	Cat. No.	Capacity Mfd.	Size Length	Diam.	List Price	Net Price
450	EDJ-9010	1	1 1/2	x 5/16	$0.55	$0.33
	EDJ-9020	2	1 7/8	x 11/16	.65	.39
	EDJ-9040	4	2 1/8	x 3/4	.75	.45
	EDJ-9080	8	2 1/2	x 7/8	.95	.57
200	EDJ-7080	8	1 7/8	x 5/8	.80	.48
100	EDJ-5050	5	1 1/2	x 9/16	.55	.33
	EDJ-5100	10	1 7/8	x 9/16	.70	.42
	EDJ-5250	25	2 1/8	x 5/8	.95	.57
50	EDJ-3050	5	1 1/2	x 1/2	.50	.30
	EDJ-3100	10	1 1/2	x 9/16	.65	.39
	EDJ-3250	25	1 7/8	x 5/8	.80	.48
	EDJ-3500	50	2 1/2	x 3/4	1.20	.72
	EDJ-31000	100	3	x 7/8	1.95	1.17
25	EDJ-2100	10	1 1/2	x 1/2	.50	.30
	EDJ-2200	20	1 7/8	x 9/16	.60	.36
	EDJ-2250	25	1 7/8	x 9/16	.65	.39
	EDJ-2500	50	2 1/8	x 5/8	.95	.57
	EDJ-2055	5-5	1 7/8	x 9/16	.75	.45
	EDJ-2101	10-10	1 7/8	x 9/16	.75	.45

Over sixty different processes are involved in what appears to be a simple unit! Most of these processes must be closely controlled in order to obtain best results. Chemical solutions must be kept to rigid specifications; forming voltages must be of certain potentials; temperatures, humidity control and every phase of making these little tubulars is most carefully watched.



FEATURES OF TYPE EDJ

1—Exclusive Electro-Chemical Etching—Eliminates corrosion.
2—Hi-Formation Process—Affords higher voltage breakdown.
3—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
4—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
5—Special C-D Super-Purity Cellulose Separator—Extra long life.
6—Rigid Chemical Purity Control—Uniform performance.
7—Double Ageing—Stable characteristics.
8—Specially-Treated Cardboard Tube—Protection against humidity.
9—Special-Wax Poured Ends—Added mechanical strength for leads.
10—Tubular, Compact Construction—Allows ease of wiring into circuit.



EB EA EP

FEATURES OF TYPES EB, EA AND EP

1—Hi-Formation Process—Affords higher voltage breakdown.
2—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
4—Special C-D Super-Cellulose Separator—Extra long life.
5—Rigid Chemical Purity Control—Uniform performance.
6—Double Ageing—Stable characteristics.
7—Complete Wax Potting—Better weather-proofing.
8—All Aluminum Can and Accessories—Uniform results in all humidities.
9—Anchored Leads—Eliminates open and short-circuits.
10—Universal Mounting—Units mount in any position on or under sub-panel.

These represent the finest achievement in plain foil, dry electrolytic capacitors. EB has insulated, color-coded wire leads; in single section units, red lead is positive, black negative. In dual units, this combination holds for the one section, while a blue lead and its complementary yellow lead makes up the other section. In the EP and EA units, the central insulated terminal is the positive, while the metal container is the negative. In multiple section units, EP and EA, positive terminals are insulated and the container is common negative, most generally grounded to the chassis.

EB and EP have lock washers and hexagon nuts. EA a mounting ring. An electrolytic capacitor lasts a long time if operated at or slightly under its rating.

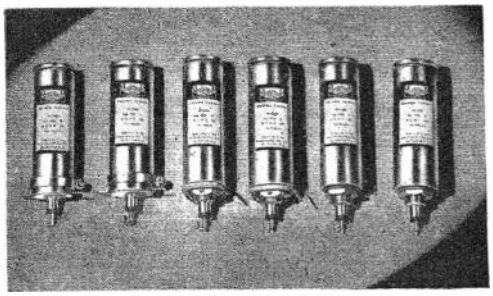
Cat. No.	Capacity Mfd.	Size Length	Diam.	List Price	Net Price
		TYPE EB—450 V.D.C.			
EB-9040	4	2 1/2	x 1 3/8	$0.85	$0.51
EB-9080	8	4 3/8	x 1 3/8	1.05	.63
EB-9100	10	4 3/8	x 1 3/8	1.25	.75
EB-9120	12	4 3/8	x 1 1/2	1.40	.84
EB-9160	16	4 3/8	x 1 1/2	1.55	.93
EB-9180	18	4 3/8	x 1 1/2	1.65	.99
EB-4400	4-4	4 3/8	x 1 3/8	1.30	.78
EB-4800	4-8	4 3/8	x 1 1/2	1.45	.87
EB-8800	8-8	4 3/8	x 1 1/2	1.60	.96
		475 V.D.C.			
EB-11080	8	4 3/8	x 1 3/8	1.50	.90
		TYPE EP—450 V.D.C.			
EP-9080	8	4 7/8	x 1 3/8	1.05	.63
EP-9081	8	4 7/8	x 1	1.05	.63
EP-9808	8-8	4 7/8	x 1 3/8	1.60	.96
		TYPE EA—450 V.D.C.			
EA-9080	8	4 3/8	x 1 3/8	1.05	.63
EA-5150	5-15	4 3/8	x 2 1/2	2.30	1.38
EA-8800*	8-8	4 3/8	x 2 1/2	1.80	1.08
EA-8801	8-8	4 3/8	x 2 1/2	1.80	1.08
EA-8160	8-16	4 3/8	x 2 1/2	2.35	1.41
EA-8880	8-8-8	4 3/8	x 3	2.70	1.62
EA-9918	9-9-18	4 3/8	x 3	3.75	2.25
EA-9911	9-9-18-18	4 3/8	x 3 1/2	5.25	3.15

(*)—Cat. No. EA-8800 is a dual, separate-section 4-terminal capacitor.

World Radio History

CORNELL DUBILIER

WET ELECTROLYTIC CAPACITORS



EX EY

FEATURES OF TYPES EX AND EY

1—**Exclusive Electro-Chemical Etching**—Eliminates corrosion.
2—**Hi-Formation Process**—Affords higher scintillating voltages.
3—**Hi-Purity Aluminum Foil**—Better direct current leakage recovery.
4—**Special Cleaning Process**—Assures longer life at high ambient heat.
5—**Hi-Purity Electrolyte**—Longer idle and active life.
6—**Positive Vent Construction**—Always works; prevents accident.
7—**Inverted and Vertical Mounting**—Simple to install; mechanically strong.

C-D "HI-MIKE" WET ELECTROLYTICS, with high scintillation point, are mechanically and electrically perfected units. Vented, to allow generated gas to escape harmlessly, these self-healing units have remarkably long life . . . and fine filtering efficiency. Possessing a certain amount of "self-regulation" properties, special designs are available to meet definite regulation characteristics.

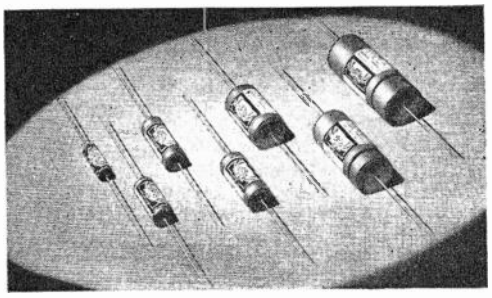
Cat. No.	Capacity Mfd.	Size Length		Diam.	List Price	Net Price
		TYPE EY—600 Peak Volts				
EY-11080	8	4½	x	1¾	$1.40	$0.84
EY-11081	8	4½	x	1½	1.50	.90
EY-11600	16	4½	x	1½	2.00	1.20
		500 Peak Volts				
EY-9080	8	4½	x	1¾	1.00	.60
EY-9081	8	4½	x	1½	1.00	.60
EY-9082	8	4½	x	1	.95	.57
EY-9083	8	3½	x	1	.95	.57
EY-9084	8	3½	x	1¾	1.00	.60
EY-9100	10	4½	x	1½	1.10	.66
EY-9120	12	4½	x	1½	1.20	.72
EY-9160	16	4½	x	1½	1.40	.84
EY-9180	18	4½	x	1½	1.45	.87
EY-9200	20	4½	x	1½	1.50	.90
EY-9300	30	4½	x	1½	2.00	1.20
		475 Peak Volts				
EY-8400	40	4½	x	1½	2.10	1.26
		350 Peak Volts				
EY-7240	24	4½	x	1¾	1.50	.90
EY-7300	30	4½	x	1½	1.75	1.05
EY-7350	35	4½	x	1½	2.00	1.20
		300 Peak Volts				
EY-6160	16	3⅛	x	1	1.15	.69
		200 Peak Volts				
EY-5200	20	3½	x	1	1.20	.72
EY-5400	40	3½	x	1⅜	1.80	1.08
		TYPE EX—600 Peak Volts				
EX-11080	8	4½	x	1¾	1.40	.84
		500 Peak Volts				
EX-9080	8	4½	x	1⅜	1.00	.60
Note: Pair of insulating washers and one large lug . . .					.10	.06

Type EY is provided with a palnut; Type EX with a mounting ring. Insulating washers and large ground lug are optional, at slight extra cost, and are used to insulate the metal container, which is the negative terminal, from the chassis when required.

PAPER TUBULAR CAPACITORS

Cat. No.	Capacity Mfd.	Size Length		Diam.	List Price	Net Price
		400 V. D. C.				
DT-4S1	.01	1¼	x	3/8	$0.15	$0.09
DT-4S15	.015	1¼	x	5/16	.15	.09
DT-4S2	.02	1⅜	x	5/16	.15	.09
DT-4S25	.025	1⅜	x	7/16	.15	.09
DT-4S3	.03	1⅜	x	7/16	.15	.09
DT-4S4	.04	1⅝	x	7/16	.15	.09
DT-4S5	.05	1⅝	x	1/2	.15	.09
DT-4S6	.06	1⅝	x	7/16	.20	.12
DT-4P1	.1	1⅝	x	9/16	.20	.12
DT-4P2	.2	2	x	11/16	.25	.15
DT-4P25	.25	2	x	3/4	.25	.15
DT-4P5	.5	2⅛	x	7/8	.35	.21
DT-4W1	1	2⅝	x	1	.50	.30
		600 V. D. C.				
DT-6T1	.0001	1 3/16	x	3/8	.15	.09
DT-6T25	.00025	1 3/16	x	3/8	.15	.09
DT-6T5	.0005	1 3/16	x	3/8	.15	.09
DT-6D1	.001	1¼	x	3/8	.15	.09
DT-6D2	.002	1¼	x	3/8	.15	.09
DT-6D3	.003	1¼	x	3/8	.15	.09
DT-6D4	.004	1¼	x	3/8	.15	.09
DT-6D5	.005	1¼	x	3/8	.15	.09
DT-6D6	.006	1¼	x	3/8	.15	.09
DT-6S1	.01	1⅜	x	7/16	.15	.09
DT-6S15	.015	1⅜	x	3/8	.15	.09
DT-6S2	.02	1⅜	x	7/16	.15	.09
DT-6S25	.025	1⅝	x	1/2	.20	.12
DT-6S3	.03	1⅝	x	1/2	.20	.12
DT-6S4	.04	1⅝	x	9/16	.20	.12
DT-6S5	.05	1⅝	x	9/16	.20	.12
DT-6S6	.06	1⅝	x	9/16	.25	.15
DT-6P1	.1	1⅞	x	11/16	.25	.15
DT-6P2	.2	2⅛	x	13/16	.35	.21
DT-6P25	.25	2⅛	x	13/16	.35	.21
DT-6P3	.3	2⅛	x	13/16	.45	.27
DT-6P5	.5	2⅝	x	1	.50	.30
		1000 V. D. C.				
DT-10D1	.001	1¼	x	3/8	.20	.12
DT-10D2	.002	1¼	x	3/8	.20	.12
DT-10D3	.003	1¼	x	3/8	.20	.12
DT-10D4	.004	1¼	x	3/8	.20	.12
DT-10D5	.005	1¼	x	7/16	.20	.12
DT-10D6	.006	1¼	x	7/16	.20	.12
DT-10D7	.007	1¼	x	7/16	.20	.12
DT-10D8	.008	1¼	x	7/16	.20	.12
DT-10S1	.01	1¼	x	1/2	.30	.18
DT-10S15	.015	1⅜	x	1/2	.30	.18
DT-10S2	.02	1⅜	x	1/2	.30	.18
DT-10S3	.03	1⅜	x	9/16	.35	.21
DT-10S4	.04	2	x	9/16	.35	.21
DT-10S5	.05	2	x	9/16	.35	.21
DT-10S6	.06	2	x	9/16	.35	.21
DT-10S75	.075	2	x	11/16	.40	.24
DT-10P1	.1	2	x	3/4	.40	.24

Note: See Page K-7—for tubular units rated at 1600 V. D. C. (2000 V. Peak) suitable for automobile radio use.



FEATURES OF TYPE DT

1—**Halowax Impregnated**—Decreased physical size.
2—**Hi-Purity Aluminum Foil**—Lower R.F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage.
4—**Vacuum Dried and Impregnated**—Lower equivalent series resistance; longer life.
5—**Oil-Cooled**—Higher voltage breakdown.
6—**Rigidly Tested**—Uniform product.
7—**Self-Supporting Leads**—No contact resistance; added strength.
8—**Special Wax-Impregnated Tube**—Added protection against moisture.
9—**Small Size, Non-Inductive**—"Short-path" R.F. bypass.
10—**Special Wax-Potted Ends**—Better humidity and temperature seal.
11—**Conservative D.C. Rating**—Triple-testing assures dependable service.

Radio receivers employ from 5 to 15 or more paper tubular capacitors, the most usual function being to bypass radio frequency currents. If these units are improperly constructed endless trouble ensues. Type DT is a real quality capacitor at the lowest price ever made available. Use them every time for all your requirements.

C-D FAMOUS "DWARF-TIGER" TUBULARS are non-inductively wound, specially sealed and impregnated paper tubular capacitors, are small, have a high safety factor, are uniform in electrical properties and have well-soldered rigidly anchored wire leads. A specially-treated cardboard tube keeps out moisture. High melting point wax ends add strength and give extra protection to the unit. C-D has produced many hundreds of millions of these tubulars, more than any other Company in the world! Use them for their Consistently Dependable service!

Note: See Page K-8 for Type SM, "Shielded-Mike" tubulars.

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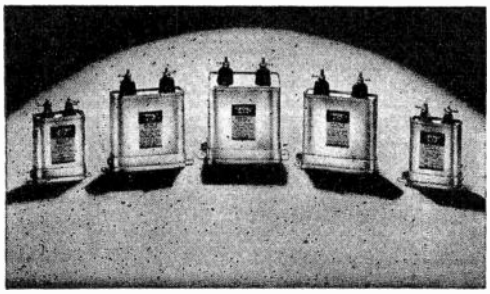
World Radio History

CORNELL DUBILIER

DYKANOL TRANSMITTING CAPACITORS



FEATURES OF TYPE TJU

1—**Dykanol (Chlorinated Diphenyl)* Impregnated and Filled**—Long life; small size; lower power factor; non-inflammable.
2—**Hi-Purity Aluminum Foil**—Lower R.F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage; high I.R.
4—**Vacuum Dried and Impregnated**—Lower equivalent series resistance; longer life.
5—**Hermetically Sealed**—Not affected by moisture, time or temperature up to 200° F.
6—**Adequate Terminal Insulators**—Glazed porcelain or bakelite according to rating.
7—**Sturdy Steel Container, Aluminum Painted**—Non-corrosive, strong.
8—**Universal, Steel Mounting Strap**—Allows mounting unit in any position.
9—**Rigidly Tested**—Uniform product.
10—**Conservative D.C. Rating**—Triple testing assures dependable service.
11—**Approved by Fire Underwriters**—Absolutely safe under all conditions; *fire-proof; extra high dielectric strength.

C-D Dykanol Transmitting Filter Capacitors Type TJU are without doubt the most dependable units offered to the radio trade—amateur, broadcast and commercial. Beautifully designed, compact, light-weight, safely-rated, furnished with universal mounting clamp, well-insulated terminals, fire-proof.

These are the capacitors which practically every broadcast and government station in the world uses with such marked success. **Standard equipment with tens of thousands of amateurs. Fully guaranteed.**

V.D.C.	Cat. No.	Capacity Mfd.	Size Length	Width	Thick.	List Price	Net Price
			440 rms Rect. A.C.				
600	TJU-6005	.5	2 1/8	1 13/16	1 1/16	$2 05	$1.23
	TJU-6010	1	2 1/8	1 13/16	1 1/16	2.75	1.65
	TJU-6020	2	2 7/8	1 13/16	1 1/16	3.50	2.10
	TJU-6040	4	3 7/16	2 1/2	1 9/16	4.50	2.70
			660 rms Rect. A.C.				
1000	TJU-10005	.5	2 1/8	1 13/16	1 1/16	2.15	1.29
	TJU-10010	1	2 7/8	1 13/16	1 1/16	3.00	1.80
	TJU-10020	2	4	1 13/16	1 9/16	4.00	2.40
	TJU-10040	4	4 7/16	2 1/2	1 9/16	5.00	3.00
	TJU-10100	10	4 13/16	3 3/4	1 3/4	9.00	5.40
	TJU-10150	15	4 13/16	3 3/4	2 1/2	12.00	7.20
			1000 rms Rect. A.C.				
1500	TJU-15010	1	4	1 13/16	1 1/16	3.50	2.10
	TJU-15020	2	4 5/16	2 1/2	1 9/16	5.00	3.00
	TJU-15040	4	4 7/16	3 3/4	1 1/4	7.00	4.20
	TJU-15100	10	4 13/16	3 3/4	3 9/16	15.00	9.00
			1500 rms Rect. A.C.				
2000	TJU-20010	1	3 7/16	2 1/2	1 9/16	4.50	2.70
	TJU-20020	2	4 1/16	3 3/4	1 1/4	5.50	3.30
	TJU-20040	4	4 7/16	3 3/4	2 1/4	9.00	5.40
	TJU-20100	10	4 13/16	3 3/4	4 9/16	18.50	11.10
			1800 rms Rect. A.C.				
2500	TJU-25010	1	3 5/16	3 3/4	1 3/4	8.00	4.80
	TJU-25020	2	4 13/16	3 3/4	1 3/4	13.00	7.80
	TJU-25040	4	4 7/16	3 3/4	4 9/16	18.00	10.80
	TJU-25100	10	9 1/16	3 3/4	4 9/16	45.00	27.00
			2200 rms. Rect. A.C.				
3000	TJU-30010	1	4 1/16	3 3/4	2 1/4	12.00	7.20
	TJU-30020	2	4 5/16	3 3/4	3 9/16	15.00	9.00
	TJU-30040	4	4 13/16	3 3/4	4 9/16	22.00	13.20
			3300 rms Rect. A.C.				
5000	TJU-50010	1	4 5/16	3 3/4	4 9/16	25.00	15.00
	TJU-50020	2	6 1/16	3 3/4	4 9/16	32.00	19.20

Note the new low prices making it possible for the first time to obtain in a C-D Dykanol unit a highly engineered transmitting filter capacitor at the lowest prices ever offered. (Note: Dykanol is a stable chemical compound and will not give off free chlorine regardless of voltage stress or temperature). For higher voltage units (6000 to 25,000 V.D.C.) see Catalog No. 160, which is available to accredited engineering, educational, broadcasting and manufacturing institutions on written request.

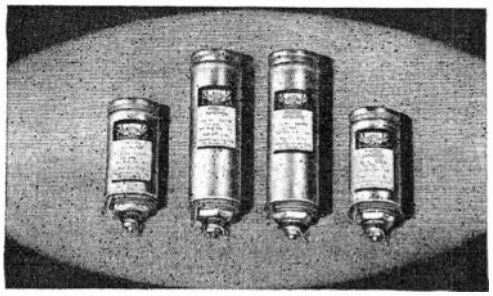
A notable record of performance is attested by the fact that Dykanol Capacitors rarely fail in service when operated even at 10% higher voltage than rating. Signal Corps, U. S. Army and Navy specifications call for these units.

DYKANOL FILTER CAPACITORS

Solving, at once, the need for a compact high voltage filter capacitor to use with high fidelity public address amplifiers, power supplies for short wave portable transmitters and transceivers, Type TLA, Dykanol Filter Units in cylindrical aluminum containers are ideal in every respect. One terminal is well insulated, the other being the metal can itself. Substantially made. Will withstand transient voltages as well as high peak voltage surges. Designed to operate for continuous, full load duty.

V.D.C.	Cat. No.	Capacity Mfd.	Size Length		Diam.	List Price	Net Price
600	TLA-6020	2	2 7/8	x	1 1/2	$2.25	$1.35
	TLA-6030	3	4 1/2	x	1 1/2	2.75	1.65
	TLA-6040	4	4 1/2	x	1 1/2	3.00	1.80
1000	TLA-10010	1	2 7/8	x	1 1/2	2.25	1.35
	TLA-10020	2	4 1/2	x	1 1/2	2.75	1.65
1500	TLA-15005	.5	2 7/8	x	1 1/2	2.75	1.65
	TLA-15010	1	4 1/2	x	1 1/2	3.00	1.80

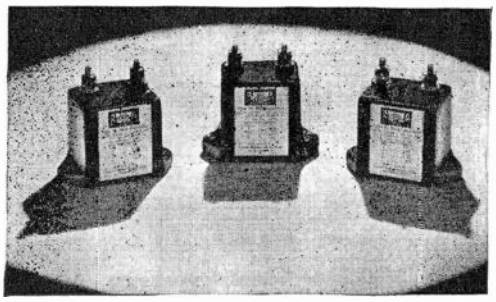
Insulating washers as well as a large spade lug are provided so that the metal container may be insulated from the chassis. Dykanol has a dielectric constant of 4.8, a power factor of .3%, and enables the fabrication of capacitors having a direct current resistance of 10,000 megohms per microfarad, of small size and high insulation resistance. An appreciably lower space factor accounts for the substantial reduction in physical size for a given capacity and voltage rating.



FEATURES OF TYPE TLA

1—**Dykanol (Chlorinated Diphenyl)* Impregnated and Filled**—Long life; small size; non-inflammable; lower power factor.
2—**Hi-Purity Aluminum Foil**—Lower R. F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage; high I. R.
4—**Vacuum Dried and Impregnated**—Lower equivalent series resistance; longer life.
5—**Hermetically Sealed**—Not affected by moisture, time or temperature up to 200° F.
6—**Adequate Terminal Insulator**—No leakage of current or dykanol.
7—**Sturdy Aluminum Container**—Strong; non-corrosive.
8—**Inverted and Vertical Mounting**—Simple to install—mechanically strong.
9—**Rigidly Tested**—Uniform product.
10—**Conservative D. C. Rating**—Triple testing assures dependable service.
11—**Approved by Fire Underwriters**—Absolutely safe under all conditions; * fire-proof; extra high dielectric strength.

Amateur Mica Transmitting Capacitors



FEATURES OF TYPE 86

1—**Patented Series Mica Stack**—Eliminates corona losses.
2—**Horizontal Stack Construction** — Wide separation of leads; maximum insulation.
3—**Soldered Foils**—Affords high current rating.
4—**Mica Separators**—Each section carefully insulated.
5—**India Ruby Mica Dielectric**—Lower power factor; high Q.
6—**Vacuum Impregnated Assembly**—Low loss; high insulation; no air voids.
7—**Special Low Loss Filler**—Reduces stray losses.
8—**Short Heavy Brass Stud Terminals**—Low resistance connection.
9—**Insulated Clamp Holder**—No internal voltage arc-over.
10—**Black Glazed Porcelain Dehydrated Case**—Low R. F. losses.

Cat. No.	Cap. Mfd.	Max. D.C. Volt.	Maximum Current in Amps. 30mc 10M	15000kc 20M	7500kc 40M	3750kc 80M	1875kc 160M	List Price	Net Price
45A-86	.00005	12,500	3.5	3	2.5	1.5	1	$3.75	$2.25
31A-86	.0001	12,500	5	5	4	3	2	3.75	2.25
325A-86	.00025	12,500	5	7	8	6	4	3.75	2.25
35A-86	.0005	12,500	5	8	9	8	7	4.25	2.55
35C-86	.0005	7,000	5	7	8	6	4	3.75	2.25
21A-86	.001	12,500	5	9	10	11	12	5.00	3.00
21C-86	.001	7,000	5	8	9	10	8	4.25	2.55
21D-86	.001	3,500	5	8	9	8	5	3.75	2.25
215A-86	.0015	12,500	6	9	10	11	12	5.50	3.30
22A-86	.002	12,500	6	9	12	13	15	6.50	3.90
22C-86	.002	7,000	6	8	9	10	10	5.25	3.15
22D-86	.002	3,500	6	8	8	9	7	4.25	2.55
25B-86	.005	10,000	7	10	13	14	15	9.50	5.70
11C-86	.01	7,000	7	10	13	15	15	9.50	5.70
11D-86	.01	3,500	7	10	13	14	14	7.00	4.20
12D-86	.02	3,500	7	10	14	16	17	8.75	5.25
1E-86	.1	2,000	7	10	14	17	18	11.00	6.60

The Mica Dielectric Capacitor owes its origin to the inventive genius of William Dubilier—who designed the first practical mica units in 1910. Type 86 is intended for amateur radio communicating fone, CW and ICW, for plate blocking, grid buffer, tank, and antenna coupling purposes. These patented-construction units are serving in thousands of "ham" rigs with wonderful efficiency and amazingly superb results.

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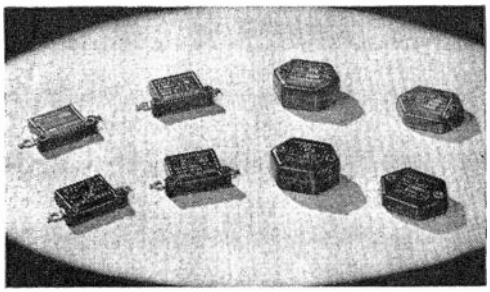
World Radio History

CORNELL DUBILIER

MICA RECEIVING-TRANSMITTING CAPACITORS



Type 4 Type 9

For radio frequency bypass, high voltage D. C. blocking, low power tank capacitors, padders, coupling functions, audio and video purposes. Finest quality India ruby mica—select foil and the exclusive C-D stack assembly. Safe, dependable voltage ratings. Hermetically encased in rich brown bakelite, beautifully moulded. Low-loss bakelite units, obtainable at 25c list price extra.

Terminal studs in Type 9 are moulded into case; Type 4 uses short solder-lug terminals, and has insulated mounting holes for panel mounting. Reasonably close tolerance limits. For 5% tolerance add 10% to list price; for 2% tolerance 20%. Letter "L" must be used to denote special low-loss bakelite, viz: 4L—6S1; 9L—25D2.

FEATURES OF TYPES 4 and 9

1—**India Ruby Mica Dielectric**—Low power factor; high Q; long life.
2—**Mica of Stepped Uniform Thickness**—Provides high factor of safety.
3—**Specially-Treated Stack Assembly**—Affords higher voltage breakdown.
4—**Vacuum Dried Stack Treatment**—Low loss; high insulation resistance.
5—**No Magnetic Material Used**—Reduces losses at all frequencies.
6—**Moulded in Bakelite**—Strong; minimum leakage; excellent appearance; moisture-proof.
7—**Short Heavy Terminals**—Insures good anchorage; mounting accuracy.
8—**Excellent Temperature Coefficient**—Practically constant capacity over wide range of temperature.

TYPE 4
1000 V.D.C. Test
Working Voltage 600 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
4-6Q3	.00003	$0.35	$0.21
4-6Q4	.00004	.35	.21
4-6Q5	.00005	.35	.21
4-6T1	.0001	.35	.21
4-6T15	.00015	.35	.21
4-6T2	.0002	.35	.21
4-6T25	.00025	.35	.21
4-6T3	.0003	.35	.21
4-6T4	.0004	.35	.21
4-6T5	.0005	.35	.21
4-6D1	.001	.40	.24
4-6D15	.0015	.45	.27
4-6D2	.002	.45	.27
4-6D25	.0025	.50	.30
4-6D3	.003	.55	.33
4-6D4	.004	.55	.33
4-6D5	.005	.55	.33
4-6D6	.006	.65	.39
4-6D7	.007	.70	.42
4-6D8	.008	.75	.45
4-6S1	.01	.80	.48
4-6S15	.015	1.10	.66
4-6S2	.02	1.20	.72
4-6S25	.025	1.45	.87
4-6S3	.03	1.70	1.02

TYPE 4
2500 V.D.C. Test
Working Voltage 1200 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
4-12Q5	.00005	.60	.36
4-12T1	.0001	.60	.36
4-12T2	.0002	$0.60	$0.36
4-12T25	.00025	.60	.36
4-12T3	.0003	.60	.36
4-12T5	.0005	.60	.36
4-12D1	.001	.75	.45
4-12D15	.0015	.85	.51
4-12D2	.002	.95	.57
4-12D25	.0025	1.10	.66
4-12D3	.003	1.20	.72
4-12D4	.004	1.50	.90
4-12D5	.005	1.50	.90
4-12D6	.006	1.70	1.02
4-12D8	.008	2.00	1.20
4-12S1	.01	2.35	1.41

TYPE 4
5000 V.D.C. Test
Working Voltage 2500 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
4-25Q5	.00005	.70	.42
4-25T1	.0001	.70	.42
4-25T2	.0002	.90	.54
4-25T25	.00025	.90	.54
4-25T3	.0003	1.10	.66
4-25T5	.0005	1.25	.75
4-25D1	.001	1.50	.90
4-25D15	.0015	1.95	1.17
4-25D2	.002	2.25	1.35
4-25D25	.0025	2.50	1.50
4-25D3	.003	2.75	1.65
4-25D4	.004	3.15	1.89
4-25D5	.005	3.50	2.10

Note: Low Loss units are 25c list price extra.

TYPE 9
1000 V.D.C. Test
Working Voltage 600 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
9-6Q5	.00005	$0.40	$0.24
9-6T1	.0001	.40	.24
9-6T15	.00015	.40	.24
9-6T2	.0002	.40	.24
9-6T25	.00025	.40	.24
9-6T5	.0005	.40	.24
9-6D1	.001	.50	.30
9-6D15	.0015	.50	.30
9-6D2	.002	.50	.30
9-6D25	.0025	.60	.36
9-6D3	.003	.60	.36
9-6D4	.004	.60	.36
9-6D5	.005	.70	.42
9-6D6	.006	.85	.51
9-6D7	.007	.95	.57
9-6D8	.008	1.00	.60
9-6S1	.01	1.15	.69
9-6S15	.015	1.25	.75
9-6S2	.02	1.85	1.11
9-6S25	.025	2.30	1.38
9-6S3	.03	2.50	1.50
9-6S4	.04	3.25	1.95
9-6S5	.05	3.85	2.31
9-6S6	.06	4.50	2.70

TYPE 9
2500 V.D.C. Test
Working Voltage 1200 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
9-12Q5	.00005	.70	.42
9-12T1	.0001	.70	.42
9-12T2	.0002	.70	.42
9-12T25	.00025	.70	.42
9-12T5	.0005	$0.70	$0.42
9-12D1	.001	.90	.54
9-12D15	.0015	1.15	.69
9-12D2	.002	1.35	.81
9-12D25	.0025	1.45	.87
9-12D3	.003	1.55	.93
9-12D4	.004	1.55	.93
9-12D5	.005	1.75	1.05
9-12D6	.006	1.75	1.05
9-12D8	.008	2.25	1.35
9-12S1	.01	2.80	1.68
9-12S15	.015	3.35	2.01
9-12S2	.02	3.95	2.37
9-12S25	.025	4.40	2.64
9-12S3	.03	4.60	2.76

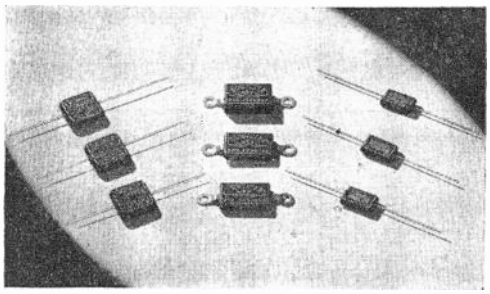
TYPE 9
5000 V.D.C. Test
Working Voltage 2500 V.D.C.

Cat. No.	Cap. Mfd.	List Price	Net Price
9-25Q5	.00005	.90	.54
9-25T1	.0001	.90	.54
9-25T2	.0002	1.05	.63
9-25T25	.00025	1.05	.63
9-25T5	.0005	1.25	.75
9-25D1	.001	1.50	.90
9-25D15	.0015	1.95	1.17
9-25D2	.002	2.25	1.35
9-25D25	.0025	2.50	1.50
9-25D3	.003	2.75	1.65
9-25D4	.004	3.15	1.89
9-25D5	.005	3.40	2.04
9-25D6	.006	3.50	2.10
9-25D8	.008	3.80	2.28
9-25S1	.01	4.10	2.46
9-25S15	.015	4.50	2.70

MICA RECEIVING CAPACITORS

Capacity Mfd.	Cat. No.	List Price	Net Price	Cat. No.	List Price	Net Price	Cat. No.	List Price	Net Price
	TYPE 1W			TYPE 3L			TYPE 5W		
.000005							5W-5V5	$0.20	$0.12
.0000075							5W-5V75	.20	.12
.00001							5W-5Q1	.20	.12
.00002							5W-5Q2	.20	.12
.000025							5W-5Q25	.20	.12
.00003							5W-5Q3	.20	.12
.00004							5W-5Q4	.15	.09
.00005							5W-5Q5	.15	.09
.00007							5W-5Q7	.15	.09
.0001				3L-5T1	$0.15	$0.09	5W-5T1	.15	.09
.00015				3L-5T15	.15	.09	5W-5T15	.15	.09
.0002				3L-5T2	.15	.09	5W-5T2	.15	.09
.00025				3L-5T25	.20	.12	5W-5T25	.20	.12
.0003				3L-5T3	.20	.12	5W-5T3	.20	.12
.0004				3L-5T4	.20	.12	5W-5T4	.20	.12
.0005				3L-5T5	.20	.12	5W-5T5	.20	.12
.0006	1W-5T6	$0.20	$0.12	3L-5T6	.20	.12			
.0007	1W-5T7	.20	.12	3L-5T7	.20	.12			
.0008	1W-5T8	.20	.12	3L-5T8	.20	.12			
.0009	1W-5T9	.20	.12	3L-5T9	.20	.12			
.001	1W-5D1	.25	.15	3L-5D1	.25	.15			
.0015	1W-5D15	.25	.15	3L-5D15	.25	.15			
.002	1W-5D2	.30	.18	3L-5D2	.30	.18			
.0025	1W-5D25	.35	.21	3L-5D25	.35	.21			
.003	1W-5D3	.40	.24	3L-5D3	.40	.24			
.004	1W-5D4	.45	.27	3L-5D4	.45	.27			
.005	1W-5D5	.50	.30	3L-5D5	.50	.30			
.006	1W-5D6	.60	.36	3L-5D6	.60	.36			
.007	1W-5D7	.65	.39	3L-5D7	.65	.39			
.0075	1W-5D75	.65	.39	3L-5D75	.65	.39			
.008	1W-5D8	.65	.39	3L-5D8	.65	.39			
.01	1W-5S1	.75	.45	3L-5S1	.75	.45			

Stock units are 10% tolerance. If special low-loss bakelite is required, add 25c to list price. (When ordering low loss units add "L" to Cat. No. viz: 5WL-5T1; 3LL-5S1). When 5% tolerance is needed, add 10% to list price; for 3% tolerance, add 20% to list price. As an example of the excellence of these units, a .0001 mfd. capacitor has a leakage resistance of 100,000,000,000 ohms! On a sensitive galvanometer, the needle deflection cannot be detected, so insignificant is the D.C. current flow.



1-W 3L 5W

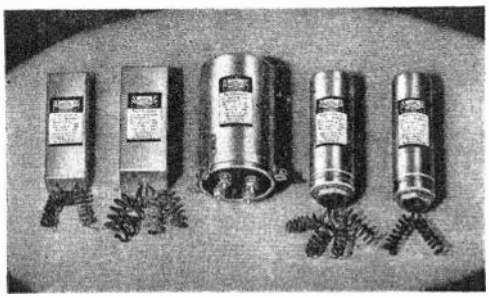
FEATURES OF TYPES 1W, 3L and 5W

1—**India Ruby Mica Dielectric**—Low power factor; high Q; long life.
2—**Rigidly Tested Mica**—Uniform product; high factor of safety.
3—**Special Wax-Treated Stack**—Affords higher voltage breakdown.
4—**Vacuum Dried Stack Treatment**—Low loss; high insulation resistance.
5—**No Magnetic Material Used**—No wave form distortion; reduces losses.
6—**Encased in Brown Bakelite**—Strong; minimum leakage; excellent appearance; moisture-proof.
7—**Positive Terminal Connections**—Insures good anchorage; no extra contact resistance.

Tested at 1000 volts D.C., (on capacities up to .003 mfd.; 600 V test on higher capacities), checked for accuracy of capacity by an electrical testing and sorting machine, these tiny units are characteristic of the quality which C-D builds into its every product, regardless of size or price. The efficiency of these small capacitors is better than 99.94%!

World Radio History

CORNELL DUBILIER



PE-CH PE-A PE-B

Features of Types PE-CH, PE-A and PE-B

1—**Halowax Impregnated**—Decreased physical size.
2—**Hi-Purity Aluminum Foil**—Lower R. F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage.
4—**Oil-Cooled**—Higher voltage breakdown.
5—**Vacuum Dried and Impregnated** — Lower equivalent series resistance; longer life.
6—**Rigidly Tested**—Uniform product.
7—**Secure Leads and Terminals**—Positive connections under all conditions.
8—**Containers, Cardboard and Aluminum**—Like electrolytics in appearance.
9—**Conservative D. C. Rating**—Triple testing assures dependable service.
10—**Special, Complete Potting**—Added protection against humidity.

Paper Dielectric Filter Capacitors

Cat. No.	"Replacement" For Electrolytic Capacity Mfd.	Actual Mfd. Capacity	Size Lgth.	Size Wdth.	Size Thick.	List Price	Net Price
TYPE PE-CH							
1000 V.D.C. Test, 600 V.D.C. Peak, 450 V.D.C. Working							
PE-CH-4004	4	2	4 3/8	1 3/8	15/16	$0.90	**$0.54**
PE-CH-4008	8	3 1/2	4 5/8	1 3/8	15/16	1.15	**.69**
PE-CH-4808	8-8	2 3/4-2 1/2	4 5/8	1 5/8	1 1/2	1.90	**1.14**
TYPE PE-CH							
1200 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working							
PE-CH-6004	4	2	4 3/8	1 3/8	15/16	1.20	**.72**
PE-CH-6008	8	3	4 5/8	1 5/8	1 1/8	1.60	**.96**
PE-CH-6808	8-8	2 3/4-2 3/4	4 5/8	2	1 1/2	2.65	**1.59**
TYPE PE-B							
1200 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working							
PE-B-6004	4	1 3/4	4 5/8	1 3/8		1.35	**.81**
PE-B-6008	8	2 3/4	4 5/8	1 5/8		1.75	**1.05**
PE-B-6808	8-8	1 3/4-1 3/4	4 5/8	1 1/2		2.80	**1.68**
TYPE PE-A							
1200 V.D.C. Test, 800 V.D.C. Peak, 600 V.D.C. Working							
PE-A-6444	4-4-4	1 1/2-1 1/2-1 1/2	4 5/8	2 1/2		3.50	**2.10**
PE-A-6888	8-8-8	2 3/4-2 3/4-2 3/4	4 5/8	3		4.90	**2.94**
PE-A-6918	9-9-18	3-3-6	4 5/8	3		6.50	**3.90**

Paper Replacement Capacitors that simulate electrolytics in appearance, these Types fulfill a real service need. Their actual capacity is from 1/3 to 1/2 of the usual value employed when using electrolytics. They afford a high voltage breakdown which an electrolytic does not offer. There is no polarity to observe when using these capacitors.

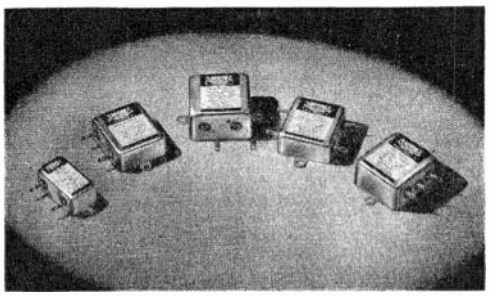
In Types PE-B and PE-CH, the dual section units have separate leads, a set of two leads of one color identify the terminals for each capacity. In Type PE-A triple section units, the common terminal stud is insulated, with provision made to ground same by means of a small wire lead soldered to the grounding lug on the metal container.

Cased Paper Dielectric Capacitors

Cat. No.	Capacity Mfd.	Size Length	Size Width	Size Thick.	List Price	Net Price
		400 V.D.C.				
DA-4011	.1	1 15/16	1	3/4	$0.50	**$0.30**
DA-4025	.25	1 15/16	1	3/4	.60	**.36**
DA-4050	.5	1 15/16	1	7/8	.75	**.45**
DA-4100	1	2	1 3/4	15/16	1.00	**.60**
DA-4200	2	2	2	1 1/8	1.55	**.93**
		600 V.D.C.				
DA-6011	.1	1 15/16	1	3/4	.60	**.36**
DA-6025	.25	1 15/16	1 1/4	3/4	.70	**.42**
DA-6050	.5	2	1 3/4	15/16	.95	**.57**
DA-6100	1	2	2	1 1/8	1.50	**.90**
		TYPE DB-DC-DD 400 V.D.C.				
DB-4010	.1-.1	1 15/16	1	3/4	.65	**.39**
DB-4025	.25-.25	2	1 1/4	3/4	.80	**.48**
DB-4050	.5-.5	2	1 3/4	1	1.00	**.60**
DC-4010	.1-.1-.1	1 15/16	1	3/4	.85	**.51**
DD-4010	.1-.1-.1-.1	2	1 3/4	15/16	1.10	**.66**

C-D "Bathtub" Metal Shell Type DA to DD capacitors are non-inductively wound, well protected against climatic conditions and available in a large variety of ratings for radio frequency bypass, audio frequency coupling and bypass functions. Lug terminals are amply insulated. Integral with casing, the mounting feet allow ease of assembly. Units are wax-potted. For extra severe humidity applications, as in tropical climates, Type DY (Cat. No. 160) is recommended.

In the single and dual section capacitor units, the terminals are insulated from the container. The duals have three terminals, the common lug being on the left. In the triple and quadruple section capacitors, the common terminal connection is grounded to the metal case.



Features of Types DA, DB, DC and DD

1—**Halowax Impregnated**—Decreased physical size.
2—**Hi-Purity Aluminum Foil**—Lower R. F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage.
4—**Vacuum Dried and Impregnated** — Lower Equivalent series resistance; longer life.
5—**Oil-Cooled**—Higher voltage breakdown.
6—**Rigidly Tested**—Uniform product.
7—**Well Insulated Lug Terminals**—No leakage to container; strong.
8—**Containers**—Small drawn metal shell; convenient mounting.
9—**Conservative D. C. Rating**—Triple testing assures dependable service.
10—**Special, Complete Potting**—Added protection against humidity.

Features of Type RM

1—**Halowax Impregnated**—Decreased physical size.
2—**Hi-Purity Aluminum Foil**—Lower R. F. resistance; light weight.
3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage.
4—**Vacuum Dried and Impregnated**—Lower Equivalent series resistance.
5—**Oil-Cooled**—Higher voltage breakdown.
6—**Rigidly Tested**—Uniform product.
7—**Flexible Leads Securely Soldered to Foil Tabs**—Minimizes open circuits.
8—**Moisture-Proof High Temperature Wax Sealed**—Best possible protection.
9—**Conservative D. C. Rating**—Triple testing assures dependable service.
10—**Special Heavy Protective Wrapper**—Extra protection, electrically and physically.
11—**Cellophane Envelope**—Keeps unit fresh for future use.

Uncased Paper Dielectric Capacitors

Cat. No.	Capacity Mfd.	Size Length	Size Width	Size Thick.	List Price	Net Price
		TYPE RM 400 V.D.C.				
RM-4050	.5	2	1	1/2	$0.50	**$0.30**
RM-4100	1	2	1 3/4	11/16	.75	**.45**
RM-4200	2	2	1 7/8	1	1.15	**.69**
RM-4400	4	3 3/4	1 7/8	1 1/8	2.00	**1.20**
		TYPE RM 600 V.D.C.				
RM-6010	.1	2	1	3/16	.40	**.24**
RM-6025	.25	2	1	3/4	.50	**.30**
RM-6050	.5	2	1 3/4	1/2	.60	**.36**
RM-6100	1	2	1 7/8	3/4	.90	**.54**
RM-6200	2	3 3/4	1 7/8	7/8	1.35	**.81**
RM-6400	4	4 1/4	1 7/8	1 5/8	2.70	**1.62**
		TYPE RM 1000 V.D.C.				
RM-10100	1	4 1/4	1 7/8	7/8	1.50	**.90**
RM-10200	2	4 1/4	1 7/8	1 3/4	2.50	**1.50**

Type RM Uncased Filter Capacitors have been made available to repair paper dielectric "filter blocks" which were used in the early models of A. C. operated radio sets. Also useful in the elimination of electrical interference caused by push-buttons, bells, buzzers and the like.

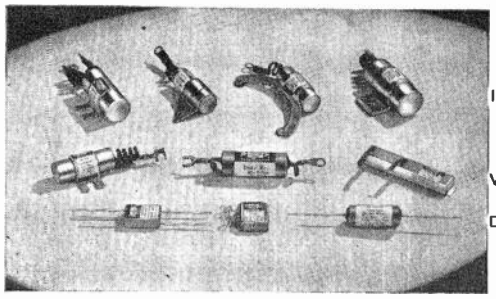
Type RM units serve practically every replacement need. Special capacitor "blocks" can be made up and potted into suitable containers by Servicemen to fulfill any requirements. Servicemen, especially those confronted with high voltage power pack problems, with power transformers having poor voltage regulation and contending with circuits wherein exceptionally high peak voltage surges develop welcome these dependable filter capacitors. Long wire leads facilitate ease of hook-up.

World Radio History

CORNELL DUBILIER

AUTO GENERATOR AND VIBRATOR CAPACITORS

FC-2P5V FC-2P5A



Center—HC
Lower—VUL

C-D AUTO RADIO FILTER UNITS

Thorough impregnation and sealing keep these little capacitors impervious to weather conditions. All leads are firmly anchored, all seams of metal units carefully soldered. Substantially made, these will outlast the associated equipment for which they are intended.

During the past 28 years, Cornell-Dubilier has produced and sold over a billion capacitors of all sizes, shapes and voltage ratings from 10 V.D.C. to 1,000,000 V.D.C. Frequently an average production of more than 500,000 units a day has been required to meet the demands of the trade. Such a remarkable record is gratifying proof of the international acceptance of C-D capacitors!

Cat. No.	Cap. Mfd.	Size Length		Width		Thickness	List Price	Net Price
GENERATOR UNITS								
IC-2P5B	.5	1 11/16	x	11/16		...	$0.50	$0.30
ICH-2P5A	.5	1 11/16	x	11/16		...	.50	.30
FC-2P5A	.5	1 11/16	x	11/16		...	.50	.30
FC-2P5V	.5	1 11/16	x	11/16		...	.50	.30
IC-2P55	.5–.5	2	x	7/8		...	.75	.45
ICH-2W1A	1	2 5/16	x	1		...	.70	.42
AMMETER UNIT								
HC-870E	.5	2	x	3/4		...	.45	.27
VIBRATOR UNITS Metal "postage stamp" capacitors, with two insulated leads oil filled, 2000 V. Peak								
VUL-D7	.007	1	x	1 1/8	x	9/32	$0.45	$0.27
VUL-D8	.008	1	x	1 1/8	x	9/32	.45	.27
VUL-S1	.01	1	x	1 1/8	x	9/32	.45	.27
VUL-S2	.02	1	x	1 1/8	x	9/32	.45	.27
VU-S3*	.03	1	x	1 1/8	x	9/32	.45	.27
*This unit has one insulated lead.								
Metal shell units for old style vibrator "B" supply units								
VL-S1	.01 (1500V)	3 3/16	x	11/32	x	3/8	.60	.36
VL-P5	.5 (200V)	3 3/16	x	27/32	x	3/8	.65	.39
Special dual .0008 rectangular unit with four leads								
VC-1160	2x.0008	1 1/16	x	3/4	x	5/16	.50	.30
Oil-impregnated and processed paper tubular capacitors 2000 V. Peak								
DT-16T8	.0008	1 1/4	x	7/16		...	$0.35	$0.21
DT-16D25	.0025	1 1/4	x	1/2		...	.35	.21
DT-16D5	.005	1 5/8	x	1/2		...	.35	.21
DT-16D7	.007	1 5/8	x	1/2		...	.35	.21
DT-16D75	.0075	1 5/8	x	1/2		...	.35	.21
DT-16S1	.01	1 5/8	x	1/2		...	.35	.21
DT-16S2	.02	1 5/8	x	11/16		...	.35	.21
DT-16S3	.03	2	x	11/16		...	.35	.21
DT-16S4	.04	2	x	15/16		...	.40	.24
DT-16S5	.05	2	x	15/16		...	.45	.27
DT-16P1	.1	2 1/2	x	7/8		...	.60	.36

Automobile radio during the last five years, has taken tremendous strides. Reception of music and speech with an automobile radio receiver, operating from the car's storage battery is clear, quiet and of excellent quality, simulating a home radio receiver's performance. To make this possible, the above photograph illustrates some of the various types of capacitors which have been brought out to meet the problems of vibrator "B" supply filters, generator commutator and switch noise suppression for automobiles.

The mechanical design of these capacitors insures against damage by the high temperatures and excessive vibration existing under the hood of an auto. Special units such as these are designed for certain particular installations. Thus, for instance, the Ford generator condensers have special mounting brackets. The vibrator capacitors are oil-treated to withstand high peak and surge voltages.

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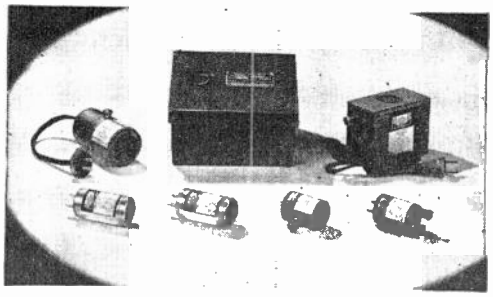
RADIO INTERFERENCE FILTER CAPACITORS

IF-9 IF-7 IF-8



IF-4 IF-5 IF-6 AF-10

C-D "QUIETONE" FILTER UNITS

Designed to enhance the pleasure of quiet radio reproduction, the IF series of Quietone filters are efficient, inexpensive and easy to install. Intended for use in conjunction with any type of A.C. or D.C. operated radio set, both broadcast and short wave bands can be cleared of annoying interference by the use of the proper unit.

TYPE IF-4. Quietone: For use with A.C.-D.C. Midget sets. Simple to Plug in. Shipping weight ½ lb.
LIST PRICE $1.00
NET PRICE $0.60

TYPE IF-5 Quietone: For use with electric razors eliminating this source of bothersome noise. Shipping weight ½ lb.
LIST PRICE $1.00
NET PRICE $0.60

TYPE IF-6 Quietone: For use with dozens of household appliances using motors of ¼ H.P. or less. Provided with ground binding post. Shipping weight ½ lb.
LIST PRICE $1.50
NET PRICE $0.90

TYPE IF-7 Quietone: Heavy Duty home appliances such as washing machines, oil burners or refrigerators which cause plenty of racket can be effectively equipped with this cut-out box type to eliminate electrical interference. Designed particularly for oil burners, and rated at 5 Amperes at 110 V.A.C. Shipping Weight 6 lbs.
LIST PRICE $7.50
NET PRICE $4.50

TYPE IF-8 Quietone: An all-wave filter unit that can be successfully employed between the radio receiver and power line, to prevent line noises entering the set. Metal case effectively shields unit which is equipped with binding post for ground connection. For use on 110 V. A.C. or D.C., 5 Amps. maximum capacity. Shipping weight 2 lbs.
LIST PRICE $4.95
NET PRICE $2.97

TYPE IF-9 Quietone: Capacitive-inductive unit for use with practically all household appliances. For use on 110 V. A.C. or D.C., will operate with any device rated up to 660 watts. Shipping weight 1¼ lbs.
LIST PRICE $5.50
NET PRICE $3.30

TYPE AF-10 Quietone: Antenna Eliminator for ALL classes of radio receivers. Small bakelite case, plugs into wall outlet and does away with outdoor noisier types of aerials. Shipping weight ¼ lb.
LIST PRICE $1.00
NET PRICE $0.60

The elimination of electrical noises, commonly known as radio interference has been met with success by the judicious use and application of properly designed filter devices of both the capacitor type and combination capacitor and inductor type.

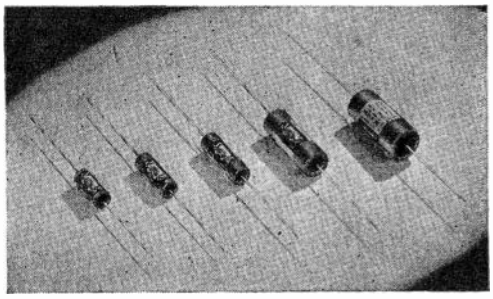
Wherever practical and possible, interference which makes radio reception difficult and prevents full program enjoyment should be eliminated at its source. Sometimes this is not easy to accomplish. Line noises are most easily eliminated by using the correct filter at the radio receiver. Electrical noises picked up by the antenna are not so readily remedied or minimized. The source of interference must be located and a special study made of the problem. The most usual difficulties arise from the use of home electrical appliances for which the items shown herewith have been designed.

C-D Quietone Interference Filters can be successfully used with: Radio Receivers; Adding and Calculating Machines; Air Purifiers; Battery Chargers; Billing and Bookkeeping Machines; Compressors, Converters, Cream Separators and Counting Machines; Dental Drills, Diathermy Apparatus, Dishwashing Machines, Drills and Drink Mixers; Egg Beaters, Elevator Motors and Controls; Fans, Flashers, Food Mixers; Generators; Hair Dryers, Heating Pads; Kitchen Appliances; Motor-generators, Motors, of all types and description; Oil burners; Razors, Refrigerators; Sign Flashers, Soda Fountain Equipment; Thermostatic Controls and Traffic Signals; Vacuum Cleaners, Violet Ray Apparatus and Washing Machines. For interference elimination on Neon Signs and X-Ray equipment, we will gladly offer our engineering experience on your exact problem.

World Radio History

CORNELL DUBILIER

PAPER TUBULAR CAPACITORS



FEATURES OF TYPE SM

1—Halowax Impregnated—Decreased physical size.
2—Hi-Purity Aluminum Foil—Lower R.F. resistance; light weight.
3—Hi-Purity Multi-Laminated Kraft Tissue—Higher voltage breakdown; minimum leakage.
4—Vacuum Dried and Impregnated—Lower equivalent series resistance; longer life.
5—Oil-Cooled—Higher voltage breakdown.
6—Protective Aluminum Shield—Affords electrostatic shielding.
7—Wax-Dipped Outer Cardboard Sleeve—Further humidity protection.
8—Small Size, Non-Inductive—"Short-Path" R.F. bypass.
9—Conservative D.C. Rating—Triple-testing assures dependable service.

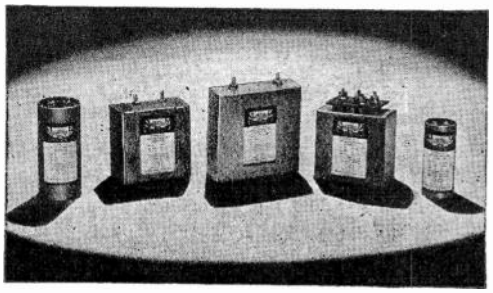
Cat. No.	Capacity Mfd.	Size Length		Diam.	List Price	Net Price
		400 V.D.C.				
SM-4S1	.01	1¼	x	½	$0.25	$0.15
SM-4S2	.02	1¼	x	½	.25	.15
SM-4S3	.03	1¼	x	½	.25	.15
SM-4S4	.04	1½	x	½	.25	.15
SM-4S5	.05	1½	x	½	.25	.15
SM-4S6	.06	1 9/16	x	9/16	.30	.18
SM-4P1	.1	1 9/16	x	9/16	.30	.18
SM-4P25	.25	2¼	x	¾	.35	.21
SM-4P5	.5	2¼	x	15/16	.40	.24
SM-4W1	1	2⅞	x	1 1/16	.60	.36
		600 V.D.C.				
SM-6D1	.001	1¼	x	½	.25	.15
SM-6D2	.002	1¼	x	½	.25	.15
SM-6D4	.004	1¼	x	½	.25	.15
SM-6D5	.005	1¼	x	½	.25	.15
SM-6D6	.006	1¼	x	½	.25	.15
SM-6S1	.01	1¼	x	½	.25	.15
SM-6S15	.015	1¼	x	½	.25	.15
SM-6S2	.02	1½	x	½	.25	.15
SM-6S3	.03	1 9/16	x	9/16	.30	.18
SM-6S4	.04	1 9/16	x	9/16	.30	.18
SM-6S5	.05	1 9/16	x	9/16	.30	.18
SM-6P1	.1	2¼	x	¾	.35	.21
SM-6P25	.25	2¼	x	15/16	.40	.24
SM-6P5	.5	2⅞	x	1 1/16	.60	.36

Type SM is the OUTSTANDING paper tubular capacitor on the market. Embodying the finest engineering principles, these units are precision made, carefully assembled and impregnated. The resulting product, electro-statically shielded and protected by a wax-dipped tube has excellent electrical characteristics and is recommended for use in hot and humid climates. Designed for those particular requirements wherein a tubular paper unit is as important as the rest of the associated apparatus in the circuit.

DRY ELECTROLYTIC CAPACITORS

For Motor-Starting on 110 V. 60 cycle A.C. Designed for 20 3-second starts per hour. STANDARD, UNIVERSALLY USED UNITS.

Cat. No.	Capacity Mfd.	Size Length		Width		Thick.	List Price	Net Price
ETN-80	75-84	3¼	x	1⅜			$2.75	$1.65
ETN-100	97-107	3¼	x	1⅜			3.25	1.95
ETN-115	108-120	3¼	x	1⅜			3.50	2.10
ETN-130	124-128	3¼	x	1⅜			3.85	2.31
ETN-155	145-162	4¼	x	1⅜			4.25	2.55
ETN-155-1	145-162	3¼	x	1½			4.25	2.55
ETN-285	270-300	4¼	x	1¾			6.50	3.90
ETN-285-1	270-300	3¼	x	2			6.50	3.90
ETN-400	378-420	4¼	x	2			8.50	5.10
CLB-80	80	4½	x	2			3.75	2.25
CLB-80-1	80	4½	x	2½			3.75	2.25
CLB-100	100	4½	x	2			4.25	2.55
CLB-100-1	100	4½	x	2½			4.25	2.55
CLB-115-2	115	4½	x	2½			4.65	2.79
CLB-115-7	115	4½	x	2			4.65	2.79
CLB-135	135	4½	x	3			5.15	3.09
CLB-150	150	4½	x	3½			5.50	3.30
JPW-80	80	3½	x	3½	x	2	3.75	2.25
JPW-100	100	3½	x	3½	x	2	4.25	2.55
JPW-115	115	3½	x	3½	x	2	4.65	2.79
JPW-135	135	3½	x	3½	x	2½	5.15	3.09
JPW-150	150	3½	x	3½	x	2½	5.50	3.30
JDS-80	80	3½	x	3½	x	2	3.75	2.25
JDS-100	100	3½	x	3½	x	2	4.25	2.55
JDS-115	115	3½	x	3½	x	2	4.65	2.79
LMW-80	80	4½	x	4½	x	1¼	3.75	2.25
LMW-100	100	4½	x	4½	x	1¼	4.25	2.55
LMW-115	115	4½	x	4½	x	1¼	4.65	2.79
LMW-135	135	4½	x	4½	x	1½	5.15	3.09
LMW-150	150	4½	x	4½	x	2	5.50	3.30
LMW-200	200	4½	x	4½	x	2¼	7.00	4.20



CLB JPW LMW JDS ETN

FEATURES OF TYPES ETN, CLB, JPW, JDS and LMW

1—Hi-Formation Process—Affords higher voltage breakdown.
2—Hi-Pressure Centrifuge—Better impregnation; lower power factor.
3—Hi-Purity Aluminum Foil—Better direct current leakage recovery.
4—Special C-D Super-Cellulose Separator—Extra long life.
5—Rigid Chemical Purity Control—Uniform performance.
6—Double Ageing—Stable characteristics.
7—Complete Wax Potting—Better weather-proofing.
8—All Aluminum Can and Accessories—Uniform results in all humidities.
9—Anchored Leads—Eliminates open and short-circuits.
10—Universal Mounting—Units mount in any position.

For operation on 220 A. C., two similarly-rated capacitors can be connected in series. The total capacity will of course be halved. For example, by using two LMW-200 units in series, the total actual capacity would be 100 mfd., at 220 V. KEEP IN MIND THAT ALL THE ABOVE LISTED UNITS ARE FOR INTERMITTENT USE ONLY, AND MUST NOT BE CONNECTED ACROSS A CONSTANT SOURCE OF A.C. POTENTIAL.

FOR A COMPLETE LINE OF CAPACITORS FOR CAPACITOR MOTORS AND OTHER CONTINUOUS DUTY A. C. OPERATED DEVICES, ASK YOUR JOBBER FOR CATALOG No. 162 DESCRIBING A COMPLETE LINE OF DYKANOL UNITS IN BOTH CYLINDRICAL AND RECTANGULAR CONTAINERS, LISTING CAPACITORS RATED FROM 1 MFD. to 60 MFD. AND FROM 110 V. A. C. to 660 V.

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World Radio History

CORNELL DUBILIER

SOME VERY POPULAR PAPER AND ELECTROLYTIC REPLACEMENT CAPACITORS

EMPLOYED IN MANY THOUSANDS OF RADIO RECEIVERS, THE SERVICEMAN WILL FIND THESE UNITS INDEED HELPFUL IN REPAIRING THESE OLD SETS

Versatile electrolytic capacitors in convenient containers, for universal A.C.-D.C. replacement. Will fill the capacity and voltage requirements of innumerable types of condensers. Ideal for the service shop that doesn't want to waste time trying to obtain expensive exact duplicate replacements.

Type UM 100—Rectangular Silvered Carton
8-16 Mfd.—200 volts D.C. W.V., 250 volts Peak. Separate sections.
Dual 10 Mfd.—25 volts D.C. W.V., 40 volts Peak. Common negative.
One container—size 2 ½ x 1 ⅛ x 9/16".
List Price $2.15
Net Price 1.29

Type UM 101—Cylindrical Silvered Tube
8-16 Mfd.—250 volts D.C. W.V., 300 volts Peak. Separate sections.
Dual 10 Mfd.—25 volts D.C. W.V., 40 volts Peak. Common negative.
One container—Size 3 ¼ x 1 ⅜".
List Price $2.30
Net Price 1.38

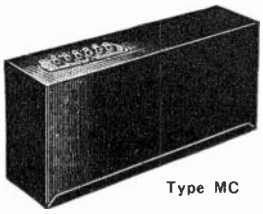
Type UM 102—Cylindrical Metal Container
8-16 Mfd.—250 volts D.C. W.V., 300 volts Peak. Separate sections.
Dual 10 Mfd.—25 volts D.C. W.V., 40 volts Peak. Common negative.
One container—Size 3 ⅝ x 1 ⅜".
List Price $2.40
Net Price 1.44

3 UNITS FOR AC-DC SETS

Here are a few numbers that cannot be readily replaced with the combination of standard units to fit into the restricted space:

Manufacturer	Mfr's Part No.	C-D Cat. No.	Size Lgth.	Size Width	Size Thick.	Cap. Mfd.	List Price	Net Price
Crosley	29150BA	MA-11146	4¾	1⅜		6-7-8	$1.80	$1.08
	29097ABC	MA-11734	4⅜	1½		8-8-8	2.15	1.29
	27488A	MA-11331	2½	1⅛	1⅛	8-6	.95	.57
	30059A	MA-11157	5¾	1½		8-8-8	2.20	1.32
Grunow	30091-1	MA-11524	2¾	2¾	1⅞	8-8-8-12-12	3.20	1.92
	27151	MA-11749	2½	1⅞	1⅝	4-8-20-4	2.20	1.32
International	A-424	MA-5856	3⅜	1¼	1	4-10-10	1.65	.99
	A-427	MA-10627	2¼	1¼	⅝	3 x 3.5	1.20	.72
Majestic	9661	MA-11740	4	1½	1½	8-10-16	1.80	1.08
RCA-Victor	66155	MA-11747	3¾	1½	1½	4-4-10-4	2.05	1.23
	66143	MA-10693	3¾	1½	1	10-4	1.05	.63
Stewart-Warner	81959	MA-10317	3⅛	1⅜	1⅛	4-13-7	1.65	.99
Sparton	A9550	MA-10745	2⅜	1⅜	1⅝	5-25-5	2.00	1.20
	A11093-1	MA-11710	2½	2⅜	⅞	5-5-25	1.95	1.17
United Motors	6508	MA-11748	2¾	1⅞	1½	8-8-4-4	2.05	1.23
U. S. Radio & Tel.	6201	MA-11787	2⅜	1¼	1¼	4-4-12	1.70	1.02
Wurlitzer	35-3715	MA-10654	5¼	1⅜		8-8-10	2.00	1.20
	37-3773	MA-10657	4	1⅜	⅞	4-8-10	1.65	.99

Other Exact Duplicates are available, though in the interest of economy and service, we strongly recommend the use of standard types of units in the proper selection, to make up the required capacities and voltage ratings.


Type MC

Type SW

Type AK

Manufacturer	Mfr's Part No.	C-D Cat. No.	Size	List Price	Net Price
Atwater-Kent	37- 9497	AK-201	3 x .25	$1.70	$1.02
	37- 9575	AK-202	.25	.70	.42
Colonial	17288A	CN-400	3 x .1 -.25	1.25	.75
	17488A	CN-401	.1 - .25	.90	.54
Crosley	W4919	C-57	.5	.75	.45
Grebe	SK-4	SG-217	2 x .1	.80	.48
Majestic	7BP6	MC-101	10	4.50	2.70
	7P6	MC-102	9	4.50	2.70
	8P6	MC-103	9	9.00	5.40
	9P6	MC-104	7	4.50	2.70
Sparton	A5032 (1334)	SW-311	1	.90	.54
	A5033 (1335)	SW-312	.25	.75	.45
	A5031	SW-320	.5	.80	.48

Again, we wish to stress the use of standard capacitors by servicemen—to avoid as far as possible and practicable ordering exact duplicates where a little thought and figuring may solve a perplexing service job.

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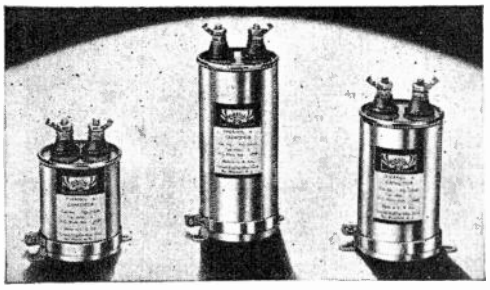
CORNELL DUBILIER

NEW — TYPE TQ Cylindrical Case
DYKANOL TRANSMITTING CAPACITORS



Cat. No.	Capacity Mfd.	Size Length		Diam.	List Price	Net Price
		600 V.D.C.				
TQ-6020	2	2 1/8	x	2	$2.25	$1.35
TQ-6040	4	3 1/4	x	2	3.00	1.80
		1000 V.D.C.				
TQ-10010	1	2 7/8	x	2	2.25	1.35
TQ-10020	2	2 1/2	x	2	2.75	1.65
TQ-10040	4	3 7/8	x	2	3.75	2.25
		1500 V.D.C.				
TQ-15010	1	2 3/8	x	2	3.00	1.80
TQ-15020	2	3 3/8	x	2	3.75	2.25
		2000 V.D.C.				
TQ-20010	1	3 1/4	x	2	3.75	2.25
TQ-20020	2	4 7/8	x	2	4.25	2.55

Equipped with small neat insulated terminals and mounting ring, for mounting in any position. REAL DYKANOL UNITS—REAL VALUES.

Never before has the amateur been offered such a marvelous line of D-X transmitting capacitors at such low prices!

FEATURES OF TYPE TQ

1—**Dykanol (Chlorinated Diphenyl)* Impregnated and Filled**—Long life; small size; lower power factor; non-inflammable.

2—**Hi-Purity Aluminum Foil**—Lower R. F. resistance; light weight.

3—**Hi-Purity Multi-Laminated Kraft Tissue**—Higher voltage breakdown; minimum leakage; high I. R.

4—**Vacuum Dried and Impregnated**—Lower equivalent series resistance; longer life.

5—**Hermetically Sealed**—Not affected by moisture, time or temperature up to 200° F.

6—**Adequate Terminal Insulators**—Glazed porcelain or bakelite according to rating.

7—**Sturdy Steel Container, Aluminum Painted** — Non-corrosive, strong.

8—**Universal, Steel Mounting Strap**—Allows mounting unit in any position.

9—**Rigidly Tested**—Uniform product.

10—**Conservative D. C. Rating**—Triple testing assures dependable service.

11—**Approved by Fire Underwriters**—Absolutely safe under all conditions; *fire-proof; extra high dielectric strength.

"ELECTROLYTIC CAPACITORS"
By Paul McK. Deeley

Chief Engineer of the Electrolytic Division
CORNELL-DUBILIER ELECTRIC CORPORATION

Here in one masterly volume, "Electrolytic Capacitors"—just off the press, you will find a wealth of the most practical information ever published on the subject of electrolytics.

Never before has the technician been offered a manual so complete and so comprehensive. "Electrolytic Capacitors" should be in every radio man's professional library and technical file.

Design engineers, laboratory technicians and servicemen in the past have had to glean what information they could on electrolytics from scattered articles limited in scope. Deeley's book fills a long felt need in the radio and electrical industries. It supplies the reader with specific information concerning the many factors involved in the theory, design and construction of electrolytics. This book is profusely illustrated and describes various applications of electrolytic capacitors. Every page is a gold mine of facts and data.

This 300-page book is yours—available postpaid for only $3.00

NOTE: Are you on our mailing list to receive the "C-D CAPACITOR," our bi-monthly house organ? You'll appreciate the timely and interesting articles.

CORNELL-DUBILIER CAPACITORS

are available for every radio and electrical requirement. The following catalogs are available:

Catalog No. 162—For the electrical repair man and dealer, servicing refrigerators, oil burners and other motor-driven apparatus.

Catalog No. 163—For Power Factor Correction—available on written request to industrial engineers, sub-station and main generating plants and transmission line engineers.

Catalog No. 161—For the amateur, serviceman, dealer and experimenter.

Catalog No. 160—General Industrial and Transmitting Catalog—will be mailed on written request to Engineers and Radio Technicians connected with accredited manufacturers, broadcast stations and educational institutions.

NOTE: The Net Prices listed herein are based on a 40% discount which is available to radio servicemen, amateurs, and dealers.

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World Radio History

TOBE CONDENSERS

THE STANDARD OF THE PIONEER—THE PRODUCTS OF EXPERIENCE

COMPACT DRY ELECTROLYTIC CONDENSERS

Contained in inverted aluminum can for single hole mounting. Condensers insulated from can. 6" long coded negative and positive leads. Surge peak voltage 525; DC working voltage 450.

Cat. No.	Cap. Mfd.	Dimen. Dia. Hgt.	List Price
CC514	4	1x2 ½	$0.85
CC518	8	1x3 ⅛	1.05
CC5112	12	1x4 ⅛	1.40
CC5116	16	1x4 ⅛	1.55

INVERTED CAN DRY ELECTROLYTICS

Single and dual section condensers contained in inverted aluminum can for single hole stud mounting. Condensers insulated from can. Dual sections for separate negative and positive leads allowing its use where this feature is necessary. Hermetically sealed and moisture proofed.

Cat. No.	Cap. Mfd.	Dimen. Dia. Hgt.	List Price
PEAK VOLTS 525 - WORKING VOLTS 450 DC			
C514	4	1x3 ¼	$0.85
C518	8	1 ⅜ x4 ⅜	1.05
C5110	10	1 ⅜ x4 ⅜	1.25
C5112	12	1 ⅜ x4 ⅜	1.40
C5116	16	1 ½ x4 ⅜	1.55
C5124	24	1 ½ x4 ⅜	1.85
C5130	30	1 ½ x4 ⅜	2.15
C544	4-4	1 ⅜ x4 ⅜	1.30
C548	4-8	1 ⅜ x4 ⅜	1.45
C588	8-8	1 ½ x4 ⅜	1.60
PEAK VOLTS 600 - WORKING VOLTS 475 DC			
C618	8	1 ⅜ x4 ⅜	1.50
C6112	12	1 ⅜ x4 ⅜	2.05
C6116	16	1 ½ x4 ⅜	2.30
C6124	24	1 ½ x4 ⅜	2.60
C6130	30	1 ½ x4 ⅜	2.90
C644	4-4	1 ⅜ x4 ⅜	1.95
C688	8-8	1 ½ x4 ⅜	2.40

Surge-Proof Filter-Mite Condensers

The Tobe Filter-Mite Condenser is a new development in paper capacitor design. Available in plug-in or standard style. Extremely small in size. Ideal for electronic and communication devices where space is at a premium. Processed in micranol.

Plug-In Cat. No.	Plug-In List Price	Cap. Mfd.	Standard Cat. No.	Standard Price List
WORKING VOLTS 600 DC				
		.05	FM605	$0.90
PGP6010	$1.40	.1	FM610	1.00
PGP6025	1.50	.25	FM625	1.10
PGP6050	1.60	.5	FM650	1.20
PGP601	1.85	1.0	FM601	1.60
PGP602	2.35	2.0	FM602	2.30
PGP604	3.45	4.0	FM604	3.35
WORKING VOLTS 1000 DC				
		.05	FM1005	1.15
PGP1010	1.50	.1	FM1010	1.25
PGP1025	1.65	.25	FM1025	1.37
PGP1050	1.80	.5	FM1050	1.50
PGP1001	2.15	1.0	FM1001	2.05
PGP1002	3.30	2.0	FM1002	3.20
		4.0	FM1004	5.15

ELECTROLYTIC PLUG-IN CONDENSERS

Plug-in electrolytic condensers with a UX4 prong base. Makes condensers as readily interchangeable as tubes. Peak V. 600, Work V. 475

Cat. No.	Cap. Mfd.	Dimen. Dia. Hgt.	List Price
PG68	8	1 ½ x3 ¼	$1.75
PG616	16	1 ½ x3 ¾	2.65
PG688	8-8	1 ½ x3 ¾	2.65

TOBE MICRANOL TRANSMITTING CONDENSERS

The Tobe Micranol Transmitting Condenser is guaranteed unconditionally for one year. Incorporated in this condenser are the finest in material and engineering design. Processed in oil and completely sealed in a beautiful gray crackle finish. Encased in a rectangular metal housing with a universal mounting bracket which permits mounting condenser upright or for subpanel use. The insulators are wet processed and made of the same material as the power insulators that stand 100,000 volts. Will stand a surge test 2 ½ times their working voltage. Dimensions 3 ¼ x5x2 ⅛".

Cat. No.	Cap. Mfd.	Working Volts D.C.	List Price
TR11	1	1000	$2.50
TR12	2	1000	3.25
TR21	1	2000	2.85
TR22	2	2000	4.20
TR31	1	3000	6.00
TR32	2	3000	11.00

Compact Carton Dry Electrolytic Condensers

Single and dual dry electrolytic condensers contained in hermetically sealed rectangular cartons with mounting flanges. Coded leads 6" long. Dual condensers have separate negatives and positives permitting universal use in replacement work.

Cat. No.	Cap. Mfd.	Dimensions L W D	List Price
PEAK VOLTS 200 - WORKING VOLTS 150 DC			
EC24	4	2 ½ x 9/16 x ⅞	$ .65
EC28	8	2 ½ x 9/16 x ⅞	.80
EC212	12	2 ¼ x ⅞ x ⅞	.95
EC216	16	2 ¼ x1 x ⅞	1.05
EC220	20	2 ¼ x1 x ⅞	1.20
EC244	4-4	2 ¼ x ⅞ x ⅞	.90
EC288	8-8	2 ¼ x1 x ⅞	1.20
EC2816	8-16	2 ¼ x1 ¼ x1	1.35
PEAK VOLTS 525 - WORKING VOLTS 450 DC			
EC52	2	2 ½ x 9/16 x ⅞	.65
EC54	4	2 ½ x 9/16 x ⅞	.75
EC58	8	2 ½ x1 x ⅞	.95
EC510	10	2 ½ x1 x ⅞	1.15
EC512	12	2 ½ x1 ½ x1	1.30
EC516	16	2 ½ x1 ½ x1	1.45
EC544	4-4	2 ½ x1 ¼ x ⅞	1.20
EC548	4-8	2 ½ x1 ½ x1	1.35
EC588	8-8	2 ½ x1 ½ x1	1.50
PEAK VOLTS 600 - WORKING VOLTS 475 DC			
EC64	4	2 ½ x1 x ⅞	$1.15
EC68	8	2 ½ x1 ½ x1	1.35
EC610	10	2 ½ x1 ½ x1	1.55
EC612	12	2 ½ x1 ½ x1	1.70

Paper Tubular Surge-Proof Condensers

These surge-proof tubular capacitors are double-vacuum-impregnated, non-inductively wound of the purest foil. Ideal for radio frequency and audio frequency by-pass service. Tested at five times their rated voltage.

400 Volts Working Cat. No.	Cap. Mfd.	List Price	600 Volts Working Cat. No.	Cap. Mfd.	List Price
M11	.01	$.15	M1	.001	$.15
M21	.02	.15	M2	.002	.15
M41	.04	.15	M3	.003	.15
M50	.05	.15	M4	.004	.15
M60	.06	.20	M5	.005	.15
410-T	.1	.20	M6	.006	.15
425-T	.25	.25	M10	.01	.15
450-T	.5	.35	M20	.02	.15
401-T	1.0	.50	M30	.03	.20
Universal Automobile Vibrator 1600 Volts Working			M41	.04	.20
			M51	.05	.20
M05	.01	.30	610-T	.1	.25
M06	.02	.40	625-T	.25	.35
M07	.03	.50	650-T	.5	.50

TUBULAR DRY ELECTROLYTIC CONDENSERS

Tobe Tubidon Electrolytic Condensers are of the finest quality. To prevent moisture absorption they are completely wax filled in one container and encased in an outer container for additional precaution. Mechanic opens and tap corrosion are eliminated. Single section units have a lead at each end, dual units have two positive leads at one and a common negative at the other.

Cat. No.	Cap. Mfd.	Dimen. Dia. Hgt.	List Price
PEAK VOLTS 35 - WORKING VOLTS 25 DC			
ET3505	5	9/16 x2 ¼	$0.40
ET3510	10	9/16 x2 ¼	.40
ET3525	25	¾ x2 ¼	.50
ET3550	50	¾ x2 ¼	.65
ET3205	5-5	¾ x2 ¼	.60
ET3210	10-10	¾ x2 ¼	.60
PEAK VOLTS 75 - WORKING VOLTS 50 DC			
ET5005	5	9/16 x2 ¼	.45
ET5010	10	9/16 x2 ¼	.45
ET5025	25	¾ x2 ¼	.55
ET5050	50	¾ x2 ¼	.70
ET5205	5-5	¾ x2 ¼	.65
ET5210	10-10	¾ x2 ¼	.65
PEAK VOLTS 200 - WORKING VOLTS 150 DC			
ET24	4	¾ x2 ¼	.40
ET28	8	¾ x2 ¼	.45
ET212	12	⅞ x2 ¼	.50
ET216	16	13/16 x2 ¼	.55
ET224	24	13/16 x2 ¼	.60
ET230	30	1 x2 ½	.65
PEAK VOLTS 525 - WORKING VOLTS 450 DC			
ET54	4	¾ x2 ¼	.55
ET58	8	1 x2 ½	.60
ET512	12	1 3/32 x2 ⅝	.75
ET516	16	1 3/32 x2 ⅝	.90
PEAK VOLTS 600 - WORKING VOLTS 475 DC			
ET64	4	⅞ x2 ¾	.90
ET68	8	1 3/16 x2 ¾	1.05

PAPER REPLACEMENTS FOR ELECTROLYTIC CONDENSERS

Tobe paper dielectric condensers identical in appearance and physical dimensions as most electrolytic condensers for which these units are to replace. Will stand high peak service. Ideal for low power transmitters, amplifiers and any application where uninterrupted and dependable service is required. Available in inverted single hole mounting aluminum can or a rectangular impregnated cardboard carton. Dual units have separate leads.

Cat. No.	Replaces Cap. Mfd.	Work Volts	List Price
TYPE PR RECTANGULAR CARTON			
PR404	4	450	$0.90
PR408	8	450	1.15
PR444	4-4	450	1.50
PR488	8-8	450	1.90
PR604	4	600	1.20
PR608	8	600	1.60
PR644	4-4	600	2.00
PR688	8-8	600	2.65
TYPE PRC ROUND CAN			
PRC604	4	600	1.35
PRC608	8	600	1.75
PRC644	4-4	600	2.25
PRC688	8-8	600	2.80

TRANSMITTING FILTER CONDENSERS

Oil processed transmitting condensers are ideal for severe humidity and high temperature conditions. Contained in single hole mounting aluminum can. One terminal is insulated. Insulating washer supplied to insulate from chassis.

Cat. No.	Cap. Mfd.	Work Volts	List Price
MR62	2	600	$2.25
MR64	4	600	3.00
MR101	1	1000	2.25
MR102	2	1000	2.75
MR1510	1	1500	3.50
MR1520	2	1500	4.50

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World Radio History

STOP RADIO NOISE !

TOBE ORIGINAL — *Filterettes* — WITH — ENDORSED BY THE NATION — TOBE DEPENDABLE

THERE IS A TOBE FILTERETTE FOR EVERY TYPE OF EQUIPMENT

The TOBE Filterettes listed below are backed by a competent engineering staff with many years' experience and may be depended upon to eliminate all types of interference.

TOBE Engineers were pioneers in the work of stopping all types of radio interference, and their work in this field is largely responsible for the interest in this problem today. If we do not list a Filterette which appears to meet your requirements, we will be glad to obtain it for you if you will send us the name of the appliance which is causing interference, together with its voltage and amperage ratings.

FILTERETTE JUNIOR

For use on vacuum cleaners, hair dryers, cash registers, drink mixers, dictating machines, sewing machines, floor polishers. Approved by Underwriters' Laboratories. 110 volts A.C. or D.C. Ship. wt. 6 oz.

List Price $1.25

FILTERETTE SENIOR

For use on portable electrical tools and small motored appliances receiving their power from a circuit have one side grounded. Standard cap and receptacle. Designed for use on any 110 volt D.C. or A.C. circuit; will carry current of 2.5 amperes. Ship. wt. 1 lb. 1 oz.

List Price $4.75

SIGN FLASHER FILTERETTES

Stop radio noise from traffic beacons, chasers, running borders, neon primary flashers, and airplane beacons. Contain correctly designed inductances and capacitances for maximum efficiency. Same type units as used by sign companies and flasher manufacturers.

Type No.	Number of Circuits	Amps. per Circuit	List Price
FS-110	1	4	$12.50
NYL-2	2	10	20.00
NYL-4	4	10	38.00

ELECTRIC RAZOR FILTERETTE

A special unit for application to electric razors that spoil early morning radio programs. Installed at end of cord where it is completely out of way; reduces interference to a negligible value under practically all conditions. Approved by Underwriters' Laboratories and leading makers of electric shavers. List Price.....$1.00

OIL BURNER FILTERETTE, OB-110, All-Wave

For use on all oil burners to kill ignition interference. Contained in utility type knock-out box 4" x 2" x 2" with screw cover. Will carry 2½ amperes at 110 volts. Listed by Underwriters' Laboratories.

List Price..... $7.95

POWER LINE FILTERETTE RF-2

Use with radio sets to keep noise from entering receiver through power connection. Especially effective with D.C. receivers. Contains choke coils in both sides of line. Effectively shielded by rugged steel housing. 4-foot rubber cord has unbreakable rubber plug.....List Price $4.75

FILTERETTE JA

For use on same appliances as Junior Filterette; for permanent connection where attachment cord is brought out of motor frame. Screw terminals for connections. Maximum noise reduction as installation is at noise source. Ship. wt. 6 oz.

List Price $1.75

HEAVY DUTY FILTERETTE, 110-PO

Use with adding machines, juice extractors, dental engines, etc. Has chokes in both sides of line; gray enameled steel housing; 5 ft. rubber cord. Underwriters approved. 5 amperes —110 volts.

List Price.....$10.50

DIATHERMY FILTERETTES

Stop feed-back of radio noise from diathermy and X-Ray to electric light and power lines. Recommended and approved by leading diathermy manufacturers. Must be used in shielded room. Supplied with installation instructions and shielding specifications.

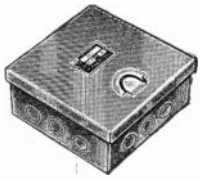
Type No.	Amperes	Volts	List Price
1-HFO	6	110 A.C.	$ 35.00
1-HF2	15	110 A.C.	75.00
1-HF3	25	110 A.C.	125.00

NEW CAPACITIVE FILTERETTES

For use with motors, mercury arc rectifiers, battery chargers, welding generators, and exciters. Contained in steel knock-out boxes for permanent installation in two-wire or three-wire electrical circuits. Insulated flexible leads for connection. Do not carry current, hence may be used without regard to size of interfering apparatus.

Type No.	Volts	Size	List Price
8-2-F	110	4"x 2"x2"	$ 6.50
B-2-F	220	4"x 2"x2"	7.50
60	600	10"x10"x4"	25.00

INDUCTIVE-CAPACITIVE FILTERETTES



For use with compressors, elevators, floor polishers, repulsion motors, call systems, printing presses, rotary converters, refrigerators, etc. Have rugged steel cases with knock-outs for BX or conduit. Choke coils of heavy construction for cool operation and minimum voltage drop.

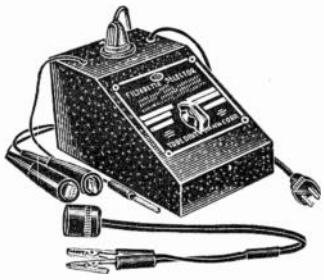
Type. No	Amperes	Volts	List Price
110	5	110	$12.50
221	5	220	20.00
131	10	110	20.00

Filterettes in higher current ratings available on order.

OFFICIAL RADIO NOISE MANUAL
Fourth Edition

The standard textbook on radio noise elimination containing basic information as accurate today as when the first edition was published in 1929. Gives practical hints on proved ways to stop radio noise. Based on original research of Tobe interference engineers. Contains 76 full size 8½" x 11" pages, 61 photographs, 28 wiring diagrams, 24 drawings, sample survey report and interference ordinance. The complete guide to radio interference work .....List Price 50c

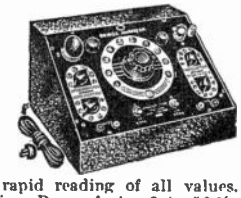
FILTERETTE SELECTOR



This useful tool shows just what Filterette will stop the radio noise from most electrical equipment. Rotary switch on sloping control panel gives direct reading of Filterette types. Contained in rugged steel case attractively finished in baked gray lacquer. Connection to apparatus under test is by standard plug and receptacle or special clip lead adapters. The Tobe Filterette Selector will be found particularly useful in demonstrating the results to be expected from Filterette installations.

Dealer Net Price $7.50*

TOBE CONDENSER BRIDGE AND ANALYZER



A direct reading instrument for testing condensers and resistors. Single linear scale of balance control provides maximum ease of reading. Decade switch for measurement of capacitance .00001 to 100 mfd. and resistance 1 to 1,000,000 million ohms. Effective scale length 5' 3" capacitance, 4' 6" for resistance. Amplifier stage with sensitivity control ahead of electronic eye balance indicator for rapid reading of all values. Voltage and leakage controls direct reading. Power factor 0 to 50%. Welded steel case finished in gray wrinkle enamel. Complete with all tubes 01A, 6E5, 6J7, neon indicator, primary fuse, color coded test leads, operating instructions.

Dealer Net Price $32.50*

40—*NET

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World Radio History

DRY ELECTROLYTIC CONDENSERS
ULTRA COMPACT TYPES

"MINICAP"
TUBULAR DRY ELECTROLYTIC CONDENSERS

1. **Cardboard Tube.** Thorough insulation at sides and ends to prevent contact to external wiring.
2. **Metal Can.** Eliminates possibility of electrolyte seepage.
3. **Composite Rubber-Bakelite Washer.** Provides adequate insulation and assures a hermetic seal.
4. **Riveted Leads.** Secure mechanical and electrical contact. Internal rivet surface of 99.8% pure aluminum.
5. **Condenser Winding.** Extremely small size due to new developments in etching of electrodes and improved spacer.
6. **Anode Tab.** Heavy aluminum securely riveted to external lead.
7. **Cathode Tab.** Securely riveted directly to metal container.
8. **Dual Units.** Are negative common, grounded to center mounting strap.

Catalog Number	Capacity Mfd.	D.C. Voltage Working	D.C. Voltage Surge	Dimensions, Inches Diameter	Dimensions, Inches Length	List Price
M-010	10	25	40	19/32	1 11/16	$ .40
M-025	25	25	40	11/16	1 11/16	.50
M-108	8	100	175	19/32	1 11/16	.40
M-116	16	100	175	19/32	2 3/16	.50
M-130	30	100	175	13/16	1 23/32	.60
M-204	4	150	225	19/32	1 11/16	.40
M-208	8	150	225	19/32	2 3/16	.45
M-212	12	150	225	11/16	1 11/16	.50
M-216	16	150	225	11/16	1 11/16	.55
M-224	24	150	225	11/16	2 3/16	.60
M-230	30	150	225	13/16	2 7/32	.65
M-240	40	150	225	13/16	2 7/32	.70
M-258	8	250	300	11/16	1 11/16	.50
M-2516	16	250	300	11/16	2 7/32	.75
M-304	4	350	375	19/32	2 3/16	.50
M-308	8	350	375	11/16	1 11/16	.55
M-312	12	350	375	13/16	1 23/32	$ .70
M-316	16	350	375	13/16	2 7/32	.80
M-324	24	350	375	15/16	2 7/32	.90
M-404	4	450	525	15/16	1 23/32	.55
M-408	8	450	525	15/16	1 23/32	.60
M-412	12	450	525	15/16	2 7/32	.75
M-416	16	450	525	1 1/16	2 7/32	.90
M-420	20	450	525	1 1/16	2 17/32	1.00
M-508	8	525	600	1 1/16	2 7/32	.90
M-011	10+10	25	40	13/16	1 3/4	.60
M-288	8+8	150	225	13/16	1 3/4	.80
M-816	8+16	150	225	13/16	2 1/4	.90
M-1616	16+16	150	225	13/16	2 1/4	1.00
M-388	8+8	350	375	15/16	2 1/4	.95
M-488	8+8	450	525	1 1/16	2 1/4	1.00

Individually Packed

"LITTLE GIANT" Dry Electrolytics

The Original Ultra Compact Drys

"Little Giant" features:

1. **UNUSUAL COMPACTNESS**
2. **FULL CAPACITIES**
3. **LOW POWER FACTOR**
4. **MINIMUM LEAKAGE**

TYPE LG5—525 VOLTS S.P.

Catalog Number	Capacity Mfd.	Working Volts D.C.	Dimensions Inches	List Price
LG5-2	2	450	2 7/16 x 3/4 x 1/2	$ .65
LG5-4	4	450	2 7/16 x 1 x 9/16	.75
LG5-6	6	450	2 7/16 x 1 1/8 x 11/16	.90
LG5-8	8	450	2 7/16 x 1 1/8 x 11/16	.95
LG5-10	10	450	3 5/16 x 1 1/8 x 11/16	1.15
LG5-12	12	450	3 5/16 x 1 1/8 x 11/16	1.30
LG5-16	16	450	2 7/16 x 1 3/16 x 1	1.45
LG5-44	4+4	450	2 7/16 x 1 3/16 x 1	1.20
LG5-48	4+8	450	2 7/16 x 1 7/16 x 1 1/8	1.35
LG5-88	8+8	450	2 7/16 x 1 7/16 x 1 1/8	1.50
*LG5-888	8+8+8	450	2 1/2 x 1 5/8 x 1 1/8	2.20
LG5-888A	8+8+8	450	2 1/8 x 2 x 1 3/8	2.20

TYPE LG2—250 VOLTS S.P.

Catalog Number	Capacity Mfd.	Working Volts D.C.	Dimensions Inches	List Price
LG2-4	4	200	2 7/16 x 3/4 x 1/2	$ .65
LG2-6	6	200	2 7/16 x 3/4 x 1/2	.75
LG2-8	8	200	2 7/16 x 13/16 x 9/16	.80
LG2-10	10	200	2 7/16 x 1 x 9/16	.90
LG2-12	12	200	2 7/16 x 1 1/8 x 11/16	.95
LG2-16	16	200	2 7/16 x 1 1/8 x 11/16	1.05
LG2-20	20	200	2 7/16 x 1 1/8 x 11/16	1.20
LG2-25	25	200	3 5/16 x 1 1/8 x 11/16	1.25
LG2-30	30	200	3 5/16 x 1 1/8 x 11/16	1.40
LG2-44	4+4	200	2 7/16 x 1 3/16 x 13/16	.90
LG2-48	4+8	200	2 7/16 x 1 7/16 x 13/16	1.15
LG2-88	8+8	200	2 7/16 x 1 7/16 x 13/16	1.25
LG2-816	8+16	200	2 7/16 x 1 3/16 x 1	1.45
LG2-1216	12+16	200	2 7/16 x 1 3/16 x 1	1.60
LG2-1616	16+16	200	2 7/16 x 1 7/16 x 1 1/8	1.65
*LG2-888	8+8+8	200	2 7/16 x 1 7/16 x 1 1/8	1.90
LG2-888A	8+8+8	200	2 1/2 x 1 5/8 x 1 1/8	1.90

*Separate Sections.

TYPE D **TYPE DM**

TYPE D STANDARD ROUND INVERTED CANS

Offered in one standardized size for mounting in a 3/4" hole. Cans are fully insulated from sections. Flexible wire leads are provided for each section; polarity is clearly indicated.

TYPE D—Inverted Cans 1 3/8" Diam. by 4 3/8" High

Catalog Number	Capacity Mfd.	D.C. Peak Voltage	List Price
D-804	4	500	$ .85
D-808	8	500	1.05
D-810	10	500	1.25
D-812	12	500	1.40
D-814S	4+4	500	1.30
D-818S	4+8	500	1.45
D-820S	8+8	500	1.60

S—Separate Sections.

DM COMPACT, 1" DIAMETER CANS

In Insulated Can With Leads and 5/8" Screw Base

Catalog Number	Capacity Mfd.	D.C. Peak Voltage	Height Can	List Price
DM-504	4	500	2 1/2"	$ .85
DM-508	8	500	2 1/2"	1.05
DM-512	12	500	2 1/2"	1.40
DM-516	16	500	3 1/2"	1.55
DM-204	4	300	2 1/2"	.75
DM-208	8	300	2 1/2"	.95
DM-216	16	300	2 1/2"	1.25

QUALITY ABOVE ALL!

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TYPE DI, 1⅜" DIAMETER MOLDED SCREW BASE CANS

Supplied with ⅞" molded screw bases and lug terminals. Can height, 3⅛". Grounded can.

Catalog No.	Capacity Mfd.	D.C. Peak Voltage	Connections	List Price
DI-854	8	500		$1.05
DI-857	12	500		1.40
DI-859	16	500		1.55
DI-862	4+4	500	Neg. Com.	1.30
DI-866	4+8	500	Neg. Com.	1.45
DI-869	8+8	500	Neg. Com.	1.60
*DI-873	4+4+4	500	Neg. Com.	1.90
*DI-877	8+8+8	500	Neg. Com.	2.30

* Can Height, 4⅜".

STANDARD SIZE PLAIN CARDBOARD BOXES

These are quality units available with lugs or leads as listed. The boxes are completely wax-filled and moisture proof.

SINGLE SECTIONS—TWO TERMINALS

Lugs No.	Leads No.	Capacity Mfd.	D.C. Peak Voltage	Dimensions Inches	List Price
DA-602	DA-0602	2	500	2⅛x1 5/16 x ⅝	$ .65
DA-604	DA-0604	4	500	2⅛x1 5/16 x ⅝	.75
DA-606	DA-0606	6	500	4¼x1 5/16 x ⅞	.90
DA-608	DA-0608	8	500	4¼x1 5/16 x ⅞	.95
DA-610	DA-0610	10	500	4⅜x1⅜x1¼	1.15
DA-612	DA-0612	12	500	4⅜x1⅜x1¼	1.30
DA-616	DA-0616	16	500	4⅜x1⅜x1¼	1.45

If mounting flanges are required, specify letter A in addition to above catalog numbers.

MULTIPLE SECTIONS—WITH FLANGES 4⅞" MTG. CENTERS

Lugs No.	Leads No.	Capacity Mfd.	D.C. Peak Voltage	Dimensions Inches	List Price
DJ-362	DJ-0362	8+8*	500	4⅜x1½x1 7/16	$1.50
DJ-369	DJ-0369	8+8+8†	500	4⅜x2⅛x1 7/16	2.20

*Separate Sections †Neg. common

MULTIPLE SECTIONS

Grounded Round Cans. Wax filled. Negative terminals grounded to can. Solar screw and solder terminal. Mounting rings included.

TYPE DP, 2½" DIAMETER CANS

Catalog No.	Capacity Mfd.	D.C. Peak Volts	List Price
DP-2508	8+8	500	$1.80
DP-2515	5+15	500	2.30
DP-2524	8+16	500	2.35
DP-2526	8+18	500	2.60
DP-2538	8+8+8	500	2.70

TYPE DQ, 3" DIAMETER CANS

Catalog No.	Capacity Mfd.	D.C. Peak Volts	List Price
DQ-2608	8+8	500	$1.80
DQ-2624	8+8+8	500	2.70
DQ-2636	9+9+18	500	3.75
DQ-2638	8+8+8+8	500	3.60

TYPE DR, 3¼" DIAMETER CANS

DR-2720	9+9+18+18	500	$5.25

GENERAL REPLACEMENT

DS—"Standard" Cartridge Plain with Mtg. Ring

No.	Cap. Mfd.	Peak V.	Conn.	Size In.	List Price
DS-D-488	8+8	500	Neg. com.	1⅜ dia.x4¾	$1.50
DS-D-348	4+8	330	Neg. com.	1⅜ dia.x3½	1.25
DS-D-388	8+8	330	Neg. com.	1¼ dia.x4¾	1.40
DS-D-381	8+16	330	Neg. com.	1⅜ dia.x4¾	1.70
DS-D-288	8+8	220	Neg. com.	1 dia.x4¾	1.25
DS-D-281	8+16	220	Neg. com.	1¼ dia.x4¾	1.45
DS-D-188	8+8	175	Neg. com.	1 dia.x4¾	1.20
DS-D-181	8+16	175	Neg. com.	1⅛ dia.x3½	1.35
DS-D-182	8+24	175	Neg. com.	1¼ dia.x4¾	1.50
DS-D-3A88	8+8	330	Pos. com.	1⅜ dia.x4¾	1.40

ELECTROLYTIC HARDWARE

H-20—Set of insulating hardware for ¾" diameter mounting stud (2 insulating fibre washers and grounding lug).....$ .07

H-35—Set of insulating hardware for ⅝" diameter mounting stud ..... .05

WET ELECTROLYTIC CONDENSERS

"MINICAP" ULTRA-COMPACT DIAM. 1" x 1 15/16" HIGH

NON-FREEZING TYPE IN INVERTED SCREW BASE CANS

Catalog No.	Capacity Mfd.	D.C. Peak Voltage	List Price
WM-8-500	8	500	$ .75
WM-8-350	8	350	.70
WM-12-350	12	350	.75
WM-8-250	8	250	.65
WM-16-250	16	250	.75
WM-8-150	8	150	.60
WM-16-150	16	150	.70
WM-24-150	24	150	.75

WET ELECTROLYTICS

ROUND INVERTED CANS, 1½" DIAMETER BY 4⅜" HIGH

Catalog No.	Capacity Mfd.	D.C. Peak Voltage	List Price
ZV-278	8	600	$1.50
Z-204	4	500	.85
Z-208	8	500	1.00
Z-210	10	500	1.10
Z-212	12	500	1.20
Z-220	20	500	1.50
Z-224A	24	500	1.70
Z-230	30	500	2.00
ZD-16-350	16	350	1.25

RELIABLE IN EVERY CLIMATE

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SOLAR PAPER CONDENSERS SOLAR

HANDY COMPACT "TOM THUMB" CONDENSERS

These are uncased units sealed in varnished wrappers.

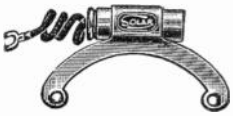
Catalog Number	Cap. Mfd.	Compact Size	List Price
200 V. WORKING—400 V. TEST			
TT-32	.25	2 x 3/4x 3/16	$ .30
TT-33	.5	2 x1 1/8x 3/32	.40
TT-34	1.	2 x1 1/4x 5/16	.60
TT-35	2.	2 x1 5/8x 9/16	.95
TT-36	4.	2 x1 3/8x1 1/8	1.70
400 V. WORKING—800 V. TEST			
TT-22	.25	2 x 7/8x 3/16	.40
TT-23	.5	2 x1 1/4x 3/32	.50
TT-24	1.0	2 x1 3/8x 11/32	.75
TT-25	2.0	2 x1 3/8x 5/8	1.15
TT-26	4.0	2 x1 5/8x1 1/4	2.00
600 V. WORKING—1200 V. TEST			
TT-01	.1	2 x 25/32x 1/8	.40
TT-025	.25	2 x 31/32x 3/16	.50
TT-05	.5	2 x1 9/16x 1/4	.60
TT-1	1.0	2 x1 3/4x 3/8	.90
TT-2	2.0	2 x1 3/4x 3/4	1.35
TT-4	4.0	2 x1 3/4x1 1/2	2.70
1000 V. WORKING—2000 V. TEST			
TT-11	.1	2 x1 1/2x 1/4	.60
TT-12	.25	3 x2 x 3/8	.75
TT-13	.5	4 3/8x2 x 3/8	1.00
TT-14	1.0	4 3/8x2 1/4x 5/8	1.50
TT-15	2.0	4 3/8x2 1/2x1 1/8	2.50

Lead Color Code—Black, 200 V. Yellow, 400 V. Blue, 600 V. Red, 1000 V.

SPARTON REPLACEMENT ROUND METAL CANS

Catalog Number	Capacity Mfd.	List Price
SPR-25	.25	$ .60
SPR-5	.5	.75
SPR-1	1.0	1.00

FORD GENERATOR SUPPRESSOR



Catalog Number	List Price
RF-0132	$.60

DOMINO

PAPER CONDENSERS MOLDED IN BAKELITE

Special flat units, resistant to heat and moisture. A new Solar development.

Catalog Number	Cap. Mfd.	Volts Work.	Size	List Price
MP-4090	.005	1500	C	$.45
MP-4100	.01	1500	C	.45
MP-4101	.001	1000	A	.25
MP-4103	.002	1000	A	.25
MP-4105	.003	1000	A	.25
MP-4107	.004	1000	B	.25
MP-4109	.005	1000	B	.25
MP-4111	.006	1000	B	.30
MP-4113	.008	1000	C	.30
MP-4115	.01	1000	C	.35
*MP-4116	.02	1000	D	.40
MP-4129	.005	600	A	.20
MP-4135	.01	600	B	.25
MP-4137	.02	600	B	.30
MP-4139	.05	600	C	.30
MP-4140	.1	600	B	.30
MP-4141	.01	400	A	.20
MP-4143	.02	400	B	.25
MP-4145	.05	400	B	.25
MP-4147	.1	400	B	.25
*MP-4148	.25	400	D	.35
MP-4157	.1	200	C	.20
MP-4162	.25	200	C	.30
*MP-4165	.5	200	D	.45

MPC-1 Clamp for rigid mounting of largest Domino size 2x1x 9/16 .05

*Packaged five in a carton.

DOMINO ASSORTMENT

KMX—4-.1 Mfd. 600 V.; 2-.05 Mfd. 600 V.; 2-.02 Mfd. 600 V.; 2-.01 Mfd. 600 V.

List Price $3.00

Size A = 1 5/32 in. x 5/8 in. x 1/4 in.
Size B = 1 13/32 in. x 3/4 in. x 9/16 in.
Size C = 1 13/32 in. x 3/4 in. x 3/8 in.
Size D = 2 13/32 in. x 1 in. x 9/16 in.

VIBRATOR CONDENSERS

Catalog Number	Capacity Mfd.	List Price
S-0287	.007	$.45
S-0289	.02	.45
S-0293	.01	.60
S-0295	.007	.45

DOME LIGHT FILTER

Catalog Number	List Price
RF-0143	$.80

SEALDTITE

TUBULAR PAPER

Catalog Number	Cap. Mfd.	Dimensions Inches	List Price
200 VOLTS D.C. WORKING			
S-0235	.1	9/16x1 3/8	$.20
S-0242	.2	9/16x2	.25
S-0245	.25	9/16x2	.25
S-0261	.5	3/4x2	.35
S-0266	1.	13/16x2	.50
400 VOLTS D.C. WORKING			
S-0219	.01	7/16x1	.15
S-0223	.02	7/16x1 3/8	.15
S-0228	.05	1/2x1 3/8	.15
S-0232	.06	9/16x1 3/8	.20
S-0238	.1	5/8x1 3/4	.20
S-0243	.2	3/4x2	.25
S-0256	.25	3/4x2	.25
S-0263	.5	1 x2	.35
S-0267	1.	1 1/16x2	.50
600 VOLTS D.C. WORKING			
S-0202	.0001	3/8x1	.15
S-0203	.00025	3/8x1	.15
S-0204	.0005	3/8x1	.15
S-0211	.001	3/8x1	.15
S-0211A	.0015	3/8x1	.15
S-0212	.002	3/8x1	.15
S-0212A	.0025	3/8x1	.15
S-0213	.003	3/8x1	.15
S-0214	.004	7/16x1	.15
S-0215	.005	7/16x1	.15
S-0216	.006	1/2x1	.15
S-0221	.01	1/2x1	.15
S-0224	.02	7/16x1 3/8	.15
S-0226	.03	1/2x1 3/8	.20
S-0227	.04	7/16x1 3/8	.20
S-0230	.05	9/16x1 3/8	.20
S-0240	.1	5/8x2	.25
S-0257	.25	13/16x2	.35
S-0265	.5	1 1/16x2	.50
1000 VOLTS D.C. WORKING			
S-0279	.01	7/16x1 7/16	.30
S-0280	.02	7/16x1 13/16	.30
S-0281	.04	9/16x1 13/16	.35
S-0282	.05	5/8x1 13/16	.35

SEALDTITE DUALS

Catalog Number	Cap. Mfd.	Volts Work.	Dimen. Inches	List Price
SS-0307A	.01+.01	600	1/2x1 3/8	$.35
SS-0308A	.05+.05	400	5/8x1 3/4	.40
SS-0309A	.05+.05	600	11/16x2	.45
SS-0310A	.1+.1	200	5/8x1 3/4	.40
SS-0312A	.1+.1	400	13/16x2	.45
SS-0313A	.1+.1	600	13/16x2	.50
SS-0316A	.25+.25	200	13/16x2	.50

GENERATOR SUPPRESSORS

Catalog Number	Capacity Mfd.	List Price
P-2702	.25	$.40
P-2705	.5	.50
P-2708	1.0	.70

AUTO AMMETER CONDENSERS

Catalog Number	Cap. Mfd.	List Price
P-2722	.5	$.45
P-2724	1.0	.65

QUALITY ABOVE ALL!

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World Radio History

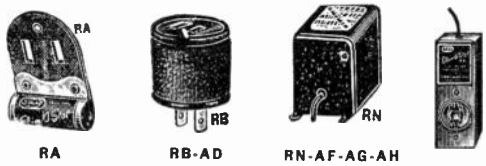
MICA CONDENSERS—ELIMOSTATS
CAPACITOR ANALYZERS

BAKELITE MOLDED MICA CONDENSERS

Highest quality of materials and workmanship. MW and MT types have 1¼" tinned copper leads.

Capacity Mfd.	MW ¾" sq.		MT ⅝" sq.		MO 7/16"x1 1/16"	
	No.	List Price	No.	List Price	No.	List Price
.000025			MT-1306	$0.20	MO-1406	$0.20
.00003			MT-1307	.20	MO-1407	.20
.00004			MT-1308	.15	MO-1408	.15
.00005	MW-1210	$0.15	MT-1310	.15	MO-1410	.15
.0001	MW-1216	.15	MT-1316	.15	MO-1416	.15
.0002	MW-1218	.15	MT-1318	.15	MO-1418	.15
.00025	MW-1219	.20	MT-1319	.20	MO-1419	.20
.0003	MW-1220	.20	MT-1320	.20	MO-1420	.20
.0004	MW-1221	.20	MT-1321	.20		
.0005	MW-1222	.20	MT-1322	.20		
.001	MW-1227	.25	MT-1327	.25		
.002	MW-1233	.30				
.003	MW-1235	.40				
.004	MW-1237	.45				

SOLAR "ELIM-O-STAT" MEANS INTERFERENCE ELIMINATION



RA — RB-AD — RN-AF-AG-AH — AE

To help eliminate disturbances, the Solar Manufacturing Corporation has developed a complete line of Elim-O-Stats to be used in connection with practically all types of electrical equipment. Some of these Elim-O-Stats are also excellent suppressors of noise when used at the radio receiver power-outlet. It is particularly important to note that Solar Elim-O-Stats have been designed to cope with radio interference encountered in the operation of sensitive radio receivers, including short-wave and all-wave types.

RADIO RECEIVER ELIM-O-STATS

RA—For radio sets, 110 A.C.-D.C. 5 amps. ..... **List Price $0.40**
RB—Particularly effective in certain circuits. More effective than RA. 110 A.C.-D.C., 5 amps. ..... **List Price $0.75**
RN—Especially effective for all-wave sets. Easy to connect. 110 A.C.-D.C., 3 amps. ..... **List Price $5.00**
Jumbo—An effective General Purpose Filter for use on radio receivers, electric fans and refrigerators. ..... **List Price $5.00**

APPLIANCE ELIM-O-STATS

AD—For small appliances, 110 A.C.-D.C., 5 amps. ..... **List Price $1.25**
AE—For Electric Razors, 110 A.C.-D.C., 1 amp. ..... **List Price $2.50**
AF—More effective than AD. Can filter a number of appliances. Capacitive-inductive. 110 A.C.-D.C., 5 amps. ..... **List Price $4.00**
AG—Special for all-wave. 110 A.C.-D.C., 3 amps. ..... **List Price $5.00**
AH—Similar to AG. Larger current rating, 5 amps. ..... **List Price $6.50**

SOLAR CAPACITOR ANALYZERS AND RESISTANCE BRIDGES

STANDARD MODEL CB

Your Eyes and the MAGIC TUBE see all, know all

Quick as a Wink

Capacity, power factor, leakage, resistance—directly on the panel. The highly-sensitive 6E5 Cathode-Ray tube is used for balancing. Dials are color-coded to match settings. A refined and extended Wien Bridge, built into instantly useful form for the laboratory, shop and field.

HERE IS WHY YOU WILL LIKE IT

1. **Measures Capacity** of electrolytic paper, mica and air condensers. Range .00001 to 70.0 mfd.
2. **Measures Power Factor** of any standard electrolytic condenser, directly on a scale, in percentage.
3. **Measures Resistance** — directly in ohms, of resistors of all types. Range 50 to 2,000,000 ohms.
4. **Measures Insulation Resistance** of condensers and insulation. Tests are made at voltages up to 450 volts D.C., provided by built-in power supply.
5. **Detects Defective Condensers**—directly indicates leaky, shorted, wrong capacity units, and "intermittents."
6. **Is a Useful Continuity Meter**—for any circuits.
7. **Color-Coded Scales** mean fool-proof operation. 45 linear inches of scales mean accuracy.
8. **Direct Reading of all measurements** eliminates extra charts and annoyances.
9. **Cathode-Ray Tube Balancing**—the magic 6E5 tube gives sensitive visual balance "quick as a wink."
10. **Self-Contained — Compact — Portable.**

TYPE CB-1-60
110 Volts, 60 Cycles
List Price, less tubes.....$32.00

TYPE CB-2-U
110-220 Volts, 25-60 Cycles
List Price, less tubes.....$40.00

Cat. No. — **List Price**
CBN Leakage Neon Tube.....$1.00

SPECIAL MODEL CC

All Features of CB Model

PLUS

High Capacity Scale
High Test Voltage
Simplified Scales
Sloping Panel

HERE ARE 10 DE LUXE FEATURES

1. **Capacity** — measures capacity of electrolytic, paper, mica and air condensers including Motor Starting Condensers. Range .00001 to 800 mfd.
2. **Power Factor**—measures power factor of any standard electrolytic condenser, directly on a scale, in percentage. These measurements include those of A.C. Electrolytics.
3. **Resistance**—measures resistance directly in ohms, of resistors of all types. A long scale covering two ranges 50 to 2,000,000 ohms.
4. **Insulation**—measures insulation resistance of condensers and insulation. Tests are made at voltages up to 600 volts D.C. provided by built-in power supply.
5. **Detects Defective Condensers**—directly indicates leaky, shorted, wrong capacity units, and "intermittents." Test voltages to 600 D.C. are available.
6. **Is a Useful Continuity Meter** — for any circuits.
7. **Color-Coded Scales**—three unusally legible scales are provided, the outer (red) for capacity measurements to 70 mfd.; the center (black) for A.C. electrolytic capacities to 800 mfd.; the inner (blue) for resistance measurements.
8. **Simplified Reading**—the use of the open scales is quick and fool-proof, in connection with the multipliers marked on switch settings.
9. **Cathode-Ray Tube Balancing**—the magic 6E5 tube gives sensitive visual balance "quick as a wink."
10. **Self-Contained — Compact — Portable**—beautiful sloping panel. Size 9¾" x 8¼" x 6⅝". Weight 8 pounds.

TYPE CC-1-60
110 Volts, 60 Cycles
List Price, less tubes.....$41.50

TYPE CC-2-U
110-220 Volts, 25-60 Cycles
List Price, less tubes.....$50.00

Cat. No. — **List Price**
CBN Leakage Neon Tube.....$1.00

RELIABLE IN EVERY CLIMATE

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World Radio History

SOLAR EXACT REPLACEMENTS DRY ELECTROLYTIC SOLAR

0202

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List Price

A.C.-D.C. (Various Sets): DC-0202, 14+8 Mfd., 200 V. + Dual 10 Mfd., 35 V., Silver Cbd. Tube 1⅜x4.....$2.20

ATWATER KENT: DC-0421, Orig. No. 24955, 8+8+8 Mfd., 150 V. Cbd. Box, 3¼x1 1/16x1⅛ $1.75

DC-0423, 8+8 Mfd., 300 V. Rect. Can, 2½x2 1/16x1⅛ $1.70

DC-0424, Orig. No. 24602, 8+8+8 Mfd., 150 V. Cbd. Box, 1⅛x1⅝x3⅛...$1.75

BELMONT: DC-0429, Orig. No. 119-21, 5+5 Mfd., 200 V., Cbd. Tube, 1¼x3¼. $.90

DC-0433, Orig. No. C-525-C, 5+25 Mfd., 100 V. Cbd. Box, 2⅜x1⅜x1 11/16....$1.40

DC-0437, Orig. No. C-525-B, 5+25+5 Mfd., 100 V. Cbd. Box, 2⅜x1¾x1⅜. $1.75

DC-0439, Orig. No. 119-6, 8+8 Mfd., 400 V. Cbd. Box, 3½x2x1 11/32.....$1.50

CHEVROLET: DC-0440, Orig. No. 601814, 10+10 Mfd., 350 V. + Dual 4 Mfd., 50 V. Cbd. Box, 2¼x2x2...$2.45

DC-0440-A, Orig. No. 30326, 8+8 Mfd., 350 V. + 12 Mfd., 25 V. Cbd. Box, 2⅛x2x2 .....$1.95

COLONIAL: DC-0441, Orig. No. R-8053, 8+8+8 Mfd., 200 V. Cbd. Box, 2 13/16x2½x1 1/16 .....$1.90

DC-0442 (Silvertone), Orig. No. R14036, 6+6+5 Mfd., 200-100-25V., Cbd. Box, ⅞x1¼x3 + Flange.....$1.25

DC-0444, Orig. No. R14996, 6+8 Mfd., 200-350 V., Cbd. Tube, 1x3⅜ + Bracket. $1.25

DC-0445, Orig. No. R-8357, 8+20 Mfd., 150-20 V. Cbd. Box, 2 7/16x1¾x1¼ .$1.35

DC-0446, Orig. No. R15117, 6 Mfd., 225 V., Cartridge, 1x2¾ + Bracket....$.80

DC-0447, Orig. No. R-8449, 8+8 Mfd., 150 V. + 35 Mfd., 20 V. Cbd. Box, 2 13/16x2x1¾ $2.10

DC-0448 (Silvertone), Orig. No. R15401, 6+6+5 Mfd., 200-100-25 V., Cbd. Tube, 1¼x3½ $1.25

DC-0455, Orig. No. R-10673, 8+8+25 Mfd., 150-20 V. Cbd. Box, 2½x2x1½. $1.85

CONTINENTAL (Admiral): DC-0462, Orig. No. P-950, 4+8 Mfd., 450 V., Cbd. Tube, 1¼x3½ $1.35

DC-0463, Orig. No. P958, 8+8 Mfd., 200 V., Cbd. Tube, 1¼x3½.....$1.25

CROSLEY: DC-0464, Orig. No. W-27676, 4+4 Mfd., 175 V. Cbd. Box, 2 1/16x1x1 .....$.85

DC-0467, Orig. No. W-27488, 8 Mfd., 25 V. + 6 Mfd., 400 V. Cbd. Box, 2¼x 1⅛x1⅛ $1.25

DC-0469, Orig. No. W-25857-B, 8 Mfd., 25 V. + 8 Mfd., 200 V. Cbd. Box, 2¼x 1⅛x1⅛ .....$.95

DC-0471, Orig. No. W-27677-A, 8+8 Mfd., 25 V. Cbd. Box, 2 1/16x1 1/16x1 1/16 .$.75

DC-0473, Orig. No. W-28978-A, 12 Mfd., 150 V. Rd. Can, 2 3/16x1⅜....$.95

DC-0475, Orig. No. W-29097-A, 8+8+8 Mfd., 250-350-450 V. Inv. Can, 4⅜x1½. $2.25

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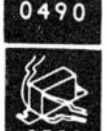
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CROSLEY (continued)

DC-0477, Orig. No. W-29150-A, 7+6+8 Mfd., 450-400-25 V. Inv. Can, 4⅜x1⅜. $1.95

DC-0479, Orig. No. W-29264-A, 16+16+8 Mfd., 125-100-20 V. Rd. Can, 3½x1⅜. $2.35

DC-0481, Orig. No. W-29804, 8+16+16 Mfd., 125 V. Rd. Can, 4⅝x1⅜...$2.50

DC-0483, Orig. No. W-30419, 8 Mfd., 250 V. + 8 Mfd., 20 V. Rd. Can, 3⅛x 1⅜ $1.60

DETROLA: DC-0486, 4+18+7 Mfd., 135 V. Cbd. Box, 3¼x1 5/16x1⅛....$1.75

DC-0488, Orig. No. 3229B, 6+16 Mfd., 100 V., Cbd. Tube w. Mtg. Ring, 1x4½. $1.10

ELECTRICAL RESEARCH LABS. (ERLA-SENTINEL): DC-0484, Orig. No. 2272, 8+20 Mfd., 150 V. Cbd. Box, 2½x1¼x1⅛ $1.50

DC-0490, Orig. No. 1110, 4 Mfd., 350 V., Cartridge, ⅞x2¾ .....$.70

DC-0492, Orig. No. 2627, 8+4+5 Mfd., 450-450-50 V., Silver Tube, 1⅜+4⅝+ Mtg. Ring $1.65

EMERSON: DC-0501, Orig. No. GGC-137, 8+16 Mfd., 175 V. + Dual 5 Mfd., 35 V. Cbd. Box, 4x1 11/16x1.....$2.10

DC-0502, Orig. No. KC-68, 4+8+16 Mfd., 175 V. Cbd. Box, 4⅜x1½x1. $1.80

DC-0503, Orig. No. 2DC-203, 8+16 Mfd., 150 V. Cbd. Box, 2½x2x1..$1.35

DC-0505, Orig. No. 2DC203, 8+16 Mfd., 150 V., Flanged Cbd. Box, 1x2x2½. $1.35

DC-0509, Orig. No. 2DC300, 8+16 Mfd., 150 V., Cbd. Tube w. Bracket, 1¼x3¼. $1.35

FADA: DC-0511, Orig. No. 20:43, 16+16+5 Mfd., 100-100-25 V., Cbd. Box, 1 11/16x2x3 + Flange $1.65

DC-0512, Orig. No. 4-1343MS, 10+10 Mfd., 25 V., Rnd. Can, 1⅝x1.....$.85

DC-0514, Orig. No. 4-1362-MS, 8+16 Mfd., 200 V. Rd. Can, 1⅜x3 3/16...$1.60

DC-0516, Orig. No. 4-1450-MS, 16+8 Mfd., 250 V. + 8 Mfd., 150 V. Rd. Can, 1⅜x4⅛ $2.55

GALVIN: DC-0523, Orig. No. 1388, 8+8 Mfd., 350 V. + 25 Mfd., 25 V. Cbd. Box, 2¼x1½x1½ $2.25

DC-0524, Orig. No. 8426, 4+8 Mfd., 350 V. + 5 Mfd., 200 V. Cbd. Box, 1 13/16x 1 13/16x2½ $1.85

DC-0525, Orig. No. 1424, 2+4 Mfd., 250 V. Cbd. Box, 1⅞x1x1.....$1.10

DC-0526, Orig. No. 34, 2.7+6.91+10 Mfd., 250-200-12.5 V. Cbd. Box, 4¼x 1¼x1 .....$1.50

DC-0527, Orig. No. 1468, 6+4 Mfd., 200 V. + 6 Mfd., 12.5 V. Cbd. Box, 2⅞x1½x1 .....$1.70

DC-0528, Orig. No. 2188, 8+8 Mfd., 300 V., Std. Can, 1⅜x3⅜ $1.50

DC-0529, Orig. No. 1540, 3+5 Mfd., 200 V. + 6 Mfd., 12 V. Cbd. Box, 1⅞x1¼x1⅛ $1.45

GENERAL ELECTRIC: DC-0532, Orig. No. 3538, 4+4 Mfd., 175 V. Cart., 1¾x1 .....$.85

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QUALITY ABOVE ALL!

World Radio History

EXACT REPLACEMENTS
DRY ELECTROLYTIC

0534

GENERAL ELECTRIC (continued)
DC-0533, Orig. No. 7589, 4+4 Mfd., 450 V. Cbd. Box, 3¾x1½x1.....$1.20

GRIGSBY-GRUNOW (MAJESTIC):
DC-0534, Orig. No. 10536, 4+6+10 Mfd., 350-350-25 V. Cbd. Box, 4 11/16x1 5/16x1 5/16 .....$1.85

0537

DC-0536, Orig. No. 11200, 2+4 Mfd., 450 V. Inv. Can, 4½x1⅜.....$1.20

DC-0537, Orig. No. 11017, 16 Mfd., 450 V. Inv. Can, 4⅜x1⅜.....$1.55

0539

DC-0538, Orig. No. 10827, 8+8 Mfd., 350 V. + 10 Mfd., 25 V. Cbd. Box, 4 11/16x1⅜x1⅛ $2.05

DC-0539, Orig. No. 9661, 16+8 Mfd., 140 V. + 10 Mfd., 15 V. Cbd. Box, 4 11/16x1⅞x1½ $1.90

0541

DC-0540, 8+16 Mfd., 125 V. Cbd. Box, 2¾x1⅜x1 .....$1.35

DC-0541, 12+16 Mfd., 125 V. Cbd. Box, 2⅝x1⅜x1 .....$1.45

0543

DC-0542, 16+16 Mfd., 125 V. Cbd. Box, 2⅝x1⅜x1 .....$1.55

DC-0543, Orig. No. 7824, 8 Mfd., 300 V. + 16 Mfd., 450 V. Cbd. Box, 4x1¾x1½ $2.10

0544-A

GRUNOW: DC-0544, Orig. No. 27151, 10+4+25 Mfd., 100 V. + 4 Mfd., 25 V. Rec. Can, 2 7/16x1⅞x1⅝ $2.20

DC-0544-A, Orig. No. 27151, 8+4+20 Mfd., 100 V. + 4 Mfd., 25 V. Cbd. Box, 2⅜x1¾x1 5/16 .....$2.00

DC-0544-B, Orig. No. 30091-1, 8+8 Mfd., 500 V. + 8 Mfd., 525 V. + Dual 12 Mfd., 35 V. Cbd. Box, 2¾x2⅜x1⅞. $3.60

0546

INTERNATIONAL: DC-0546, Orig. No. A-407, 4+4 Mfd., 175 V. Cbd. Box, 2⅞x1x¾ .....$.85

DC-0548, Orig. No. A-412, 30+10 Mfd., 150 V. Cbd. Box, 3½x2x¾.....$2.10

0550

DC-0550, Orig. No. A-427, 3.5+3.5 Mfd., 120 V. + 3.5 Mfd., 35 V. Cbd. Box, 2¼x1¼x⅝ $1.30

DC-0552, Orig. No. A-430, 4+10+10 Mfd., 100 V. Cbd. Box, 3¾x1¼x1.$1.70

0556

NOBLITT-SPARKS (Arvin): DC-0555 Orig. No. 17-4707, 12+12 Mfd., 25 V., F. B. Can, ¾x3½ .....$.75

DC-0556 Orig. No. 17-4201, 12+4 Mfd., 400 V., Cbd. Box, 4⅜x1⅜x1¼....$2.00

0560

DC-0558, Orig. No. 17-4184, 12+4 Mfd., 450 V. Inv. Can, 4¼x1½.....$2.15

DC-0560, Orig. No. 17-2253, 12+12 Mfd., 25 V. + 1.0 Mfd., 200 V. Cbd. Box, 2½x1⅜x1 .....$1.50

0564

DC-0562, Orig. No. 17-4787, 2+6 Mfd., 450 V. Inv. Can, 3½x1½ $1.35

DC-0564, Orig. No. 17-4716, 12+12 Mfd., 450 V. Inv. Can, 4⅜x1½...$2.30

0587

RCA: DC-0587, Orig. No. 66185, Dual 5+8+8 Mfd., 40-280-380 V. Cbd. Box, 4 1/16x1¾x1¼ $2.70

DC-0588, Orig. No. 3536, 5+5 Mfd., 35 V. Cart., 2½x⅞.....$.75

0590

DC-0590, Orig. No. 3538, 4+4 Mfd., 175 V. Cart, 1¾x1.....$.85

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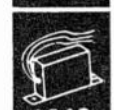
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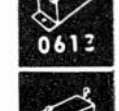
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RCA (continued)
DC-0592, Orig. No. 6487, 4+4+10+4 Mfd., 350-250-150-25 V. Cbd. Box, 3¾x1½x1½ $2.00

DC-0594, Orig. No. 6492, 1.0 Mfd., 250 V. + 3.6 Mfd., 100 V. Cart., 11/16x2½. $.75

DC-0596, Orig. No. 7589, 4+4 Mfd., 450 V. Cbd. Box, 3¾x1½x1.....$1.20

SPARTON (SPARKS-WITHINGTON):
DC-0603, Orig. No. A-3907, 8 Mfd., 200 V. Cbd. Box, 2 1/16x1 1/16x1 1/16 .....$.80

DC-0607, Orig. No. A-9550, 5+25+5 Mfd., 175 V. Cbd. Box, 1⅝x1⅝x2 1/16. $1.95

DC-0609, Orig. No. A-11093, 5+25+5 Mfd., 175 V. Cbd. Box, 2 1/16x2 13/32x 11/16. $1.95

DC-0610, Orig. No. A-11223, 8+8 Mfd., 450 V. Inv. Can, 4⅜x1⅜.....$1.60

DC-0612, Orig. No. A-10001, 6+10 Mfd., 250 V. + 4 Mfd., 200 V. Cbd. Box, ¾x2 7/16x2⅞ $1.90

STEWART-WARNER: DC-0613, Orig. No. 85565, 40 Mfd., 100 V. Cbd. Box, 2¾x1¼x1⅛ $1.50

DC-0614, Orig. No. 81959, 4+13+7 Mfd., 150 V. Cbd. Box, 3⅛x1⅞x1⅛. $1.95

DC-0615, Orig. No. 85768, 4 Mfd., 150 V. Rec. Can, 2⅜x⅞x⅞.....$.70

DC-0616, Orig. No. 83111, 8+8 Mfd., 225 V. + Dual 5 Mfd., 20 V. Cbd. Box, 4¼x1 5/16x1¼ $2.15

DC-0617, Orig. No. 85764, 40 Mfd., 100 V. Rec. Can, 2¾x1¼x1⅛..$1.60

DC-0618, Orig. No. 83962, 10 Mfd., 25 V. + 5 Mfd., 350 V. Cbd. Box, 2 5/16x1 5/16x1 5/16 .....$1.35

DC-0619, Orig. No. 85692, 4 Mfd., 150 V. Cbd. Box, 2⅜x⅞x⅞.....$.60

DC-0620, Orig. No. 83734, 8+8 Mfd., 350 V. Cbd. Box, 3 11/16x1 3/16x1¼...$1.50

DC-0622, Orig. No. 81901, 8 Mfd., 150 V. Cbd. Box, 3½x1¼x1.....$.75

DC-0627, Orig. No. 83803, 12 Mfd., 25 V., Cartridge, 3/16x3 .....$.55

DC-0629, Orig. No. 85583, 16 Mfd., 450 V., F., B. Can, 1⅝x4¾ $1.55

DC-0632, Orig. No. 89053, 10 Mfd., 25 V., Cartridge, 3/16x3 .....$.50

DC-0634, Orig. No. 89186, 4 Mfd., 150 V., Cartridge, ⅝x2⅜ .....$.60

DC-0636, Orig. No. 89755, 4 Mfd., 250 V., Cartridge, ¾x2¾ .....$.65

UNITED MOTORS: DC-0621, Orig. No. 6201, 4+12+4 Mfd., 150 V. Cbd. Box, 2⅜x1⅜x1¼ $1.70

DC-0623, Orig. No. 6508, 8+8 Mfd., 360 V. + Dual 4 Mfd., 25 V. Cbd. Box, 2¾x1⅞x1½ $2.25

TRAV-LER: DC-0640, Orig. No. 50A, 16+10 Mfd., 150-100 V., Silver Cbd. Tube, 1⅜x4 1/16 .....$1.30

ZENITH: DC-0643, Orig. No. 525-P, 5+25+5 Mfd., 100 V. Cbd. Box, 2⅜x1¾x1⅜ $1.75

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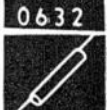
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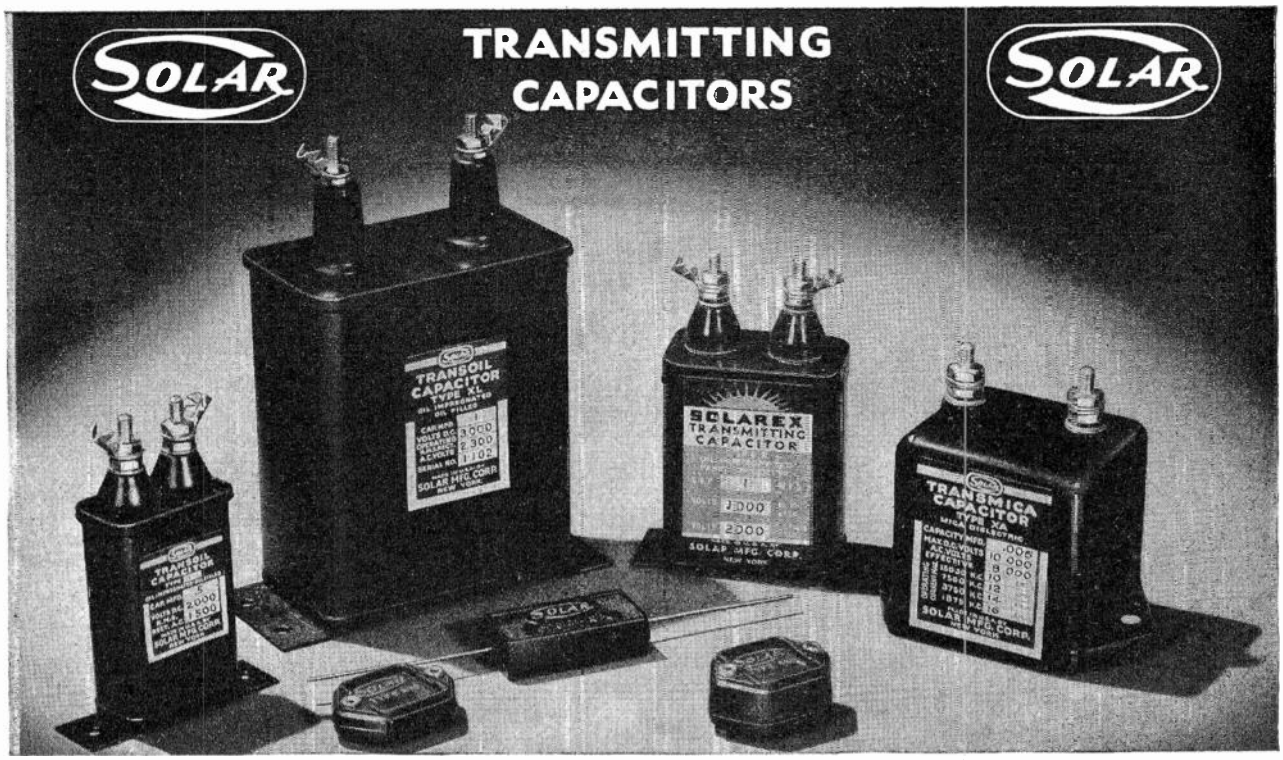
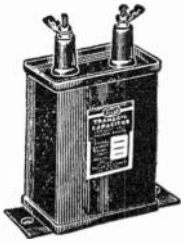


TRANSOIL TRANSMITTING CAPACITORS

OIL IMPREGNATED—OIL FILLED



TYPE XL

TYPE XD

TYPE XC

TYPE XT

TYPE XT—TUBULAR

Oil Impregnated—Metal Case

Cat. No.	Cap. Mfd.	Operating Volts D.C.	Size Inches	List Price
XT-0005	.0005	1600	½ x 1 ½	$ .60
XT-001	.001	1600	½ x 1 ½	.60
XT-002	.002	1600	½ x 1 ½	.60
XT-003	.003	1600	½ x 1 ½	.60
XT-004	.004	1600	9/16 x 1 ½	.60
XT-005	.005	1600	9/16 x 1 ¾	.60
XT-007	.007	1600	⅝ x 1 ¾	.60
XT-01	.01	1600	⅝ x 2 ⅛	.60
XT-02	.02	1600	¾ x 2 ⅛	.65
XT-05	.05	1600	15/16 x 2 ⅛	.80
XT-1	.1	1600	1 3/16 x 2 ¼	.90
XT-101	.01	1000	⅞ x 1 ¾	.50
XT-102	.02	1000	⅝ x 1 ¾	.55
XT-105	.05	1000	11/16 x 2 ⅛	.65
XT-11	.1	1000	15/16 x 2 ⅛	.80

TYPE XD—DRAWN SHELL CAN

Oil Impregnated—Oil Filled

XD-61	.1	600	1 13/16 x 1 x ¾	1.45
XD-625	.25	600	1 13/16 x 1 x ¾	1.70
XD-65	.5	600	2 x 1 ¾ x 1	1.95
XD-11	.1	1000	1 13/16 x 1 x ¾	1.80
XD-125	.25	1000	2 x 1 ¾ x 1	2.20

TYPE XC—ROUND INVERTED AL. CAN

Oil Impregnated—Oil Filled

XC-61	1	600	1 ½ x 3	2.00
XC-62	2	600	1 ½ x 3	2.25
XC-64	4	600	1 ½ x 4 ⅜	3.00
XC-11	1	1000	1 ½ x 3	2.25
XC-12	2	1000	1 ½ x 4 ⅜	2.75
XC-155	.5	1500	1 ½ x 3	2.75
XC-151	1	1500	1 ½ x 4 ⅜	3.00

TYPE XL—RECTANGULAR CANS

Oil Impregnated—Oil Filled

Cat. No.	Cap. Mfd.	Size Inches	List Price
600 D.C. Oper. Volts—440 R.M.S. Rect. A.C.			
XL-6-1	1	2 ⅛ x 1 ¾ x 1	$2.75
XL-6-2	2	2 ⅞ x 1 ¾ x 1	3.50
XL-6-4	4	3 5/8 x 2 ½ x 1 3/16	4.50
1000 D.C. Oper. Volts—660 R.M.S. Rect. A.C.			
XL-10-05	.5	2 ⅛ x 1 ¾ x 1	2.15
XL-10-1	1	2 ⅞ x 1 ¾ x 1	3.00
XL-10-2	2	4 x 1 ¾ x 1	4.00
XL-10-4	4	4 ¾ x 2 ½ x 1 3/16	5.00
1500 D.C. Oper. Volts—1000 R.M.S. Rect. A.C.			
XL-15-1	1	4 x 1 ¾ x 1	3.50
XL-15-2	2	4 ¾ x 2 ½ x 1 3/16	5.00
XL-15-4	4	4 ¾ x 3 ¾ x 1 ½	7.00
2000 D.C. Oper. Volts—1500 R.M.S. Rect. A.C.			
XL-20-01	.1	2 ⅛ x 1 ¾ x 1	3.25
XL-20-025	.25	2 ⅛ x 1 ¾ x 1	3.75
XL-20-05	.5	2 ⅞ x 1 ¾ x 1	4.00
XL-20-1	1	3 5/8 x 2 ½ x 1 3/8	4.50
XL-20-2	2	4 ¾ x 3 ¾ x 1 ½	5.50
XL-20-4	4	4 ¾ x 3 ¾ x 2 ¼	9.00
2500 D.C. Oper. Volts—1800 R.M.S. Rect. A.C.			
XL-25-1	1	4 ¾ x 3 ¾ x 1 ¼	8.00
XL-25-2	2	4 ¾ x 3 ¾ x 2 ¼	13.00
3000 D.C. Oper. Volts—2200 R.M.S. Rect. A.C.			
XL-30-01	.1	2 ⅞ x 1 ¾ x 1	8.00
XL-30-025	.25	3 5/8 x 2 ½ x 1 3/16	8.50
XL-30-05	.5	4 ¾ x 3 ¾ x 1 ½	9.00
XL-30-1	1	4 ¾ x 3 ¾ x 2 ¼	12.00
XL-30-2	2	4 ¾ x 3 ¾ x 3 3/16	15.00
4000 D.C. Oper. Volts—2800 R.M.S. Rect. A.C.			
XL-40-01	.1	3 5/8 x 2 ½ x 1 3/16	13.00
XL-40-025	.25	4 ¾ x 3 ¾ x 1 ½	15.00
XL-40-05	.5	4 ¾ x 3 ¾ x 2 ¼	18.00
5000 D.C. Oper. Volts—3500 R.M.S. Rect. A.C.			
XL-50-01	.1	4 ¾ x 2 ½ x 1 3/16	17.00
XL-50-025	.25	4 ¾ x 3 ¾ x 1 ½	18.00
XL-50-05	.5	4 ¾ x 3 ¾ x 2 ¼	20.00

YOUR GUARANTEE

THIS CAPACITOR IS GUARANTEED TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR ONE YEAR. WITHIN THIS PERIOD WE WILL REPLACE, FREE OF CHARGE ANY CAPACITORS WHICH ARE FOUND TO BE DEFECTIVE AND WHICH HAVE NOT BEEN MISUSED.

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TRANSMITTING CAPACITORS

SOLAREX TRANSMITTING CAPACITORS

OIL IMPREGNATED WAX FILLED

TYPE X—RECTANGULAR CANS

Cat. No.	Cap. Mfd.	D.C. Oper. Volts	D.C. Volts Flash Test	Size Inches	List Price
X-101	1	1000	2000	3 x2 7/16 x1 1/2	$1.85
X-102	2	1000	2000	4 5/8 x2 7/16 x1 1/2	2.50
X-104	4	1000	2000	4 5/8 x3 1/16 x2 1/16	3.35
X-151	1	1500	3000	4 5/8 x2 7/16 x1 1/2	2.40
X-152	2	1500	3000	4 5/8 x3 3/16 x2 1/16	3.35
X-154	4	1500	3000	4 5/8 x3 9/16 x2 9/16	5.40
X-201	1	2000	4000	4 5/8 x3 3/16 x2 1/16	2.90
X-202	2	2000	4000	4 5/8 x3 9/16 x2 9/16	4.10
X-204	4	2000	4000	6 x3 9/16 x2 9/16	7.75
X-301	1	3000	6000	6 x3 9/16 x2 9/16	4.15
X-302	2	3000	6000	6 x4 1/4 x2 7/8	8.25

TRANSMICA CAPACITORS

MICA DIELECTRIC PORCELAIN CASE

TYPE XA

High Voltage, Heavy Current-Carrying, Mica Transmitting Capacitors. Case size, 2⅞ x 2⅝ x 2⅜ inches.

Cat. No.	Cap. Mfd.	Max. D. C. Volts	A.C. Volts Effective	MAXIMUM AMPERES OPERATING 15000 Kc.	7500 Kc.	3750 Kc.	1875 Kc.	List Price
XA-12-45	.00005	12500	10000	3.5	2.5	1.7	1	$3.75
XA-12-31	.0001	12500	10000	5.5	4.5	3	2	3.75
XA-12-325	.00025	12500	10000	7	8	5	4	3.75
XA-7-35	.0005	7000	6000	8	8	6	4	3.75
XA-12-35	.0005	12500	10000	8	9	7	6	4.25
XA-3-21	.001	3500	3000	7	9	8	6	3.75
XA-7-21	.001	7000	6000	8	9	9	8	4.25
XA-12-21	.001	12500	10000	10	10	11	12	5.00
XA-3-215	.0015	3500	3000	7	8	8	5	4.00
XA-7-215	.0015	7000	6000	8	9	10	8	4.75
XA-12-215	.0015	12500	10000	9	10	11	10	5.50
XA-3-22	.002	3500	3000	7	8	9	7	4.25
XA-7-22	.002	7000	6000	9	9	10	10	5.25
XA-12-22	.002	12500	10000	9	11	12	14	6.50
XA-3-23	.003	3500	3000	8	9	10	8	5.00
XA-7-23	.003	7000	6000	8	9	10	11	6.00
XA-12-23	.003	12500	10000	9	11	12	14	8.00
XA-3-25	.005	3500	3000	10	10	11	9	6.00
XA-7-25	.005	7000	6000	10	12	14	16	7.00
XA-10-25	.005	10000	8000	10	12	14	16	9.50
XA-3-11	.01	3500	3000	10	12	14	16	7.00
XA-7-11	.01	7000	6000	10	12	14	16	9.50
XA-2-12	.02	2000	1600	10	12	14	16	7.00
XA-3-12	.02	3500	3000	12	14	16	18	8.75
XA-3-15	.05	3500	3000	12	14	16	18	11.50
XA-2-01	.1	2000	1600	12	14	16	18	11.00

TYPE XM BAKELITE MOLDED TRANSMITTING CAPACITORS

MICA DIELECTRIC

Size 1¾ x 1 5/16 x ½ inches except those marked * 1¾ x 1 5/16 x 13/16

600 D.C. Operating Volts 1000 D.C. Test Voltage		
Cat. No.	Cap. Mfd.	List Price
XM-6-45	.00005	$ .40
XM-6-31	.0001	.40
XM-6-32	.0002	.40
XM-6-325	.00025	.40
XM-6-35	.0005	.40
XM-6-21	.001	.50
XM-6-215	.0015	.50
XM-6-22	.002	.50
XM-6-225	.0025	.55
XM-6-23	.003	.60
XM-6-24	.004	.60
XM-6-25	.005	.70
XM-6-26	.006	.85
XM-6-28	.008	1.00
XM-6-11	.01	1.15
XM-6-115	.015	1.25
XM-6-12	.02	1.85
XM-6-125	.025	2.30
XM-6-13	.03	2.50
XM-6-14	.04*	3.25
XM-6-15	.05*	3.85

1200 D.C. Operating Volts 2500 D.C. Test Voltage		
Cat. No.	Cap. Mfd.	List Price
XM-12-45	.00005	$ .70
XM-12-31	.0001	.70
XM-12-32	.0002	.70
XM-12-325	.00025	.70
XM-12-35	.0005	.70
XM-12-21	.001	.90
XM-12-215	.0015	1.15
XM-12-22	.002	1.35
XM-12-225	.0025	1.45
XM-12-23	.003	1.55
XM-12-24	.004	1.55
XM-12-25	.005	1.75
XM-12-26	.006	1.75
XM-12-28	.008	2.25
XM-12-11	.01	2.80
XM-12-115	.015	3.35
XM-12-12	.02*	3.95
XM-12-125	.025*	4.40
XM-12-13	.03*	4.60

2500 D.C. Operating Volts 5000 D.C. Test Voltage		
Cat. No.	Cap. Mfd.	List Price
XM-25-45	.00005	$ .90
XM-25-31	.0001	.90
XM-25-32	.0002	1.05
XM-25-325	.00025	1.05
XM-25-35	.0005	1.25
XM-25-21	.001	1.50
XM-25-215	.0015	1.95
XM-25-22	.002	2.25
XM-25-23	.003	2.75
XM-25-24	.004	3.15
XM-25-25	.005	3.30
XM-25-26	.006	3.50
XM-25-28	.008*	3.80
XM-25-11	.01*	4.10
XM-25-115	.015*	4.50

TYPE XB MICA TRANSMITTING CAPACITORS

MOLDED IN LOW-LOSS BAKELITE—WITH WIRE LEADS

Size 1 13/32 x ¾ x ⅜ inches except those marked * are 2x1x 9/16 inches.

2000 D.C. V.O. 4000 Volts Test	Cat. No.	Cap. Mfd.	List Price
	XB-2-31	.0001	$ .70
	XB-2-325	.00025	.75
	XB-2-35	.0005	.80
	XB-2-21	.001	.95
	XB-2-22	.002	1.25
	XB-2-24	.004*	1.50
	XB-2-25	.005*	1.75
	XB-2-11	.01*	2.50
	XB-2-115	.015*	3.00

3000 D.C. V.O. 6000 Volts Test	Cat. No.	Cap. Mfd.	List Price
	XB-3-31	.0001	$1.00
	XB-3-325	.00025	1.05
	XB-3-35	.0005	1.25
	XB-3-21	.001	1.50
	XB-3-215	.0015	1.90
	XB-3-22	.002*	2.00
	XB-3-24	.004*	2.50
	XB-3-25	.005*	2.75
	XB-3-28	.008*	3.00

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CONDENSERS GH RESISTORS

UNCASED CONDENSERS

G-H Condensers are conservatively rated with a 4 to 1 safety factor, yet very compact. All units provided with push back leads.

Completely sealed against moisture in cellophane and wax. Thoroughly dependable under all conditions. One year guarantee.

300 VOLTS D.C. WORKING

Type	Mfd.	High	Wide	Thick	List Price
12X	.1	1¼	⅜	¼	$0.35
12Y	.25	1¼	¾	¾	.40
12Z	.5	1¼	1	⅝	.50
121	1	2⅛	1	⅝	.65
122	2	2⅛	1¼	¾	1.00

400 VOLTS D.C. WORKING

13X	.1	2⅛	1	¼	$0.40
13Y	.25	2⅛	1	¼	.45
13Z	.5	2⅛	1⅛	⅜	.55
131	1	2⅛	1¾	½	.75
132	2	2⅛	1¾	1	1.15

600 VOLTS D.C. WORKING

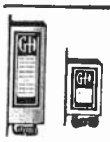
Type	Mfd.	High	Wide	Thick	List Price
141	1	2⅛	1¾	½	$0.90
142	2	2⅛	2⅛	1	1.35
241	1	3	1⅝	⅝	.90
242	2	3	2	¾	1.35

1000 VOLTS D.C. WORKING

35X	.1	3¾	1½	⅜	$0.80
351	1	3⅝	2½	¾	1.50
352	2	3¾	2¾	1½	2.50

1300 VOLTS D.C. WORKING

361	1	3¾	2¼	1	$1.90
362	2	3¾	2½	1½	3.50



ELECTROLYTIC REPLACEMENTS

1500 VOLT TEST — **PAPER WOUND**

These dry paper units are unaffected by age or weather. With no current leakage they provide better filtration over long periods of service.

500 W.V. 700 V. PEAK. — **ALL CAPACITIES.** — **STANDARD SHAPES**

Type	To Replace	Cardboard Container	List Price
P1	1 Mfd.	1⅜x ⅝x2	$0.75
P2	2 Mfd.	1⅜x1 x2	.85
P4	4 Mfd.	1¾x ¾x4⅜	.95
P8	8 Mfd.	1⅜x1 x4⅜	1.15
P4-4	4-4 Mfd.	1¾x1¼x4¾	1.90
P4-8	4-8 Mfd.	1⅝x1⅞x4¾	2.10
P8-8	8-8 Mfd.	1⅞x1⅞x4¾	2.20

Type	To Replace	Round Can	List Price
C8	8-Mfd.	1½ Dia.	$1.45
C8-8	8-8 Mfd.	2½ Dia.	2.55
C8-8-8	8-8-8 Mfd.	3 Dia.	3.90
C8-8-8-8	8-8-8-8 Mfd.	3 Dia.	5.25
C9-9-18	9-9-18 Mfd.	3 Dia.	4.95
C5-15	5-15 Mfd.	2½ Dia.	3.25

600-VOLT TUBULAR CONDENSERS

This type condenser with 600 W. V. is small in size, strongly constructed, safely sealed, and with self supporting lead wires which, securely anchored through center bar, will not loosen or break off. These low capacity condensers, requiring very little space, are extremely efficient with lasting merits.

Type	Mfd.	List Price	Type	Mfd.	List Price
P0001	.0001	$0.25	P02	.02	.25
P00025	.00025	.25	P03	.03	.25
P0005	.0005	.25	P04	.04	.25
P001	.001	.25	P05	.05	.30
P002	.002	.25	P06	.06	.30
P005	.005	.25	PX	.1	.35
P006	.006	.25	PY	.25	.50
P01	.01	.25	PZ	.5	.60

600-VOLT CERAMIC TUBULAR CONDENSERS

Small non-inductive 600-Volt Tubulars in CERAMIC tubes. Moisture and heat proof. Leads cannot loosen or break.

Type	Mfd.	List Price	Type	Mfd.	List Price
C0001	.0001	$0.15	C03	.03	$0.20
C00025	.00025	.15	C04	.04	.20
C0005	.0005	.15	C05	.05	.20
C001	.001	.15	C06	.06	.20
C002	.002	.15	CX	.1	.25
C005	.005	.15	CY	.25	.35
C006	.006	.15	CZ	.5	.50
C01	.01	.15	C1	1.	.90
C02	.02	.20			

ATWATER KENT BY-PASS

A small Replacement Condenser for Atwater Kent Sets.

Code	Mfd.	W. V.	List Price
A22Z	.5	300	$0.50

SPARTON BY-PASS

Thoroughly Sealed in Metal Case with a 400 V. rating.

Code	Mfd.	List Price
TY	.25	$0.60
T1	1.	1.00

VIBRATOR CONDENSERS

1500 VOLTS

Type 501

Cap .01 ... List $0.60

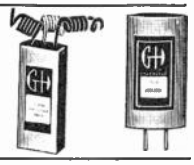
Type 504

.01 ..... List $0.30
.02 ..... List .40

Type 503

.01 ..... List $0.45
.02 ..... List .45

INTERFERENCE FILTERS



Code	List Price
DPZ—General Interference	$1.75
F2 —Motor Filter	2.50
F3 —Condenser—Choke Combination	4.00
F4 —Motor Filter	3.75
F1 —Plug-in	1.00

AUTO CONDENSERS

G-H Suppressor Units are sturdily constructed to withstand heat and vibration.

Code	Cap.	List Price
AUZ	.5 Mfd.	$0.50
AU1	1. Mfd.	.70
Ford	.5 Mfd.	.60

HIGH VOLTAGE PAPER CONDENSERS

FOR PA WORK AND LOW-POWERED TRANSMITTERS

Heavy duty paper condensers safely sealed in cardboard container. Wire leads with mounting brackets.

Type	Mfd.	Work Volts	High	Shape Wide	Thick	List Price
B41	1	600	2⅛	1¼	1¼	$0.90
B42	2	600	2⅛	2	1⅜	1.35
B44	4	600	4¼	1½	1	2.25
B51	1	800	4¼	1⅜	⅝	1.20
B52	2	800	4¼	1½	1	1.90
B54	4	800	4¼	2	1⅜	2.85

PANEL MOUNTINGS

DRAWN METAL CASES

800 and 1000 volt condensers sealed in drawn metel cans.

Type	Mfd.	Work Volts	High	Shape Wide	Thick	List Price
A1	1	800	2	1¾	1⅜	$1.55
A2	2	800	3¼	1¾	1⅜	2.25
A4	4	800	4¼	1¾	1⅜	3.20
HA1	1	1000	3¼	1¾	1¾	1.85
HA2	2	1000	4¼	1¾	1¾	2.85

400 Volt.
Can Size—
1¾x¾x¾

CASED BY-PASS

Type	Mfd.	List Price
BAX	.1	$0.50
BAY	.25	.60
BAZ	.5	.70
BAXX	.1-.1	.75
BAXXX	.1-.1-.1	1.00

These Stamped Metal Cased Condensers are small and very handy for all Replacements.

400 Volt.
Can Size—
2x1¾x¾

CASED BY-PASS

Type	Mfd.	List Price
DAZ	.5	$0.70
DAI	1	.85
DAYY	.25-.25	1.00
DAZZ	.5-.5	1.25

This type is an exact duplicate of that used in a great number of sets. Standard mounting holes.

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World Radio History

ELECTROLYTIC CONDENSERS

High Voltage Midget Electrolytics

Single and Dual Section

450 W.V. **500 V. Peak**

These units are of the highest quality and small size.

Code No.	Capacity	Height	Width	Thickness	List Price
EW01	1 Mfd.	2 7/16	7/8	5/8	$0.55
EW02	2 Mfd.	2 7/16	7/8	5/8	.65
EW04	4 Mfd.	2 7/16	7/8	5/8	.75
EW08	8 Mfd.	2 7/16	1	5/8	.95
EW44	4+4	2 7/16	1 1/2	1	1.20
EW88	8+8	2 7/16	1 5/8	1 1/8	1.50

High Voltage Standard Electrolytics

Single and Dual Section

450 W. V. **500 V. Peak**

Permanently sealed in wax. Unaffected by weather conditions

Code No.	Capacity	Height	Width	Thickness	List Price
EA04	4 Mfd.	4 1/4	1 1/4	5/8	$0.75
EA06	6 Mfd.	4 1/4	1 1/4	7/8	.90
EA08	8 Mfd.	4 1/4	1 1/4	7/8	.95
EA010	10 Mfd.	4 1/4	1 3/8	1 1/4	1.15
EA012	12 Mfd	4 1/4	1 3/8	1 1/4	1.30
EH044	4+4	4 3/8	1 3/8	1 1/4	1.20
EH048	4+8	4 3/8	1 3/8	1 1/4	1.35
EH088	8+8	4 3/8	1 1/2	1 1/2	1.50

A.C.-D.C. Exact Replacements

These units are the same as used in many popular sets.

Mounting Flanges on all Units

Code No.	Capacity	Volts	Size	List Price
EF44	4+4	175	2 7/8"x1" x 3/4"	$0.85
EF88	8+8	175	3" x1 1/2" x1"	1.20
EF168	16+8	175	4 1/4"x1 1/4"x 1/8"	1.35
EF255	25+5	175	3" x2" x1"	1.40
EF2168	16+16+8	175	4 3/8"x1 1/8"x1 3/4"	2.55
EF2555	25+5+5	175	2 1/4"x1 1/2"x1 5/8"	1.95
EF888	8+8+8	250	2 3/4"x2 1/2"x1 1/2"	1.90

Low Voltage Midget Electrolytics

200 W.V. **220 V. Peak**

Space saving units for repairs in A.C., D.C. and compact sets. These units are of the highest quality and small size.

Code No.	Capacity	Height	Width	Thickness	List Price
ER4	4 Mfd.	2 3/8	3/4	3/4	$0.65
ER6	6 Mfd.	2 3/8	3/4	3/4	.75
ER8	8 Mfd.	2 3/8	3/4	7/8	.80
ER10	10 Mfd.	2 3/8	3/4	7/8	.90
ER12	12 Mfd.	2 3/8	1	7/8	.95
ER16	16 Mfd.	2 3/8	1	7/8	1.05
ER20	20 Mfd.	2 3/8	1	7/8	1.20
ER25	25 Mfd.	2 3/8	1	7/8	1.25

Cartridge Electrolytics

High Capacity

Tubular units offering high capacities.Small space.Low cost

Code No.	Capacity	Peak	Length	Diameter	List Price
ET4	4 Mfd.	500 V.	2 1/16	7/8	$0.75
ET8	8 Mfd.	500 V.	2 3/4	5/16	.90
ET12	2 Mfd.	175 V.	1 3/4	5/8	.50
ET14	4 Mfd.	175 V.	1 3/4	7/8	.60
ET18	8 Mfd.	175 V.	2 1/2	7/8	.75
ET610	10 Mfd.	60 V.	2 1/4	3/4	.65
ET335	5 Mfd.	35 V.	1 3/4	5/8	.50
ET310	10 Mfd.	35 V.	1 3/4	5/8	.50
ET325	25 Mfd.	35 V.	2 1/2	7/8	.65
ET55	5+5	35 V.	2	7/8	.75
ET1010	10+10	35 V.	2 1/2	1	.75

Can Type Electrolytics

Single and Multiple Sections

450 W.V. **500 V. Peak**

Code No.	Capacity	Dia.	Can Type		List Price
ED08	8 Mfd.	1 3/8	Insulated	Can	$1.05
ED044	4+4 Mfd.	1 3/8	"	"	1.30
ED048	4+8 Mfd.	1 3/8	"	"	1.45
ED088	8+8 Mfd.	1 3/8	"	"	1.60
EC8	8 Mfd.	1 3/8	Grounded	Can	1.05
EP88	8+8 Mfd.	2 1/2	"	"	1.80
EP515	5+15 Mfd.	2 1/2	"	"	2.30
EQ888	8+8+8 Mfd	3	"	"	2.70
EQ9918	9+9+18 Mfd.	3	"	"	3.75
EQ8888	8+8+8+8	3	"	"	3.60

TRANSMITTING CONDENSERS

Wax Sealed Heavy Duty Units
Built for Years of Service

W.V.	Cap.	Can Size	List Price
1000	1	2 1/2	$2.90
1000	2	2 1/2	4.30
1500	1	3	4.00
1500	2	3	5.50
2000	1	3	4.90
2000	2	3	6.75
3000	1	3 1/2	9.50
3000	2	3 1/2	14.00
4000	1	Rect.	20.00
4000	2	Rect.	34.00
5000	1	Rect.	26.00
5000	2	Rect.	45.00

WET ELECTROLYTICS

Self Healing Wet Electrolytics

Type	Cap.	Volts	List Price
WE4	4 Mfd.	500	$0.90
WE8	8 Mfd.	500	1.00
WE12	12 Mfd.	500	1.20
WE16	16 Mfd.	500	1.40
WE20	20 Mfd.	500	1.50
WE30	30 Mfd.	500	2.00

INSULATED RESISTORS

Actual Size.

A small accurate resistor molded in bakelite for protection against moisture and shorts

½ Watt, Size ⅜x⅛ ..... **List Price $0.17**

STOCK VALUES IN ½ WATT-OHMS

100	1,500	15,000	200,000
150	2,000	20,000	250,000
200	2,500	25,000	300,000
250	3,000	30,000	400,000
300	3,500	40,000	500,000
400	4,000	50,000	750,000
500	5,000	60,000	1 Meg.
600	6,000	75,000	2 Meg.
750	7,500	100,000	3 Meg.
1,000	10,000	150,000	4 Meg.
			5 Meg.

CARBON RESISTORS

Accurate molded Carbon Resistors of the Highest Grade—Non-inductive.

	List Price
½ Watt	$0.15
1 Watt	.15
3 Watt	.25

STOCK VALUES IN ½-1-3 WATT-OHMS

100	2,500	30,000	750,000
150	2,750	35,000	1 Meg.
200	3,000	40,000	2½ Meg
250	3,500	50,000	2 Meg.
300	4,000	60,000	3 Meg.
400	5,000	70,000	4 Meg.
500	6,000	75,000	5 Meg.
600	7,500	85,000	6 Meg.
750	10,000	100,000	7 Meg.
900	12,500	125,000	8 Meg.
1,000	15,000	150,000	9 Meg.
1,250	17,500	200,000	10 Meg.
1,500	20,000	250,000	15 Meg.
1,750	22,500	300,000	20 Meg.
2,000	25,000	400,000	
2,250	27,500	500,000	

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World Radio History

Dry Electrolytic Bypass Condensers

METAL CASED TUBULAR TYPE BB

● New Mallory Dry Electrolytic Metal Cased Tubular Replacement Condensers Type "BB" incorporate the result of over ten years of research and over a year of actual contact with radio design engineers, making possible replacement condensers as dependable in every respect as present Mallory construction, and embodying every possible safety factor. Specific engineering details follow:

Anode Electrode

The earliest condensers used plain aluminum foil of high purity for the anode. Later, an etching process was developed for roughening the surface of this foil, increasing its effective area. The increased area gave an increased capacity ranging from 2.75 to 1, at high voltage, to roughly 7 to 1 at low voltages.

Mallory Type BB Condensers do not use either plain or etched foil. The anode material, known as F.P. Plate, is fabricated exclusively in the Mallory factory and has a normal capacity ratio, as compared to plain aluminum foil, of 10 to 1. Ratios of 30 to 1 or higher are possible under certain conditions. This composite material provides better and more stable characteristics than the former type of anode.

An entirely new method of making connection to the anode is utilized in the Type BB construction. The anode tabs are formed as an integral part of the anode during the fabrication of the anode material and are of extremely heavy aluminum strip rather than the fragile foil tabs of past designs. *A great advantage of the new tab construction is the complete elimination of rivets or joints of any kind inside of the condenser container. This prolongs their life and allows for extra space for more complete sealing.*

Separator Material

Mallory Type BB Condensers utilize another Mallory development as a separator material. This material is a treated substance and like the F.P. anode material, is fabricated exclusively in the Mallory factory. It is more easily impregnated with electrolyte than former materials. *It has an extremely high safety factor against punctures. It assures maximum voltage protection under all conditions.* Lower working voltage ratings than formerly believed possible may be used wherever the preceding regulation resistance is sufficient to limit the excess current during the surge voltage cycle.

Temperature and Power Factor

The remarkably small size of Type BB Condensers does not limit their ability to operate satisfactorily at their maximum temperature rating of 185° F. (140° F. for the 450-volt rating). The power factor and series resistance are unusually low and, therefore, the losses involved due to normally encountered ripple current, are not sufficient to generate any noticeable internal heat.

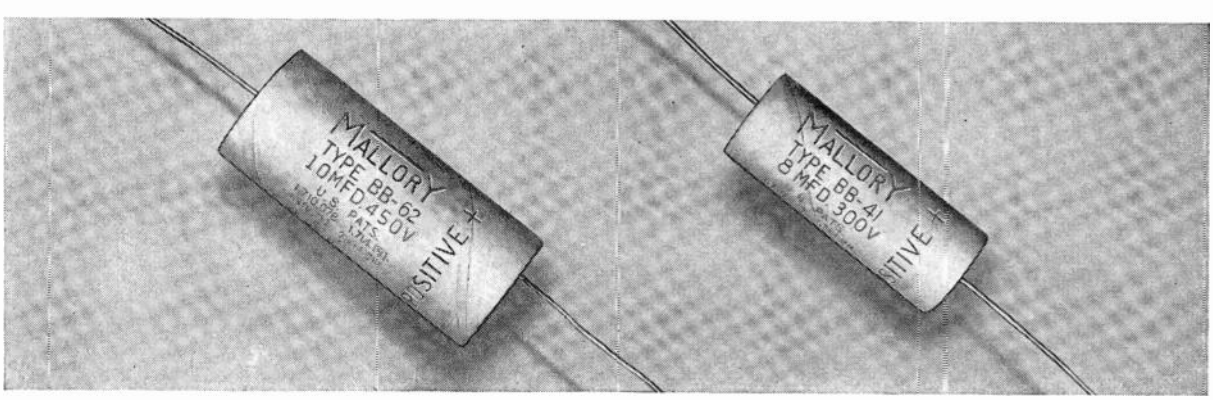
RF Impedance

The RF Impedance characteristic of Mallory Type BB Condensers is remarkably and uniformly low.

There has been no squeezing of size, elimination of important protective assembly features, or reduction of sealing measures in Mallory Type BB Condensers.

The small size of Mallory Type BB Condensers is accomplished without sacrifice of quality through the use of F.P. anode material.

Capacity	Wkg. V.	Size	Catalog Number	List Price
10	15	1 5/8 x 11/16	BB12	$0.40
20	25	1 5/8 x 11/16	BB15	.50
40	25	1 5/8 x 11/16	BB17	.60
4	150	1 5/8 x 11/16	BB20	.40
8	150	1 5/8 x 11/16	BB21	.45
10	150	1 5/8 x 11/16	BB22	.50
16	150	1 5/8 x 11/16	BB24	.55
20	150	1 5/8 x 11/16	BB25	.60
30	150	2 x 7/8	BB26	.65
4	300	1 5/8 x 11/16	BB40	.50
8	300	1 5/8 x 11/16	BB41	.55
10	300	1 5/8 x 11/16	BB42	.65
16	300	2 x 7/8	BB44	.80
4	450	1 5/8 x 11/16	BB60	.55
8	450	2 x 7/8	BB61	.60
10	450	2 x 7/8	BB62	.70



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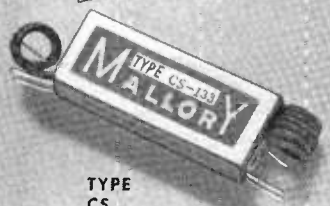

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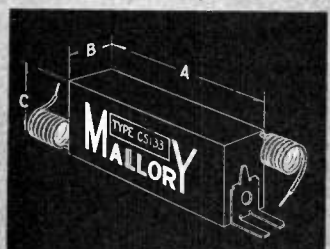

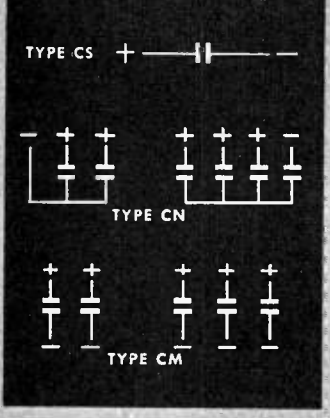

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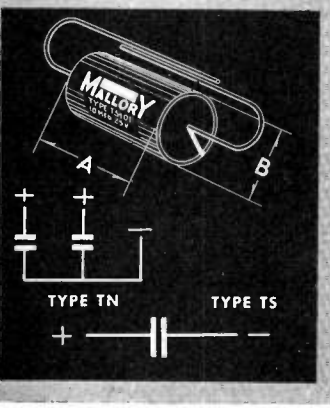

Dry Electrolytic Filter Condensers

CARDBOARD CARTON TYPES CS, CN and CM

● These units are of extremely small size making them ideal for replacement as well as initial design purposes. The use of etched plate construction has made possible better electrical characteristics and longer life in sizes that were formerly deemed impractical.

Metal mounting flanges—originated by Mallory—are provided on all units except the smallest size which is intended for mounting by means of its own leads. An internal metal seal effectively protects these units against changes in their characteristics due to varying humidity. Due consideration has been given to the high temperatures often encountered in midget and auto receivers. All 450-volt units have cellophane separators, assuring continued performance even when high surge voltages are encountered.

All units are supplied with 8" stranded pushback wire leads. All positive leads are at one end and negative leads are at the opposite end of the carton. The Mallory "Terminal Connector"—No. A-016—designed to solder easily to the chassis is available for use where original condensers had lugs instead of leads. Type CS represents single units, Type CN common cathode units and Type CM multiple separate section units not internally connected. **Always use Type CM when a common positive unit is desired.**

CS—Single Type

Capacity	Wkg. V.	Max. Surge	Size B C A	Catalog Number	List Price
4	250	300	½ x ¾ x 2 7/16	CS121	$0.65
8	250	300	⅝ x ⅞ x 2 7/16	CS123	.80
10	250	300	⅝ x 1 x 2 7/16	CS124	.95
12	250	300	⅝ x 1 x 2 7/16	CS125	1.00
16	250	300	11/16 x 1⅛ x 2 7/16	CS126	1.10
2	450	525	½ x ¾ x 2 7/16	CS130	.65
4	450	525	⅝ x ⅞ x 2 7/16	CS131	.75
6	450	525	⅝ x 1 x 2 7/16	CS132	.90
8	450	525	⅝ x 1 x 2 7/16	CS133	.95
10	450	525	11/16 x 1⅛ x 2 7/16	CS134	1.15
12	450	525	11/16 x 1⅛ x 2 7/16	CS135	1.30
16	450	525	1 x 1¼ x 2 7/16	CS136	1.45

CN—Common Cathode Type

4-4	250	300	⅝ x 1 x 2⅝	CN140	$0.90
4-8	250	300	⅝ x 1 x 2⅝	CN141	1.15
8-8	250	300	¾ x 1⅛ x 2⅝	CN142	1.30
8-8-8	250	300	⅞ x 1¼ x 3	CN145	1.95
4-4	450	525	¾ x 1⅛ x 2⅝	CN150	1.20
4-8	450	525	⅞ x 1¼ x 2⅝	CN151	1.35
8-8	450	525	⅞ x 1¼ x 2⅝	CN152	1.50
8-8-8	450	525	1½ x 1¼ x 3	CN155	2.20

CM—Separate Section Type

4-4	250	300	¾ x 1⅛ x 2⅝	CM160	$0.90
4-8	250	300	¾ x 1⅛ x 2⅝	CM161	1.15
8-8	250	300	⅞ x 1¼ x 2⅝	CM162	1.30
8-8-8	250	300	1⅜ x 1 x 3	CM165	1.95
16-16	250	300	1⅜ x 1 x 2⅝	CM164	1.80
4-4	450	525	¾ x 1⅛ x 2⅝	CM170	1.20
4-4-4	450	525	1½ x 1¼ x 3	CM173	1.80
4-8	450	525	⅞ x 1¼ x 2⅝	CM171	1.35
8-8	450	525	1⅜ x 1 x 2⅝	CM172	1.50
8-8-8	450	525	1½ x 1¼ x 3	CM175	2.20

Dry Electrolytic Bypass Condensers

CARDBOARD TUBULAR TYPES TS and TN

● These units are designed especially for by-passing the cathode bias resistors in audio frequency amplifiers and other low voltage circuits where dry electrolytic condensers are applicable.

Type TS represents the single unit type and type TN the dual common cathode type. They are made as small as good engineering will permit. Three-inch bare tinned copper leads provide for electrical connection as well as a mounting support.

These units are encased in special varnished cardboard tubes affording extra protection against moisture absorption and are, therefore, unaffected by adverse climatic conditions.

TS—Single Type

Capacity	Wkg. V.	Max. Surge	Size A B	Catalog Number	List Price
10	25	40	1¾ x ¾	TS101	$0.50
20	25	40	2¼ x ⅞	TS102	.60
25	25	40	2¼ x ⅞	TS103	.65
50	25	40	2¾ x 1	TS104	.95
5	50	75	1¾ x ¾	TS105	.50
10	50	75	2¼ x ⅞	TS106	.65
25	50	75	2¾ x 1	TS107	.80
50	50	75	3⅛ x 1⅛	TS108	1.20

TN—Common Cathode Type

5-5	25	40	1¾ x ¾	TN110	$0.75
10-10	25	40	2¼ x ⅞	TN111	.75
5-5	35	50	1¾ x ⅞	TN112	.75
5-5	50	75	2¼ x ⅞	TN113	.75

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Approved PRECISION PRODUCTS

MALLORY YAXLEY

Dry Electrolytic Filter Condensers

ROUND ALUMINUM CAN TYPES RS, RN and RM

RS—Single Type

Capacity	Wkg. V.	Max. Surge	Size A B	Catalog Number	List Price
50	25	40	2¾ x 1	RS200	$1.05
4	250	300	2¾ x 1	RS201	.75
8	250	300	2¾ x 1	RS203	.95
12	250	300	2¾ x 1	RS205	1.10
25	250	300	3½ x 1	RS207	1.50
50	300	350	3¾ x 1⅜	RS208	2.75
4	450	525	2¾ x 1	RS211	.85
8	450	525	2¾ x 1	RS213	1.05
12	450	525	2¾ x 1	RS215	1.40
16	450	525	3½ x 1	RS216	1.55

RN—Common Cathode Type

4-8	250	300	3 x 1	RN231	$1.30
8-8	250	300	3 x 1	RN232	1.45
8-8-8	250	300	3 x 1⅜	RN235	2.10
4-8	450	525	3 x 1	RN241	1.45
8-8	450	525	3 x 1⅜	RN242	1.60
8-8-8	450	525	3½ x 1⅜	RN245	2.30

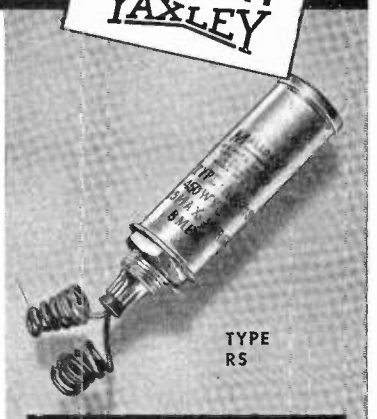
RM—Separate Section Type

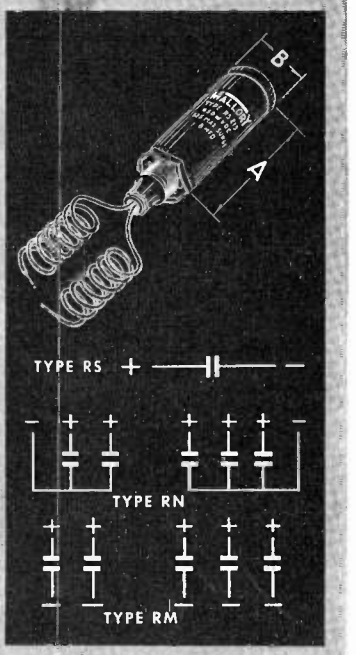
4-8	250	300	3 x 1⅜	RM251	$1.30
8-8	250	300	3 x 1⅜	RM252	1.45
8-8-8	250	300	3½ x 1⅜	RM255	2.10
8-8-16	250	300	3½ x 1⅜	RM257	2.35
8-16-16	250	300	3½ x 1⅜	RM259	2.60
4-8	450	525	3 x 1⅜	RM261	1.45
8-8	450	525	3 x 1⅜	RM262	1.60
8-8-8	450	525	4 x 1⅜	RM265	2.30

● Modern in construction, these units are of reduced size and incorporate many desirable features. They are for use whenever round can units are desired. All units are supplied with 8" stranded pushback wire leads of a practical gauge and are plainly color coded on the unit. For replacement where the original employed lugs instead of leads, the Mallory "Terminal Connector" will be found invaluable.

These units also incorporate etched plate construction and stitched anode leads. All 450-volt units have cellophane separators, guarding them against surge voltage failures. Special hardware of exclusive design enables these units to be mounted in any of the five original types of mountings with a minimum of effort. See the Mallory-Yaxley Radio Service Encyclopedia for complete instructions and service applications.

Type RS represents the single section type, RN the common cathode type and RM the multiple separate section type where the units are not internally connected. **Always use Type RM when a common positive unit is desired by connecting the positive leads together.**





AC Electrolytic Capacitors

FOR MOTOR STARTING SERVICE—TYPE MSR

● These units are designed for universal replacement applications and may be used in a majority of cases. There is a special AC Motor Starting Folder available which covers over 150 different motor starting applications and gives handy installation information. This folder may be obtained through any Mallory Distributor or by writing the Wholesale Division of P. R. Mallory & Co., Inc., at Indianapolis.

Prices of the units described here do not include end cap or mounting strap. Each of these is available separately at the prices listed.

Capacity Rating New	Capacity Rating Old	AC Volts	Size A B	Catalog Number	List Price
64- 72	60	110	4⅛ x 2	MSR867	$3.40
75- 84	70	110	4⅛ x 2	MSR872	3.80
86- 96	80	110	4⅛ x 2	MSR873	4.00
108-120	100	110	3⅛ x 1⅜	MSR879	4.50
108-120	100	110	4⅛ x 2	MSR880	4.50
124-138	115	110	3⅛ x 1⅜	MSR889	5.00
124-138	115	110	4⅛ x 2	MSR888	5.00
145-162	135	110	4⅛ x 2½	MSR892	5.80
161-180	150	110	4⅛ x 2½	MSR894	6.40

End Caps and Mounting Straps for Round Capacitors

	Size	Cat. No.	List Price
End Caps	1⅜"	115-1	$0.15
End Caps	2"	116-1	.15
End Caps	2½"	117-1	.15
Mounting Strap	2"	110-1	.05
Mounting Strap	2½"	111-1	.05

A great many improvements in design and processing have been made since motor capacitors were first used. All Mallory AC motor starting capacitors are of the latest improved construction and ingeniously designed with respect to their physical appearance and shape to guarantee easy installation.

So that Mallory may continue to assist you by maintaining complete capacitor listing, you are urged to send in any data relative to motor types, refrigerator models or original capacitors to aid in determining additional replacement recommendations. This data may be readily secured during actual service work and should be directed to the Application and Research Department of P. R. Mallory & Co., Inc., Indianapolis, Ind.

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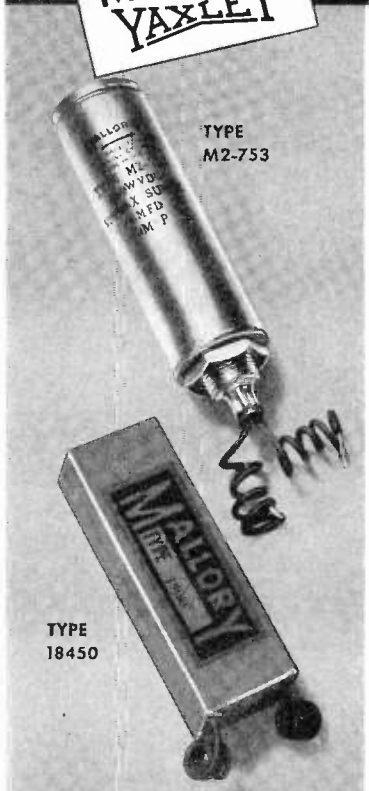


Old Style Condensers

DRY ELECTROLYTIC, ORIGINAL LARGE SIZE

● It is inevitable that the modern small size units described in this catalog will eventually render obsolete the old style large type units as they are superior and offer practical advantages heretofore unknown.

It is a Mallory policy, however, to provide as complete a service as possible. Should there still be a demand for old style units, we list those types that have been most popular in the past.

It is interesting to note that since the announcement of Mallory etched plate condensers two years ago the new units have been outselling these old style units by a large percentage. Mallory has brought the etched plate construction to so high a point that present Mallory Replacement Condensers, in their small sizes, have even higher efficiency than the large condensers with similar characteristics and ratings. Yet there is no squeezing—hence no bulging sides to cartons or cans.

Cap.	Wk.V.	Max. Surge	Size A B C	Catalog Number	List Price
Single Unit in Carton with Two Leads					
4	450	525	4⅛ x 1⅜ x 1 1/16	14450	$0.75
8	450	525	4⅛ x 1⅜ x 15/16	18450	.95
Dual Unit in Carton with Four Leads					
4-8	450	525	4⅜ x 1½ x 1¾	148450	1.35
8-8	450	525	4⅜ x 1½ x 2	188450	1.50
Single Unit in Round Can with One Lug					
8	450	525	3¾ x 1⅜	TM2-8	1.05
Single Unit in Round Can with Two Leads					
8	450	525	4 7/16 x 1⅜	M2-753	1.05
Dual Unit in Round Can with Four Leads					
8-8	450	525	4 7/16 x 1½	M2-585	1.60

Hardware and Accessories

● The Mallory "Terminal Connector" No. A-016 is invaluable for many applications.

Where cable or harness wiring was originally used the Mallory "Terminal Connector" affords a neat and effective anchor between the flexible leads from the condenser and the cable, making it unnecessary to splice and tape these connections.

The other accessories afford a practical method of installing standard Mallory round can units in any style of mounting—a truly universal feature.

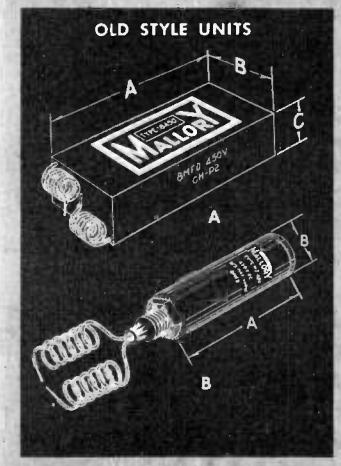
DESCRIPTION	Catalog Number	List Price
Mallory Terminal Connector	A-016	$0.05
Washer for Clamp Mounting 1" Cans	A-017	.05
Washer for ⅞" Hole Mounting 1" Cans	015-1	.03
Washer for Spade Bolt Mounting 1" and 1⅜" Cans	015-2	.03
Ring Clamp for 1" Round Unit	105-1	.07
Ring Clamp for 1⅜" Round Unit	106-1	.08
Ring Clamp for 1½" Round Unit	107-1	.10
Ring Clamp for 2½" Round Unit	108-1	.15
Ring Clamp for 3" Round Unit	109-1	.15
Special Mounting Bracket	104-1	.10

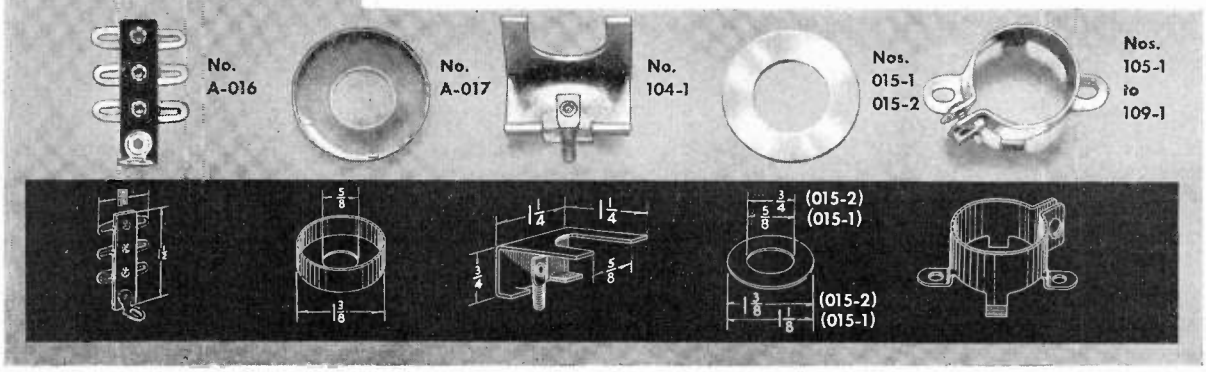
The special Mallory washer, A-017, with overturned edge, is for use with 1" round cans when the unit is to be clamp-mounted in a standard 1⅜" clamp.

The large flat washer, 015-2, is for mounting either the 1" or 1⅜" round units when a spade bolt mounting was used originally. Usually a standard tube socket punch was used in this case and one flat washer beneath the chassis is all that is required for mounting the 1⅜" units. Two of these washers are required for mounting the 1" units, one above and one below the chassis.

The Universal Mounting Bracket No. 104-1 is for mounting threaded neck round can units on chassis originally provided with ring clamp or spade bolt mountings. The Mallory Ring Clamp, available in 5 sizes, is for mounting all types of round can condensers.

Complete instructions on all accessories are given in the Mallory-Yaxley Radio Service Encyclopedia.





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P. R. MALLORY & CO. INC.
MALLORY YAXLEY

Large Round Can Condensers

DRY ELECTROLYTIC TYPE MN

MN—Multiple Section Common Cathode Type (Common Negative) (All Cathodes to Can)

Capacity	Size A B	Catalog Number	List Price
8-8	4⅛ x 2½	MN272	$1.80
5-15	4⅛ x 2½	MN273	2.30
8-8-8	4⅛ x 3	MN275	2.70
8-8-8-8	4⅛ x 3	MN277	3.60
9-9-18-18	4⅛ x 3	MN278	5.25

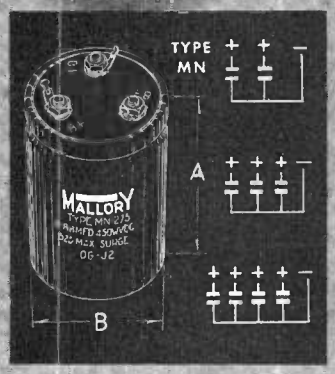
As a matter of interest it is surprising to see the real reduction in size made possible through Mallory etched plate units (RS, RN, etc.). The old style triple 8 mfd., like MN275 listed on this page, measures 4⅛" x 3", compared to the new type RN235, measuring 3" x 1⅜".

Mallory has pioneered the progress of etched plate dry electrolytic condensers—gaining experience with millions of etched plate condensers in the field.

● Type MN units are designed primarily for replacing old style multiple section wet electrolytics. For this reason, the original size has been maintained in order that they will properly fit the mounting peculiar to this type.

Actually, the power factor or filtering efficiency of these old style units cannot compare with modern dry electrolytic condensers, and, therefore, much less total capacity is required than originally specified. For this reason, only five ratings are listed. These will satisfactorily replace all the former ratings with equal or even better results. Instructions are given in the Mallory-Yaxley Radio Service Encyclopedia.

TYPE MN



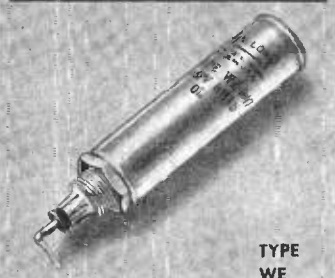
Wet Electrolytic Condensers

TYPE WE

Capac.	Wk.V.	Peak V.	Size B A	Catalog Number	List Price
4	450	475	1 x 3 7/16	WE447	$0.80
8	450	475	1 x 3 7/16	WE847	.95
8	450	475	1⅜ x 3 15/16	WE847A	.95
12	450	475	1⅜ x 3 15/16	WE1247	1.15
16	450	475	1⅜ x 3 15/16	WE1647	1.35
18	450	475	1⅜ x 3 15/16	WE1847	1.50
25	450	475	1⅜ x 4 15/16	WE2545	1.70
35	450	475	1½ x 4 7/16	WE3540	1.75
40	450	475	1½ x 4 15/16	WE4045	1.90

● Mallory Wet Electrolytic units include all the latest features found in this type of condenser. The interior of the container is treated to prevent its formation when an AC component is present. Supplied with lug positive and container negative in the sizes shown.

The special "A" washer A-017 is required when using 1" cans in replacing 1⅜" cans of the clamp mounting type. Always mount in an upright position. Prices include palnut for mounting.



TYPE WE

High Capacity Low Voltage Condensers

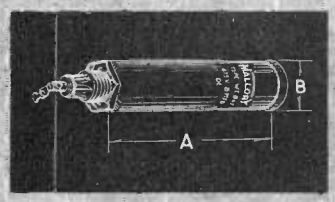
DRY ELECTROLYTIC TYPE HC

● Type HC units are for use in speaker field supply circuits, talking movie equipment, "A" Eliminators and similar equipment. They are carefully designed so as to guarantee unexcelled performance.

Since the field is relatively small a stock is not maintained, but arrangements have been made to give reasonable delivery service.

HC units are available in capacities from 500 to 5000 mfd. at working voltages from 6 to 50 volts DC.

All units are in round metal containers. Rectangular type containers may be had on special order.



Dry Electrolytic Bypass Condensers

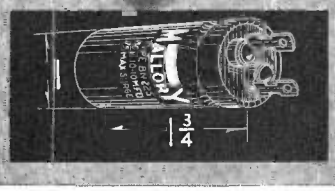
ROUND ALUMINUM CAN TYPE BN

Capacity	Wkg. V.	Max. Surge	Catalog Number	List Price
10-10	50	75	BN225	$0.95
10-10	50	75	BN226	1.00

● Type BN units are made in two different mounting arrangements.

Type BN225 is in a plain can. Type BN226 is in a can with ¼" 20-thread stud and is furnished with a small bracket for horizontal mounting.

TYPE BN



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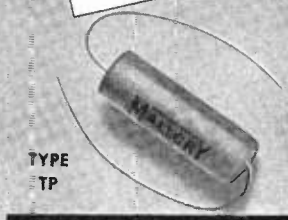
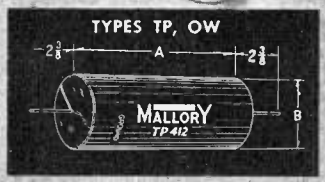
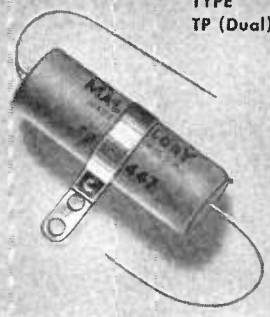
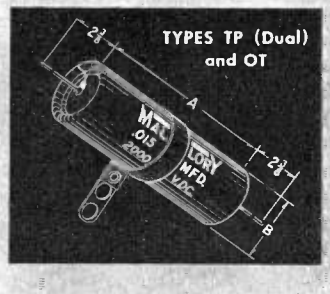


TYPE TP

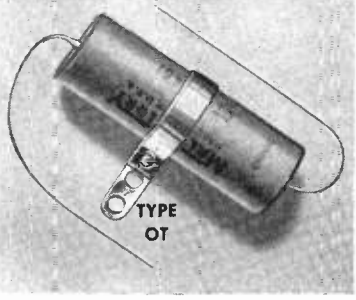




TYPE TP (Dual)



TYPE OW



TYPE OT

Tubular Paper Dielectric Condensers

TYPE TP—WAX IMPREGNATED

Small size for easy installation. These units meet all requirements.

Moisture-proof seal for long life. The sealing method employs high temperature wax and assures long life and permanent characteristics even when subjected to severe humidity.

Low RF impedance. Wound non-inductively.

Protective packaging preserves appearance. They are packaged five or ten to a carton, as indicated under Column S in the chart.

Chart shows DC working voltage rating.

Dual units have outside foil common and connected to the mounting strap.

Cap.	Size A B	S	Catalog Number	List Price
	TYPE TP—200 VOLTS			
.05	1⅜ x 7/16	10	TP436	$0.15
.1	1⅜ x 9/16	10	TP438	.20
.25	2 x ⅝	10	TP440	.25
.5	2 1/16 x ¾	10	TP441	.35
1.0	2⅛ x 1	5	TP443	.50
	TYPE TP—400 VOLTS			
.01	1 1/16 x ⅜	10	TP421	.15
.02	1¼ x 7/16	10	TP423	.15
.03	1¼ x ½	10	TP424	.20
.04	1¼ x 9/16	10	TP425	.20
.05	1⅜ x ½	10	TP426	.20
.06	1⅜ x ½	10	TP427	.20
.1	1⅝ x 9/16	10	TP428	.20
.2	1⅝ x ¾	10	TP429	.25
.25	2 x 11/16	10	TP430	.30
.5	2⅛ x 13/16	10	TP431	.40
1.0	2½ x 1	5	TP422	.60
	TYPE TP—600 VOLTS			
.0001	1 1/16 x 5/16	10	TP401	$0.15
.00025	1 1/16 x 5/16	10	TP402	.15
.0005	1 1/16 x 5/16	10	TP403	.15
.001	1 1/16 x 5/16	10	TP404	.15
.002	1 1/16 x 5/16	10	TP405	.15
.003	1 1/16 x 5/16	10	TP406	.15
.004	1 1/16 x 5/16	10	TP407	.15
.005	1 1/16 x ⅜	10	TP408	.15
.006	1 1/16 x ⅜	10	TP409	.15
.01	1 1/16 x 7/16	10	TP410	.15
.02	1⅜ x 7/16	10	TP412	.15
.03	1⅜ x 7/16	10	TP413	.20
.04	1⅜ x 9/16	10	TP414	.20
.05	1½ x 9/16	10	TP415	.20
.06	1½ x 9/16	10	TP416	.25
.1	1 11/16 x ⅝	10	TP418	.25
.15	2 x 11/16	10	TP417	.30
.2	2 x ¾	10	TP419	.35
.25	2 x 13/16	10	TP420	.35
.5	2⅛ x 1	5	TP432	.50
1.0	2½ x 1¼	5	TP433	.80
	TYPE TP—1000 VOLTS			
.01	1⅜ x ½	10	TP434	.30
.02	1 11/16 x ½	10	TP435	.30
.05	1 11/16 x 11/16	10	TP437	.35
.1	2 x 13/16	10	TP439	.45

DUAL CONDENSERS

Cap.	Size A B	S	Catalog Number	List Price
	TYPE TP—400 Volts DC			
.01-.01	1½ x 7/16	5	TP446	$0.35
.05-.05	1⅞ x ⅝	5	TP447	.40
.1 -.1	2¼ x 11/16	5	TP448	.50
	TYPE TP—200 Volts DC			
.25-.25	2½ x ¾	5	TP449	.50

TYPE OW—OIL IMPREGNATED, WAX FILLED

● These new Mallory condensers are designed to fill the need for low-priced, small-sized tubular units on applications requiring a unit superior to the usual wax-impregnated types, and where the higher cost "OT" type (oil filled) units having greater safety factor are not required.

Mallory "OW" Condensers are oil impregnated and sealed with a special high-temperature melting point wax making them suitable for vibrator and many similar applications.

Rated at 1200 DC peak working volts and packed in individual cartons.

Cap.	Size A B	Catalog Number	List Price
	TYPE OW—1200 VOLTS DC		
.0025	1⅝ x ⅜	OW331	$0.30
.005	1⅝ x ½	OW332	.30
.0075	1⅝ x ½	OW333	.30
.01	1⅝ x 9/16	OW334	.35
.015	1⅝ x ⅝	OW335	.35
.02	1⅝ x ¾	OW336	.35
.03	2 x ¾	OW337	.40
.04	2 3/16 x ¾	OW338	.45
.05	2 3/16 x 13/16	OW339	.45

TYPE OT—OIL IMPREGNATED, OIL FILLED

● Mallory "OT" condensers are the finest quality tubular units obtainable. Impregnated and filled with the best grade of insulating oil and completely sealed from moisture or oil leakage, they are indestructable when used within their ratings.

Those rated at 1600 volts are especially designed for vibrator applications and are supplied as small as the necessary internal insulation will permit. Not recommended for coupling condensers due to case capacity.

The units rated at 2000 volts are ideal for coupling condensers in transmitters or high-voltage amplifiers and test equipment. They may also be used on vibrator applications where space permits.

All "OT" units are externally insulated with cardboard tubes and are packed in individual cartons. Supplied with mounting brackets, as shown, which may be removed if not required.

	TYPE OT—1600 VOLTS DC		
.005	1¼ x ⅝	OT371	$0.55
.0075	1¼ x ⅝	OT372	.55
.01	1 9/16 x 11/16	OT373	.55
.0125	1¾ x 11/16	OT374	.60
.015	1¾ x 11/16	OT375	.60
.02	1¾ x ¾	OT376	.60
	TYPE OT—2000 VOLTS DC		
.0025	1 9/16 x ⅜	OT458	.70
.005	1⅝ x ¾	OT459	.75
.0075	2 1/16 x ¾	OT460	.75
.01	2 1/16 x ¾	OT461	.80
.0125	2 3/16 x ¾	OT462	.80
.015	2 5/16 x ¾	OT463	.80
.02	2 9/16 x ¾	OT464	.85
.03	2 9/16 x 15/16	OT465	.85
.04	2 9/16 x 15/16	OT466	.90
.05	2 9/16 x 15/16	OT467	.95

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Special Universal Replacement Condensers — TYPES UR, SR, HD AND HS

● All Mallory standard dry electrolytic condensers are designed for maximum utility under various conditions. This Universal Replacement system has proven a great help in servicing the many and varied types of radio chassis.

There are cases, however, where the original unit was of very special shape or design, not easily serviced by any general type of condenser. While these cases are relatively few compared to the total number of chassis in use, the demand for them is entirely justified.

Refer to the Mallory-Yaxley Radio Service Encyclopedia (2nd Edition) for complete listing and instructions covering over 17,000 radio models.

Universal and Special Types UR and SR

● There are a few applications which are difficult to service by the use of the Standard Mallory units, due to peculiar shape, size or electrical combinations. Types UR and SR are especially designed to take care of these applications with minimum effort and maximum performance.

In each case the UR and SR units have been designed so as not to restrict their application to any single receiver, thereby greatly increasing their usefulness. In many cases voltage ratings have been increased to guard against any cause of failure of the original unit. See the Mallory-Yaxley Encyclopedia for listing by receiver models serviced by these special units.

Heavy-Duty and High Surge Types HD and HS

● Type HD is primarily designed for public address and theater applications where the working voltage may be high but where the surge voltage is not over 585 volts. They are ideal for this service and may be depended upon for trouble-free operation. Type HS units are for cases where both the working and the surge voltages are higher than usual. Type HS represents the most dependable condenser on the market today.

UR—Special Universal Units

Capacity	Wkg. V.	Container	Size	Cat. No.	List Price
8-8	250-300	Carton	1⅛ x 1⅛ x 2¼	UR180	$1.30
3-2-1-1	450	Round Can	1⅜ x 2¾	UR181	2.10
5-25-10	150	Carton	1 3/16 x 1⅜ x 2⅜	UR182	1.95
4-4-4	150	Carton	⅝ x 1¼ x 2¼	UR183	1.35
8-8-8, 5-5	200, 25	Cardboard Tube	1⅜ x 3¾	UR188	2.50
8-8-8, 5-5	200, 25	Carton	1¼ x 1½ x 3	UR189	2.50
8-8-8-8	250	Carton	1¼ x 1½ x 3	UR190	2.60
8-8-8-8	450	Carton	1⅝ x 1¾ x 3	UR191	2.95
20-20	150	Carton	1 5/16 x 1⅜ x 2⅜	UR192	1.65
5-8-16	150	Carton	1 x 1¼ x 2½	UR193	1.80
16-12	200	Cardboard Tube	1⅜ x 3¼	UR194	1.55

SR—Special Universal Units

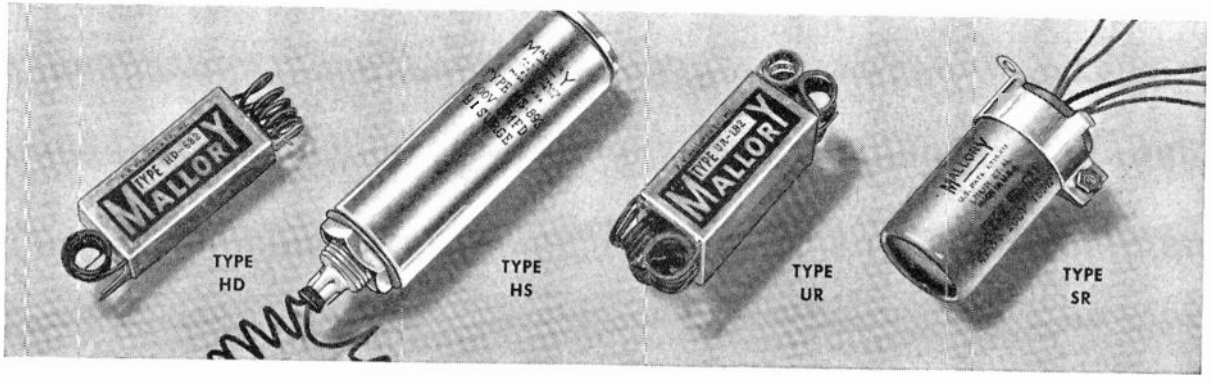
8-12	300	Carton	1¼ x 1⅞ x 2⅜	SR601	$1.55
6-4-6	300-300-25	Round Can	1⅜ x 2⅜	SR602	1.70
8-30	300-30	Cardboard Tube	1¼ x 4⅝	SR603	1.35
3-5-6	300-300-12	Carton	1⅛ x ⅝ x 2	SR604	1.50
8-8	350	Round Can	1⅜ x 3⅛	SR605	1.55
6-6	350	Carton	1 1/16 x 1 5/16 x 2⅞	SR606	1.35
6-4-6	300-300-12	Carton	1 1/16 x 1 5/16 x 2⅞	SR607	1.55
65	30	Cardboard Tube	1¼ x 2¼	SR608	1.10
8-8-25	400-400-25	Round Can	1⅜ x 2¾	SR609	2.10
8-8-25	400-400-25	Carton	1 5/16 x 1 5/16 x 2⅜	SR610	1.90
8-8-25	350-300-25	Carton	2 x 2 x 2½	SR611	1.85
8-8, 16-16	350, 100	Round Can	1⅜ x 4¾	SR612	2.90
16-30-16	200	Carton	1¾ x 1 15/16 x 4	SR613	2.75
8, 8-8, 12-12	450, 250, 25	Carton	1⅞ x 2¾ x 2 13/16	SR614	2.90
8-8-8	450-450-350	Round Can	1⅜ x 2¾	SR615	2.25
8-8-8	450-450-350	Round Can	1⅜ x 4¾	SR616	2.25
16-16-10	150-150-25	Round Can	1⅜ x 2¾	SR617	1.95
5-20-10, 5	150-150-150-25	Carton	1 11/16 x 1 15/16 x 2 5/16	SR618	2.25
5-5	35	Carton	¾ x ¾ x 1½	SR619	.75
30-10	150	Carton	¾ x 1¾ x 3½	SR620	1.55
8-16-5-5	200-200-50-50	Cardboard Tube	1⅜ x 2¾	SR621	2.15
8-8-12	350-350-25	Carton	1⅝ x 1⅝ x 2 5/32	SR622	1.75
16-2-2-25	450-450-450-25	Cardboard Tube	1½ x 3½	SR623	2.60
4-4-10-4	300-300-150-25	Carton	1 9/16 x 1 9/16 x 3 13/16	SR624	2.05
8-8-5-5	450-450-50-50	Carton	1⅞ x 1 11/16 x 4⅛	SR625	2.20
8-4-4-12	450-300-150-25	Carton	1 9/16 x 1⅜ x 3⅞	SR626	2.05
4-4	450-150	Carton	1 x 1 9/16 x 3¾	SR627	1.05
8-8-10	300-300-25	Round Can (Stud)	1½ x 2¾	SR628	1.85
6-4-10	350-300-25	Carton	1¼ x 1⅜ x 4½	SR629	1.65
16-8-10	150-150-25	Carton	1½ x 1½ x 4	SR630	1.75
4-12-16	150	Carton	1¼ x 1¼ x 2¾	SR631	1.85
6-4-16	350-350-25	Cardboard Tube	1 x 3¾	SR632	1.60
6-6	250	Cardboard Tube	1¼ x 3¼	SR633	1.15

HD—500 Working Volts DC

Capacity	Container	Size	Cat. No.	List Price
4	Carton	⅜ x 1 x 2 7/16	HD680	$1.20
4	Round Can	1 x 2¾	HD681	1.45
8	Carton	1 1/16 x 1⅛ x 2 7/16	HD682	1.50
8	Round Can	1 x 3 1/16	HD683	1.75

HS—600 Working Volts DC

4	Carton	⅞ x 1¼ x 3	HS690	$1.75
4	Round Can	1⅜ x 3½	HS691	1.85
8	Carton	1¼ x 1½ x 3	HS692	2.45
8	Round Can	1⅜ x 4¼	HS693	2.60



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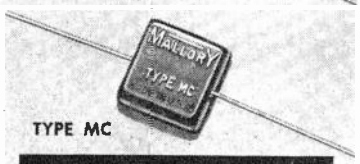
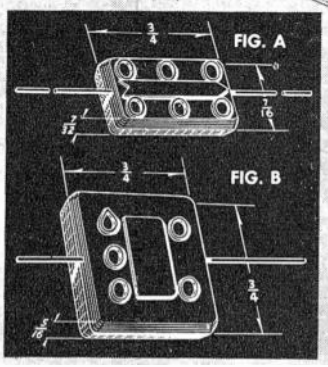
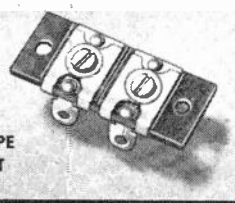
P. R. MALLORY & CO. INC.
MALLORY YAXLEY

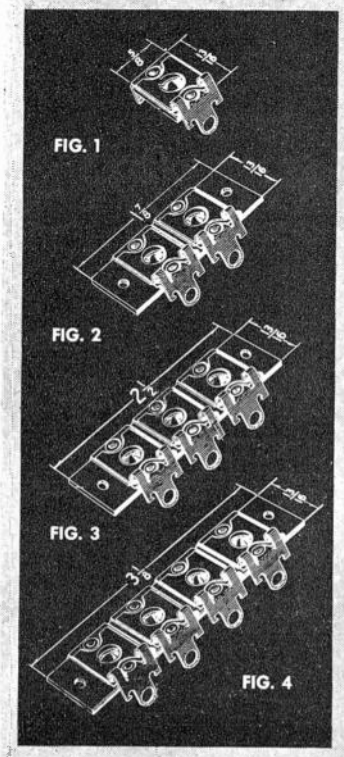


TYPE MC





TYPE BT



Mica Condensers—TYPE MC

● Only the finest grade of clear India mica is used in Mallory type MC mica condensers.

After specially treating the mica-tin foil assembly to exclude moisture, air and foreign matter, it is clamped under pressure to the terminal leads. The junction between the foil and lead terminals assures perfect low resistance contact, preventing the bakelite molding material from affecting this connection.

Lead wires are soft tinned metal which may be bent or twisted without breaking.

Mallory type MC condensers are compact, mechanically strong and moisture proof.

Packed ten to the carton.

Mallory Mica Condensers are marked directly in capacity figures. The color coding used on original equipment mica condensers and consisting of three colored dots is explained herewith for convenience in making replacements.

The color of the first dot designates the first digit of the capacity value in micro-microfarads. The color of the second dot designates the second digit of the capacity value. The color of the third dot designates the number of ciphers following the second digit. Below is a chart showing the corresponding color for each digit.

0—Black	5—Green
1—Brown	6—Blue
2—Red	7—Violet
3—Orange	8—Gray
4—Yellow	9—White

This color code is the same as that used on fixed resistors and a standard resistor color code chart may be used to identify the capacity of any original condenser. The value of ohms indicated on a resistor chart corresponds to capacity in mmf.

Capacity ratings in mmf. (micro-microfarads) are one million times the mfd. (microfarad) rating. Therefore, a condenser rated .0005 mfd. would be 500 mmf. The color code refers to mmf. ratings.

There is but one exception to this code. The .0000075 mfd. (7.5 mmf.) is coded black, violet, and green.

Cap. Mfd.	Fig.	Catalog Number	List Price
.000005	A	MC831	$0.20
.0000075	A	MC832	.20
.00001	A	MC833	.20
.000025	A	MC834	.20
.00003	A	MC835	.20
.00004	A	MC836	.15
.00005	A	MC837	.15
.000075	A	MC838	.15
.0001	A	MC839	.15
.00015	A	MC840	.15
.0002	A	MC841	.15
.00025	A	MC842	.20
.0003	A	MC843	.20
.0004	A	MC844	.20
.0005	A	MC845	.25
.001	A	MC846	.25
.0015	A	MC847	.30
.002	B	MC848	.35
.0025	B	MC849	.40
.003	B	MC850	.45
.004	B	MC851	.50
.005	B	MC852	.50
.006	B	MC853	.60

Trimmer and Padding Condensers—TYPES BT, CT, CTX, CTD

● Made with the finest India ruby mica and designed to prevent drift, or change with temperature or moisture. Adjusting screws are equipped with fine threads for accurate setting.

Type BT—These are the popular low-priced bakelite base units having a wide field of application. Efficient and satisfactory for many applications that do not require the superior qualities of the ceramic types.

Type CT—A midget ceramic base trimmer condenser that is excellent for any application within its capacity range. Applications requiring dual, triple, or quadruple units should be made by combining single units.

Type CTX—This type of single capacity ceramic base unit is recommended where higher capacities are required than available in type CT959.

They are single hole mounting types and may be adjusted from either the top or bottom of the unit.

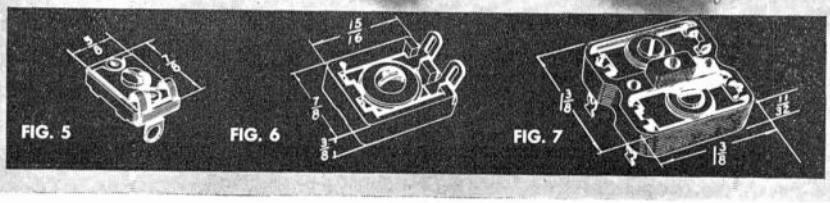
Type CTD—Ceramic base dual condensers having wide application because of their small size and high capacity range. Capacity listings refer to capacity of each section. Dual hole mounting and adjustable from top of unit only.

Cap. in mmf. Min.	Max.	Fig.	Catalog Number	List Price
3	30	1	BT961	$0.20
3	30	2	BT962	.35
3	30	3	BT963	.50
3	30	4	BT964	.65
3	30	5	CT959	.25
20	100	6	CTX954	.50
60	240	6	CTX955	.70
130	560	6	CTX956	.80
480	1640	6	CTX957	.90
660	2100	6	CTX958	1.00
18	100	7	CTD951	.60
60	230	7	CTD952	.70
240	670	7	CTD953	.95

TYPE CT

TYPE CTX

TYPE CTD



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World Radio History

AEROVOX Paper Condensers Mica Condensers

TUBULAR PAPER CONDENSERS

Aerovox cartridge condensers are especially desirable for use where high grade units are required at low cost. They are compact, non-inductively wound and sealed in wax impregnated paper tubes with wax filled ends for longer life and protection against moisture.

Cap. Mfd.	Types and D.C.W. Voltages 284-200	484-400	684-600	1084-1000	1684-1600
	List Price				
.001	$.14	$.15	$.15	$.20	....
.002	.14	.15	.15	.20	....
.003	.14	.15	.15	.20	....
.004	.14	.15	.15	.20	....
.005	.14	.15	.15	.20	$.35
.006	.14	.15	.15	.20	....
.007	.14	.15	.15	.20	.35
.008	.14	.15	.15	.20	....
.01	.14	.15	.15	.20	.35
.015	.14	.15	.15	.20	....
.02	.14	.15	.15	.25	.35
.03	.14	.15	.20	.30	.35
.04	.14	.15	.20	.35	.40
.05	.14	.15	.20	.35	.45
.06	.17	.20	.20	.35	....
.075	.18	.20	.25	.40	....
.1	.18	.20	.25	.40	....
.15	.21	.25	.30	....	....
.2	.22	.25	.35	....	....
.25	.23	.25	.35	....	....
.3	.27	.30	.45	....	....
.4	.30	.35	.50	....	....
.5	.30	.35	.50	....	....
1.0	.45	.50	....	....	....
Dual Section Units					
.01-.01	.30	.33	.35	....	....
.05-.05	.35	.40	.45	....	....
.1-.1	.40	.45	.52	....	....
.25-.25	.50	.70	.85	....	....

UNCASED PAPER CONDENSERS

Non-inductively wound high grade uncased sections, neatly shaped and wrapped in black varnish paper with ends sealed with pitch and provided with insulated wire leads, eight inches long. Designed for replacement use in filter block repair work.

TYPE UC200-200 V.D.C.W.

Cap. Mfd.	Size (In.) L.xW.xD.	List Price
.1	2x ¾x¼	$0.30
.25	2x1 x 9/16	.30
.5	2x1 x½	.40
1.0	2x1⅜x 11/16	.60

TYPE UC400-400 V.D.C.W.

.1	2x ⅞x¼	$0.35
.25	2x1 x⅜	.40
.5	2x1 9/16 x 9/16	.50
1.0	2x1⅞x 11/16	.75
2.0	3¼x1⅛x⅞	1.15

TYPE UC600-600 V.D.C.W.

.1	2 x1 x 5/16	$0.40
.25	2 x1⅛x 9/16	.50
.5	2 x1 9/16 x 13/16	.60
1.0	3¼x1⅞x 11/16	.90
2.0	3¼x1⅞x1⅛	1.35

TYPE UC1000-1000 V.D.C.W.

.5	4⅜x1⅞x 11/16	$1.00
1.0	4⅜x1⅞x1	1.50
2.0	4⅜x2¼x1⅞	2.50

AUTO-RADIO CONDENSERS

Suppressor Condensers

Type 1120—1.0 Mfd.
List Price.....$0.75
Type 1140—0.5 Mfd.
List Price.....$0.50

Dual Section Suppressor Condenser

Type 1141—.5-.5 mfd.
List Price.....$0.75

Suppressor Condensers for FORDS

FOR 1937 MODELS
Type 1144-Cap. .5 Mfd.
List Price.....$0.50
FOR 1936 MODELS
Type 1150-Cap. .5 Mfd.
List Price.....$0.50

Ammeter Condensers

Type	Cap.	List Price
1160	.5	$0.45
1170	1.0	.65

Dome Light Filter Condenser

Type 1180
List Price.....$0.80

Oil-Gauge Filter Condenser

Type 1142-O
.25 mfd.
List Price.....$0.50

STAMPED METAL CASE PAPER CONDENSERS

200 Volts D.C. Working

Type	Cap.	List Price
260	.1	$ .45
260	.25	.50
260	.5	.65
260	.1-.1	.60
260	.25-.25	.75
260	.1-.1-.1	.80
261	1.0	.85
261	.5-.5	.90

400 Volts D.C. Working

460	.05	$ .45
460	.1	.50
460	.25	.60
460	.5	.75
460	.1-.1	.65
460	.1-.1-.1	.85
461	1.0	1.00
461	.5-.5	1.00
461	.25-.25-.25	1.05

Oil-Filled Vibrator Condensers

List Price Each, Any Capacity.....$0.45

Type 1130—One Lead Cap.	Cap.	Type 1131-Two Leads Cap.
.007 Mfd.	.04 Mfd.	.007 Mfd.
.01 Mfd.	.05 Mfd.	.01 Mfd.
.02 Mfd.	.06 Mfd.	.02 Mfd.
.03 Mfd.	.07 Mfd.	

Oil-Impregnated Vibrator Condensers

Type	Cap.	List Price
1135	.01	$0.60
1135	.5	.65

Tubular Paper Vibrator Condensers

Type 1684—1600 W.V.D.C.

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.005	$0.35	.03	$0.35
.007	.35	.04	.40
.01	.35	.05	.45
.02	.35		

Oil-Impregnated Tubular Vibrator Condensers

Hermetically sealed oil condenser in metal tubes, with an outer cardboard tube as an insulating cover.

Type 1686—1600 W.V.D.C.

.005	$0.35	.01	$0.40
.006	.35	.02	.50
.007	.35		

Gas-Gauge Filter Condenser

Type 1143-G
.05 mfd.
List Price.....$0.50

"Hash" Condenser

Type 1122-Cap. .5 Mfd.
List Price.....$0.40

LIVE-RUBBER-MOLDED PAPER CONDENSERS

Type 88
Size—1⅜ x ¾ x ⅜ inches

Leakage resistance and breakdown voltage in these new units far exceeds phenolic resin molded condensers. Made by special process. Paper sections molded in live rubber — moistureproof. Rubber casing fits snugly around 2-in. pigtail leads.

Cap. Mfd.	Types and D.C.W. Voltages 288-200	488-400	688-600	1088-1000
	List Price			
.01	.....	.....	.....	$.35
.05	$.20	$.25	$.30	.....
.1	.20	.25	.....	.....
.15	.25	.....	.....	.....
.2	.30	.....	.....	.....
.25	.30	.....	.....	.....

MOTOROLA Replacement Condenser

For Models 65 and 70
(Part No. 3321)
(2) Type 1466—.0008 Mfd.
List Price.....$0.50

MICA CONDENSERS

Type 1450

High voltage. 1,000 volts D.C. test. Size 1¼" x 1¼".

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.0001	$0.25	.003	$0.40
.0002	.25	.004	.45
.00025	.25	.005	.45
.00037	.25	.006	.55
.0005	.25	.01	.70
.001	.30	.02	.95
.002	.35		

Type 1460

Popular type mica condenser. Size 1⅝"x⅝". Two soldering lug terminals. Test volts 900.

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00004	$0.15	.00025	$0.20
.00005	.15	.0005	.20
.0001	.15	.001	.25
.00015	.20	.002	.30
.0002	.20		

Type 1467

Compact, size 25/32" square, provided with wire leads. Test volts 500

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00004	$0.15	.0002	$0.15
.00005	.15	.00025	.20
.00007	.15	.0005	.20
.000075	.15	.001	.25
.0001	.15	.002	.30
.00015	.15	.0025	.35

MIDGET MICA CONDENSERS

Type 1468 With Wire Leads

Midget size 7/16" x 11/16" provided with wire leads. Test volts 500.

Cap. Mfd.	List Price	Cap. Mfd.	List Price
.00004	$0.15	.00015	$0.15
.00005	.15	.0002	.15
.00007	.15	.00025	.20
.000075	.15	.0005	.20
.0001	.15		

NOTE: We can supply any AEROVOX Paper or Mica Condensers not listed above.

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World Radio History

AEROVOX HI-FARAD ELECTROLYTIC CONDENSERS

UNIVERSAL MOUNTING CONDENSERS

TYPE E

Furnished with mounting rings for universal mounting. A wide selection of capacities in single, double, triple and quadruple section units for general service. Multiple section units contain individual sections with common negative grounded to the can.

600v. Surge Pk.—475v. D.C. Work.
Type E475—Single Section

Cap. Mfds.	Can. Size-Ins. Dia. - High	List Price
4	1⅜ x 2¾	$1.25
8	1⅜ x 4¼	1.50

525v. Surge Pk.—450v. D.C. Work.
Type E450—Single Section

4	1⅜ x 2¾	$ .85
8	1⅜ x 4¼	1.05

Type E450—Double Section

5-15	2½ x 4⅛	$2.30
8-8	2½ x 4⅛	1.80
8-16	2½ x 4⅛	2.35

Type E450—Triple Section

8-8-8	3 x 4⅛	$2.70
9-9-18	3 x 4⅛	3.75

Type E450—Quadruple Section

8-8-8-8	3 x 4⅛	$3.60
9-9-18-18	3 x 4⅛	5.25

COMPACT UNIVERSAL MOUNTING CONDENSERS

TYPE 2E

Double section units designed for use in compact receivers. Hermetically sealed to prevent evaporation of moisture from electrolyte or absorption of moisture from air. Provided with two positive terminal lugs, common negative grounded to can.

525v. Surge Pk.—450v. D.C. Work.

Cap. Mfds.	Size-Ins. Dia. - High	List Price
4-4	1⅜ x 3¼	$1.30
8-8	1⅜ x 4¼	1.60

COMPACT INVERTED MOUNTING CONDENSERS

TYPE 2G

Double section units designed for inverted mounting in compact sets. Hermetically sealed. May be used for grounded (negative) can mounting or insulated mounting with special insulating washer and can contact lug. Provided with two positive terminal lugs.

525v. Surge Pk.—450v. D.C. Work.

Cap. Mfds.	Size-Ins. Dia. - High	List Price
4-4	1⅜ x 3¼	$1.30
8-8	1⅜ x 5¼	1.60

Type LW3 can contact lug and insulating washer—10c extra.

INVERTED MOUNTING CONDENSERS

TYPES G and I

These standard size, inverted units are furnished in either grounded or negative mounting or insulated mounting. The latter, Type I, have an integral insulating boss cover and can lug.

600v. Surge Pk.—475v. D.C. Work.
Single Section
Type G475—Grounded Mounting
Type I 475—Insulated Mounting

Cap. Mfds.	Can Size-Ins. Dia.-High	G-475 List	I-475 Price
2	1⅜ x 1¾		$1.05
4	1⅜ x 2¾	$1.25	1.25
6	1⅜ x 2¾	1.45	1.45
8	1⅜ x 4¼	1.50	1.50

525v. Surge Pk.—450v. D.C. Work.
Single Section
Type G450—Grounded Mounting
Type I 450—Insulated Mounting

Cap. Mfds.	Can Size-Ins. Dia.-High	G-450 List	I-450 Price
2	1⅜ x 1¾		$ .75
4	1⅜ x 2¾	$ .85	.85
6	1⅜ x 2¾	1.00	1.00
8	1⅜ x 4¼	1.05	1.05
10	1⅜ x 4¼	1.25	1.25
12	1⅜ x 4¼	1.40	1.40
16	1⅜ x 5¼	1.55	1.55

MIDGET CAN-TYPE ELECTROLYTIC CONDENSERS

TYPE GLS

Ultra-compact metal can electrolytic condensers for general replacement purposes and assemblies where space is at a minimum. These units are one-half the size of other types of can-type electrolytics of the same capacities and voltage ratings. Inverted mounting. Two color-coded wire leads. Hermetically sealed, leakage and seepage proof.

525v. Surge Pk.—450v. D.C. Work.
Type GLS450—Single Section With Two Leads

Cap. Mfds.	Can Size-Ins. Dia. - High	List Price
4	1 x 2 3/16	$ .85
8	1 x 2 11/16	1.05
12	1 x 3 3/16	1.40
16	1 x 4⅜	1.55

300v. Surge Pk.—250v. D.C. Work.
Type GLS250—Single Section With Two Leads

Cap. Mfds.	Can Size-Ins. Dia. - High	List Price
4	1 x 2 3/16	$ .75
8	1 x 2 11/16	.95
12	1 x 2 11/16	1.15
16	1 x 3 3/16	1.35

525v. Surge Pk.—450v. D.C. Work.
Type 2GLS450—Double Section With Four Leads

Cap. Mfds.	Can Size-Ins. Dia. - High	List Price
4-8	1⅜ x 2¾	$1.45
8-8	1⅜ x 2¾	1.60

COMPACT CAN TYPE BYPASS CONDENSERS

TYPE MM

Especially suited as by-pass or filter units. Provided with an aluminum mounting strap, riveted to side of can. Easily mounted beneath the chassis by means of two screw holes at ends of strap.

75v. Surge Pk.—50v. D.C. Work.
Type MM50—Single Section

Cap. Mfds.	Can Size-Ins. Dia. - High	List Price
10	1 x 1 11/16	$.75
25	1 x 2 11/16	.90

40v. Surge Pk.—25v. D.C. Work.
Type MM25—Single Section

Cap. Mfds.	Can Size-Ins. Dia. - High	List Price
5	1 x 1 11/16	$.60
10	1 x 1 11/16	.60
25	1 x 1 11/16	.75

HIGH-CAPACITY LOW-VOLTAGE CONDENSERS

E12 & E25

A12

Designed for use in filter circuits of "A" eliminator units. Ideal for replacement use. Also suited for use across the field windings of low voltage dynamic speakers.

Type E12—12 V. D.C. Working

Cap. Mfd.	Size-Ins. Dia.-High	List Price
500	1⅜ x 4¼	$ 2.38
1000	2½ x 4⅛	3.56
1500	2½ x 4⅛	4.96
2000	2½ x 4⅛	6.32
4000	3 x 4⅛	11.96

Type E25—25 V. D.C. Working

500	2½ x 4⅛	$3.76
1000	2½ x 4⅛	6.56
1500	3 x 4⅛	9.48

Type A-12—12 V. D.C. Working

Cap. Mfd.	D.—W.—L.	List Price
1000	5 x 4 x 1¼	$3.56
2000	5 x 4 x 1¼	6.32

TUBULAR CARDBOARD REPLACEMENT CONDENSERS

Provided with spade lug mounting screws. Container insulated and sections have separate color-coded wire leads brought out at the bottom of unit. A universal replacement for midget sets.

Cap. Mfd.	D.C. Wk. Volt.	Size-Ins. D.—H.	List Price
8-8	450	1¾x4¼	1.50
12-16	200	1¾x4¼	1.55
14-8x10-10	150x25	1¾x4¼	2.05
16-8x10-10	200x25	1¾x4¼	2.05
16-12x10-10	200x25	1¾x4¼	2.15

WIRE LEAD CONDENSERS

TYPE GL

These inverted mounting, aluminum can condensers are made in single, double and triple section units with separate color-coded leads. Multiple section units have two leads brought out from each section.

High Surge Pk.—600v. D.C. Work.
Type GL600—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price
4	1⅜ x 4¼	$1.85
8	1⅜ x 5¼	2.60

600v. Surge Pk.—475v. D.C. Work.
Type GL475—Single Section

4	1⅜ x 3¼	$1.25
8	1⅜ x 4¼	1.50

525v. Surge Pk.—450v. D.C. Work.
Type GL450—Single Section

4	1⅜ x 3¼	$ .85
8	1⅜ x 4¼	1.05
12	1⅜ x 4¼	1.40
16	1⅜ x 5¼	1.55

Type 2GL450—Double Section With Four Leads

4-4	1⅜ x 4¼	$1.30
4-8	1⅜ x 4¼	1.45
8-8	1⅜ x 4¼	1.60
8-16	1⅜ x 4¼	2.00

Type 3GL450—Triple Section With Six Leads

4-4-4	1⅜ x 3¼	$2.00
8-8-8	1⅜ x 4¾	2.40

Type 3GL250—Triple Section With Six Leads
300v. Surge Pk.—250v. D.C. Work.

8-8-8	1⅜ x 3¼	$2.10
8-8-16	1⅜ x 3¼	2.35
8-16-16	1⅜ x 4¼	2.60

INVERTED MOUNTING WET ELECTROLYTIC CONDENSERS

TYPE PG

High capacity in minimum bulk, ability to take severe punishment. Costs less than other types of electrolytics for given capacity, voltage rating and operating life. Ingenious and exclusive Aerovox vent provides instant escape of any gas pressure, yet effectively double-seals the metal container against leakage of liquid electrolyte.

500 Volts Peak—Type PG500

Cap. Mfd.	Can Size-Ins. Dia. - High	List Price
4	1⅜ x 4½	$ .80
6	1⅜ x 4½	.85
8	1⅜ x 4½	.95
10	1⅜ x 4½	1.10
12	1⅜ x 4½	1.15
16	1⅜ x 4½	1.35
18	1⅜ x 4½	1.40
20	1⅜ x 4½	1.50
30	1½ x 4½	1.80

300 Volts Peak—Type PG300

8	1⅜ x 4½	$ .90
16	1⅜ x 4½	1.20
20	1⅜ x 4½	1.35
40	1½ x 4½	2.00

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AEROVOX HI-FARAD ELECTROLYTIC CONDENSERS

CARDBOARD TUBE CONDENSERS

Single and Double Section Units

TYPE PR

Mounted in cardboard tube containers, completely sealed and provided with bare wire leads, 2½" long, securely riveted to condenser tabs. Single Section units have two leads and double section units three. Extensively employed by manufacturers and servicemen.

525v. Surge Pk.—450v. D.C. Work.
Type PR450—Single Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
2	¾x2¼	$.65
4	¾x2¼	.75
8	1 1/16x2¾	.95
10	1 1/16x2¾	1.15
16	1⅛x2⅝	1.45

250v. Surge Pk.—200v. D.C. Work.
Type PR200—Single Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
2	¾x2¼	$.55
4	¾x2¼	.65
8	⅞x2¼	.80
10	⅞x2¼	.90

150v. Surge Pk.—100v. D.C. Work.
Type PR100—Single Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5	¾x2¼	$.55
10	⅞x2¼	.70
20	⅞x2¼	.90
25	1 1/16x2¾	.95

75v. Surge Pk.—50v. D.C. Work.
Type PR50—Single Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5	¾x2¼	$.50
10	¾x2¼	.65
20	⅞x2¼	.75
25	⅞x2¼	.80
50	1¼x2¾	1.20

40v. Surge Pk.—25v. D.C. Work.
Type PR25—Single Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5	⅝x2¼	$.50
10	¾x2¼	.50
20	⅞x2¼	.60
25	⅞x2¼	.65
50	1⅛x2¾	.95

150v. Surge Pk.—100v. D.C. Work.
Type PR100—Double Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5-5	1x2¼	$.75

75v. Surge Pk.—50v. D.C. Work.
Type PR50—Double Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5-5	⅞x2¼	$.75

40v. Surge Pk.—25v. D.C. Work.
Type PR25—Double Section

Cap. Mfd.	Size-Ins. D.—L.	List Price
5-5	⅞x2¼	$.75
10-10	⅞x2¼	.75

COMPACT CARDBOARD BOX CONDENSERS

TYPE PM—Single, Double and Triple Section Units

Convenient size dry electrolytic condensers. Double section units provided with three leads, common negative, and triple section units with four leads, common negative.

525v. Surge Pk.—450v. D.C. Work.
Type PM450—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
1	⅝x1⅛x2¼	$.55
2	⅝x1⅛x2¼	.65
4	¾x1⅛x2¼	.75
6	1⅛x1⅛x2¼	.90
8	1 1/16x1 1/16x2⅜	.95

Type PM450—Double Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4-4	1¼x1¾x2⅝	$1.20
4-8	1¼x1¾x2⅝	1.35
8-8	1 7/16x1½x3⅛	1.50

Type PM450—Triple Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4-4-4	1 3/16x1⅛x4⅛	$1.80
8-8-8	1½x1¼x3	2.20

SPACE-SAVER MIDGET CONDENSERS

TYPE PBS—Single Section—2 Leads; Double Section—4 Leads Triple Section—6 Leads

Single Section

Double Section

with Aerovox "ADJUSTIMOUNT" Mounting Flanges

25 to 600v. D.C. Working, made possible in this small size by a tried, tested and perfected process, whereby far greater capacity is attained from a given bulk without impairing the working voltage or service life. Units encased in heavy cardboard containers, thoroughly impregnated and fully sealed. Wire leads color-coded for polarity.

The "Adjustimount" feature comprises a swivel mounting flange with slotted holes to fit any mounting hole spacings. The condenser may be mounted flat or upright depending on space. Also, two or three condensers may be stacked by overlapping the metal flanges.

High Surge Pk.—600v. D.C. Work.
Type PBS600—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4	1 7/16x1⅛x2 7/16	$1.75
8	1 7/16x1½x3⅛	2.45

525v. Surge Pk.—450v. D.C. Work.
Type PBS450—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
2	½x ¾x2 7/16	$.65
4	9/16x1 x2 7/16	.75
6	11/16x1⅛x2 7/16	.90
8	11/16x1⅛x2 7/16	.95
10	11/16x1⅛x3 3/16	1.15
12	11/16x1⅛x3 3/16	1.30
16	1 7/16x1⅛x2 7/16	1.45

300v. Surge Pk.—250v. D.C. Work.
Type PBS250—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
2	½x ¾x2 7/16	$.55
4	½x ¾x2 7/16	.65
6	9/16x 13/16x2 7/16	.75
8	9/16x 13/16x2 7/16	.80
10	9/16x1 x2 7/16	.90
12	11/16x1⅛x2 7/16	.95
16	11/16x1⅛x2 7/16	1.05
20	11/16x1⅛x2 7/16	1.20
25	11/16x1⅛x3 3/16	1.25
30	11/16x1⅛x3 3/16	1.40

150v. Surge Pk.—100v. D.C. Work.
Type PBS100—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
5	9/16x1 x2 7/16	$.55
10	11/16x1⅛x2 7/16	.70

75v. Surge Pk.—50v. D.C. Work.
Type PBS50—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
5	½x ¾x2 7/16	$.50
10	9/16x1 x2 7/16	.65
25	11/16x1⅛x3 3/16	.80

40v. Surge Pk.—25v. D.C. Work.
Type PBS25—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
5	½x ¾x2 7/16	$.50
10	9/16x 13/16x2 7/16	.50
25	11/16x1⅛x2 7/16	.65

525v. Surge Pk.—450v. D.C. Work.
Type PBS450—Double Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4-4	1¼x1⅛x2 7/16	$1.20
4-8	1 7/16x1⅛x2 7/16	1.35
8-8	1 7/16x1⅛x2 7/16	1.50
8-16	1¼x1½x3	1.90

300v. Surge Pk.—250v. D.C. Work.
Type PBS250—Double Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4-4	1 1/16x ¾x2 7/16	$ .90
4-8	1 9/16x 13/16x2 7/16	1.15
8-8	1 9/16x 13/16x2 7/16	1.25
8-16	1¼x1⅛x2 7/16	1.45
12-16	1 9/16x1⅛x2 7/16	1.60
16-16	1 7/16x1⅛x2 7/16	1.65

525v. Surge Pk.—450v. D.C. Work.
Type PBS450—Triple Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
8-8-8	1¼x1½x3	$2.20

300v. Surge Pk.—250v. D.C. Work.
Type PBS250—Triple Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
8-8-8	1⅞x 13/16x2 7/16	$1.90
8-8-16	1 7/16x1⅛x2 7/16	2.10

CARDBOARD CONTAINER CONDENSERS

TYPE P—Single Section Units
TYPE PBM—Double Section Units

Exactly the same electrical characteristics as other Hi-Farad electrolytic condensers in aluminum can containers but sections of each unit are enclosed in wax-impregnated cardboard boxes. Single and double sections provided with mounting flanges and wire leads 8 in. long.

Single section has two insulated wire leads and double section four leads. Double section units can be connected easily in circuits where either common negative or common positive condensers are used as each section has two color-coded leads.

600v. Surge Pk.—475v. D.C. Work.
Type P475—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
1	¾x1⅜x2⅝	$ .85
2	¾x1⅜x2⅝	.95
4	¾x1¾x4⅛	1.15
6	13/16x1¾x4⅛	1.30
8	13/16x1⅜x4⅛	1.35

525v. Surge Pk.—450v. D.C. Work.
Type P450—Single Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
1	¾x1⅜x2⅝	$ .55
2	¾x1⅜x2⅝	.65
4	¾x1⅜x4⅛	.75
6	13/16x1⅜x4⅛	.90
8	13/16x1¾x4⅛	.95
10	1⅛x1 9/16x4⅛	1.15
12	1⅛x1 9/16x4⅛	1.30
16	1 7/16x1 9/16x4⅛	1.45

525v. Surge Pk.—450v. D.C. Work.
Type PBM450—Double Section

Cap. Mfds.	Size-Ins. D.—W.—L.	List Price
4-4	1⅛x1 9/16x4⅛	$1.20
4-8	1 7/16x1 9/16x4⅛	1.35
8-8	1 7/16x1 9/16x4⅛	1.50

DANDEES Miniature Tubular Aluminum Can ELECTROLYTICS

TYPE PRS
150v. to 450v. D.C. Working

Genuine electrolytic — size reduced to smallest proportions consistent with the full rated capacity and voltage. Ideal in crowded places where maximum capacity and working voltage must be squeezed into minimum bulk. DANDEES are excellent for use in midget sets, AC-DC sets, auto radios and a wide range of servicing jobs. Aluminum can electrically insulated by special varnished paper jacket. Ends of jacket spun over can rim, eliminates possibility of shorts if leads are bent close to unit. Polarity indicated by red and black end washers. DANDEES are the only miniature type electrolytics which are properly vented. Excessive gas pressure escapes. Thoroughly aged, ready for immediate use. Ask for more complete descriptive folder.

Type PRS450—450v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
4	13/16x1 11/16	$.55
8	13/16x1 11/16	.60
12	13/16x2 3/16	.75
16	1 1/16x2 3/16	.90

Type PRS350—350v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
4	9/16x2 3/16	$.50
8	13/16x1 11/16	.55
12	13/16x2 3/16	.70
16	13/16x2 3/16	.80

Type PRS250—250v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
4	9/16x1 11/16	$.45
8	11/16x1 11/16	.50
12	13/16x1 11/16	.65
16	13/16x2 3/16	.75

Type PRS150—150v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
4	9/16x1 11/16	$.40
8	9/16x1 11/16	.45
12	11/16x1 11/16	.50
16	11/16x1 11/16	.55
24	11/16x2 3/16	.60
30	11/16x2 3/16	.65
40	13/16x2 3/16	.70

Type PRS50—50v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
10	9/16x1 11/16	$.45
25	11/16x1 11/16	.55
10-10	11/16x1 11/16	.65

Type PRS25—25v. D.C.W.

Cap. Mfds.	Size-Ins. D.—L.	List Price
10	9/16x1 3/16	$.40
25	9/16x1 11/16	.50

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World Radio History

AEROVOX EXACT DUPLICATE *Replacement Condensers*

INSIST UPON GETTING GENUINE AEROVOX EXACT DUPLICATE ELECTROLYTIC REPLACEMENT CONDENSERS

When you MUST use identical replacements, simply remember to ask for AEROVOX EXACT DUPLICATE REPLACEMENTS. Designed specifically for most all standard sets . . . finest replacement units obtainable . . . embodying AEROVOX high-quality construction throughout.

Model of Set	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
AIR KING					
15, 16, 21, 22, 26, 29, 42, 48, 81 221, 222, 250, 522, 699	10105	10-10-5	150	① 1x1½x3	$1.90
ATWATER KENT					
155 (1 & 2)	24602	8-8-8	150	① 1⅛x1⅝x3¼	1.65
155 (3)	24955	8-8-8	150	① 1⅛x1⅝x3¼	1.65
275, 825	26158	8-14-8	150	② 1 13/16x1⅝x3¾	1.95
376	27592	4-8-10	450-450-25	⑤ 1⅜x4¼	1.90
ALL STAR JUNIOR					
	PM5-444	4-4-4	450	① 1⅛x1 9/16x4⅛	1.80
BOSCH					
117, 127 (new)	CE954	4-8x20	450-450-50	④ 1⅜x5¼	2.10
360-375, 440-470 (old)	105237				
04	CE9520	12-12x5-5	150x25	① 1x1½x2¾	1.95
350, 500 501, 502	SA-105772	4-12-8x4	150x25	① 1¼x1¾x2⅜	2.15
BELMONT					
(Freshman) 545	C-525-B	5-25-5	100	① 1⅜x1¾x2⅜	1.60
	103-4 (Standard Aerovox Type PG500-16)	16	500	⑤ 1⅜x4 9/16	1.35
	103-6 (Standard Aerovox Type PG500-8)	8	500	⑤ 1⅜x4 9/16	.95
	103-7 (Standard Aerovox Type PG350-8)	8	350	⑤ 1⅜x4 9/16	.90
	103-8 (Standard Aerovox Type PG500-16)	16	500	⑤ 1⅜x4 9/16	1.35
425	A11093-1 Same as Sparton part No. A11093-1 for Models 65, 65T, 66, 66T, 506	5-25-5	200	① ⅞x2⅜x2½	1.95
CLARION (TCA)					
G422	P4717	16-4	150	① ⅞x1⅜x2¾	1.20
COLONIAL					
122, 125	R-8780-C	8-4	300-150	① 2¾x1¾x1⅞	1.10
	D-4758-P (Standard Aerovox Type PG500-8)	8	500	⑥ 1⅜x4 9/16	.95
	R-7236 (Standard Aerovox Type PG500-16)	16	500	⑤ 1⅜x4 9/16	1.35
	R-12451 (Standard Aerovox Type PG350-8)	8	350	⑤ 1⅜x4 9/16	.90
	R12478 (Standard Aerovox Type PG500-16)	16	500	⑤ 1⅜x4 9/16	1.35
CROSLEY					
122, 152	W-23801 (Standard Aerovox Type P450-6-8)	6-8	450	① 1 7/16x1 9/16x4⅛	1.45
95, 163	W25857B	8-8	200-25	① 1⅛x1⅛x2¼	1.00
129-1, 130, 131-1, 132-1	W26119	8-4	150-300	① 1 1/16x1 7/16x2⅜	1.10
132-1, 146	W26194B	12	475	④ 1⅜x4¼	2.05
96, 150, 155, 163	W26870	6	25	⑥ ⅝x2¼	.50
146	W26896	12-6	300-25	① 1x1⅜x4	1.55
148, 167	W27488A	8-6	25-300	① 1⅛x1⅛x2¼	.95
147	W27677A	8-8	100	① 1x1x2¼	.75
163, 400, 402	W28068	12	200	① 1⅛x1⅛x2¼	.95
160	W28468	8-12	350-475	④ 1⅜x5¼	2.25

Model of Set	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
CROSLEY—Continued					
164, 170, 171	W29097B	8-8-8	450-350-250	④ 1¾x5¼	2.15
169	W29150B	6-7-8	450-400-25	④ 1⅜x4¼	1.80
166, 172	W29264A	16-16-8	125-100-20	⑦ 1¾x3½	2.00
174	W29804A	8-16-16	150	④ 1¾x5¼	2.10
102, 103	W29808	12	300	⑧ 1⅜x2¾	1.20
129, 134, 135 137, 141, 150 158	B30017	4-8	450	④ 1⅜x4¾	1.45
129-1, 130-1, 132, 136-1, 157	B30018	8-8	450	⑧ 1⅜x5¼	1.60
175	W30059A	8-8-8	450-250-450	④ 1⅜x6¼	2.20
173, 173-5	W30124	16-16-8	100-125-125	⑦ 1⅜x4¼	2.15
103	W30419	8-8	25-250	⑦ 1¾x3¼	1.10
182	W30962 (Same as United Motors condenser part A-443341 for Model 4052)	8-25	150	① 1¼x1⅛x3½	1.45
175	W32374 (Same as Crosley W-30059A)	8-8-8	450-250-450	④ 1⅜x6¼	2.20
555, 915, 1055, 1155, 6615, 6625	W36057 (Standard Aerovox Type PG350-40)	40	350	⑤ 1½x4 9/16	2.00
555, 715, 725 855, 865, 915, 955, 1055, 6625	W36055 (Standard Aerovox Type PG500-30)	30	500	⑤ 1½x4 9/16	1.80
DETROLA	1460	4-8-20	150	① 1¼x1¾x3⅝	1.80
ERLA	2272	8-20	150	① 1 5/16x1 9/16x2⅞	1.35
	9442	4-10x7-7	150	① 1⅛x1 9/16x3¼	2.15

EMERSON	Chassis No.	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
20A, 25, 25A	G4	HC-31	4-4	200	① 1x1x2⅝	.90
20A, 25, 25A	G4	HC-32	5-5	35	① ⅞x1x1⅞	.75
250	H5	KC-56	8-8	200	① 1x1½x3	1.25
250W	H5S	KC-68	4-8-16	175	① 1x1⅞x4	1.80
32	U5S	GGC-137	8-16x5-5	150-25	① 1x1¾x4	2.05
19	UV4	KKC-143	12-8	150	① 1x1⅝x2⅝	1.25
31B5	UV5	UUC-179	12-8x5-5	150-25	① 1x1⅝x4	1.95
	U6A	ZZC-192A	4-8-16	150	② 1x2¼x3¾	1.90
	U6B	2CC-194	8-16	150	② ¾x2 7/16x3½	1.45
108, 110	U5A	2DC-203	8-16	150	① 1x2x2⅜	1.35
106	U6B	2CC-222	12-12	150	② ¾x2½x3½	1.75
38	U6D-U6	GCC-125C (Standard Aerovox Type 3GL250 8-8-16)	4-8-16	150	④ 1⅜x3¼	2.35
409, 410, 411 (Mickey Mouse)	U4B	2WC-239	8-5x5	150-25	① 1¼x¾x2 11/16	1.45
Mod. 45	6BD	EEC-129	8-8-4	150	④ 1¾x4¼	1.65
107	U6F	2LC-224	16-4-8	150	④ 1⅜x4¾	1.85
965		ZC-123	6-10	350	① 1¼x1 7/16x2 7/16	1.50
BA-199		4DC-345	16-16	150	⑧ 1x3½	1.40
FADA						
RN	4-1362-MS	8-16	200	⑧ 1⅝x3¼	1.60
	4-1380-MS	8-8	250	⑧ 1x4⅜	1.40
RU	4-1450-MS	8-8-16	250-150-250	④ 1¾x5¼	2.20
	4-1451-MS	8	150	④ 1⅜x3¼	.85
GALVIN (See Motorola)					

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); ⑩ Metal Can; ⑪ Round Can Special.

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World Radio History

AEROVOX EXACT DUPLICATE *Replacement Condensers*

G.E. Models	RCA Models	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
G. E. and RCA-VICTOR						
K40, K40A	R27, R17M, R18W, M105, 330, 331	3536 (new) 66140-2 (old)	5-5	35	⑥ 33/32x2½	0.75
K40A	R27, R17, R18W	3538 (new) 66140 (old)	4-4	175	⑥ 11/16x3⅛	1.00
K60, K65, K63	R37, R38, R37P, R38P, 120	6487 (new) 66155(old)	4-4-10-4	300-300-150-25	① 1½x1½x3¾	2.05
B52	M34, M105	6492 (new) 66140-4(old)	3.6-1	200-100	⑥ 11/16x2½	.80
L50	R22	6511 (new) 66160-2(old)	8-4-10	150-100-25	① 1 1/16x1⅛x3¾	1.35
L50	R22	6518 (new) 66160 (old)	8-8	250-175	① 1⅛x1 7/16x3⅝	1.25
K40A	R18W	6535	4-4	150-300	⑥ 1x3½	.90
K78, K79	330, 331	6555 (new) 66143-2 (old)	10-4	300-150	① 1x1½x3½	1.25
C-30, K43	100, 101 103 T-48, T-49	6661 (new) 66185-2(old)	8-8-5-5	450-450-50-50	① 1 11/16x1⅞x4⅛	2.20
K66, K66N	220 222	6691 (new) 56189-2(old)	8-4-4-4	350-150-300-25	① 1½x1½x3¾	2.05
K64, M65, M68	121, 122 321	6703 (new) 66189-1(old)	8-4-4	350-150 300	① 1½x1½x3¾	1.65
L53	114	6783 (new) 66171-1(old)	8x8-4x 10x8-8	250x200x 25x200	① 1⅛x2⅝x3¾	3.60
K52, K53, K58	R28, R28P, R28BW, RE40, RE40P, T5-2, 110, 111, 115, 117, 118, 119, 128, 128E, 210, 211, 224E, 226, 310	7589 (new) 66143 (old)	4-4	150-450	① 1x1½x3¾	1.05
A-63, A-65	RC-507		4-8-4	450-25-25	① 1⅛x1 7/16x2⅝	1.15
	C6-2, C7-6, C8-15, C8-17 C9-4, C9-6, C11-1, C13-2, C15-3, D7-7, D9-19, D11-2, D22-1, T6-1, T6-9, T7-5, T8-14, T8-16, T9-9	5512 68597-3	20	350	⑥ 1⅜x4 9/16	1.35
		(Standard Aerovox Type PG350-20)				
	C6-2, C8-15, C8-17, C9-4, C9-6, D7-7 D9-19, T6-1 T6-9, T7-5, T8-14, T8-16, T9-9	11240 68597-5	12	500	⑤ 1⅜x4 9/16	1.15
		(Standard Aerovox Type PG500-12)				
	C11-1, C13-2, C14-3, D-11-2, D22-1	11203 68597-6	12	500	⑤ 1⅜x4 9/16	1.15
		(Standard Aerovox Type PG500-12)				

Model of Set	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
GENERAL ELECTRIC (See also G.E. and RCA-VICTOR)					
F63-F65	K12J6	12-8	450	⑧ 1⅜x4½	1.55
F70-F75	K12J11	12-8-8-10	450-450-350-25	⑧ 1⅜x5	2.20
GENERAL MOTORS					
	1203346	4-4	450	④ 1⅜x5¼	1.70
GRUNOW					
501, 550 Chassis 5B	27151	4-8-20-4	25-150-150-150	① 1⅝x2½x1⅞	2.20
670, 671 Chassis 6D	30091-1	8-8x8x12-12	450-475-25	① 1⅞x2¾x2¾	3.20
625	34119-6	5-5x10-10	50-350	① 1x2⅝x3⅛	2.40
INTERNATIONAL					
	A-407	4-4	150	① ¾x1x3	.85
Kadette (Standard)	A-408	5-5	35	① ¾x¾x1½	.75
ES19, ES20, ES25, ES30, 60, 65, 80, 85	A-412	8-30	150	① ¾x2x4	1.55
40, 41, 42, 46	A-421	3.5-3.5-3.5	150-150-25	① ⅝x1¼x2¾	1.30
Kadette A and B (A-430) (A-428)	A-424	4-10-10	150	① 1x1¼x3⅜	1.65
	A-426	2-7	100	① ⅝x1 7/16x2¼	1.00
	A-427	3.5-3.5-3.5	100-100-25	① ⅝x1¼x2¼	1.20
A and B	A-425	10-10-4	150	① 1 3/16x1¼x2¼	1.65
66 66X	A-422 (old) A-443 (new)	8-30	150	⑨ 1⅜x3⅝	1.15
Kadette A and B A-424 A-428	A-430	4-10-10	150	① 1x1¼x3⅜	1.65
1019	A-468	8-8x8-8	150x250	⑨ 1¾x4	2.30
LE WOL					
LW4		25-10	150	⑩ 1x2x3¼	1.65
		4-4-4	150	⑩ 1 7/16x1¼x3½	1.35
MAJESTIC					
211, 214, 215, 221 223, 251-B, 253-B, 254-B, 351, 353	4713	8	450	① 1¼x1⅝x4 1/16	.95
151, 153, 154, 155, 156, 251, 253, 254	5414	8	450	① 1¼x1⅝x4 1/16	.95
201, 203, 204	6277	8-4-4	450	② 1½x2½x4½	2.00
11	6433	4-4	450	② 1½x1⅞x4½	1.30
56, 57, 58	6501	8-8	450	② 1⅛x3¼x4	1.55
291, 293 294	7173	8	450	① 1x1⅜x4 1/16	.95
291, 293, 294	7278	7-10	150-6	① 1 1/16x1 1/16x2⅜	1.15
324	7402	10	6	⑥ ⅝x2¼	.50
303, 304, 307, 324	7489	16	450	① 1⅛x1⅝x4 1/16	1.40
311, 314, 315	7824	8-16	300	① 1½x1¾x4⅛	1.65
324, 344, 363	7988	7	150	① 1 1/16x1 1/16x2⅜	.70
311, 314, 315, 331, 336-77, 344, 363, 393	8118	20	30	① 1 1/16x1 1/16x2⅜	.60
Chassis 114 Auto	8286	5	6	⑥ ⅝x2¼	.50
15, 153, 154, 155, 156	8385	8-8	450	② 1½x2⅛x4 1/16	1.60
77, 331, 336	8721	16	450	④ 1⅜x5¼	1.55
331, 336-77, 344, 393	8722	8	450	④ 1¾x4¼	1.05
381	8755	4-8	450	① 1⅜x1¼x4⅞	1.30
381	8774	10	25	⑥ ⅝x2¼	.50
344, 363	9019	10	25	① 1 1/16x1 1/16x2⅜	.50

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); ⑩ Metal Can; ⑪ Round Can Special.

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(See next page)

World Radio History

AEROVOX EXACT DUPLICATE *Replacement Condensers*

Model of Set	Part No.	Cap. Mfd.	D. C. Work. Voltage	Size—Inches	List Price
MAJESTIC—Continued					
371, 373	9219	8-8	450	① 1 7/16x1 9/16x4 1/8	1.45
411, 411A, 413, 413A	9661	8-10-16	150-25-150	① 1½x1½x4	1.80
66X Chassis 116A Auto	9979	8-8	350	① 1 9/16x1 5/16x3¼	1.40
118	10369	8-8	450	① 1 9/16x1 9/16x3¼	1.50
40, 49, 194 Chassis 440	10536	10-4-6	25-300-350	① 1¼x1 5/16x4⅜	1.70
55, 59, 75, 195, 560, 556 Chassis 500	10827	10-8-8	25-350-350	① 1 7/16x1 3/16x5 5/16	1.85
77, 331, 336, Chassis 330	8721	16 (Standard Aerovox Type G450-16)	450	④ 1⅜x5¼	1.55
MONTGOMERY WARD (Air Line Radio)					
62-96, 62-98	80944-A (old)	4-12-16	150	① 1¾x1½x3	1.85
(Same as Wells Gardner condenser for Model 05A, 05B, 05AA, 05BA)					
62-96, 62-98	80944-E (new)	4-12-16	150	① 1¾x1 5/16x3	1.85
MOTOROLA (Galvin)					
100	1388	8-8x25	350x25	① 1 1/32x1 7/16x2 5/16	2.00
75 (Early)	1465	6-6	350	① 1x1½x2⅞	1.20
75 (Later)	1468	6-4x6	200x12	① 1x1½x2⅞	1.40
60, 80	2185	8-8x25	300x25	④ 1⅜x3¼	1.95
34	34	3-6-10	200-200-25	① 1x1¼x4 3/16	1.40
44	8123	8-12	200	① 1¼x2¼x2⅜	1.35
44, 66, 77A	4-8200	4-8	200	① 1¼x1¾x2¼	1.10
57 (Early)	1424	2-4	250	① 1x1x1⅞	1.10
57 (Later)	1540	3-5x6	200-25	① 1¼x1¼x1¾	1.35
Dual 6 & Dual 8	8825	8-8-25	350-300-25	① 2x2x2½	1.85
9-A, 6-2, 8-1, 10-1, 12-1	14-H37275	16-2-2-25	450-450-450-25	⑤ 1½x4½	2.30
PILOT					
63	71106TJ	8-8x2-2	475x475	① 1¾x2¼x3⅛	3.45
PEERLESS	E250	12-16-10	100	① 1¼x2x3	1.80
RADIO KEG		5-8-12	25-150-150	① 1x1½x3	1.70
RCA. (See G.E. and RCA-VICTOR)					
SILVERTONE					
7110	148	10-10x8-14	25x150	⑨ 1⅜x4½	2.05
SIMPLEX					
P R		4-4	450	① 23/32x2½x3⅞	1.20
Model V		4-20	200	① 1x1x4¼	1.40
Model 4Z		15-8x5-5	150x25	① 1x1x4½	1.95
STEWART WARNER					
10-20	81698	5-5	25	① ¾x¾x1½	.75
R-115, R-116	81959	4-13-7	150	① 3⅛x1⅜x1⅛	1.65
R-112	83111	8-8-5-5	250-250-25-25	① 1¼x1½x3⅜	1.95
	83394	12	150	① 1 1/16x1 1/16x2⅜	.80
	85430	16 (Standard Aerovox Type PG350-16)	350	⑤ 1⅜x4 9/16	1.20
	85431	16 (Standard Aerovox Type PG500-16)	500	⑤ 1⅜x4 9/16	1.35
	85792	16 (Standard Aerovox Type PG500-16)	500	⑤ 1⅜x4 9/16	1.35
	85793	16 (Standard Aerovox Type PG500-16)	500	⑤ 1⅜x4 9/16	1.35
SPARTON	A-9550	5-25-5	175	① 1⅝x1⅝x2 5/16	2.00
71, 71B, 72, 78	A-9754	8-8 (Standard Aerovox Type 2G450-8-8)	450	④ 1⅜x5¼	1.60
	A-9308	20	25	① 13/16x13/16x2¼	.60
65, 65T, 66, 66T, 506	A-11093-1 (Same as Belmont for Model 425)	5-5-25	200	① ⅞x2⅜x2½	1.95
UNITED MOTORS (Delco)					
	6508	8-8-4-4	350-350-25-25	① 1½x1⅞x2¾	2.05
	4038	10-10	300	① 1⅜x2⅛x2 5/16	1.55
4048	6201 (Same as Apex Condenser (U. S. Radio & Tel.) for Model 5 Part 6201)	4-4-12	200	① 1¼x1¼x2¾	1.70
4052	A-443341 (Same as Crosley part W-30962 for Model 182)	8-25	150	① 1⅛x1⅛x3½	1.45
UNITED MOTORS (Delco)—Continued					
982008 Oldsmobile 1936	R13183 (new) 1210514 (old)	8-8-12	250-250-25	① 1 1/16x2x2¾	1.80
Model 980509 (Buick 1936)	1210885	8-8x12x5	350x25x50	① 1x2¾x3	2.15
626, 627, Chev. 601662	1209285	12x8-8	25x350	④ 1⅝x4¼	1.95
1934-Buick, Chev., Olds., Pont. 1935-Buick, Chev., Olds., Pont	1209047	12x8-8	25x350	① 1⅞x1⅞x2⅛	1.85
U. S. RADIO & TEL.					
Apex-5	6201	4-4-12	200	① 1¼x1¼x2¾	1.70
Apex (1001 Chassis) 10B-200 President	2719	8	300	① ¾x1 5/16x4⅛	.90
WARE					
S-76 (MB78)		4-4x4-8	450x450	① 1½x2x4	2.70
WELLS-GARDNER					
05A, 05BA, 05AA	80944-A (old)	4-12-16	150	① 1¾x1¼x2¾	1.85
	80944-E (new) (Same as Montgomery Ward Air Line Models 62-96, 62-98)	4-12-16	150	① 1¾x1½x3	1.85
	81042 (Standard Aerovox Type PG500-16)	16	500	⑤ 1⅜x4 9/16	1.35
	81043 (Standard Aerovox Type PG350-20)	20	350	⑤ 1⅜x4 9/16	1.35
WEBSTER	S-3888	40	100	④ 1x4⅜	1.20
WURLITZER (Lyric)					
SA-5	35-3715	8-8-10	450-450-25	④ 1⅜x5¼	2.00
C4-M4	37-3773	4-8x10	250-25	① ⅞x1⅜x4	1.65
SU-5		12-16x10	150-25	① 1⅜x1 9/16x2⅝	1.85
ZENITH	22-125 (Standard Aerovox Type G450-8)	8	450	④ 1⅜x4¼	1.05
	22-217 (Standard Aerovox Type 2G450-8-8)	8-8	450	④ 1⅜x5¼	1.60
	22-230 (Standard Aerovox Type 2E450-8-8)	8-8	450	③ 1⅜x5¼	1.60
	22-236	8-8-10	300-300-25	⑩ 1⅜x2¾	1.90
	22-125 (Standard Aerovox Type PG500-8)	8	500	⑤ 1⅜x4 9/16	.95
	22-331 (Standard Aerovox Type PG500-8)	8	500	⑤ 1⅜x4 9/16	.95
7D126	22-484F	4-16-8-4	250	⑨ 1½x4¼	2.70
Chassis 5401, 4P26-4T26, 4P51-4T51	22-407B	2-4-8	450	⑨ 1⅜x4¼	1.95
7S-28, 7S-30, 7S-53, Chassis 5704	22-416F	8-8-2	450	⑨ 1⅝x4¼	2.00
Chassis 5903, 9S30, 9S54, 9S55	22-412C	2-4-16	475	⑧ 1½x4¼	2.50
Chassis 5633, 6D116, 6D117, 6D118	22-481F	4-8-16	150	① 1x3x3¼	1.85
5639, 6D-219	22-560	35-16-10	150-150-25	⑥ 1 1/16x4⅝	1.50
UNIVERSAL REPLACEMENTS					
88	Spade Lug Type	8-8	450	⑧ 1⅜x4¼	1.50
1216	Spade Lug Type	12-16	200	⑧ 1⅜x4¼	1.55
816	Spade Lug Type	8-16	450	⑧ 1⅜x4¼	1.90
148	Spade Lug Type	14-8x10-10	150x25	⑧ 1⅜x4¼	2.05
168	Spade Lug Type	16-8x10-10	200x25	⑧ 1⅜x4¼	2.05
1612	Spade Lug Type	16-12x10-10	200x25	⑧ 1⅜x4¼	2.15
1212	(Same as Bosch part CE-9520)	12-12x5-5	200x25	① 1x1½x2¾	1.95
88855		8-8-8x5-5	200x25	① 1¼x1½x3	2.50
16168		16-16-8x5-5	150x25	① 1 1/16x1 1/16x3	2.45
8820		8-8-20	200	① 1 1/16x1 1/16x2⅝	2.10

Type Container—① Cardboard Box; ② Rectangular Can; ③ Universal Can; ④ Inverted Can; ⑤ Inverted Can (Wet); ⑥ Cartridge; ⑦ Inverted Can (Insulated Cover); ⑧ Cardboard Tube; ⑨ Cardboard Tube (Spade Lug Mounting); ⑩ Metal Can; ⑪ Round Can Special.

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World Radio History

AEROVOX *Interference Filters*

for the Reduction of Man-Made Static

AEROVOX Type IN-27

Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appliance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Size 1⅜" x 1¾".

TYPE IN-27.....List Price $0.50

ANTENNA SUBSTITUTE

Plugs into outlet or light socket. Flexible lead connects with set antenna post. Provides good aerial substitute under average wiring conditions. Size 1⅜" x 1¾".

TYPE ANT-32.....List Price $0.70

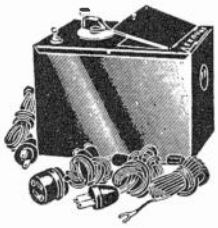
AEROVOX Type IN-30

Similar to IN-29 but with additional inductance. Handles more severe interference. Plugs between set and outlet, or preferably between noisy appliance and outlet. Size 1⅜" x 2¾".

TYPE IN-30.....List Price $1.25

AEROVOX INTERFERENCE ANALYZER

TYPE ANL-37



Plugs between interfering device and outlet. Selector switch adjusted until noise is eliminated or minimized. Dial indicates which type filter to use. Handsome. Sturdy metal cabinet. Compartment contains necessary test leads and attachment plugs and clips. Size 5½ x 5½ x 8".

TYPE ANL-37

Dealers' Net Price $7.50

AEROVOX Type IN-28

Intended for cases where ground is considerable distance from point of application. Most efficient when mounted directly on interfering device by bracket. Size 1⅜" x 1¾".

TYPE IN-28.....List Price $0.75

AEROVOX Type IN-31

Plugs in between attachment cord and electric outlet, either of set or preferably at appliance. Additional inductance for better filtering. Works best mounted by bracket directly on interfering appliance. Size 1⅜" x 2¾".

TYPE IN-31.....List Price $1.50

AEROVOX Type IN-29

Provides additional filtering action over IN-27 and IN-28. Especially effective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibrating devices. Plugs between device and line. Size 1⅜" x 2¾".

TYPE IN-29.....List Price $0.75

AEROVOX Type IN-24

Designed for use in the most serious cases of radio interference from power lines and appliances. Provided with inductance as well as capacitance for thorough filtering action. Plugs into electric outlet. Radio set or interference device plugs into receptacle of the filter. Especially desirable between device and line. Measures 4 x 2⅛" x 3⅛".

TYPE IN-24.....List Price $4.75

AEROVOX

CAPACITY and RESISTANCE BRIDGE

A handsome instrument throughout. Dimensions: 10¾" long x 7¾" high x 8" deep, excl. handle. Shipping weight 11 lbs.

No matter what equipment the radio engineer or serviceman may already possess, this is one instrument which is simply indispensable. Ideal for shop, laboratory and portable uses.

Measures with sufficient practical accuracy all essential properties of condensers under actual working conditions. In addition, all components and circuits are utilized for other measurements and tests.

Simple to operate. Neat layout of knobs and dials. Concise instructions for each control are etched directly on panel. Once general operation of Bridge is understood, no further instructions need be referred to. General directions on inside cover.

Binding posts insulated with XXX Bakelite and accommodate banana plugs, spade terminals, 'phone tips or bare wires.

Tubes are mounted on shelf alongside panel. Easy inspection and replacement. Space alongside -45 tube accommodates power cord. Individually selected resistors insure close accuracy of instrument. Completely self-contained.

Red gumwood cabinet. Natural finish. Sturdy lock-corner construction. Leather handle. Heavy catch. Two slip-hinges, permitting removal of cover. Rubber feet and bumpers side and bottom. A fine instrument throughout.

Each instrument precisely calibrated and thoroughly factory-tested. Serially numbered and registered in owner's name for full protection.

Tubes (included in price) furnished with instrument, insuring proper matching.

Net Price to Dealers and Servicemen..... $35.75

Incl. Tubes (6C8G, 1V, —45)

—WHAT IT DOES—

CAPACITY BRIDGE

. . . measures capacity, leakage, power factor, etc., of condensers under actual working conditions. 100 mmfd. (.0001)—100 mfd. in 6 ranges.

RESISTANCE BRIDGE

. . . measures resistance values of resistors and electrical equipment and circuits. 10 ohms—1 megohm.

INSULATION RESISTANCE

. . . measures this important factor in condensers and other devices. Meter is calibrated directly in megohms. Reads up to 10,000 megohms.

VACUUM-TUBE VOLTMETER

. . . consists of amplifier stage and grid-leak detector. Measures minute values.

VOLTMETER

. . . available for voltage readings. 0-60 v., 0-300 v., 0-600 v. at 1000 ohms per volt. May be used externally.

MILLIVOLTMETER

. . . meter terminals brought out directly. Range 60 mv. at 60 ohms or 1 ma. Can be used with external shunts.

MILLIAMMETER

. . . meter can be read in milliamperes. 0-6 ma., 0-60 ma. May be used externally.

VARIABLE POWER SUPPLY

. . . available directly at terminals, supplying between 15 and 600 volts continuously variable over entire range.

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World Radio History

AEROVOX Transmitting CONDENSERS RESISTORS

With NEW Universal Adjustable Mounting Bracket

AEROVOX "HYVOL" OIL-IMPREGNATED OIL-FILLED CONDENSERS

In Rectangular Metal Cans

"09" Series

Selected paper section condensers filled and impregnated with "Hyvol," the new super-dielectric oil. Hermetically-sealed in sturdy welded-steel aluminum-finished can, leak-proof and seepage-proof. High tension pillar terminals fitted with lock-nuts and soldering lugs. Exceptionally compact dimensions for given capacity, working voltage—and safety factor due to use of "Hyvol". Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Provided with the new universal adjustable mounting bracket for mounting any height above or below chassis platform. Note AMATEUR NET COST.

Type 609-600v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	2⅛x1 13/16x1 3/16	$1.65
2	2⅞x1 13/16x1 3/16	2.10
4	3⅜x2½x1 3/16	2.70

Type 1009-1000v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	2⅛x1 13/16x1 3/16	$1.80
2	4 x1 13/16x1 3/16	2.40
4	4¾x2½x1 3/16	3.00

Type 1509-1500v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	4 x1 13/16x1 3/16	$2.10
2	4¼x2½x1 3/16	3.00
4	4¾x3¾x1¼	4.20

Type 2009-2000v. D.C.W.

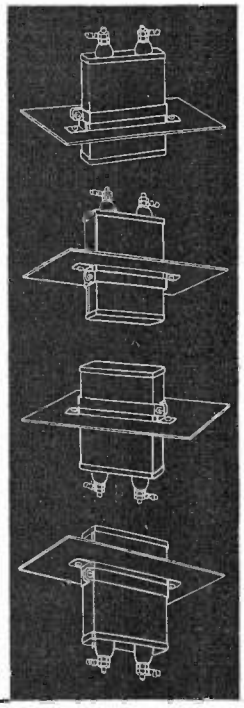
Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	3⅜x2½x1 3/16	$2.70
2	4 x3¾x1¼	3.30
4	4 x3¾x2¼	5.40

Type 2509-2500v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	3¼x3¾x1¾	$4.80
2	4¾x3¾x1¾	7.80

Type 3009-3000v. D.C.W.

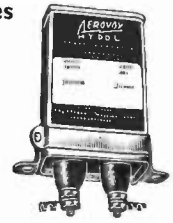
Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	4¼x3¾x2¼	$7.20
2	4¼x3¾x3 3/16	9.00



AEROVOX "HYVOL" OIL-IMPREGNATED WAX-FILLED CONDENSERS

In Rectangular Metal Cans

"11" Series



Same general construction as "09" Series at left. These new transmitting units are oil-impregnated and wax-filled and are recommended for use where economy is a prime consideration. Section sealed in protective coating of high-melting-point wax and encased in welded steel jacket surmounted by high tension pillar terminals fitted with lock nuts and soldering lugs. Aluminum finish can.

Also provided with the new universally adjustable mounting bracket for mounting in upright or inverted position as shown.

Type 1011 1000v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	2⅛x1 13/16x1 3/16	$1.10
2	4 x1 13/16x1 3/16	1.50
4	4¾x2½x1 3/16	2.00

Type 1511 1500v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	4 x1 13/16x1 3/16	$1.45
2	4¼x2½x1 3/16	2.00
4	4¾x3¾x1¼	3.25

Type 2011 2000v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	3⅜x2½x1 3/16	$1.75
2	4 x3¾x1¼	2.45
4	4 x3¾x2¼	4.65

Type 3011 3000v. D.C.W.

Cap. Mfds.	Size-In. L.W.D.	Amateur Net
1	4¼x3¾x2¼	$2.50
2	4¼x3¾x3 3/16	4.95

Filters for Power Supplies, High-Gain, High-Fidelity Amplifiers, Television Circuits, Transceivers, etc.

AEROVOX "HYVOL" OIL-IMPREGNATED OIL-FILLED CONDENSERS

In Round Aluminum Cans

"05" Series

Pure linen paper dielectric, impregnated and filled with the new super-dielectric oil, "Hyvol". Convenient round can, provided with ring mounting. High-voltage pillar terminals. Hermetically sealed in leak-proof containers. Very conservative ratings for continuous operation, and therefore larger than the "10" Series inverted screw-mounting units.

Type 605 600v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2 x 2¾	$1.50
2	2 x 2¾	1.80
4	2 x 3¾	2.40

Type 1005 1000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2 x5¼	$1.62
2	2 x5¼	2.01
4	2½x5¼	2.91

Type 1505 1500v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2 x5¼	$1.71
2	2 x5¼	2.34
4	2½x5¼	3.60

Type 2005 2000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2 x5¼	$2.13
2	2½x5¼	2.85

Type 2505 2500v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2 x5¼	$3.30
2	2½x5¼	4.20

Type 3005 3000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	Amateur Net
1	2½x5¼	$5.10

"HYVOL" OIL-IMPREGNATED OIL-FILLED CONDENSERS

- In Round Cans
- Ring Mounting "05" Series
- Inverted Screw Mounting "10" Series
- Hermetically Sealed Units
- Seepage-Proof
- Leak-Proof

AEROVOX "HYVOL" OIL-IMPREGNATED OIL-FILLED CONDENSERS

In Round Aluminum Cans— Inverted Mounting

"10" Series

Designed for inverted screw mounting with can grounded. With insulating washer, can may be insulated from metal chassis if preferred. Extremely compact for use in crowded assemblies. Hermetically sealed. Leakage-proof. Used extensively in filter circuits of power supplies, high-gain, high-fidelity amplifiers, television circuits, transceivers, etc.

	Cap. Mfds.	Size-Ins. Dia.-High	Amateur Net
Type 610 — 600v. D.C.W.	2	1½ x 2⅞	$1.35
	3	1½ x 4½	1.65
	4	1½ x 4½	1.80
Type 1010 — 1000v. D.C.W.	1	1½ x 2⅞	$1.35
	2	1½ x 4½	1.65
Type 1510 — 1500v. D.C.W.	.5	1½ x 2⅞	$1.80
	1	1½ x 4½	2.10

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World Radio History

AEROVOX Transmitting CONDENSERS RESISTORS

HIGH-VOLTAGE MOLDED MICA CONDENSERS

TYPE 1450
Size 1¼" x 1¼"

Types 1455-57
Size 1¼" x 1 5/32"

Types 1650-54
Size 1 1/16" x 1 1/16"

Type 1450
Test Voltage 1000v. D.C.

Cap. Mfd.	Amateur Net	Cap. Mfd.	Amateur Net
.0001	$ .15	.002	$ .21
.00015	.15	.003	.24
.0002	.15	.004	.27
.00025	.15	.005	.27
.00037	.15	.006	.33
.0005	.15	.01	.42
.001	.18	.02	.57

Type 1455
Test Voltage 1000v. D.C.

.00005	$ .21	.001	$ .24
.0001	.21	.002	.27
.00025	.21	.01	.48
.0005	.21	.02	.72

Type 1456
Test Voltage 2500v. D.C.

.00005	$ .30	.001	$ .45
.0001	.30	.002	.57
.00025	.36	.006	1.02
.0005	.36	.01	1.41

Type 1457
Test Voltage 5000v. D.C.

.00005	$ .36	.0005	$ .51
.0001	.36	.001	.60
.00025	.42	.002	.90

Type 1650
Test Voltage 1000v. D.C.

Cap. Mfd.	Amateur Net	Cap. Mfd.	Amateur Net
.00005	$ .24	.001	$ .30
.0001	.24	.006	.51
.00015	.24	.01	.69
.00025	.24	.02	1.11
.0005	.24	.05	2.31

Type 1651
Test Voltage 2500v. D.C.

.00005	$ .42	.002	$ .81
.00025	.42	.006	1.05
.0005	.42	.01	1.68
.001	.54	.02	2.37

Type 1652
Test Voltage 5000v. D.C.

.00005	$ .54	.001	$ .90
.0001	.54	.002	1.35
.00025	.63	.006	2.10
.0005	.75	.01	2.46

Type 1653
Test Voltage 7500v. D.C.

.00005	$ .66	.001	$1.44
.0001	.78	.002	1.92
.0002	.90	.003	2.40
.00025	.99	.004	2.70
.0005	1.20	.005	3.00

Type 1654
Test Voltage 10000v. D.C.

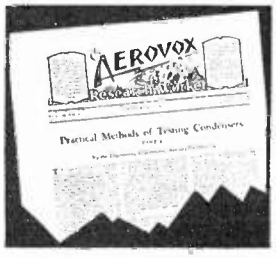
.00005	$ .75	.0005	$1.65
.0001	.96	.001	2.10
.00025	1.26	.002	3.00

PORCELAIN-CASED MICA CONDENSERS

Types 1991-96

Ideal for these higher-frequency applications. Encased and hermetically-sealed in glazed porcelain case. Heavy-duty terminals. Power loss due to dielectric absorption reduced to a minimum. Units operate at full load without heating up. Dimensions: 3½ inches between mounting holes, 4 inches overall by 3 inches high.

TYPES	1991	1992	1993	1994	1995	1996
Max. D.C.V.	2000	3500	5000	7000	10000	12500
Cap. Mfds.	AMATEUR NET COST on Stock Capacities					
.00005						$2.25
.0001						2.25
.00025						2.25
.0005				$2.25		2.55
.001		$2.25		2.55		3.00
.0015		2.40		2.85		3.30
.002		2.55	$2.85	3.15	$3.60	3.90
.003		3.00	3.30	3.60	4.20	4.80
.005		3.60	3.90	4.20	5.70	
.01		4.20	4.80	5.70		
.02	$4.20	5.25				
.05		6.90				
.1	6.60					



To Help
THE SERVICEMAN
RADIO EXPERIMENTER
RADIO ENGINEER

The AEROVOX RESEARCH WORKER, published monthly, contains new, authoritative, first hand information on condensers and resistors for radio work. Ask your Jobber how you may get a year's subscription FREE. Other than jobber-subscriptions — 50c a year.

HIGH-VOLTAGE MICA CONDENSERS IN METAL CASES

Types 1771-75

Heavy-duty mica condensers in metal cases. Selected mica and foil. Thoroughly impregnated and sealed against moisture. Types 1771-75 are provided with leads.

Types 1881-85

These heavy-duty mica condensers come in cast aluminum casings and are provided with high-voltage pillar terminals. They are thoroughly impregnated and sealed against moisture.

TYPES	1771	1772	1773	1774	1775
D.C. Test Volts	1400	3500	7000	10000	14000
Cap. Mfd.	AMATEUR NET COST on Stock Capacities				
.00005	$1.35	$1.80	$1.95	$2.25	$2.55
.0001	1.35	1.80	1.95	2.40	2.85
.0002	1.35	1.80	2.16	2.70	3.15
.00025	1.35	1.80	2.25	3.00	3.60
.0005	1.41	1.86	2.55	3.60	4.80
.001	1.47	2.10	3.00	4.20	5.40
.002	1.59	2 55	4.20	5.40	
.006	1.92	4.05			
.01	2.04	4.80			
.02	2.16	6.75			

TYPES	1881	1882	1883	1884	1885
D.C. Test Volts	1400	3500	7000	10000	14000
Cap. Mfd.	AMATEUR NET COST on Stock Capacities				
.00005	$3.00	$3.24	$3.60	$3.75	$3.90
.0001	3.00	3.24	3.60	4.05	4.50
.0002	3.00	3.24	3.75	4.50	5.40
.00025	3.00	3.24	3.84	4.80	5.95
.0005	3.00	3.30	4.20	5.95	
.001	3.00	3.60	4.80	6.60	
.002	3.12	4.20	5.70		
.006	3.42	5.70			
.01	3 54	6.30			
.02	3.75	8.40			

"SLIDEOHM" X-MITTING GRID LEAKS

TYPE 958

200-watt heavy-duty adjustable wire-wound vitreous-enamel resistors especially for use as a transmitting grid leak or in power units and other circuits where adjustable heavy-duty resistors or voltage dividers are required. Scale marked on each unit for setting to any desired resistance value. Provided with horizontal mounting brackets and one adjustable contact slider.

Type 958—200 Watts
Size—1¼ x 10½ inches

Resistance Ranges	Amateur Net
100-10,000	$1.80
15,000-100,000	2.10
125,000-150,000	2.25

Resis. Range	Cur. m.a.	Resis. Range	Cur. m.a.	Resis. Range	Cur. m.a.	Resis. Range	Cur. m.a.
100	1400	3000	260	15000	115	50000	30
250	900	3500	240	20000	75	60000	25
500	630	4000	220	25000	60	75000	20
1000	450	4500	210	30000	50	100000	15
1500	365	5000	200	35000	45	125000	12
2000	310	7500	170	40000	40	150000	10
2500	280	10000	140				

Max. Resist.—150,000 ohms
Extra Slider Bands—15c each

COMPLETE
AEROVOX
CATALOG

NOTE: — We can supply any AEROVOX Condenser not listed in these pages. Send for complete AEROVOX Catalog as illustrated.

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World Radio History

AEROVOX

EXACT DUPLICATE REPLACEMENT CAPACITORS

For Use in Electrical Refrigerators, Oil Burners and Other Motor Driven Equipment

OIL CAPACITOR REPLACEMENTS

Manufacturer & Mfrs. Part No.	Aerovox Catalog No.	Cap. Mfd.	A.C. Voltage	Dimensions L.W.H. or D.H.	List Price
BALDOR ELECTRIC CO.					
BE-102	501	2	330	1¼x4½x4 7/32	$3.40
BE-103	502	3	330	1¼x4½x4 7/32	3.65
BE-104	503	4	330	1¼x4½x4 7/32	4.10
BE-105	504	6	330	1⅝x4½x4 7/32	5.00
BE-108	505	8	330	2⅛x4½x4 7/32	6.10
BE-202	506	2	330	1⅝x3½x3	3.40
BE-203	507	3	330	1⅞x3½x3	3.65
BE-301	508	1	330	4⅞x3⅛x1	2 75
BE-302	509	2	330	4⅞x3⅛x1¼	3.40
BE-303	510	3	330	4⅞x3⅛x1⅜	3.65
BE-304	511	4	330	4⅞x3⅛x1⅝	4.10
BE-306	512	6	330	4⅞x3⅛x2	5.00
BE-308	513	8	330	4⅞x3⅛x2½	6.10
BE-401	514	1	165	4⅞x3⅛x1	2.50
BE-402	515	2	165	4⅞x3⅛x1	3.10
BE-403	516	3	165	4⅞x3⅛x1¼	3.30
BE-404	517	4	165	4⅞x3⅛x1⅜	3.70
BE-405	518	5	165	4⅞x3⅛x1½	3.85
BE-406	519	6	165	4⅞x3⅛x1⅝	4.25
BE-408	520	8	165	4⅞x3⅛x1⅞	5.10
BE-502	522	2	330	3½x3½x1 1/16	3.40
BE-503	523	3	330	3½x3½x1 5/16	3.65
BE-504	524	4	330	3½x3½x1¾	4.10
BE-505	525	5	330	3½x3½x2 1/16	4.50
BE-601	526	1	330	4½x4½x1 13/16	2.75
BE-602	527	2	330	4½x4½x1 13/16	3.40
BE-603	528	3	330	4½x4½x1	3.65
BE-604	529	4	330	4½x4½x1⅛	4.10
BE-605	530	5	330	4½x4½x1 5/16	4.50
BE-606	531	6	330	4½x4½x1 7/16	5.00
BE-608	532	8	330	4½x4½x1¾	6.10
CENTURY ELECTRIC CO.					
———	614	3.75	330	3 x1⅜x4	4.00
———	618	5	330	3 x1⅝x4	4.50
———	619	10	330	3¼x2⅝x4¼	7.00
———	620	20	330	3⅛x4⅞x5⅛	11.00
———	621	7.5	330	3 x2¼x4	5.80
16008	565	8	165	2½x5 1/16	5.10
16007	623	7	165	2½x5 1/16	4.50
160014	624	14	165	4½x4½x1⅞	7.50
CLEVELAND STEEL PROD. CO.					
———	533	2	375	2 x5 1/16	4.75
DELCO PRODUCTS CORP.					
047727	534	8.5	375	4⅞x3⅛x3½	7.40
1055074	535	3.5	375	4⅞x3⅛x1¾	4.55
1055347	536	2.6	375	4⅞x3⅛x2¼	4.20
1055955	537	4.4	375	4⅞x3⅛x2¼	4 95
1057535	534	8.5	375	4⅞x3⅛x3½	7.40
1057536	539	5.2	330	4⅞x3⅛x2½	4.60
1057537	537	4.4	375	4⅞x3⅛x2¼	4.95
1057538	541	3.5	375	4⅞x3⅛x2	4.55
1057539	542	2.6	375	4⅞x3⅛x1⅝	4.20
048753	612	3	330	3⅛x4⅞x1½	3.65
1055546	602	6	330	4 x1⅝x5	4.50
1064150	612	3	330	3⅛x4⅞x1½	3.65
1071305	546	3.5	375	2 x1⅞x5	4 00
1071306	547	1	375	2 x1⅞x5	2 75
1078065	625	5.2	330	3½x3½x2	4 60
5305052	612	3	330	3⅛x4⅞x1½	3.65
5306753	627	1	660	3½x3½x2	3.50
5306752	628	3 5	375	3½x3½x2	4.55
EMERSON ELEC. MFG. CO.					
ESA-102	548	1	660	4⅞x3⅛x1½	3.50
ESA-202	549	2	660	4⅞x3⅛x2¼	4 50
ESA-302	550	3	660	4⅞x3⅛x3	5.10
ESA-402	551	4	660	4⅞x3⅛x3¾	6.00
ESA-502	552	5	660	4⅞x3⅛x4½	7.50
ESA-602	553	6	660	4⅞x3⅛x5¼	8.50
ESA-802	555	8	660	4⅞x3⅛x6¾	10.50
ESA-902	556	9	660	4⅞x3⅛x7½	11.75
ESA-6012	512	6	330	4⅞x3⅛x2	5.00
ESA-7012	558	7	330	4⅞x3⅛x2¼	5.55
ESA-8012	513	8	330	4⅞x3⅛x2½	6.10
ESA-9012	560	9	330	4⅞x3⅛x2¾	6.55
ESA-12012	562	12	330	4⅞x3⅛x3⅜	8.00
ESA-14012	563	14	330	4⅞x3⅛x3⅞	8.65
ESA-16012	564	16	330	4⅞x3⅛x4¼	9.40
13-0-00B	629	2	330	2 x4	3.00
———	630	1.75	165	3½x3½x 11/16	2.90

Manufacturer & Mfrs. Part No.	Aerovox Catalog No.	Cap. Mfd.	A.C. Voltage	Dimensions L.W.H. or D.H.	List Price
A. C. GILBERT					
P9649	617	2	165	1⅜x3¼	3.10
GRUNOW (GENERAL HOUSEHOLD)					
5117	539	5.2	330	4⅞x3⅛x2½	4.60
GRIGSBY GRUNOW					
25036	565	8	165	2½x5 1/16	5.10
HOWELL ELEC. MOTORS					
———	566	4	440	1 x4 x5	4.25
———	567	6	440	1½x4 x5	5.50
———	568	8	440	2 x4 x5	6.50
HOME SANITATION CO.					
———	569	4	165	1 x2 x5	3.35
———	570	4	375	2 x2 x5	4.25
HOLTZER CABOT CO.					
28650	512	6	330	4⅞x3⅛x2	5.00
LELAND ELECTRIC CO.					
1170-1	572	4	375	4⅞x3⅛x2	4.65
1170-2	573	4.5	375	4⅞x3⅛x2⅛	5.00
1170-3	574	5	375	4⅞x3⅛x2¼	5.40
1170-4	575	6	375	4⅞x3⅛x2½	6.00
1170-5	576	8	375	4⅞x3⅛x3⅛	7.00
1170-6	577	10	375	4⅞x3⅛x3¾	8.50
1170-7	578	3	375	4⅞x3⅛x1¾	4.40
1170-8	579	2	375	4⅞x3⅛x1⅜	3.85
MARATHON ELECTRIC CO.					
———	580	1	550	4⅞x3⅛x1½	3.50
———	581	4	550	4⅞x3⅛x3⅛	6.00
———	582	5	550	4⅞x3⅛x3⅝	7.50
MARTIN BROTHERS					
———	616	3	330	1½x2 x4⅜	3.65
———	631	3	165	2 x3⅛	3.30
MASTER ELEC. MFG. CO.					
50938	583	2.7	440	4⅞x3⅛x1¾	4.25
50939	584	3	440	4⅞x3⅛x1¾	4.40
50940	585	5.5	440	4⅞x3⅛x2¾	5.75
60292	586	2	440	4⅞x3⅛x1¾	3.85
60323	587	4	440	4⅞x3⅛x2⅞	4.65
60200	588	3	440	1¾x4¾x5	3.95
60201	589	2	440	1¼x4¾x5	3.45
60199	590	4	440	2¼x4¾x5	4.25
OHIO ELECTRIC CO.					
4364A	591	2.5	550	2 x5 1/16	4.80
4364B	592	3	550	2 x5 1/16	5.10
4365A	593	2.25	440	4⅞x3⅛x2⅜	4.00
4365B	594	4.5	330	4⅞x3⅛x1¾	4.30
4365C	595	4 5	440	4⅞x3⅛x3⅛	5.00
4365D	596	8.5	330	4⅞x3⅛x2¾	6.35
4365E	597	10	330	4⅞x3⅛x3	7.00
4365F	562	12	330	4⅞x3⅛x3⅜	8.00
4365G	599	12	440	4⅞x3⅛x5	9.50
4365H	600	10	440	4⅞x3⅛x4⅛	8.50
4351	612	3	330	3⅛x4⅞x1½	3.65
4375	602	6	330	1⅝x4 x5	4.50
ROBBINS & MYERS					
———	603	2	330	1⅜x4½x2⅛	3.40
———	604	3	330	1 13/16x4½x2⅛	3.65
———	605	8	330	1¾x4½x4½	6.10
———	606	5	330	2¾x4½x2⅛	4.50
———	518	5	165	4⅞x3⅛x1½	3.85
———	608	12	165	4⅞x3⅛x2½	6.80
D59749-1	522	2	330	3½x3½x1 1/16	3.40
SUNLIGHT ELEC. MFG. CO.					
5000455	609	5	330	3¾x3 3/16x2	4.50
5000456	610	6	330	3¾x3 3/16x2¼	5.00
5205371	633	10	330	4½x4½x2 1/16	7.00
TIMKEN SILENT AUTO CO.					
3528Q17	612	3	330	3⅛x4⅞x1½	3.65
WAGNER ELECTRIC CO.					
HD-3444	615	5	330	3¾x3 3/16x1½	4.50
WESTINGHOUSE ELEC. & MFG. CO.					
799966	613	5.2	330	3⅛x4⅞x2	4.60
WILLIAMS OIL-O-MATIC					
EM398A	572	4	375	4⅞x3⅛x2	4.65

NOTE: **WRITE US FOR A COMPLETE AEROVOX INDUSTRIAL CAPACITOR REPLACEMENT CATALOG**
Replacement capacitors not listed in the above and preceding page can also be furnished on special order. When ordering units not listed, kindly send us a sample of the unit which has failed in service, together with all available data such as manufacturers' part number, capacity, voltage, ratings, etc.

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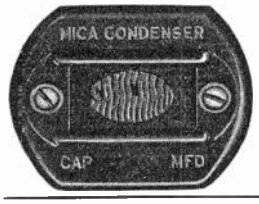
World Radio History

Sangamo CONDENSERS

SANGAMO MICA CONDENSERS

Consistent accuracy—that is the assurance you obtain when Sangamo Mica Condensers are used. They have been the accepted standard for precision work for over a score of years. The best proof of their remarkable dependability is their extensive application by U. S. Government consulting engineers and by Navy, Aviation and Army designers for use with transmitting apparatus. Sangamo Condensers are rated accurately and conservatively. To experts, they are a "known" value needing no comparison with competitive advertising claims.



TYPE A CONDENSERS

Correct design, tested materials and precise manufacturing methods account for the high efficiency of Sangamo Type A Condensers. They are particularly adapted for use in small transmitters.

DIMENSIONS: Overall dimensions are as follows: 1.80" long, 1.40" wide. Actual thickness of Type A unit is .60" without screws. Note special thickness on sizes marked with asterisk.

TYPE A-10
1000 V. DC TEST

Capacity, mfd.	Code	List
.00005	Dance	$ .40
.0001	Daffy	.40
.00015	Dagon	.40
.0002	Daily	.40
.00025	Dairy	.40
.0005	Daisy	.40
.001	Dally	.50
.0015	Dense	.50
.002	Dandy	.50
.003	Datum	.60
.004	Dauby	.60
.005	Dealt	.70
.006	Deary	.85
.008	Debar	1.00
.01	Debit	1.15
.012	Debut	1.20
.015	Decay	1.25
.02	Defer	1.85
.025*	Delay	2.30
.03*	Delta	2.50
.04*	Demit	3.25
.05*	Denot	3.85
Resistor Clips—pair		.10

TYPE A-25
2500 V. DC TEST

Capacity, mfd.	Code	List
.00005	Eager	$ .70
.0001	Eagle	.70
.00015	Early	.70
.0002	Earth	.70
.00025	Easel	.70
.0005	Eaves	.70
.001	Ebony	.90
.0015	Eclat	1.15
.002	Edict	1.35
.003	Edify	1.55
.004	Educe	1.55
.005	Egret	1.75
.006	Eider	1.75
.008	Eject	2.25
.01	Elate	2.80
.015*	Elder	3.35
.02*	Elect	3.95
.025*	Elope	4.40

TYPE A-50
5000 V. DC TEST

Capacity, mfd.	Code	List
.00005	Facet	$ .90
.0001	Fagot	.90
.00015	Faint	1.00
.0002	Fairy	1.05
.00025	Faith	1.05
.0005	Fancy	1.25
.001	Feaze	1.50
.0015	Focal	1.95
.002	Felly	2.25
.003*	Fence	2.75
.004*	Ferro	3.15
.005*	Fetch	3.30
.006*	Fever	3.50
.008*	Field	3.80
.01*	Filmy	4.10

NOTE: Type A-25 and Type A-50 can be supplied with insulated mounting at no additional cost. Type A-10 at 10c list additional. All rating can be furnished in Low Loss bakelite at additional cost of 10c list.

* Furnished in .90" without screw thickness dimension.

Above listings are guaranteed to be within 10% of rated capacity. For accuracy within + or — 5%, increase the list price 10%. For accuracy within + or — 2%, increase the list price 20%.

TYPE E PORCELAIN CASE CONDENSERS

Sangamo Type E is a high voltage heavy current-carrying mica condenser. It is constructed in accordance with the requirements of the important functions it must perform. The finest grade of mica is used. All units are painstakingly assembled. Hygroscopic absorption is prevented by sealing assembly hermetically in a glazed porcelain container. Sturdy terminals and mounting feet are provided. Capacity remains constant under all load conditions. Power loss due to dielectric absorption is at a minimum.

DIMENSIONS:

Sangamo Type E condensers measure overall 4-1/16" wide, 2 1/8" thick, 3-23/32" high. Distance between mounting hole centers 3 1/4".

Capacity, mfd.	Max. DC Volts	Code	List
.00005	7,000	Pacer	$ 3.75
.00005	12,500	Pachy	3.75
.0001	7,000	Paddy	3.75
.0001	12,500	Pagan	3.75
.00025	7,000	Pager	3.75
.00025	12,500	Pagod	3.75
.0005	7,000	Paint	3.75
.0005	12,500	Paled	4.25
.001	3,500	Palle	3.75
.001	7,000	Palot	4.25
.001	12,500	Palex	5.00
.0015	3,500	Panel	4.00
.0015	7,000	Panne	4.75
.0015	12,500	Pansy	5.50
.002	3,500	Panto	4.25
.002	7,000	Param	5.25
.002	12,500	Parcy	6.50
.003	3,500	Pargo	5.00
.003	7,000	Parka	6.00
.003	10,000	Parot	$ 8.00
.004	3,500	Patch	5.50
.004	7,000	Pated	7.50
.004	10,000	Patio	9.00
.005	3,500	Pause	6.00
.005	7,000	Pavis	7.00
.005	10,000	Pearl	9.50
.01	3,500	Pease	7.00
.01	7,000	Pedro	9.50
.02	2,000	Pelta	7.00
.02	3,500	Pento	8.75
.05	2,000	Perch	9.75
.05	3,500	Petra	11.50
0.1	2,000	Perot	11.50

An air free sealed unit is obtained by vacuum impregnating with a special low loss wax during the evacuating process.

Recommended for: Amateur installations, in tank circuits, as antenna coupling capacitors, as plate blocking condensers, as grid stopping units, etc.

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Sangamo CONDENSERS

Type C and D Condensers

Small size at no sacrifice in accuracy is the advantage.

Dimensions: Type C .75" by .75" by .25" thick.

TYPE C

Cap., mfd.*	Code	List
.00004	Japol	$ .15
.00005	Jacal	.15
.00007	Jaboe	.15
.000075	Jabex	.15
.0001	Jalap	.15
.00015	Jalex	.20
.0002	Jalor	.20
.00025	Jaunt	.20
.00035	Janex	.20
.0005	Jenny	.20
.001	Jiffy	.25
.0015	Joule	.30
.002	Jingo	.35
.0025	Joist	.40
.003	Jolly	.40
.004	Joule	.45
.005	Joust	.55
.006	Jumbo	.60

* 500 Volts DC working.

Dimensions: Type D .625" by .625" by .20" thick.

TYPE D

Cap., mfd.*	Code	List
.00004	Karbi	$ .15
.00005	Karen	.15
.00007	Karma	.15
.000075	Karou	.15
.0001	Karyo	.15
.00015	Kauri	.20
.0002	Kayak	.20
.00025	Kedge	.20
.00035	Keena	.20
.0005	Keeve	.20

* 500 Volts DC working.

Type B Condensers

Precisely rated, equipped with strong soldering lug terminals.

Dimensions: .72" wide, .25" thick.

TYPE B-10

Cap., mfd.*	Code	List
.00005	Habit	$ .25
.00007	Habor	.25
.000075	Haben	.25
.0001	Hairy	.25
.0002	Haply	.25
.00025	Harem	.25
.00035	Hadex	.25
.0005	Harpy	.25
.001	Harsh	.30
.0015	Hatch	.30
.002	Haven	.35
.0025	Havor	.35
.003	Hazel	.40
.004	Heady	.45
.005	Helio	.45
.006	Hepta	.55
.008	Hermo	.60
.01	Heron	.70

* 1000 Volt DC Test 600 Volts DC working.

TYPE B-25

Cap., mfd.*	Code	List
.00005	Mango	$ .50
.00007	Manor	.50
.000075	Manse	.50
.0001	Maple	.50
.0002	Marge	.50
.00025	Marex	.50
.00035	Marsh	.50
.0005	Masto	.50
.001	Matsu	.60
.002	Mavis	.75

* 2500 Volt DC Test 1250 Volts DC working.

Type BE Condensers

Mountable in any position. Remain at their original capacity.

Dimensions: 1.012" wide, .25" thick.

TYPE BE-10

Cap., mfd.*	Code	List
.00005	Lacol	$ .35
.00007	Lacet	.35
.000075	Lacto	.35
.0001	Laden	.35
.0002	Laemo	.35
.00025	Lagon	.35
.00035	Lalox	.35
.0005	Lambo	.35
.001	Lanor	.40
.0015	Lapro	.45
.002	Larot	.45
.0025	Lasso	.50
.003	Laten	.55
.004	Latus	.55
.005	Lawny	.55
.006	Ledox	.65
.008	Ledro	.75
.01	Legat	.80

* 1000 Volt DC Test 600 Volts DC working.

TYPE BE-50

Cap., mfd.*	Code	List
.00005	Oadal	$ .60
.0001	Oaken	.60
.00025	Oblat	.70
.0005	Ochre	.85
.001	Ocule	1.00
.002	Oglex	1.50

* 5000 Volt DC Test 2500 Volts DC working.

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World Radio History

SPRAGUE *Condensers*

ALUMINUM CAN DRY ELECTROLYTICS

Whether you're looking for the finest condensers obtainable — or whether you want extremely high quality units at competitive prices, Sprague Condensers today offer you the MOST FOR YOUR MONEY. Outstanding improvements in manufacture make Spragues stand head and shoulders above ordinary units. You can rely on them any time, anywhere. Every condenser is fully guaranteed — every one represents an investment in long, trouble-free performance.

That's why we say: **USE SPRAGUES — and note the difference.**

Types LS and LC - Inverted Units Screw Can

A popular unit with many replacement uses. Packed with hardware for insulating can from mounting. May also be used with Sprague special mounting clamp for upright mounting or for mounting where can extends through base panel. Polarity plainly marked.

Working Volt. 450-V. Max. Surge Volt. 525-V.

Catalog No.	Dimensions	Capacity Mfd.	Wkg. Volt.	List Price
LS-4	1 x3½	4	450	$0.85
LS-8 Lugs	1⅜x4 7/16	8	450	1.05
LC-8 2 Leads	1⅜x4 7/16	8	450	1.05
LS-10	1⅜x4 7/16	10	450	1.25
LS-12 Lugs	1⅜x4 7/16	12	450	1.40
LC-12 2 Leads	1⅜x4 7/16	12	450	1.40
LS-16 Lugs	1⅜x4 7/16	16	450	1.55
LC-16 2 Leads	1⅜x4 7/16	16	450	1.55
LC-44 4 Leads	1⅜x4 7/16	4–4	450	1.30
CT-44 3 Leads	1⅜x4 7/16	4–4	450	1.30
LC-88 4 Leads	1⅜x4 7/16	8–8	450	1.60
CT-88 3 Leads	1½x4 7/16	8–8	450	1.60
LS-88 2 lugs	1⅜x4 7/16	8–8	450	1.60

Type LA - Single Section Upright Can

Continuous Working Voltage 450 Volts
Maximum Surge Voltage 525 Volts

Catalog No.	Dimensions	Capacity Mfd.	Wkg. Volt.	List Price
LA-4	1 x3½	4	450	$0.85
LA-8	1⅜x4 7/16	8	450	1.05
LA-16	1⅜x4 7/16	16	450	1.55

Type LA - Multiple Units

The many features of these multiple section 450-volt condensers include ease of fitting into any mounting holes, double screw nut positive contact, low power factor and low leakage. Mounting clamps included.

Working Volt. 450-V. Max. Surge Volt. 525-V

Catalog No.	Dimensions	Capacity Mfd.	Wkg. Volt.	List Price
LA-515	2½x4½	5–15	450	$2.30
LA-88	2½x4 5/16	8–8	450	1.80
LA-816	2½x4 7/16	8–16	450	2.35
LA-444	2½x4 5/16	4–4–4	450	2.15
LA-888	3 x4½	8–8–8	450	2.70
LA-9918	3 x4½	9–9–18	450	3.75
LA-8888	3 x4½	8–8–8–8	450	3.60
LA-8836	3 x4½	8–8–18–18	450	4.85
LA-9936	3 x4½	9–9–18–18	450	5.25

Type PLS Tiny Mike Dry Electrolytics

Small Size Can Type

Look at the size of these new Condensers. Then test their performance—their reliability even when used to replace much larger old-style condensers. This exceptionally high quality in such small size is made possible only by the use of etched foil. Will not open or short circuit. May be mounted in any position. Start using them today on jobs where small size and low price are essential considerations.

Working Voltage 450-V. Surge Voltage 525-V.

Catalog No.	Cap. Mfd.	W'k'g Volt.	Dimen.	List Price
PLS-4 (2 leads)	4	450	1 x2¾	$0.85
PLS-8 (2 leads)	8	450	1 x3	1.05
PLS-12 (2 leads)	12	450	1 x3	1.40
PLS-16 (2 leads)	16	450	1 x3	1.55
PLS-48 (4 leads)	4–8	450	1⅛x3	1.45
PLS-88 (4 leads)	8–8	450	1⅛x3	1.60

Type WC - "500" Wet Electrolytics

Perhaps not everyone realizes that Sprague has perfected more Wet Electrolytic developments, has pioneered and patented more features than any other manufacturer, BUT every serviceman and amateur who has used them, plainly recognizes Sprague superiority in EVERY electrical and mechanical characteristic. Self-healing — long life—can withstand high peak voltages.

D.C. Peak Voltage—500 Volts

Cat. No.	Cap. Mfd.	Dimensions	List Price
WC-4	4	1 x3 15/16	$0.80
WC-6	6	1 x3 15/16	.85
WC-8C	8	1 x4 7/16	.95
WC-8	8	1⅜x3 15/16	.95
WC-10	10	1⅜x3 15/16	1.05
WC-12	12	1⅜x3 15/16	1.15
WC-16	16	1⅜x3 15/16	1.35
WC-18	18	1⅜x4 7/16	1.50
WC-25	25	1½x4 7/16	1.65
WC-83	18-300 Volts	1¾x3 15/16	1.15
WC-40	40-300 Volts	1⅜x4 7/16	1.35

Type SC—Inverted Units Screw Can

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Cat. No.	Cap. Mfd.	Dimensions Dia. Height	List Price
SC-4 Lugs	4	1 x3½	$1.25
CL-4 2 Leads	4	1 x3½	1.25
SC-6	6	1 x4 7/16	1.45
SC-8 Lugs	8	1⅜x4 7/16	1.50
CL-8 2 Leads	8	1⅜x4 7/16	1.50
SC-10	10	1¾x4 7/16	1.80
SC-12	12	1¾x4 7/16	2.05
SC-16	16	1½x4 7/16	2.30
CL-44 4 Leads	4–4	1¾x4 7/16	1.95
SC-88 Can Neg.	8–8	1½x4 7/16	2.40
CL-88 4 Leads	8–8	1½x5	2.40
CL-16 2 Leads	16	1½x4 7/16	2.30

Type AC—Aluminum Can Sin. Unit

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Cat. No.	Capacity Mfd.	Dimensions Dia. Height	List Price
AC-4	4	1 x3½	$1.25
AC-8	8	1⅜x4 7/16	1.50
AC-10	10	1⅜x4 7/16	1.80
AC-12	12	1⅜x4 7/16	2.05
AC-16	16	1½x4 7/16	2.30

Type AC—Aluminum Can Mlt. Units

Continuous Working Voltage 475 Volts
Maximum Surge Voltage 600 Volts

Cat. No.	Capacity Mfd.	Dimensions Dia. Height	List Price
SA-88	8–8	2½x4 5/16	$2.40
AC-88	8–8	1½x4½	2.40
AC-888	8–8–8	3 x4½	4.00
AC-515	5–15	2½x4½	3.35
AC-9918	9–9–18	3 x4½	5.80
AC-9936	9–9–18–18	3 x4½	8.15

Get Your Copy Today FREE!

Write to SPRAGUE PRODUCTS COMPANY, North Adams, Mass., or ask us for a copy of the new Sprague Catalogue. Chock-full of helpful condenser information!

FOR EXACT DUPLICATE REPLACEMENTS TRY SPRAGUE FIRST!

There is hardly a radio manufacturer of any size who isn't using Spragues today. That's why our replacement list is so amazingly large. Write for Catalog.

UT-81	8	150	5/8"	1 5/8"	.45
UT-121	12	150	5/8"	1 5/8"	.50
UT-161	16	150	11/16"	1 5/8"	.55
UT-201	20	150	¾"	1 5/8"	.60
UT-401	40	150	⅞"	1 5/8"	.65
UT-42	4	250	9/16"	1 5/8"	.45
UT-82	8	250	5/8"	1 5/8"	.50
UT-122	12	250	11/16"	1 5/8"	.65
UT-162	16	250	¾"	1 5/8"	.75
UT-43	4	350	5/8"	1 5/8"	.50
UT-83	8	350	11/16"	1 5/8"	.55
UT-123	12	350	¾"	1 5/8"	.70
UT-4	4	450	5/8"	1 5/8"	.55
UT-8	8	450	¾"	1 5/8"	.60
UT-12	12	450	⅞"	1⅝"	.75
UT-16	16	450	15/16"	2⅛"	.90
UT-20	20	450	⅞"	2⅛"	1.00

Cash in on Sprague engineering supremacy. Use **ATOMS** universally!

DUALS, TOO!

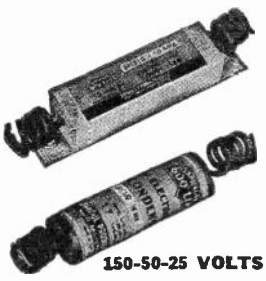
Cat. No.	Cap. Mfd.	Working Voltage	Metal Tube Diameter	Metal Tube Length	List Price
TA-100	10-10	50	5/8"	2⅜"	$0.65
TA-212	12-12	200	11/16"	2⅜"	.95
TA-216	16-16	200	⅞"	2⅜"	1.05
TA-816	8-16	200	11/16"	2⅜"	.95
AT-816	8-16	250	¾"	2⅞"	1.10
UT-88	8-8	450	15/16"	2⅜"	1.00
UT-816	8-16	450	1"	2⅝"	1.35

CARDBOARD DRY ELECTROLYTICS—LOW VOLTAGE TYPES

WORKING VOLTAGE 200 VOLTS
SURGE VOLTAGE 250 VOLTS

NEW SMALL SIZES

Made in both round and square types of uniform size, these Sprague units supply a ready answer for many hard-to-get replacements. May be strapped together with Universal Mounting Flange or ST Mounting Strap (see bottom of preceding page) to form ANY DESIRED MULTI-CAPACITY COMBINATION with common cathode or common anode or any other arrangement that may be required. Small enough to fit in anywhere. Will perform better than the condensers originally in the set.



150-50-25 VOLTS

TYPE BT (SQUARE)

Mounting lugs may be used or cut off as desired. May be used with either Sprague ST Mounting Strap or Sprague Universal Mounting Flange for mounting in original chassis holes.

Cat. No.	Capacity Mfd.	D.C. Voltage	Dimensions Inches	List Price
BT-22	2	200	2½x 11/16x 11/16	$0.55
BT-42	4	200	2½x ¾x ¾	.65
BT-82	8	200	2½x ¾x ¾	.80
BT-122	12	200	2½x ⅞x ⅞	.95
BT-162	16	200	2½x1 x1	1.05
BT-252	25	200	2½x1 1/16x1 1/16	1.25
BT-44 (4 Leads)	4–4	200	2½x1⅛x1⅛	.90
BT-48 (4 Leads)	4–8	200	2½x1⅜x ¾	1.15
BT-88 (4 Leads)	8–8	200	2½x1⅜x ¾	1.25
BT-888 (6 Leads)	8–8–8	200	2½x1⅜x1⅜	1.90
BT-812 (4 Leads)	8–12	200	2½x1⅞x1⅛	1.40
BT-816 (4 Leads)	8–16	200	2½x1⅞x1⅛	1.45

TYPE ST (ROUND)

Similar to Type BT's but made in convenient round form for use with Sprague ST Mounting Strap.

Cat. No.	Cap. Mfd.	D.C. Volt.	List Price	Cat. No.	Cap. Mfd.	D.C. Volt.	List Price
ST-22	2	200v	$ .55	ST-252	25	200v	$1.25
ST-42	4	200v	.65	ST-44	4–4	200v	.90
ST-82	8	200v	.80	ST-48	4–8	200v	1.15
ST-122	12	200v	.95	ST-88	8–8	200v	1.25
ST-162	16	200v	1.05	ST-812	8–12	200v	1.40
				ST-816	8–16	200v	1.45

TYPE BH (SQUARE)

Exceptionally Small—Moisture-Proof—universally adopted for A.C.-D.C. sets.

Cat. No.	Cap. Mfd.	D.C. Volt.	Dimensions, In.	List Price
BH-5	5	25	2½x 11/16x 11/16	$0.50
BH-10	10	25	2½x ¾x ¾	.50
BH-510	10	50	2½x ⅞x ⅞	.65
BH-25	25	25	2½x ⅞x ⅞	.65
BH-50	50	25	2½x1 x1	.95
BH-525	25	50	2½x1 x1	.80
BH-505	50	50	2½x1⅛x1⅛	1.20
BH-100	10–10	25	2½x 11/16x 11/16	.75
BH-44	4–4	150	2½x 11/16x 11/16	.85
BH-55	5–5	50	2 7/16x 11/16x 11/16	.75

TYPE HC (ROUND)

HC-5	5	25	2½L.x 11/16D.	$0.50
HC-10	10	25	2½ x 11/16	.50
HC-510	10	50	2½ x 11/16	.65
HC-25	25	25	2½ x 11/16	.65
HC-50	50	25	2½ x 11/16	.95
HC-525	25	50	2½ x1⅞	.80
HC-505	50	50	3¼ x1	1.20
HC-100	10–10	25	2½ x 11/16	.75

World Radio History

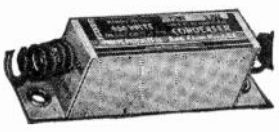
SPRAGUE *Condensers*

CARDBOARD DRY ELECTROLYTICS

SPRAGUE "450" VOLTS

450 VOLTS

Type PTM-Pinhead Tiny Mike (Rectangular)



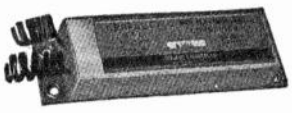
Working Voltage 450 Volts
Surge Voltage 525 Volts

Sprague Type PTM is our answer to the demand for high quality condensers in **small size at low prices**—in rectangular types for quick, easy mounting with famous Sprague Mounting Flange or ST Mounting Straps shown at the bottom of the page. Conservatively rated at 525 volts, but will stand surges as high as 560 to 580 volts AND COME BACK FOR MORE! Will not break down. Sprague humidity - proof sealing.

Catalog No.	Capacity Mfd.	Working Voltage	Dimensions	List Price
PTM-2	2	450	¾ x ¾ x 2½	$0.65
PTM-4	4	450	⅞ x ⅞ x 2½	.75
PTM-8	8	450	¾ x 1⅛ x 2½	.95
PTM-12	12	450	1 1/16 x 1⅛ x 2½	1.30
PTM-16	16	450	1¼ x 1¼ x 2½	1.45
PTM-44 (4 leads)	4–4	450	1 1/16 x 7/16 x 2½	1.20
PTM-48 (4 leads)	4–8	450	1 1/16 x 7/16 x 2½	1.35
PTM-88 (4 leads)	8–8	450	1 1/16 x 7/16 x 2½	1.50

Types LD, LT and LR Cardboard Units

When you want full-size, highest quality standard filters for general use, and want them at a moderate price, try these popular units. Extra surge and moisture proof protection. Leads used unless otherwise specified.



Working Voltage 450 Volts **Maximum Surge Voltage 525 Volts**

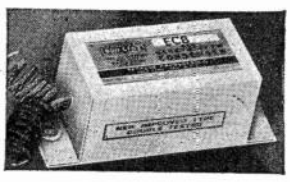
Catalog No.	Capacity Mfd.	Working Voltage	Dimensions	List Price
LD-4 Leads	4	450	4 1/16 x 1 3/16 x ¾	$0.75
LT-4 (2 lugs)	4	450	4 1/16 x 1 3/16 x ¾	.75
LD-8 Leads	8	450	4 1/16 x 1 3/16 x 1	.95
LT-8 Lugs	8	450	4 1/16 x 1 3/16 x 1	.95
LD-12 Leads	12	450	4 1/16 x 1 3/16 x 1¼	1.30
LD-16 Leads	16	450	4 1/16 x 1 3/16 x 1¼	1.45
LT-16 (2 lugs)	16	450	4 1/16 x 1 3/16 x 1¼	1.45
LD-44 (com.neg.)	4–4	450	4 1/16 x 1 3/16 x 1	1.20
LD-88 (com.neg.)	8–8	450	4 1/16 x 1 5/16 x 1 5/16	1.50
LD-444 (com.neg.)	4–4–4	450	4 1/16 x 1 5/16 x 1½	1.80
LD-888 (com.neg.)	8–8–8	450	4 1/16 x 2 x 1½	2.20

600 VOLTS

SPRAGUE "600" LINE

New Improved EC Condensers

DOUBLE - TESTED
SHORT - PROOF
No Need to Check Surges



The finest, most reliable replacements on the market. Each condenser is DOUBLE-TESTED—each has full 600-volt rating—each has an EXTRA SAFETY FACTOR. Watch them build up to 650,670 volts or even more without danger and with extremely low leakage. Double seal moisture proof protection.

Continuous Working Voltage 475-V. **Maximum Surge Voltage 600-V**

Catalog No.	Capacity Mfd.	Dimensions	List Price
EC-2	2	2½ x 15/16 x 15/16	$0.95
EC-4	4	2½ x 1 1/16 x 1 1/16	1.15
EC-8	8	2½ x 1⅜ x 1⅜	1.35

Types DC and SR Cardboard Units

Just the thing for Public Address and Power Amplifiers where the utmost reliability, quietness and ability to stand high surges are required. Also unexcelled for those exacting service jobs where you simply can't afford to have a failure. Extremely low power factor—low leakage—high voltage—**no need to check surges.**

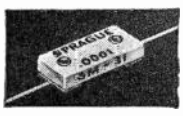
Continuous Working Voltage 475-V **Maximum Surge Voltage 600-V**

Catalog No.	Capacity Mfd.	Dimensions	List Price
DC-2	2	2½ x ⅞ x ⅞	$0.95
DC-4	4	4⅛ x 1⅜ x ⅞	1.15
DC-8	8	4⅛ x 1⅜ x 1⅛	1.35
DC-44	4–4	4⅛ x 1⅜ x 1⅛	1.80
DC-48	4–8	4⅛ x 1⅜ x 1⅜	2.00
DC-88	8–8	4⅛ x 1 5/16 x 1½	2.20
SR-88 (4 Leads)	8–8	4⅛ x 1 5/16 x 1½	2.20
SR-44 (4 Leads)	4–4	4½ x 1⅜ x 1⅛	1.80

Type HLV

SPRAGUE *Condensers*

SILVERED MICA CONDENSERS



The characteristics of these condensers are a high "Q" (minimum "Q" of 1500), low temperature coefficient (too small to measure) and high stability on humidity (better than most air condensers).

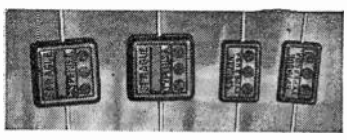
A further advantage is low inductance because of the small dimensions of these condensers. They may be employed wherever an air condenser of equivalent voltage rating is used. Because of the high "Q" of these Silvered Mica Condensers, tank circuits present no limitations as in the case of most mica condensers.

TEST VOLTAGE 1000 VOLTS D.C. — TOLERANCE 2½%

Cat. No.	Cap. Mmfd.	Cap. Mfd.	Working Volt. D.C.	Size Length	Size Width	List Price
SM-55	5	.000005	700	1 1/16	9/16	$0.30
SM-41	10	.00001	700	1 1/16	9/16	.30
SM-415	15	.000015	700	1 1/16	9/16	.30
SM-42	20	.00002	700	1 1/16	9/16	.30
SM-425	25	.000025	700	1 1/16	9/16	.30
SM-45	50	.00005	700	1 1/16	9/16	.30
SM-31	100	.0001	700	1 1/16	9/16	.40
SM-32	200	.0002	700	1 1/16	9/16	.40
SM-33	300	.0003	700	1 1/16	9/16	.40
SM-34	400	.0004	700	1 1/16	9/16	.60
SM-35	500	.0005	700	1 1/16	9/16	.60
SM-36	600	.0006	700	1 1/16	9/16	.70
SM-37	700	.0007	700	1 1/16	9/16	.70
SM-38	800	.0008	700	1 1/16	9/16	.70
SM-39	900	.0009	700	1 1/16	9/16	.70
SM-21	1000	.001	700	1⅜	¾	.70
SM-22	2000	.002	700	1⅜	¾	1.00
SM-23	3000	.003	700	1⅜	¾	1.50
SM-24	4000	.004	700	1⅜	¾	1.75
SM-25	5000	.005	700	1⅜	¾	2.00

*1% Tolerance 30% increase in List Price.

FIXED MICA CONDENSERS



Stamped with Capacity Ratings

The latest addition to the Sprague Line—and the finest Fixed Mica Condensers yet presented.

INTERMEDIATE CAPACITIES AVAILABLE

Cat. No.	Cap. Mfd.	Work. Volt.	List Price	Cat. No.	Cap. Mfd.	Work. Volt.	List Price
1FM-45	.00005	600	$0.15	1FM-25	.005	600	$0.50
1FM-31	.0001	600	.15	1FM-26	.006	600	.60
1FM-32	.0002	600	.15	2FM-44	.00004	300	.15
1FM-325	.00025	600	.20	2FM-45	.00005	300	.15
1FM-35	.0005	600	.20	2FM-475	.000075	300	.15
1FM-21	.001	600	.25	2FM-31	.0001	300	.15
1FM-215	.0015	600	.25	2FM-315	.00015	300	.15
1FM-22	.002	600	.30	2FM-32	.0002	300	.15
1FM-23	.003	600	.40	2FM-325	.00025	300	.20
1FM-24	.004	600	.45	2FM-35	.0005	300	.20

METAL-CASED BY-PASS CONDENSERS

Enclosed in a drawn metal case, they have the added individual feature of the special Sprague waxing process which proofs them against heat and moisture.

Test Voltage 1200
Work. Voltage 400 Peak Voltage 600

Cat. No.	Capacity Mfd.	Dimensions Inches	Mtg. Dim.	List Price
BP-1	.1	1¾ x 1 x ¾	2⅛	$0.50
BP-25	.25	1¾ x 15/16 x 15/16	2⅛	.60
BP-50	.5	2 x 1¼ x ¾	2⅜	.75
BP-10	1.0	2 x 1¾ x 1	2⅜	1.00
BP-21	.1-.1	1¾ x 15/16 x 15/16	2⅛	.65
BP-225	.25-.25	2 x 1¼ x ¾	2⅜	.80
BP-250	.5-.5	2 x 1¾ x 1	2⅜	1.00
BP-31	.1-.1-.1	2 x 1 x ¾	2⅜	.85
BP-41	.1-.1-.1-.1	2 x ¾ x 1 9/16	2⅜	1.10

NEW ROUND AND RECTANGULAR TYPES
NEW LOW PRICES

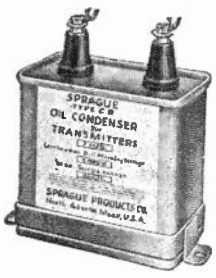
SPRACOL TRANSMITTING CONDENSERS

Oil Filled — Oil Impregnated
Rated to Conform with Tube and Circuit Design
Guaranteed Unconditionally Against Breakdown
When Used as Specified

Cat. No.	Capacity Mfd.	D.C. Work. Voltage	Surge Voltage	List Price
OT-27	2	700	1000	$2.25
OT-11	1	1000	1500	2.25
OT-21	2	1000	1500	2.75
OT-41	4	1000	1500	3.75
OT-115	1	1500	2000	3.00
OT-215	2	1500	2000	3.75
OT-12	1	2000	3000	3.75
OT-22	2	2000	3000	4.25
OT-13	1	3000	3500	7.50
OT-515	0.5	1500	2000	2.75

NEW SMALL SIZE RECTANGULAR

SPRACOL TRANSMITTING CONDENSERS



- **Oil Impregnated**
- **Oil Filled**
- **Fully Sealed**
- **Compact**
- **"ALL MOUNT" Feature**

Cat. No.	Capacity Mfd.	Voltage	Can Size	List Price
CR-16	1	600	1 x 1¾ x 2¼	$2.75
CR-26	2	600	1 x 1¾ x 2¾	3.50
CR-46	4	600	1 5/16 x 2½ x 3¼	4.50
CR-11	1	1000	1 x 1¾ x 2¼	3.00
CR-21	2	1000	1 x 1¾ x 3¼	4.00
CR-41	4	1000	1 5/16 x 2½ x 4¾	5.00
CR-115	1	1500	1 x 1¾ x 3¼	3.50
CR-215	2	1500	1 5/16 x 2½ x 4¾	5.00
CR-415	4	1500	1¼ x 3¾ x 4⅝	7.00
CR-12	1	2000	1 5/16 x 2½ x 3¼	4.50
CR-22	2	2000	1½ x 3¾ x 3⅞	5.50
CR-42	4	2000	2¼ x 3¾ x 3⅞	9.00
CR-125	1	2500	1¾ x 3¾ x 3¼	8.00
CR-225	2	2500	1¾ x 3¾ x 4¾	13.00
CR-13	1	3000	2¼ x 3¾ x 4⅞	12.00
CR-23	2	3000	3 5/16 x 3¾ x 4⅝	15.00

INVERTED SCREW CAN ROUND CONDENSERS for P.A. and TRANSMITTER WORK, TELEVISION and HIGH-GAIN AMPLIFIERS

CAN GROUNDED

Cat. No.	Capacity Mfd.	Voltage	Can Size	List Price
PC-26	2	600	1½ x 2 7/16	$2.25
PC-46	4	600	1½ x 4 1/32	3.00
PC-11	1	1000	1½ x 2 7/16	2.25
PC-21	2	1000	1½ x 4 1/32	2.75

SHORT-WAVE, HIGH FREQUENCY CONDENSER

Oil Impregnated

A substitute for mica condensers. Sturdy, self-supporting. Unusually small. Metal-encased. Non-inductive. Low-power factor. Impregnated with special oil. Guaranteed.

Cat. No.	Capacity	Working Voltage	Dimensions, Inches D.	Dimensions, Inches L.	List Price
SW-22	.002	1500	9/16	1 9/16	$0.45
SW-25	.005	1500	5/8	1 15/32	.45
SW-11	.01	1500	11/16	1 15/32	.70
SW-12	.02	1500	11/16	1 15/32	.75
SW-15	.05	1000	7/16	2¼	.80
SW-1	0.1	1000	7/8	2¼	.90

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World Radio History

SPRAGUE *Condensers*

Famous TC Tubulars

At New Reduced Prices

"NOT A FAILURE IN A MILLION:"

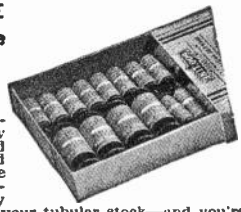
Probably the most famous, the most popular and the most reliable condensers ever presented to the radio profession. Impregnated—fully moisture-proof—double secured pigtail leads that won't pull out.

Test Volt.—1200 Volts **Work. Volt.—600 Volts**

Cat. No.	Cap. Mfd.	Dim., Ins. L.	Dim., Ins. D.	List Price
TC-31	.0001	7/8	3/8	$0.15
TC-325	.00025	7/8	3/8	.15
TC-34	.0004	7/8	3/8	.15
TC-35	.0005	7/8	3/8	.15
TC-21	.001	1 1/4	7/16	.15
TC-22	.002	1 1/4	7/16	.15
TC-23	.003	1 3/8	5/8	.15
TC-24	.004	1 3/8	7/16	.15
TC-25	.005	1 3/8	7/16	.15
TC-26	.006	1 3/8	1/2	.15
TC-11	.01	1 3/8	1/2	.15
TC-12	.02	1 3/8	1/2	.15
TC-13	.03	1 3/8	1/2	.20
TC-14	.04	1 3/8	1/2	.20
TC-15	.05	1 3/8	1/2	.20
TC-16	.06	1 3/4	9/16	.25
TC-1	.1	1 3/4	3/4	.25
TC-2	.25	2 1/4	15/16	.35
TC-5	.5	2 1/4	15/16	.50
TC-10	1.0	2 1/2	x1 7/16	.80

[SAVE

Buy Sprague Tubulars in these Handy Kits



We've just introduced these handy kits of 25 Standard TC Condensers and they're going like hot cakes. Provides a handy means of keeping your tubular stock—and you're sure of always having the capacities you need **when you need them.**

Each Kit contains 25 TC Tubulars as follows:

Quan.	Mfd.	Type	Quan.	Mfd.	Type
3	.01	TC-11	8	.1	TC-1
3	.02	TC-12	4	.25	TC-2
3	.05	TC-15	4	.5	TC-5

List Price of Kit $6.90 **Net $4.00**

"Cased" Uncased Paper Sections

Oil Impregnated—Wax Filled

Fully cased — fully sealed to prevent melting of wax. Impervious to moisture. Backed with the full Sprague Guarantee when used at their rated voltages. Handy mounting flanges may be cut off if not needed. They look better—they ARE better. Try them!

Cat. No.	Cap. Mfd.	D.C. Voltage	Dimensions Inches	List Price
UC-54	5	400	2 1/16 x 1 3/8 x 5/16	$0.50
UC-14	1	400	2 1/16 x 1 5/8 x 5/8	.75
UC-24	2	400	2 1/16 x 1 5/8 x 1	1.15
UCL-24	2	400	3 1/4 x 1 5/8 x 15/16	1.15
UC-16	1	600	2 1/8 x 1 13/16 x 1	.90
UC-26	2	600	3 1/4 x 1 7/8 x 1 5/16	1.35
UC-46	4	600	4 1/4 x 1 7/8 x 1 1/4	2.50
UC-18	1	800	3 1/4 x 1 7/8 x 1 5/16	1.25
UC-28	2	800	4 1/4 x 2 1/4 x 1 7/16	2.00
UC-11	1	1000	4 1/4 x 1 3/8 x 1 1/4	1.50
UC-21	2	1000	4 1/4 x 2 7/8 x 1 1/4	2.50
UC-41	4	1000	4 1/4 x 2 7/8 x 3 1/2	4.50

PAPER DIELECTRIC UNITS

Type RP

Paper dielectric condensers for replacement of D.C. Dry Electrolytic condensers. The steady demand for Paper condensers of the same sizes and shapes as Dry Electrolytics to serve as replacements for Dry Electrolytics has prompted us to give you this line of condensers. The actual capacity is one-third to one-half the capacity of a Dry Electrolytic in the same size container. The leakage and power factor are extremely low. No polarity has to be observed.
Types DR and RP are ideal for replacements in high voltage public address systems, power amplifiers and high voltage filter circuits.

Type DR

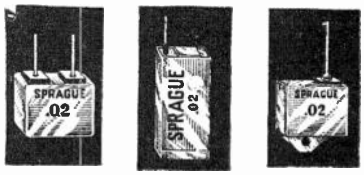
Cat. No.	Replacement Cap. Mfd.	Voltage	Size Length		Size Diameter	List Price
DR-4	4	600	4 3/4	x	1 3/8	$1.35
DR-8	8	600	4 3/4	x	1 5/8	1.75
DR-44	4-4	600	4 3/4	x	1 3/8	2.25
DR-88	8-8	600	4 5/8	x	1 1/2	2.80

Cat. No.	Replacement Cap. Mfd.	Voltage	Dimensions	List Price
RP-8	8	600	4 1/8 x 1 3/8 x 15/16	$1.60
RP-88	8-8	600	4 3/8 x 1 9/16 x 15/16	2.65

VIBRATOR CONDENSERS (Oil Impregnated)

Sturdy, new units specifically designed to withstand voltages in vibrators. Fully sealed in durable metal cans. Eliminate your troubles due to broken down vibrator condensers by replacing with this new oil impregnated condenser. **Working Voltage 1600 V.D.C.**

Cat. No.	Cap. Mfd.	Dimensions Inches	List Price
AR-11	.01	1 11/16 x 15/16 x 1 1/4	$0.45
AR-12	.02	1 11/16 x 15/16 x 1 1/4	.45
AR-13	.03	1 11/16 x 15/16 x 1 1/4	.45
AR-14	.04	1 11/16 x 15/16 x 1 1/4	.45
AR-15	.05	1 11/16 x 15/16 x 1 1/4	.45
MV-11	.01	3 x 9/16 x 3/8	.45
FR-11	.01	1 x 7/8 x 1 1/4	.45
FR-12	.02	1 x 7/8 x 1 1/4	.45
LR-27	.007	1 1/16 x 7/8 x ..	.45
LR-11	.01	1 1/16 x 7/8 x ..	.45
LR-12	.02	1 1/16 x 7/8 x ..	.45



FR AR LR

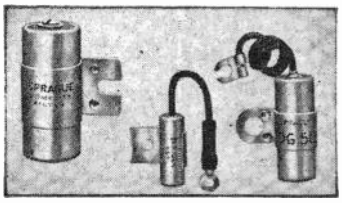
Type TR—HIGH-VOLT. TUBULARS

Oil Impregnated—Wax Filled

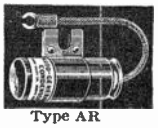
Designed for Buffers or other high voltage uses. **Working Voltage 1600 Volts D.C.**

Cat. No.	Capacity Mfd.	Mounting Dimensions	List Price	Cat. No.	Capacity Mfd.	Mounting Dimensions	List Price
TR-35	.0005	3/8 x 1 1/4	$0.35	TR-28	.008	5/8 x 1 5/8	$0.35
TR-21	.001	3/8 x 1 5/8	.35	TR-11	.01	1/2 x 2	.35
TR-22	.002	5/8 x 1 5/8	.35	TR-12	.02	9/16 x 2	.35
TR-23	.003	1/2 x 1 1/2	.35	TR-13	.03	5/8 x 2 1/8	.35
TR-24	.004	7/8 x 1 1/2	.35	TR-14	.04	13/16 x 2 1/8	.40
TR-25	.005	3/4 x 1 5/8	.35	TR-15	.05	13/16 x 2 1/8	.45
TR-26	.006	5/8 x 1 5/8	.35				

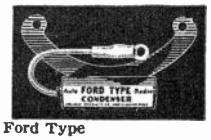
AUTO RADIO CONDENSERS



DL-1	GG-5	OG-50	List
Type DL-1—Dome Light Filter			$0.85
Type GG-5—Gas Gauge Filter			.50
Type OG-50—Oil Gauge Filter			.50



Type AR

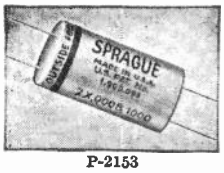


Ford Type

Specially designed to withstand intense vibration and heat. Full Capacity—true voltage ratings.
Test Volt.—600 Volts Work. Volt.—400 Volts

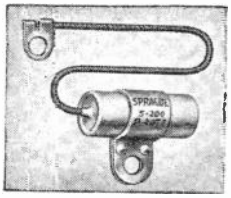
Cat. No.	Capacity Mfd.	Dimensions Inches	List Price
AR-1	1.0	2 1/4 L.x1 dia.	$0.70
AR-2	.5	2 L.x 11/16 dia.	.50
Ford Type	.5	2 L.x 11/16 dia.	.50
AR-25	.5-.5	2 L.x 11/16 dia.	.75

No. P-2302—Ammeter Condenser; .5 mfd., size 5/8"x2"; **List Price**.....$0.45



P-2153

No. P-2153—Motorola Replacement Condenser, 2 x .0008 mfds. **List Price**.....$0.45



P-2097

No. P-2077—Ford Replacement Condenser, **List Price**.....$0.50

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World Radio History

SPRAGUE *Condensers*

EXACT DUPLICATE REPLACEMENT CONDENSERS

In addition to the Universal Replacements, a demand for Exact Duplicate Replacements has been made for the following listing of replacements for POPULAR receivers. These condensers are identical with the manufacturers' specifications.

We are in a position to supply you with any exact duplicate replacements due to the thousands of types of condensers that we have manufactured for the radio set trade. SPRAGUE *is the largest supplier of condensers to the radio set trade and has been for a great number of years.* Our file of Exact Duplicate Replacements is so large that it makes it absolutely impossible to list it in any satisfactory printed form.

When ordering Exact Duplicate Replacements not listed below, please give us the set manufacturer's name, part number on the condenser, capacity, voltage, physical dimensions and whether can or cardboard.

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price
ATWATER KENT						
	19060	10	475	Wet	WC-10	$1.05
Used in number of Standard Receivers	23394	8	475	Wet	W-1307	.95
	23481	12	475	Wet	W-506H	1.15
246-555	24099	4-8	450	Can	D-681	1.45
155 (1 & 2)	24602	8-8-8	150	Box	D-1025	1.75
	24939	8	150	Box	D-866	.80
155 (3)	24955	8-8-8	150	Box	D-1028	1.75
165-185	25168	8	475	Wet	W-1302	.95
275-825	26158	8-14-8	100	Can	D-1052	1.95
112-184-856-976	27583	16	300	Wet	W-123B1	1.00
145-235	27585	8	350	Wet	W-118L	.80
	28787	8	350	Wet	W-112L	.80
328	29691	16	450	Wet	W-505H	1.35
91-91B-91C-165Q-385Q-387-469Q	22472	7	200	Tube	D-837	.75
BELMONT RADIO						
505	119-24	5-5	200	Tube	D-6612	.90
602B-602C	119-24	20-5	100	Tube	D-6611	1.30
625-545-530-650-540-525	C-525B	5-25-5	100	Box	BT-1	1.95
COLONIAL RADIO & SEARS ROEBUCK						
	R-8053	8-8-8	200	Box	D-1031	1.90
Sears Roebuck 1703-7064	R-8313	8	200	Box	D-1033	1.30
		4	150			
Sears 1711-1744-1745 1852-1853-7090	R-8357	8	150	Box	D-1035	1.30
		20	20			
	R-8488	8	350	Wet	W-1502	.80
Sears Roebuck 1862	R-10673	6-6	150	Box	D-1118	1.60
		25	25			
	R-15216	8-8	300	Tube	D-279	2.00
		12	25			
		8-8	350			
	R-17291	2	200	Tube	D-5800	2.65
		5-5	12			
CROSLEY RADIO						
129-130-132	W-26119	4	300	Box	D-834	1.05
		8	150			
146	W-26896	12	300	Box	D-663	1.30
		6	25			
148-167	W-27488	6	400	Box	CM-68	.95
		8	25			
147-168-173	W-27677A	8-8	25	Box	CR-144	.75
	W-28978	12	150	Can	D-476	.95
164-170-171-7H2-175-5V1	W-29097B	8	450			
	W-30059A	8	450	Can	LA-1	2.20
	W-32374	8	250			
	W-29150A	6	400			
7V2-169-5M3	W-29150B	7	450	Can	D-572	1.90
	W-29150C	8	25			
173-173-5	W-30124	16	100	Can	CR-173	2.15
		8-16	125			
103	W-30419	8	25	Can	CR-103	1.10
		8	250			
		8-8	350			
	W-38908	4	150	Can	D-798	2.75
		12	25			
DELCO-UNITED MOTORS SERVICE						
	601814 or 32704	10-10	350	Box	D-1130	2.25
		4-4	50			
1101	1208786	8-10-16-25	200	Sc. can	UM-11	3.00
ELEC. RESEARCH LABS-ERLA						
Private Brand Models	9328	5-5	25	Box	D-909	.75
	9355	8-8-4	150	Box	D-409	1.70
	9738	8-8	450	Box	D-1053	2.25
		10-10	25			
	9982	20-8-8	150	Box	D-1073	1.80
EMERSON						
38	GCC-125	16-8-4	150	Can	.....	2.15
U55	GGC-137A	16-8	150	Box	.....	2.15
		5-5				
20A-25-25A	HC-31	4-4	200	Box	BT-44	.90
20A-25-25A	HC-32	5-5	25	Box	IR-55	.75
30-33-250-300-321-330-350	KC-68	16-8-4	175	Box	D-3225	1.95
19	KKC-143	12-8	150	Box	.....	1.25
	TTC-159	8-6	400	Can	.....	2.10
		12	25			
31B	UUC-179	12-8	150	Box	.....	2.05
		5-5	25			

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price
	ZCC-195	.37	.....	Bl. can	P-2423	$ .85
U6A	ZZC-191B	.75	.....	Bl. can	.....	1.35
101U-107-111-114	ZZC-192A	16-8-4	150	Can	D-3444	2.15
U6B-106	2CC194	16-8	150	Box	D-3236	1.45
106	2CC-222	12	150	Can	D-1161	1.70
		12	150			
108-110-U5A	2DC-203	16-8	150	Box	.....	1.35
U5A	2DC-300	16-8	150	Tube	.....	1.35
U6F	2LC-224	16-8-4	150	Can	D-1162	2.15
U4C	2WC-239	8	150	Box	.....	1.45
		5-5	25			
AC-130, R152, R156	3RC-318A	5-5	300	Tube	.....	1.25
GENERAL ELECTRIC CO.						
F63-F65-F66	K12J6	12-8	400	Tube	D-3245	1.75
		12	450			
		8	400			
F70-F76	K12J11	8	350	Tube	.....	2.85
		10	25			
E61-E62-E67	T18-J435	12-8	350	Tube	.....	1.60
565	T18-J435-15	25	150		D-1859	1.00
		10	25			
566	T18-J435-16	16-7	150		D-1860	1.45
GRUNOW						
	25321A	8	300	Box	D-691	2.00
		8	450			
	26508	8-8	300	Box	D-1078	2.00
		4-4	25			
	26993	10-10	300	Box	D-1615	1.50
(6A) 651-652	29557	8	450	Box	D-1273	.95
(6C) 660-661-662						
(7B) 750-751-752	29558	16	450	Box	D-1294	1.45
501-550	27151	20-8-4	150	Box	D-1149	2.20
		4	25			
		8	475			
670-671	30091	8-8	450	Box	D-1091	3.25
		12-12	25			
	30326	8-8	350	Box	D-1670	2.00
		12	25			
(4B) 460-461	31208	8-8	450	Box	D-481	1.50
(4C) 470	36752	25	450	Wet	W-2116	1.65
INTERNATIONAL RADIO						
Kadette & P	A 408	5-5	35	Box	IR-55	.75
A & B	A 424	4-10-10	150	Box	D-3227	1.70
MAJESTIC						
55-59	YCEI9	10	25		D-6622	1.85
		8-8	350			
MOTOROLA						
100	1388	8-8	350	Box	6680A	2.00
		25	25			
75	1688	6-4	200	Box	D-3091	1.40
		6	12			
RCA—G.E.						
	(old) 66137	4-4	140		BT-44	.90
	(old) 66138	5-5	35		BH-55	.75
(RCA) R27-17M-18W	(old) 66140-1	4-4	150	Tube	RM-44	.85
(G.E.) K-40A-41	(new) 3538					
(RCA) M116-M-34-M105	(old) 66140-4	1	300	Tube	RM-14	.75
	(new) 6492	3.6	100			
(G.E.) B-52-B40-C41						
	(old) 66140-7	4	200	Tube	D-1032	1.25
		4	150			
(RCA) 330-331	(old) 66143-2	10	300	Box	D-701	1.45
(G.E.) K78-K79	(new) 6555	4	150			
(RCA) R28-110-111-R28P-119	(old) 66143-3	4	450	Box	D-480	1.05
(G.E.) K50-K52-K50P-K53	(new) 7589	4	150			
		4-4	300			
(RCA) R-37-R38-R37P-R38P	(old) 66155	10	150	Box	D-1150	2.00
(G.E.) K60-K65-K60P-K65P	(new) 6487	4	25			
(RCA) R22S	(old) 66160	8	250	Box	D-420	1.30
(G.E.) L50	(new) 6518	8	175			
		8	250			
		8-4	150			
	(old) 66171-1	10	25	Box	D-1059	3.60
		8-8	150			

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SPRAGUE *Condensers*

EXACT DUPLICATE REPLACEMENT CONDENSERS Cont.

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price
(RCA) 112-112A-114 (G.E.) L52-L53	(old) 66172-2	8 4-8 10	300 175 25	Box	D-1057	$2.50
(RCA) 140-141-141E 240-340 (G.E.) K-80-K80x-K85-K88	(old) 66181 (new) 6626	4 10-10	150 25	Box	D-898	1.20
(RCA) 100-101 (G.E.) K43-M41	(old) 66185-2 (new) 6661	8-8 5-5	450 50	Box	D-1061	2.20
	(old) 66185-4	4-4 10 4	450 200 25	Box	D-1076	2.25
(RCA) 221-M-65-M-68-121-122 (G.E.) K-64	(old) 66189-1	8 4	450 300	Box	D-1179	2.05
	(new) 6703	4 4	150 150			
(RCA) 220-222 (G.E.) K66-K66M	(old) 66189-2 (new) 6691	4 8 12	300 350 25	Box	D-1056	2.25
(RCA) M34 (G.E.) B40	(old) 66197-2 (new) 3536 6513	5-5	50	Tube	D-922	.75
	(old) 66197-6	4-4	160	Tube	D-448	.85
	(old) 68159-8	4 8 10	450 200 50	Can	D-1085	2.40
	(old) 68531-2	4 8 10	450 200 50	Can	D-1088	2.40
	(old) 68560-1	4 10	200 25	Tube	D-1107	1.75
SPARTAN						
61-62	A-9550	25-5-5	175	Box	.....	1.95
53-57-65-66-506-655	A-11093	25-5-5	175	Box	BT-1	1.95
STEWART WARNER						
10-20	81698	5-5	25	Box	IR-55	.75
R-112	83111	8-8 5-5	250 25	Box	D-1195	1.95
STROMBERG CARLSON						
	24558	16-16 8-8 4 4 4	450 100 250 350 100	Box	D-1081	7.50
	23969	8-16 4 4 8-8-4	450 350 250 100	Box	D-1065	7.00

Model No.	Part No.	Cap. Mfd.	Voltage	Type	Sprague Part No.	List Price
UNITED AMER. BOSCH						
	CE-951	10-6	450		.....	$1.65
360-361-364-440-441-444-460-461-464-585	CE-954	4 8 20	450 475 25	Can	D-1116	2.75
809	CE-959 CE-9520	40 12-12 5-5	150 150 25	Wet Box	W-2262 D-1157	1.20 2.25
	CE-9526	12-12	25	Tube	D-2053	.85
A-10	SA-103595	8-4 4 4	450 450 300	Can	D-1009	3.25
305A	SA-102768	8 4 4	450 450 475	Can	D-1015	2.10
250-251-312-313	SA-103740	4 4 8-8	350 300 450	Can	D-1012	2.85
250	SA-103950	4 4	450 300	Can	D-1013	2.75
310A	SA-104422	8-8 4 4	475 300 350	Can	D-1196	3.00
305-405	SA-105237	8 20	450 25	Can	D-1183	2.75
500	SA-105309	16-4-4 5 4	150 10 150	Box	D-1036	2.25
355-357	SA-105700	12 8 4	150 150 25	Can	.....	2.00
402-501-502	SA-105722	12-8-4 4 4-4	150 25 475	Box	D-1047	2.10
370-371	SA-105828	4 25	300 10	Box	D-1051	3.00
UTAH-STEWART						
1781	110376	4-8	400	Can	.....	1.45
WELLS GARDNER						
Latest Models	45X215	18-18-4	150	Tube	D-792	1.95
ZENITH						
	22-183	8-8	250	Box	D-850	1.30
462-650HD-651HE-660TD-661TE	22-236	8-8 10	300 25	Can	D-1180	2.00
HT-26	22-407B	8-4-2	450	Tube	D-1138	1.85
9S30-9S54-9S55	22-412	16-4-2	450	Tube	D-747	2.25
	22-481	16-8-4	150	Box	D-3226	1.80
	22-484C	16-8-4-4	250	Tube	D-1167	2.70
	22-510C	8-8 8	450 250	Tube	D-776	2.10
7D119-7D126-7D151	22-515	8-4	250	Tube	D-1380	1.15
6D116-117-118	22-517	16-4	250	Tube	D-1377	1.45

Eliminate Radio Noise!

SPRAGUE INTERFERENCE ANALYZER

Show Customers just Where Interference Originates—Eliminate It!—With self-built Interference Filters at savings of ⅓ to ½ of cost.

At last—a quick, practical way for eliminating radio interference from ANY electrical device. No more guessing. No lost time. First you actually **eliminate** the noise with the Analyzer. You **show** customers just what proper filtering of appliances will do. Then, from the instruction sheet, you learn what Sprague filter condensers or chokes to install to insure **exactly** the same results as those obtained with the Analyzer. Inexpensive—will quickly pay for itself in new business it helps you build.

Complete with Adapters
NET Price to Servicemen ***$9.75**

Interference Filter Condensers & Chokes

TYPE IF-11

A Dual condenser for silencing larger type motors such as found on refrigerators, large fruit juice extractors, oil burners, sign flashers, printing press motors, drill presses, etc. In obstinate cases a choke may be required, but in 80% of cases the condenser alone will suffice.

IF-11
List Price **$2.50**

TYPES IF-33 AND IF-21

A compact Tubular, 2-lead condenser for eliminating interference from fractional horse-power motors such as found in mixers, small fans, humidifiers, beer pumps, portable electric tools, hair driers, etc.

IF-33 ..... **List Price, $0.75**
IF-21 ..... **1.00**

TYPE IF-50—Individual unit oil-impregnated, oil-filled condenser for small motors requiring higher-capacity units. Two may be connected in series when necessary. Oil-impregnated condensers are always best.

IF-50 ..... **List Price $1.75**

SPRAGUE Plug-In Radio Noise Filter

A really reliable plug-in type radio noise filter. Unusually effective in reducing radio interference caused by electric razors, heating pads, hair dryers and practically all fractional horsepower motor or vibration devices commonly used. Convenient round size, 2" long by 1 $\frac{1}{16}$" diameter. **Just plug into socket!** New and longer type male prongs assure excellent contact at all times.
Type LF-1, List Price **$1.00**

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NATIONAL UNION
High Quality
PAPER CONDENSERS

ELECTROSTATIC TUBULAR PAPER CONDENSERS

TYPE T 200

Cap. Mfd.	Working Voltage	Diameter	Length	Catalog No.	List Price
.01	200	3/8"	1-1/16"	T 201	$0.15
.02	200	7/16"	1-1/4"	T 202	.15
.03	200	1/2"	1-1/4"	T 203	.15
.04	200	9/16"	1-1/4"	T 204	.15
.05	200	7/16"	1-3/8"	T 205	.15
.10	200	9/16"	1-3/8"	T 210	.20
.25	200	5/8"	2"	T 225	.25
.50	200	3/4"	2-1/16"	T 250	.35

TYPE T 400

.01	400	3/8"	1-1/16"	T 401	.15
.02	400	7/16"	1-1/4"	T 402	.15
.03	400	1/2"	1-1/4"	T 403	.15
.04	400	9/16"	1-1/4"	T 404	.20
.05	400	1/2"	1-3/8"	T 405	.20
.10	400	9/16"	1-5/8"	T 410	.20
.25	400	11/16"	2"	T 425	.25
.50	400	13/16"	2-1/8"	T 450	.35

TYPE T 600

Cap. Mfd.	Working Voltage	Diameter	Length	Catalog No.	List Price
.0001	600	5/16"	1-1/16"	T 60001	.15
.00025	600	5/16"	1-1/16"	T 600025	.15
.0005	600	5/16"	1-1/16"	T 60005	.15
.001	600	5/16"	1-1/16"	T 6001	.15
.002	600	5/16"	1-1/16"	T 6002	.15
.003	600	5/16"	1-1/16"	T 6003	.15
.004	600	5/16"	1-1/16"	T 6004	.15
.005	600	3/8"	1-1/16"	T 6005	.15
.006	600	3/8"	1-1/16"	T 6006	.15
.01	600	7/16"	1-1/16"	T 601	.15
.02	600	7/16"	1-3/8"	T 602	.15
.03	600	7/16"	1-3/8"	T 603	.15
.04	600	9/16"	1-3/8"	T 604	.20
.05	600	9/16"	1-1/2"	T 605	.20
.06	600	9/16"	1-1/2"	T 606	.20
.10	600	5/8"	1-11/16"	T 610	.25
.25	600	13/16"	2"	T 625	.35
.50	600	1"	2-1/8"	T 650	.50

PAPER CONDENSERS — Uncased

TYPE U 400V

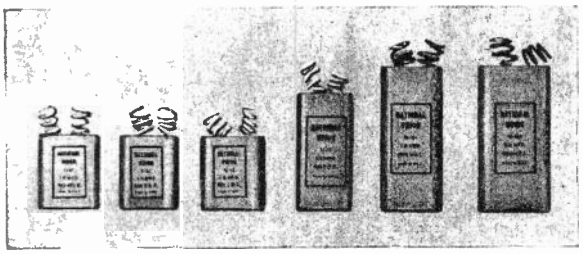
Cap. Mfd.	Working Voltage	Height Width Thick	Cat. No.	List Price
1.	400	2-3/16 x 1-3/4 x 1/2	U 41	$0.75
2.	400	2-3/16 x 1-7/8 x 13/16	U 42	1.15

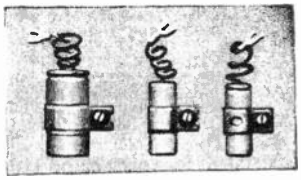
TYPE U 600V

1.	600	2-3/16 x 1-3/4 x 3/4	U 61	.90
2.	600	3-3/8 x 1-3/4 x 3/4	U 62	1.35

TYPE U 1000V

1.	1000	4-1/4 x 1-7/8 x 3/4	U 101	1.50
2.	1000	4-1/4 x 2-1/4 x 1-1/4	U 102	2.50



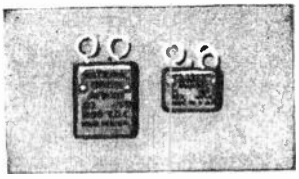


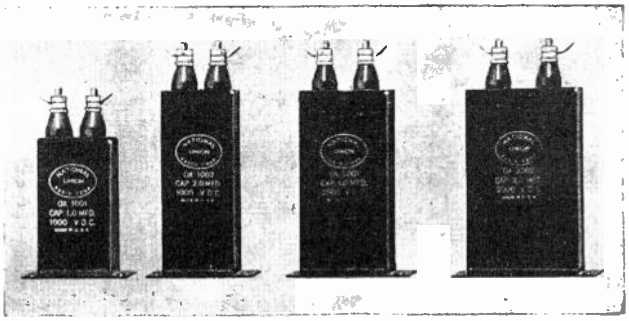
Paper Condensers—Automobile Generator

Cap. Mfd.	Dimensions	Catalog No.	List Price
.25	5/8 x 1-13/16	AG 25	$0.40
.5	.675 x 1-13/16	AG 5	.50
1.	1 x 2-3/16	AG 10	.70

AUTO VIBRATOR CONDENSERS

Cap. Mfd.	Working Voltage	Catalog No.	List Price
.01	1600	AV 2001	$0.45
.02	1600	AV 2002	.65





Oil Filled Transmitting Condensers

1000 VOLTS

Cap. Mfd.	Working Voltage	Dimensions	Cat. No.	List Price
1	1000	15/16 x 1-15/16 x 3-3/4	OX 1001	$3.00
2	1000	15/16 x 1-15/16 x 5	OX 1002	4.00

2000 VOLTS

1	2000	1-1/2 x 2-5/16 x 5	OX 2001	4.50
2	2000	2-1/8 x 3 x 5	OX 2002	6.00

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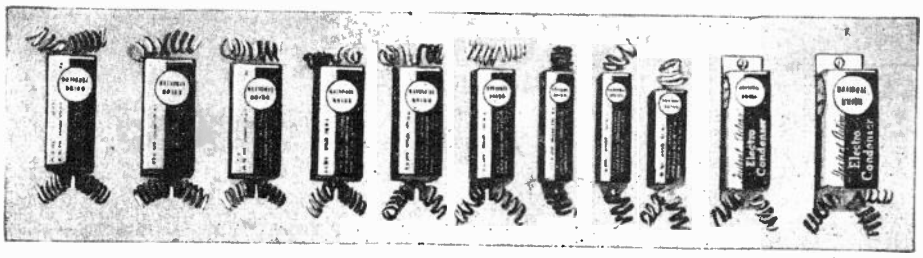
NATIONAL UNION
Instant Action
ELECTROLYTIC CONDENSERS

JUNIOR CARDBOARD BOX TYPES — ECBJ

Cap. Mfd.	Catalog Number	List Price
	25 VOLTS	
5-5	ECBJ 5525	$0.75
5-5	ECBJ 5525S	.75
	35 VOLTS	
5-5	ECBJ 5535	.75
5-5	ECBJ 5535S	.75
10-10	ECBJ 1135	.75
10-10	ECBJ 1135S	.75
	50 VOLTS	
5	ECBJ 550	.50
10	ECBJ 1050	.65
25	ECBJ 2550	.80
50	ECBJ 5050	1.20
5-5	ECBJ 5550	.75
5-5	ECBJ 5550S	$0.75
10-10	ECBJ 115	.85
10-10	ECBJ 115S	.85
	100 VOLTS	
5	ECBJ 5100	.55
10	ECBJ 1010	.70
25	ECBJ 2510	.95
	150 VOLTS	
8-8	ECBJ 8815	1.20
8-8	ECBJ 8815S	1.20
12-20	ECBJ 12215	1.60
12-20	ECBJ 12215S	1.60
20-20	ECBJ 2215S	1.65
5-10-25	ECBJ 51025S	1.95
	200 VOLTS	
4	ECBJ 4200	$0.65
8	ECBJ 8200	.80
16	ECBJ 1620	1.05
25	ECBJ 2520	1.25
8-8	ECBJ 8820	1.25
8-8	ECBJ 8820S	1.25
8-12	ECBJ 8122	1.35
8-12	ECBJ 8122S	1.35
8-8-8	ECBJ 8882	1.90
8-8-8	ECBJ 8882S	1.90
	350 VOLTS	
8 35 / 6-8 350	ECBJ 868	1.40
	450 VOLTS	
1	ECBJ 1450	$0.55
2	ECBJ 2450	.65
4	ECBJ 4450	.75
8	ECBJ 8450	.95
12	ECBJ 1245	1.30
4-4	ECBJ 4445	1.20
4-4	ECBJ 4445S	1.20
4-8	ECBJ 4845	1.35
4-8	ECBJ 4845S	1.35
8-8	ECBJ 8845	1.50
8-8	ECBJ 8845S	1.50
8-8-8	ECBJ 3845	2.20
8-8-8	ECBJ 3845S	2.20



Standard Cardboard Box Types

450 VOLTS

Cap. Mfd.	Catalog Number	List Price	Cap. Mfd.	Catalog Number	List Price
4	ECBS 4450	$0.75	4-4	ECBS 4445S	$1.20
8	ECBS 8450	.95	8-8	ECBS 8845	1.50
4-4	ECBS 4445	1.20	8-8	ECBS 8845S	1.50

Universal Replacement Types

Cap. & W.V.			Catalog Number	List Price
8-16 / 10-10	200 / 25	8 lds.	ECUR 11816S	$2.15
12-12 / 5-5	200 / 25	8 lds.	ECUR 55212S	1.95

CERAMITES

Small Size Ceramic Housed Electrolytics

Cap. Mfd.	Catalog Number	List Price
	25 VOLTS	
10	CM 1025	$0.40
25	CM 2525	.50
	150 VOLTS	
4	CM 4150	.40
8	CM 8150	.45
12	CM 1215	.50
16	CM 1615	.55
20	CM 2015	.60
40	CM 4015	.65
	250 VOLTS	
8	CM 8200	.50
12	CM 1220	.65
16	CM 1620	.75
20	CM 2020	.80
40	CM 4020	.95
	350 VOLTS	
4	CM 4300	.50
8	CM 8300	.55
16	CM 1630	.80
	450 VOLTS	
4	CM 4450	.55
8	CM 8450	.60
16	CM 1645	.90

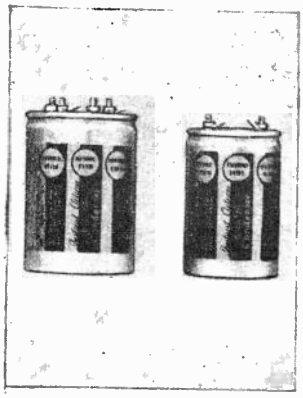
Inverted Cans

JUNIOR TYPE ICJ

Screw Mounted

450 VOLTS

Cap. Mfd.	Catalog Number	List Price
4	ICJ 4450	$0.85
8	ICJ 8450	1.05



Large Can

MULTIPLE TYPE LCS

Screw Mounted

450 VOLTS

Cap. Mfd.	Catalog Number	List Price
5-15	LCS 51545	$2.30
8-8	LCS 8845	1.80
8-16	LCS 81645	2.35
8-8-8	LCS 3845	2.70
9-9-18	LCS 9918	3.75
8-8-8-8	LCS 4845	3.60
9-9-18-18	LCS 29218	5.25

Inverted Cans

STANDARD TYPE ICS

450 VOLTS

Cap. Mfd.	Catalog Number	List Price
4	ICS 4450	$0.85
8	ICS 8450	1.05
12	ICS 1245	1.40
16	ICS 1645	1.55
4-4	ICS 4445	1.30
4-4	ICS 4445S	1.30
4-8	ICS 4845	1.45
4-8	ICS 4845S	1.45
8-8	ICS 8845	1.60
8-8	ICS 8845S	1.60

NOTE: Letter "S" after catalog number indicates separate lead for each section.

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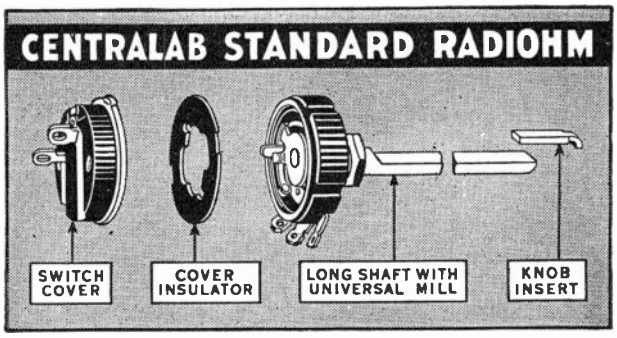
Centralab

Quality Controls • Resistors • Selector Switches

STANDARD REPLACEMENT CONTROLS



● **WALL TYPE RESISTOR** hugs inner circumference of black molded bakelite case. Exclusive non-rubbing contact band assures quiet, smooth rotation and long life. Case dimensions: 1⅜" diameter x 9/16" deep. Soft aluminum shaft extends 3⅜" from case; milled full length for push-on knob. Separate knob insert included can be used where shallower mill is required. Either plain or switch type controls are available.

● **SWITCH COVERS** . . . any plain Radiohm can easily be converted to switch type with any one of six different switch covers. Switch circuits available to replace any style of original unit.

● EXTENSION SHAFTS

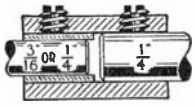
REGULAR AUTO TYPE

Use with replacement controls or selector switches where long shafts are required. The auto type extension replaces any slotted or tongue type original auto control shaft.

1040089—Extension shaft (4" x ¼" dia. x 1/32" flat).....$ .30
1040090—Extension shaft (4" x ¼" dia. x 3/32" flat)..... .30
1040091—Extension shaft (4" x 3/16" dia. x 1/64" flat).. .30
K-159—Auto type (3" x ¼" dia.; 3/32" tongue and slot).. .55

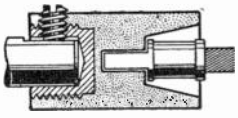
● SHAFT COUPLERS

K-161: for coupling two ¼" shafts or one ¼" and one 3/16" shaft. Steel, ¾" long, 7/16" diameter. Price $0.25.



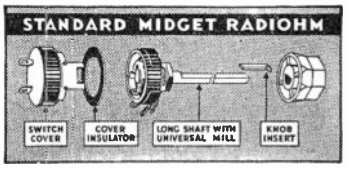
METAL

1040095: Bakelite insulating auto control coupling. ¼" diameter hole for control shaft; opposite end cone shaped and slotted to take most remote cable couplings. Price $.25.



INSULATED

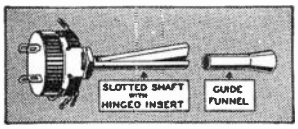
K-168: Same as 1040095 but with square hole for Motorola receivers. Price $.25.



Companion to the Standard Radiohm, the Midget is necessary to replace original controls in many current models using small controls for space savers. Molded bakelite case, 1⅛" diameter. ¼" soft aluminum shaft ⅜" long, milled for standard push-on knob. Separate knob insert supplied for replacements where shallower mill is required. Separate switches listed on page 3 change plain control to switch type.

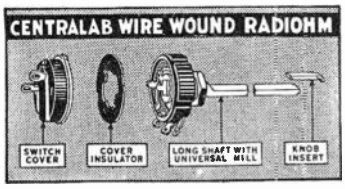
☆

● AUTO REPLACEMENT



A universal unit to replace original controls with either slotted or tongue type shafts. ¼" shaft 3" long slotted and furnished with hinged insert, complete with guide funnel. Plain units furnished with slip clutch. *Separate switches cannot be attached to plain controls. Order plain or switch type as required.* Tone compensation tap on all controls can be omitted if desired. Switches are of D.P.S.T. type.

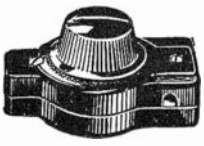
☆



Wire wound resistance strip in brown molded bakelite case with dimensions identical to Standard Radiohm. Only plain controls are listed — converted to switch type with Standard Radiohm switch covers. Insulated soft aluminum shaft extends 3⅜" from case, milled full length for push-on knob. Separate knob insert furnished. Rated at 3 watts. All controls have linear relation of resistance to rotation.

☆

● PHONOHM



A compact, portable head phone volume control. Insert in cord between phones and source. Black molded bakelite case furnished with knob. All types supplied less cord. Use the potentiometer type with single phone; "L" pad type to maintain constant impedance in group installations in schools, theaters, and churches.

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World Radio History

Centralab

• SPECIAL REPLACEMENT CONTROLS •

Make and Model No.	How Used	Part No.	Price
ALL AMERICAN MOHAWK			
70, 73, 75	Vol.	70-501	$2.50
B-80	Vol.	74-548	2.50
Model D	Vol.	5011911	3.00
1931 DC	Vol.	74-615	2.50
ALLIED RADIO CORP.			
SG-10	Vol.	82-028	2.00
ATWATER KENT MFG. CO.			
37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 52, 53, 56, 57	Vol.	72-112	1.50
55, 55-C (Early), 55-F, 55-FC (Early) 60, 60-C (Early), 61, 61-C (D. C.)	Vol.	G-123	3.00
55-F, 55-FC (Late), 55, 55-C (Late), 60, 60-C (Late) 66	Vol.	G-122	3.00
60, 60-C (3rd type No. 5,670,001 to 5,684,000), 70 (D Chassis), 70 (L Chassis), 74 (D Chassis) 74 (L Chassis), 76 (D Chassis), 76 (L Chassis), 76 (P Chassis), 87-D (D. C.), D, F, L, P Chassis	Vol.	G-121	3.00
70 (Q Chassis), 76 (Q Chassis)	Vol.	74-521	2.50
72 (H Chassis)	Vol.	25-426	2.50
80, 80-F, 83, 83-F, 90, 90-F	Vol.	2011905	2.00
BELMONT RADIO CORP.			
404	Vol.	1210007	1.50
755	Vol.	2211019	2.00
879	Tone	S-104	2.00
1070, 1170-B, 1173, 1174, 1175	Vol.	2211022	2.00
CADILLAC MOTOR CAR CO.			
6-U-2	Vol.	2011125	2.00
6-R, 6-S	Vol.	9011005	2.00
6-Q, 7-Q	Vol.	9011074	2.00
CANADIAN GENERAL ELECTRIC			
T-41	Vol.	74-526	2.50
S-42, M-62, J-85	Vol.	1210900	1.50
M-51, M-52, M-55, M-56	Vol.	2211903	2.00
K-57, K-60, K-79	Vol.	1210901	1.50
M-61, M-67, M-81, M-86	Vol.	1210006	1.50
M-62, K-64, M-69, K-80, K-85	Vol.	D-256	1.50
K-106, K-126	Vol.	2211904	2.00
M-106, M-107	Vol.	1220002	1.50
J-125	Vol.	4220900	2.50
J-125-A	Vol.	1210902	1.50
M-125	Vol.	1210914	1.50
CANADIAN WESTINGHOUSE CO. LTD.			
W-61	Vol	74-526	2.50
W-64, W-83-AW, W-634	Vol.	D-256	1.50
W-73, B-634	Vol.	1210901	1.50
80	Vol.	74-524	2.50
W-71 (Late), W-81 (Late)	Vol.	4010014	2.50
W-84, W-165-A, W-165-X, W-185-X	Vol.	1210006	1.50
B-103	Vol.	R-102	1.50
W-103, W-104	Vol.	2211904	2.00
W-122	Vol.	4220900	2.50
W-122-A	Vol.	1210902	1.50
W-124	Vol.	1210914	1.50
W-155, W-254	Vol.	2211903	2.00
COLONIAL RADIO CORP.			
SG-32-AC	Vol.	25-417	2.50
400	Vol.	G-120	3.00
434, 439, 440, 441, 444, 493	Vol.	R-108	1.50
COLUMBIA PHONO. (KOLSTER)			
C-31, C-32 (C-101 Chassis)	Vol.	55-004	2.00
120-B	Vol.	74-615	2.50
COLUMBIA RADIO CORP.			
SG-8, SG-10	Vol.	82-028	2.00
CROSLEY RADIO CORP.			
26, 52	Vol.	72-045	1.50
27, 28, 30, 31, 32, 33, 34, 40-S, 41-S, 42-S (3rd type), 82-S, 315 (3rd type)	Vol.	72-019	1.50
40-S, 41-S, 42-S (1st type), 71-A (Early), 82-S (Early)	Vol.	70-503	2.50
40-S, 41-S, 42-S (2nd type), 71-A (Late), 82-S (Late)	Vol.	74-511	2.50
41-A, 42, 602, 608, 609, 610, 704, 705, 706	Vol.	51-037	1.50
75, 76-DC, 77	Vol.	72-047	1.50
84	Vol.	72-048	1.50
124, 125	Vol.	2111905	2.00
128	Vol.	2115900	2.00
526, 626, 656, 916, 955, 1016, 1026, 1155, 5526, 5656, 6625	Vol.	F-166	2.50
555, 666, 5555, 5666	Vol.	G-125	3.00
804	Vol.	1010987	1.50
1216, 1316, 1336, 1516	Vol.	F-167	2.50
DETROLA RADIO CORP.			
155-X, 163, 165, D-692	Vol.	D-262	1.50
EARL RADIO CORP.			
21, 22-AC	Vol.	25-416	2.50
271	Vol.	76-006	2.50
THOMAS A. EDISON INC.			
C-1, R-1, C-2, R-2, SRC-3, M-5-6 (Front), PAD-4, E-175	Vol.	24-008	1.50
C-1, R-1, C-2, R-2, SRC-3, M-5-6 (Rear)	Vol.	26-021	1.50
C-4, R-4, R-5, R-12, Abbey Jr.	Vol.	74-512	2.50
R-6, R-7	Vol.	64-306	1.50
ELECTRICAL RESEARCH LAB. (ERLA)			
225, 271, 271-A	Vol.	75-506	3.00
EMERSON RADIO & PHONO. CORP.			
DS-5, 39, 59	Vol.	5011910	3.00
F-6-D Chassis, 280	Vol.	5015001	3.00
FADA RADIO & ELECT. CORP.			
10, 10-Z, 11, 11-Z, 30, 30-A, 31-10-11, 30-Z, 31, 31-Z	Vol.	70-017	1.50
15-M, 15-MZ, 25, 25-Z	Vol.	79-019	1.50
16, 16-Z, 17, 17-Z, 18 (D. C.), 32	Vol.	72-001	1.50
35-B	Vol.	76-007	2.50
35, 35-Z, 75, 77	Vol.	72-168	1.50
35-B, 35-C, 40-AC	Vol.	74-513	2.50
43, 762, KF, KG	Vol.	74-541	2.50
50, 70, 71, 72	Vol.	70-059	2.50
FEDERAL RADIO CORP.			
L	Vol.	74-514	2.50
FREED-EISEMANN			
NR-55, 56	Vol.	25-416	2.50
GALVIN MFG.CO. (MOTOROLA)			
Twin 6, 60, 70, 75, 79, 80, Golden Voice 1936	Vol.	E-234	2.00
Motorola K-40	Vol.	70-036	1.50
50, 100 (Two types), 101	Vol.	E-233	2.00
57, 62	Vol.	E-235	2.00
GAMBLE-SKOGMO INC.			
O-6-A	Vol.	306-002	1.50
O-7-A	Tone	1010033	1.50
2-ODM-578, 22-CM-576	Vol.	5011005	3.00
26-FM-522, R-F Chassis	Vol.	7011001	3.00
26-R-1, 26-S-1	Vol.	9011005	2.00
42-DL-670	Vol.	S-107	2.00
42-DL-670	Tone	E-240	2.00
404	Vol.	1210007	1.50
GENERAL ELECTRIC CO.			
B-1, B-2	Vol.	72-013	1.50
T-41	Vol.	74-526	2.50
M-50, M-51, M-51-A, M-52, M-55, M-56, C-60, M-62, M-655	Vol.	2211903	2.00
K-60, K-60-P, K-63, M-63, K-65, K-65-P, C-67, K-78, K-79	Vol.	1210901	1.50
N-60	Vol.	9011005	2.00
E-61, E-62, E-68, E-71, E-72, E-76, S-81, E-86, E-91, E-95, E-101, E-105, E-106	Vol.	S-101	2.00
M-61, M-66, M-67, M-69, M-81, M-85, M-86, M-89	Vol.	1210006	1.50
K-62, KZ-62-P, J-80, K-82, J-85, S-132, JZ-835	Vol.	1210900	1.50
F-63, F-65, F-66, F-70, F-74, F-75, F-77, F-81, F-86	Vol.	R-109	1.50
A-64, K-64, K-64-D, M-65, K-66, K-66-M, A-67, M-68, A-70, A-75, K-80, K-80-X, K-85, K-88, K-88-X	Vol.	D-256	1.50
D-50, D-51, D-52, D-72	Vol.	S-103	2.00
A-82, A-86, A-87	Vol.	F-163	2.50
A-83, A-85, E-115	Vol.	R-102	1.50
F-96, F-107, F-135	Vol.	D-263	1.50
K-105, K-106, K-106-P, K-107, K-126, M-128, M-128-R, M-129	Vol.	2211904	2.00
M-106, M-107	Vol.	1220002	1.50
A-125	Vol.	F-164	2.50
J-125	Vol.	4220900	2.50
J-125-A	Vol.	1210902	1.50
M-125	Vol.	1210914	1.50
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E-155	Vol.	E-243	2.00
GENERAL HOUSEHOLD (GRUNOW)			
5-G, 6-G, 6-J Chassis; 580, 581, 640, 641, 680, 681	Vol.	2211906	2.00
6-A, 6-C, 6-F Chassis; 650, 651, 660, 661, 662	Vol.	2211901	2.00
6-HB, 7-DB Chassis; 620, 621, 720, 721	Vol.	2015900	2.00
7-B, 7-E Chassis; 750, 751, 752, 753	Vol.	2211902	2.00
8-A, 9-A Chassis; 801, 901, 902	Vol.	2211905	2.00
11-C, 12-A Chassis; 1171, 1241	Vol.	1210010	1.50
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18, 110, 120, 130, 140, 150 (Intermediate), 180, 190, Little General	Vol.	74-535	2.50
120, 130, 140, 150 (Early)	Vol.	74-514	2.50
120, 130, 140, 150 (Late)	Vol.	74-539	2.50
120, 130, 140, 150 (All Chassis), 160, 1001, A, B	Tone	70-019	1.50
160, 1001	Vol.	74-517	2.50
GRAYBAR ELECTRIC CO.			
GT-8, GB-9, GC-14, GB-989	Vol.	1210900	1.50
GB-678	Vol.	74-526	2.50
A. H. GREBE & CO.			
SK-4-AC, Early	Vol.	74-515	2.50
JESSE FRENCH & SONS			
G, Jr., H-1	Vol.	75-507	3.00
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10 (1929), 12-SG, 20, 22	Vol.	76-008	2.50
KIMBALL			
K	Vol.	74-513	2.50
KOLSTER RADIO. INC.			
K-42 to 45	Vol.	76-006	2.50
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B-97, B-98	Vol.	S-107	2.00
B-97, B-98	Tone	E-240	2.00
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15, 15-B, 55, 56, 57, 58, 150, 151, 153, 154, 155, 156	Vol.	55-010	2.00
15, 55, 56, 57, 58, 150	Tone	41-060	1.50
20, 21, 22, 23	Vol.	2011908	2.00
25, 251, 253, 254 (Early)	Vol.	55-014	2.00
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30, 31, 230-A	Vol.	75-537	3.00
50, 51, 52	Vol.	74-523	2.50
60, 61, 62, 160, 163	Vol.	72-073	1.50
70, 70-B, 71, 72	Vol.	72-180	1.50
77, 290, 291, 293, 294, 300, 300-A, 303, 304, 307, 310-A, 310-B, 311, 314, 315, 320, 321, 330, 331, 336	Vol.	1010961	1.50
77, 300, 300-A, 303, 304, 307, 320, 321, 330, 336	Tone	33-036	2.00
90, 90-B, 91, 92, 93	Vol.	70-063	1.50
90, 90-B, 91, 92, 100, 100-B, 101, 102, 103, 180	Equal.	78-007	1.50
100, 101 Combination	Vol.	74-562	2.50
100-B, 102, 103	Vol.	25-421	2.50
110 Auto	Vol.	72-088	1.50
118 Ford	Vol.	1010983	1.50
120, 120	Vol.	74-548	2.50
120-B, 123	Vol.	74-558	2.50
130-A, 130, 131, 132	Vol.	72-181	1.50
180, 181 Combination	Vol.	74-561	2.50
200, 201, 203, 204	Vol.	72-156	1.50
210, 211, 214, 215	Vol.	72-155	1.50
220, 221, 223	Vol.	72-163	1.50
340, 344, 360, 363, 390, 393	Vol.	51-123	1.50
370, 371, 373	Vol.	2112901	2.00
380, 381 Treasure Chest	Vol.	2111906	2.00
440	Vol.	2111037	2.00
460	Vol.	1010962	1.50
500	Vol.	2012901	2.00
800	Vol.	1010965	1.50
800	Tone	2011912	2.00
MIDWEST RADIO CORP.			
16-34	Vol.	F-165	2.50
16-35, Imperial 18 (1935)	Vol.	5011002	3.00
MONTGOMERY WARD & CO.			
07-A, 62-103, 62-105	Tone	1010033	1.50

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World Radio History

Make and Model No.	How Used	Part No.	Price
MONTGOMERY WARD & CO. (Continued)			
AE-10	Vol.	74-509	2.50
62-77, 62-120, 62-122, 62-126, 62-128, 62-149, 62-160, 62-162, 77	Vol.	306-002	1.50
62-103, 62-105	Vol.	2011001	2.00
62-103, 62-105	Tone	1010033	1.50
62-118	Vol.	2011125	2.00
62-166, 62-202	Vol.	9011005	2.00
62-169, 62-171	Vol.	1210007	1.50
62-178, 62-181, 62-189, 62-211	Vol.	2215001	2.00
62-179, 62-194, 62-206, 62-216, 62-218	Vol.	5011005	3.00
62-185, 62-186, 62-187, 62-190, 62-196	Vol.	5011004	3.00
62-197	Vol.	7011001	3.00
62-313, 62-314	Vol.	S-107	2.00
62-313, 62-314	Tone	E-240	2.00
811, 811-X, 1111, 1111-X	Vol.	35-002	1.50
2955, 2957	Vol.	25-423	2.50
Monarch Airline	Vol.	79-014	1.50
NATIONAL CARBON CO. (EVEREADY)			
1, 2, 3	Vol.	72-207	1.50
50 Series	Vol.	74-503	2.50
NOBLITT SPARKS INC. (ARVIN)			
7, 17, 27, 37	Vol.	E-241	2.00
9-A, 19, 29, 39, 18, 28, 33	Vol.	R-107	1.50
15, 16, 25, 35, 45	Vol.	2011097	2.00
PHILCO RADIO & TELEV. CO.			
38-1 (121), 38-2 (121), 38-4, 38-5, 38-7 (121), 38-8 (121), 38-9 (121), 38-23, CT-2, CT-5, CGD, CGDU (122), HT-2, HGD (122), PT-5, T-2, T-5, T-6, G (122), FN, FT-6, N, PJ, Car Radios	Vol.	R-110	1.50
37-116, 37-610, 37-623, 37-630, 38-3, 37-9, 37-10, 37-11, 37-611, 37-620, 37-2620, 38-2630, 37-2650, 37-2670, 38-2670, 38-116, (121,125), 38-623, 37-624, 38-624, 37-641, 37-643, 37-665, 37-640 (121, 122), 37-650 (121, 122), 37-655, 37-660 (121, 122), 37-670, 37-675 (121, 122)	Vol.	R-103	1.50
MT-3, RT-3, AC-266, 800 (122), 802, ST-3, T-3, 10 (122), C (122), D (122), HHD (122), NDD (122), PHD, H (122) Car Radios	Vol.	2211907	2.00
NT-7, ST-7-X, T-7, NT-8, T-8, 806 Car Radios	Vol.	1210916	1.50
FT-9, 816, 817, ST-12, ST-15, S-1416, S-1431, S-1437 NT-12-X, NT-15, N-1418, N-1433-H, N-1434, RT-14-X, R-1415, LT-14-X-3, L-1424, L-1425, L-1420, L-1427, L-1429, L-1460, P-1417, G-1418, G-1437, F-1440, F-1440-X, F-1442, F-1442-X, W-1419, C-1423, T-9, T-12, T-15, 821-P, 821-PV, 826, 827, 827-K, 828, 828-K Car Radios	Vol.	D-257	1.50
PT-14, CT-10, CT-11, C-1450, C-1452, C-1540, HT-11, MT-14-X-4, P-1422-H, P-1430, P-1432, T-10, T-11 Car Radios	Vol.	D-258	1.50
10, AC-206, CDS, MED, NCD, NDD, SCD, SCD (122), SDD, C, D, E, Car Radios	Vol.	E-237	2.00
11, AC-236, 700, 800, CRD, HHD, HRD, NJD, NQD, SJD, SQD, DP, DPV, H, J, P, Q, R, Car Radios	Vol.	E-236	2.00
14 (Early), 15 (Late), 503, 18 (124), 91 (Late)	Vol.	1210907	1.50
14, 14 (Late), 507, 17, 18, 49, 118	Vol.	2221903	2.00
15 (Early), 32	Vol.	1010979	1.50
16 (125, 126, 127), 17 (122), 116-B (121), 116-X (122), 500, 501, 650, 655, 660, 665	Vol.	2221906	2.00
16, 97, 144, 98, 506	Vol.	2211900	2.00
19 (Late, 128), P-1421	Vol.	1210906	1.50
19 (Early), 89 (123)	Vol.	2021911	2.00
20, 20-A, 21, 41-DC, 42-DC, 70, 70-A, 77,77-A, 90 (2-45'S), 470, 470-A, 220, 370, 570	Vol.	74-579	2.50
22-1, 47-DC, 71	Vol.	51-095	1.50
23-X, 91	Vol.	1010981	1.50
25, 43	Vol.	2021908	2.00
28, 45, AC-DC, 29, 245	Vol.	2221901	2.00
30, 96, 111, 111-A, 112, 112-A, 211, 211, 296	Vol.	72-177	1.50
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602, 37-602	Vol.	S-102	2.00
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6-M-193, 6-M-194, 8-M-195 (5637, 5803 Chassis)	Vol.	U-100	3.00
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660, 666, 668, (5616, 5626 Chassis), 630 Hudson, 860 Hudson; (5617 Chassis)	Vol.	2011242	2.00
835, 880, 935, 978, 980, 983, 985, 990, 1101, 1105, (1001, 1201 Chassis)	Vol.	2211006	2.00
970, 975, (5902 Chassis)	Vol.	2011245	2.00

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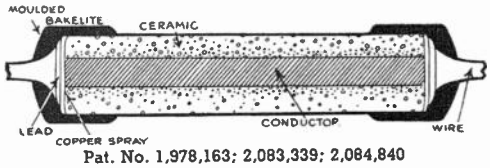
World Radio History

Centralab

Quality Controls • Resistors • Selector Switches

● CENTRALAB FIXED RESISTORS



Pat. No. 1,978,163; 2,083,339; 2,084,840

THIS magnified cross section illustrates important and exclusive features of Centralab resistor design. These are:

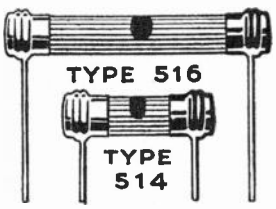
1. Center core of resistance material is surrounded by a dense shock-proof ceramic providing strength and protection against humidity.

2. Core and jacket are fired together at 2500 degrees F. into a single solid unit, hard and durable as stone.

3. Pure copper covers the resistor ends for wire lead contact. Contact to the resistance material is at the extreme ends only, providing uniform resistance and load distribution over ENTIRE length. End contacts do not short circuit part of resistance as in other types.

4. Because resistance is small in diameter and uniformly distributed for entire length, Centralab's specific resistance per unit length is low. The result is low noise level and constant value over a wide range of frequency and voltage.

Types 516, 514, 510 differ from types 316, 314, 310 previously listed only in that end contacts are completely insulated. Other features are identical.



Type 516 Resistor, size ¼" x 1¾", rating 1.5 watts. Price $0.20.

Type 514 Resistor, size ¼" x 1", rating 1 watt. Price $0.18.

Type 510 Resistor, size ⅛" x ⅝", rating .5 watt. Price $0.15.

In ordering, specify both type and desired resistance. All resistors have flexible wire leads 1½" long, and are R.M.A. color coded. Type 516 and 514 individually labeled and packed in cartons of ten.

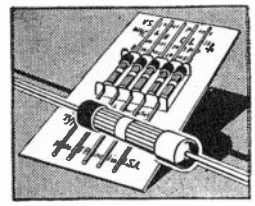
Stock Resistance Values

Code listed is for Type 516 Resistor. For Type 510 substitute BA for first two letters of each word. For Type 514 substitute BE for first letters.

Res. in Code	Tele. Ohms	Res. in Code	Tele. Ohms	Res. in Code	Tele. Ohms
100	BGBAB	4,000	BGEAC	60,000	BGGAD
200	BGCAB	5,000	BGFAC	70,000	BGHAD
300	BGDAB	6,000	BGGAC	75,000	BGHFD
400	BGEAB	7,500	BGHFC	100,000	BGBAE
500	BGFAB	8,000	BGIAC	125,000	BGMFD
600	BGGAB	9,000	BGJAC	150,000	BGBFE
750	BGHFB	10,000	BGBAD	200,000	BGCAE
800	BGIAB	12,000	BGBCD	250,000	BGCFE
900	BGJAB	13,000	BGBDD	300,000	BGDAE
1,000	BGBAC	14,000	BGBED	400,000	BGEAE
1,100	BGBBC	15,000	BGBFD	500,000	BGFAE
1,200	BGBCC	17,000	BGBHD	750,000	BGHFE
1,300	BGBDC	20,000	BGCAD	1 Meg.	BGBAF
1,400	BGBEC	25,000	BGCFD	1.5 Meg.	BGBFF
1,500	BGBFC	30,000	BGDAD	2 Meg.	BGCAF
2,000	BGCAC	40,000	BGEAD	3 Meg.	BGDAF
2,500	BGCFC	45,000	BGEFD	4 Meg.	BGEAF
3,000	BGDAC	50,000	BGFAD	5 Meg.	BGFAF
3,500	BGDFC	55,000	BGFFD		

● NEW CENTER LEAD RESISTORS

Completely Insulated



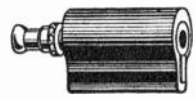
New resistors designed to fit into limited space without danger of shorting to the chassis or other parts. Same resistor bodies as used in side lead Centralab resistors, millions of which are now in use. Only difference is in method of making end contact. End leads brought through bakelite insulation. Body is insulated by inert ceramic jacket, proof against vibration and humidity. Will withstand five times rated load without permanent change.

Type 710 R.M.A. color coded; type 714 with resistance value. Packed five of one value to a card, ten cards to a package. Available in same range of values as side lead types.

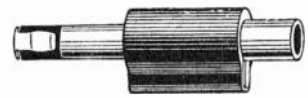
No. 710—⅛" x ⅝", ½ watt. Price $0.12 each.
No. 714—¼" x 1", 1 watt. Price $0.20 each.

● AUTO RADIO NOISE SUPPRESSORS

The standard resistance is 10,000 ohms with the exception that the Ford special is furnished with a resistance of 20,000 ohms. Resistances of 5,000, 20,000, or 30,000 ohms are available at no extra charge in all types.



No. 327



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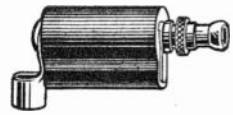

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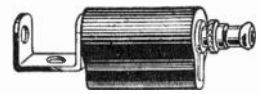

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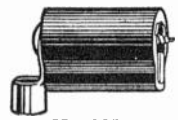

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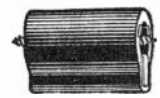

No. 338

Part No. 327 — Screw on plug type. Will fit most popular cars ..... Price $0.30
Part No. 304 — Snap on plug type. Snaps on plug at any angle ..... Price .30
Part No. 305 — Snap on plug cable end type. Replaces regular cable end ..... Price .30
Part No. 329 — Distributor type. Placed in series with center distributor cable ..... Price .30
Part No. 307 — Bracket type. For older types of cars.... Price .30
Part No. 338 — Cable type. To be inserted in cable near spark plug ..... Price .30

Price List . . . . . Per Set

	For 6 Cylinder Cars Cat. No.	Price	For 8 Cylinder Cars Cat. No.	Price
Screw on Plug Type.....	350	$2.00	354	$2.50
Bracket Type	422	2.00	423	2.50
Snap on Plug Type.....	368	2.00	369	2.50
Cable End Type.....	373	2.00	340	2.50
Cable Type	303	2.00	385	2.50
Special Set Type 304 for Ford 8.....			392	2.25
Special Set of 9 Type 329 for 1934 Studebaker and Graham			397	2.70

NOTE . . . Prices in this catalog supersede and obsolete those in any literature of prior date. Subject to change without notice.

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World Radio History

CLAROSTAT

STANDARD CONTROLS

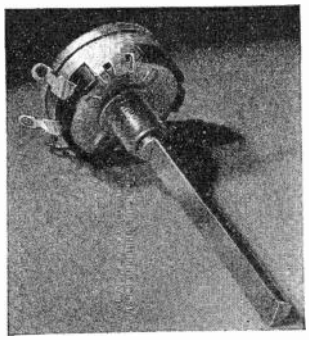
New MIDGET CONTROL
Composition Element

Despite their diminutive size, which permits their use anywhere, even in the tightest places, these new midget controls are positively the very latest thing in control developments and refinements. A remarkably satisfactory job.

No comebacks. Outlasts most other controls. Yet offered at a fully competitive price. Mechanically right. Closely-fitted shafts and bushings. Permanent lubrication. 100% inspection of parts and assemblies.

Latest development in carbon elements. Newly designed contact shoe using alloy based on years of research.

Immune to humidity and other climatic conditions. Heavily cadmium-plated metal parts Tightly-fitting protective casing.



New MIDGET SERIES M
Space Saving Type

Compact—only 1⅛" dia. by ½" (without switch) or 15/16" with switch. Permanent—negligible resistance change after cycling 10,000 times. Antenna and C-bias control still perfect after 28,000 cycles. Controls quiet from first to last. Power switches remain O.K.

CLAROSTAT Midget Controls are provided with the handy Ad-A-Switch feature. Plain metal cap readily slips off and switch member slips on in a jiffy. Choice of switches.

LIST PRICE without switch $1.00
Switch extra..... .50

Series "M"	Ohms	Resist. Curve	Suggested Use of Unit
M- 8	1,000	S	Std. Pot.
M- 9	1,000	L	Untuned Ant.
M-10	1,000	V	C Bias Rheo.
M-11	2,000	S	Std. Pot.
M-12	2,000	L	Untuned Ant.
M-13	2,000	V	C Bias Rheo.
M-14	2,000	W	Sc. Grid & Phono.
M-15	3,000	S	Std. Pot.
M-16	3,000	U	Ant. & C—1 Tube
M-17	3,000	V	C Bias Rheo.
M-18	3,000	W	Sc. Grid & Phono.
M-19	5,000	S	Std. Pot.
M-20	5,000	U	Ant. & C—1 Tube
M-21	5,000	V	C Bias Rheo.
M-22	5,000	W	Sc. Grid & Phono.
M-23	7,500	S	Std. Pot.
M-24	7,500	U	Ant. & C—1 Tube
M-25	7,500	V	C Bias Rheo.
M-26	7,500	W	Sc. Grid & Phono.
M-27	10,000	S	Std. Pot.
M-28	10,000	N	Ant. or R.F. Coil
M-29	10,000	U	Ant. & C—1 Tube
M-30	10,000	V	C Bias Rheo.
M-31	10,000	W	Sc. Grid & Phono.

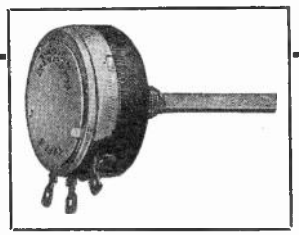
Series "M"	Ohms	Resist. Curve	Suggested Use of Unit
M-32	15,000	S	Std. Pot.
M-33	15,000	U	Ant. & C—1 Tube
M-34	15,000	V	C Bias Rheo.
M-35	15,000	W	Sc. Grid & Phono.
M-36	20,000	S	Std. Pot.
M-37	20,000	U	Ant. & C—1 Tube
M-38	20,000	V	C Bias Rheo.
M-39	20,000	W	Sc. Grid & Phono.
M-40	25,000	S	Std. Pot.
M-41	25,000	W	Sc. Grid & Phono.
M-42	30,000	S	Std. Pot.
M-43	40,000	S	Std. Pot.
M-44	50,000	S	Std. Pot.
M-45	50,000	W	Sc. Grid & Phono.
M-46	50,000	Z	Audio Grid & Tone
M-47	75,000	S	Std. Pot.
M-48	75,000	V	C Bias Rheo.
M-49	100,000	S	Std. Pot.
M-50	100,000	N	R.F. Shunt
M-51	100,000	Z	Audio & Tone
M-52	200,000	S	Std. Pot.
M-53	200,000	Z	Audio & Tone
M-54	200,000	V	C Bias Rheo.
M-55	250,000	S	Std. Pot.
M-56	250,000	Y	Audio Shunt
M-57	300,000	S	Std. Pot.

Series "M"	Ohms	Resist. Curve	Suggested Use of Unit
M-58	500,000	S	Std. Pot.
M-59	500,000	Y	Audio Shunt
M-60	500,000	Z	Audio & Tone
M-61	1,000,000	S	Std. Pot.
M-62	1,000,000	Y	Audio Shunt
M-63	1,000,000	Z	Audio & Tone
M-64	250,000	Z	Audio & Tone
M-65	1,500,000	Z	Audio & Tone
M-66	2,000,000	Z	Tone & AVC
M-67	3,000,000	Z	Tone & AVC
M-68	4,000,000	Z	Tone & AVC
M-69	5,000,000	Z	Tone & AVC
M-70	10,000	T	Ant. & C Bias—2 Tubes
M-71	25,000	U	Ant. & C Bias—1 Tube
M-72	25,000	V	C Bias Rheo.
M-73	75,000	Z	Audio & Tone
M-74	500,000	No. 2 Spec.	Cathode Control
M-75	500,000	V	C Bias, Series Plate
M-76	100,000	V	C Bias Rheo.
M-77	150,000	Z	Audio & Tone
M-78	5,000,000	V	Series Screen
M-79	750,000	Z	Audio & Tone
M-80	4,000	S	Std. Pot.
M-81	10,000	Z	Ant. Shunt.

WIRE-WOUND Series W CONTROLS

Series "W"	Ohms	Resist. Curve	Suggested Use of Unit
W- 1	50	S	Std. Pot.
W- 2	100	S	Std. Pot.
W- 3	200	S	Std. Pot.
W- 4	300	S	Std. Pot.
W- 5	400	S	Std. Pot.
W- 6	500	S	Std. Pot.
W- 7	750	S	Std. Pot.
W- 8	1,000	S	Std. Pot.
W- 9	1,000	L	Untuned Ant.
W-10	1,000	V	C Bias Rheo.
W-11	2,000	S	Std. Pot.
W-12	2,000	L	Untuned Ant.
W-13	2,000	V	C Bias Rheo.
W-14	2,000	W	Sc. Grid & Phono.
W-15	3,000	S	Std. Pot.
W-16	3,000	U	Ant. & C—1 Tube
W-17	3,000	V	C Bias Rheo.
W-18	3,000	W	Sc. Grid & Phono.
W-19	5,000	S	Std. Pot.
W-20	5,000	U	Ant. & C—1 Tube
W-21	5,000	V	C Bias Rheo.
W-22	5,000	W	Sc. Grid & Phono.
W-23	7,500	S	Std. Pot.
W-24	7,500	U	Ant. & C—1 Tube

All Units except W-40 to W-49 List $1.00
W-40 to W-44.....List 1.25



features

- Selected alloy wire precisely wound on thin bakelite strip. Variable spacing of turns and also use of tapered strip for desired taper.
- Perfect sliding contact by means of special alloy contact shoe, together with use of exclusive winding lubricant.
- Humidity, temperature and age have but a negligible effect on these controls.
- Stop to limit rotation is independent of sliding contact member, and is securely fastened to shaft. Bushing of brass. Shaft of special alloy. No tendency to "freeze" or bind.
- Linear resistance controls rated at 3 watts. "V" and "W" tapered controls rated at 2 watts. "L," "N" and "U" tapered controls rated at 1.5 watts. Ratings apply only to maximum resistance setting.

Series "W"	Ohms	Resist. Curve	Suggested Use of Unit
W-25	7,500	V	C Bias Rheo.
W-26	7,500	W	Sc. Grid & Phono.
W-27	10,000	S	Std. Pot.
W-28	10,000	N	Ant. & R.F. Coil
W-29	10,000	U	Ant. & C—1 Tube
W-30	10,000	V	C Bias Rheo.
W-31	10,000	W	Sc. Grid & Phono.
W-32	15,000	S	Std. Pot.
W-33	15,000	U	Ant. & C—1 Tube
W-34	15,000	V	C Bias Rheo.
W-35	15,000	W	Sc. Grid & Phono.
W-36	20,000	S	Std. Pot.
W-37	20,000	U	Ant. & C—1 Tube
W-38	20,000	V	C Bias Rheo.
W-39	20,000	W	Sc. Grid & Phono.
W-40	25,000	S	Std. Pot.
W-41	25,000	W	Sc. Grid & Phono.
W-42	30,000	S	Std. Pot.
W-43	40,000	S	Std. Pot.
W-44	50,000	S	Std. Pot.
W-45	50,000	W	Sc. Grid & Phono.
W-47*	75,000	S	Std. Pot.
W-49*	100,000	S	Std. Pot.
W-80	4,000	S	Std. Pot.

W-45.....List Price $1.50
W-47 and W-49.....List Price 2.00

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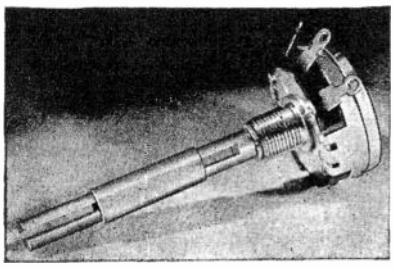
World Radio History

CLAROSTAT

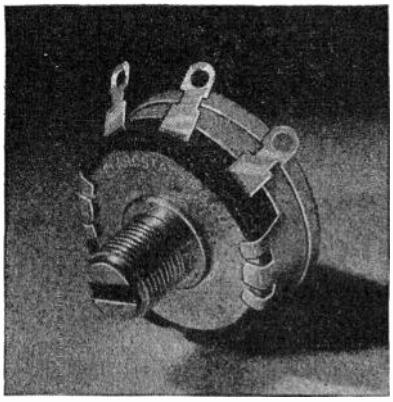
AUTO CONTROLS — P. A. CONTROLS

The "AC" series controls are equipped with a special slotted shaft of sufficient length and enclosed in a sleeve that will cut easily and hold the center milled shaft in shape. This also applies to the "TAC" series controls, which have tapped resistance units.



Cat. No.	Resistance	List Price
AC-8	200,000-S	$1.50
AC-10	250,000-Z	1.50
AC-11	350,000-Z	1.50
AC-20	500,000-Z	1.50
AC-30	1,000,000-Z	1.50
TAC-8	350,000 Tapped 75,000	1.50
TAC-10	2,000,000 Tapped 1,000,000	1.50

The "FAC" series automobile controls have a slotted shaft inside the bushing with a ⅛" protruding piece. This type shaft is used in many receivers where the auto lock switch is used in the control head, and used also in the chassis with the cable having a double milled fitting. This is also used on our series "FTC" tapped control.

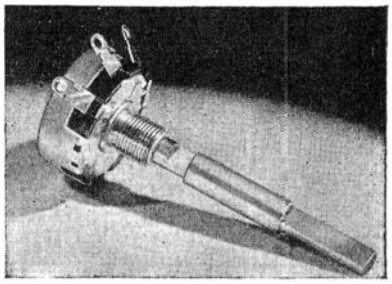


Cat. No.	Resistance	List Price
FAC-8	200,000-S	$1.50
FAC-10	250,000-Z	1.50
FAC-11	350,000-Z	1.50
FAC-20	500,000-Z	1.50
FAC-30	1,000,000-Z	1.50
FTC-8	350,000 Tapped 75,000	1.50
FTC-10	2,000,000 Tapped 1,000,000	1.50

All the above Controls are equipped with the original Ad-A-Switch features.

Available with "Slip Drive" feature. No switches are attached—just add letters "SD" after control number.

The "MA" series auto control is equipped with a sufficiently long shaft milled on both sides, leaving approximately 3/32" flat throughout the entire length of the shaft. Around the shaft is a sleeve to hold the fitting in the end of the cable. This is also used on our "TMA" tapped control.



Cat. No.	Resistance	List Price
MA-8	200,000-S	1.50
MA-10	250,000-Z	1.50
MA-11	350,000-Z	1.50
MA-20	500,000-Z	1.50
MA-30	1,000,000-Z	1.50
TMA-8	350,000 Tapped 75,000	1.50
TMA-10	2,000,000 Tapped 1,000,000	1.50

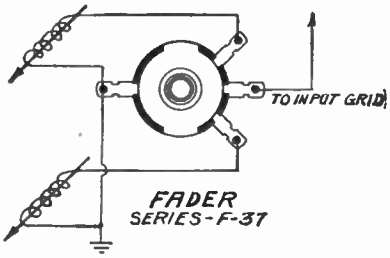
FADER CONTROLS

Available in five resistance values, one being a combination fader. Applications are numerous, including proper control of crystal microphone and crystal pickups of high impedance.

Combination fader allows two different impedances to be handled with one control. Tapered from the center tap to left terminal with a total resistance of 50,000 ohms for this section, and from center tap to right terminal with total resistance of 500,000 ohms for this section.

This combination of resistance values permits the use of a low impedance mike or pick-up and a high impedance mike or pick-up, one impedance can be faded with the other giving a smooth even cut-off to each source as needed.

Special taper blend provides for smooth, noiseless fading from one source to another. Resistance is tapered from center tap towards each terminal.



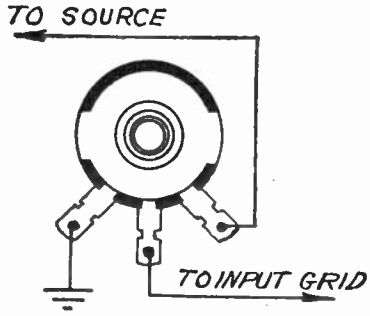
Type No.	Resistance Left Section Ohms	Resistance Right Section Ohms	Total Resistance Ohms
F-37-100 M	50,000	50,000	100 000
F-37-500 M	250,000	250,000	500,000
F-37-1 Meg.	500,000	500,000	1 000,000
F-37-2 Meg.	1,000,000	1,000,000	2,000,000
CF-37-550 M	50,000	500,000	550,000

LIST PRICE — EACH $2.00

CONTROLS FOR P-A EQUIPMENT

GAIN CONTROLS

Available in five resistance values, permitting selection of proper resistance for gain desired. Specially tapered for smooth attenuation in response to degree of rotation. Very low noise level, making them adaptable for use in low-level installations.



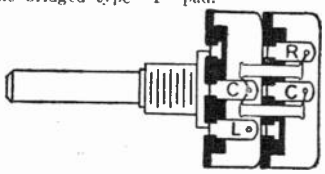
SERIES — G-37

Type No.	Resistance
G- 50 M	50,000 ohms
G-250 M	250,000 ohms
G-500 M	500,000 ohms
G-1 Meg.	1,000,000 ohms
G-2 Meg.	2,000,000 ohms

LIST PRICE — EACH $1.75

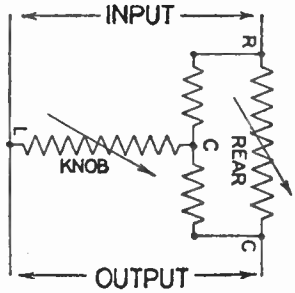
CLAROSTAT "DELTA-T" PADS

The "Delta-T" Pad is one of three attenuation networks that maintain constant impedance in either direction through use of pads. This type utilizes two variable units of correct resistance values and proper tapers, as well as two fixed resistors of equal resistance values that round out the pad. This type is commonly known as the bridged type "T" pad.



Ideal for application as low-impedance mixer and attenuator. Perfect substitute for any "T" pad, without danger of affecting performance adversely.

Affords substantially straight-line attenuation during 95% clockwise rotation. Maximum attenuation is infinity, while insertion loss is 0 at the 0 attenuation setting.



DELTA-T PADS AVAILABLE IN FOLLOWING IMPEDANCE VALUES

D-T	50 ohms	D-T	50,000 ohms
D-T	200 ohms	D-T	100,000 ohms
D-T	500 ohms	D-T	250,000 ohms
D-T	1,000 ohms	D-T	500,000 ohms
D-T	5,000 ohms	D-T	1 megohm

LIST PRICE — EACH $3.50

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World Radio History

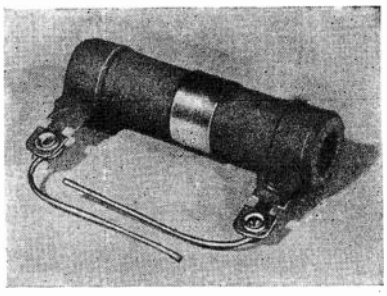
CLAROSTAT

POWER RESISTORS

WIRE-WOUND POWER RESISTORS

CEMENT COATED

Features: ● These units provide for maximum life. ● They dissipate heat rapidly. ● Stand considerable overload. ● Unaffected by moisture, vapors, salt-water atmosphere, acid fumes. ● Built to withstand reasonable mechanical strains as well as elevated operating temperatures. ● Manufactured and rated strictly in accordance with R. M. A. Standards. ● Ideal replacement power resistors in radio service, and in broadcast and amateur service. ● Ideal for electrical and industrial application.



ADJUSTABLE TYPE

In addition to the fixed units listed below, there is a line of adjustable units. Same general specifications, but with sliding band contact. Additional contact bands can be had for voltage-dividing functions. ● Removable mounting feet. ● Ideal for critical resistance values, tapped resistance, bleeder networks, etc. ● Standard list prices. 10, 25, 50, 80, 100 and 200 watt ratings. 1 to 100,000 ohms.

TYPE 10-C — 10-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	200	2,000	9,000
2	250	2,250	10,000
3	300	2,500	11,000
5	350	3,000	12,000
7.5	400	3,500	12,500
10	500	4,000	14,300
15	600	4,500	15,000
20	750	5,000	20,000
25	800	6,000	25,000
50	1,000	7,000	30,000
75	1,250	7,500	35,000
100	1,450	8,000	40,000
150	1,500	8,500	50,000

Packed 10 to a box.

List Price.....$0.40

TYPE 20C — 20-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	500	2,500	11,000
5	750	2,750	12,000
10	800	3,000	12,500
25	850	3,500	15,000
50	1,000	4,000	20,000
75	1,200	4,500	25,000
100	1,250	5,000	30,000
150	1,500	6,000	35,000
200	1,750	7,000	40,000
250	1,850	7,500	50,000
300	2,000	8,000	
350	2,250	9,000	
400	2,400	10,000	

Packed 5 to a box.

List Price—1 Ohm to 15M Ohms.....$0.65
List Price—20M Ohms to 50M Ohms.. .75

TYPE 25C — 25-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	150	1,250	7,500
3	200	1,500	8,000
5	250	2,250	9,000
10	300	2,500	10,000
15	400	3,000	12,000
25	500	3,500	15,000
50	750	4,000	20,000
75	800	5,000	25,000
100	1,000	6,000	

List Price—1 Ohm to 5M Ohms $0.75
List Price—6M Ohms to 15M Ohms... .85
List Price—20M Ohms to 25M Ohms.. .95

TYPE 40-C — 40-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	300	2,500	12,500
50	400	3,000	15,000
75	500	4,000	20,000
100	750	5,000	25,000
125	1,000	6,000	35,000
150	1,500	7,500	
200	2,000	10,000	

List Price—25 Ohms to 5M Ohms ...$0.90
List Price— 6M Ohms to 35M Ohms.. 1.00

TYPE 50-C — 50-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	750	6,000	20,000
10	1,000	7,000	25,000
25	1,500	7,500	30,000
50	2,000	8,000	40,000
100	2,500	10,000	50,000
200	3,000	12,000	60,000
250	4,000	12,500	75,000
500	5,000	15,000	100,000

List Price—5 Ohms to 5M Ohms.....$1.10
List Price—6M Ohms to 25M Ohms... 1.25
List Price—30M Ohms to 100M Ohms. 1.45

TYPE 80C — 80-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	750	6,000	30,000
10	1,000	7,500	40,000
25	1,500	8,000	50,000
50	2,000	10,000	60,000
100	2,500	15,000	75,000
200	3,000	20,000	100,000
250	4,000	25,000	
500	5,000		

List Price—5 Ohms to 5M Ohms.....$1.25
List Price—6M Ohms to 25M Ohms... 1.50
List Price—30M Ohms to 50M Ohms.. 1.75
List Price—60M Ohms to 75M Ohms.. 2.00
List Price—100,000 Ohms..... 2.25

TYPE 100C — 100-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	750	5,000	40,000
50	1,000	7,500	50,000
75	1,250	10,000	60,000
100	1,500	15,000	75,000
150	2,000	20,000	100,000
250	2,500	25,000	
500	3,000	30,000	

List Price—25 Ohms to 3M Ohms.....$1.50
List Price—5M Ohms to 25M Ohms... 1.75
List Price—30M Ohms to 50M Ohms.. 2.00
List Price—60M Ohms to 75M Ohms.. 2.25
List Price—100M Ohms..... 2.50

TYPE 160C — 160-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	2,500	7,500	35,000
200	3,000	10,000	40,000
500	3,500	15,000	50,000
1,000	4,000	20,000	60,000
1,500	4,500	25,000	70,000
2,000	5,000	30,000	80,000
			100,000

List Price—100 Ohms to 10M Ohms...$2.00
List Price—15M Ohms to 50M Ohms.. 2.40
List Price—60M Ohms to 100M Ohms. 2.70

TYPE 200C — 200-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	3,000	15,000	60,000
250	3,500	20,000	75,000
500	4,000	25,000	100,000
1,000	4,500	30,000	125,000
1,500	5,000	35,000	150,000
2,000	7,500	40,000	
2,500	10,000	50,000	

List Price—100 Ohms to 10M Ohms...$2.50
List Price—15M Ohms to 100M Ohms. 3.00
List Price—125M Ohms to 150M Ohms. 3.50

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World Radio History

CLAROSTAT

RESISTOR TUBES — POWER CORDS

UNIVERSAL METAL-TUBE RESISTORS

The Universal Resistor Tube will operate any AC-DC set within the voltage ranges specified on the tube, regardless of what pilot current is drawn or any pilot lamp combination.

List Price . . . $1.00

Universal Tube No.	Replaces AC-DC Tubes beginning with letters	Having numbers from	Ending in letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H,
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H,
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H,
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

Available for UX (4 Prong) Resistor Tube Replacements
Simply Add "UX" Before Tube No.—i.e.—UX-23*55-A

STANDARD RESISTOR TUBES

RESISTOR TUBE INTERCHANGEABILITY

To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.
5B	KX-49-B	49B2	KY-49-C	L-55-C	L-55-C	165LC	L-49-C	6.130	6.130
6B	KX-49-C	K-49-A	K-49-A	L-55-D	L-55-D	185A	KX-55-A	21R-212	KY-42-D
32	BK-52-H	K-49-B	K-49-B	L-55-E	L-55-E1	185R	KX-55-A	2UR-224	L-49-B
36A	K-36-A	K-49-C	K-49-C	M-55-E	M-55-E1	185R4	KX-55-B	2UR-215	L-55-B
K-36-A	K-36-A	K-49-D	K-49-D	K-55-CP	K-55-CPR	185R8	KX-55-C	3CR-241	L-49-D
K-36-B	K-36-B	K-49-E	K-49-E1	L-55-CP	L-55-CPR	185R44	KX-55-D	3ER-248	L-49-DJ
K-36-C	K-36-C	L-49-B	L-49-B	60R30	KX-23-B	185L4	LX-55-B	69.2033	L-49-B
K-36-D	K-36-D	L-49-C	L-49-C	60R30G	KX-23-B	185L8	LX-55-C	69.2037	L-42-C
K-36-E	K-36-E1	L-49-D	L-49-D	K-78-B	K-78-B	185L44	LX-55-D	P-27287	L-49-E1
L-36-B	L-36-B	K-49-X	KX-49-B	K-79-B	K-79-B	185KB	K-55-B	W43357	K-49-B
L-36-C	L-36-C	K-49-Y	KX-49-C	K-80-F	K-80-F	185KC	K-55-C	3326	BK-42-D
L-36-D	L-36-D	L-49-E	L-49-E1	K-80-H	K-80-H	185LB	L-55-B	3334	BK-49-D
40	KX-42-A	50	KX-49-A	K-90-F	K-90-F	185LC	L-55-C	3334-A	BK-49-D
40A2	KX-42-C	50A2	KX-49-C	K-92-B	K-92-B	245A	KX-74-A	3613	BK-55-B
40B2	KX-42-B	50B2	KX-49-B	140A	KX-42-A	245KB	K-74-B	115.22	BK-55-D
40W	KX-42-A	50W	KX-55-A	140R	KX-42-A	245KC	K-74-C	115.28	BK-49-D
K-40-X	KX-42-B	50-MG	KZ-49-A	140R4	KX-42-B	250A	KX-74-A	115.40	K-55-A
K-40-Y	KX-42-C	50-A2-MG	KZ-49-C	140R8	KX-42-C	250R	KX-74-A	115.41	BK-49-B
40X300	KX-42-A	50-B2-MG	KZ-49-B	140R44	KX-42-D	250KB	K-74-B	115.42	BK-32-D
42A	K-42-A	50X3	KX-55-A	140L4	LX-42-B	250KC	K-74-C	115.46	115.46
42A1	KY-42-A	50X3T	KX-55-C	140L8	LX-42-C	250R4	KX-74-B	L-495.5-E	L-49-E
42A2	KY-42-B	50X-300	KX-55-A	140L44	LX-42-D	250R8	KX-74-C	L-555.5-C	L-55-C
42-B2	KY-42-C	K-52-H	K-52-H	140KB	K-42-B	340	KX-46-A	M-55-B	M-55-B
K-42-A	K-42-A	M-52-H	M-52-H	140KC	K-42-C	100.37	L-49-CJ	M-42-HG	M-42-H
K-42-B	K-42-B	55A	K-55-A	165A	KX-49-A	100.38	L-42-CJ	M-49-HG	M-49-H
K-42-C	K-42-C	55A1	KY-55-A	165R	KX-49-A	878R48	KX-23-R	M-55-HG	M-55-H
K-42-D	K-42-D	55A2	KY-55-B	165R4	KX-49-B	8593	M-49-B	M-80-HG	M-80-H
K-42-E	K-42-E1	55B2	KY-55-C	165R8	KX-49-C	8598	L-55-B	6.135	K-23-AJ
L-42-B	L-42-B	K-55-A	K-55-A	165R44	KX-49-D	8600	8600	16032	K-60-C
L-42-C	L-42-C	K-55-B	K-55-B	165L4	LX-49-B	8601	M-55-E1	16036	M-49-C
L-42-D	L-42-D	K-55-C	K-55-C	165L8	LX-49-C	8663	8663	A16037	K-17-E
M-42-H	M-42-H	K-55-D	K-55-D	165L44	LX-49-D	8664	L-55-E1	A16040	K-49-C
45W	KX-46-A	K-55-E	K-55-E1	165KB	K-49-B	6.125	L-42-DJ	95K2	K-42-C
49A	K-49-A	K-55-H	K-55-H	165KC	K-49-C	6.126	L-36-DJ	135K1	K-49-B
49A1	KY-49-A	55-H	K-55-H	165LB	L-49-B	6.129	L-49-DJ	135K1A	K-49-BJ
49A2	KY-49-B	L-55-B	L-55-B						

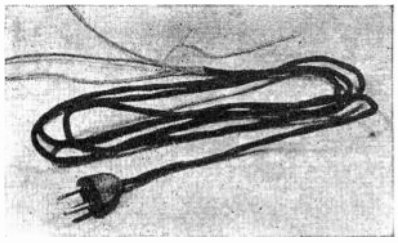
List Price . . . $.80

CLAROSTAT POWER CORDS

Intended for replacement of voltage-dropping resistors, these line-cord resistors are employed mainly for AC-DC radio sets.

Made with three conductors enclosed in heavy braided covering, and incorporating tie cord at chassis end to remove strain on conductors proper. Tie cord is fastened to underside of chassis after connections have been made.

The three conductors furnish necessary plate voltages for rectifier tube and the reduced voltages for filaments of tubes.



Cord No.	Total Filament Drop	Resistance
PC*350	12 to 17 volts	350 ohms
PC*330	18 to 24 volts	330 ohms
PC*290	25 to 31.5 volts	290 ohms
PC*250	32 to 44.5 volts	250 ohms
PC*220	45 to 52 volts	220 ohms
PC*180	53 to 61 volts	160 ohms
PC*135	69 to 75.2 volts	135 ohms

LIST PRICE — $0.55

XC-320	220 to 110 volts	320 ohms

LIST PRICE — $1.50

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World Radio History

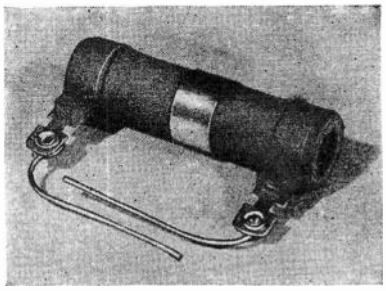
CLAROSTAT

POWER RESISTORS

WIRE-WOUND POWER RESISTORS

CEMENT COATED

Features: ● These units provide for maximum life. ● They dissipate heat rapidly. ● Stand considerable overload. ● Unaffected by moisture, vapors, salt-water atmosphere, acid fumes. ● Built to withstand reasonable mechanical strains as well as elevated operating temperatures. ● Manufactured and rated strictly in accordance with R. M. A. Standards. ● Ideal replacement power resistors in radio service, and in broadcast and amateur service. ● Ideal for electrical and industrial application.



ADJUSTABLE TYPE

In addition to the fixed units listed below, there is a line of adjustable units. Same general specifications, but with sliding band contact. Additional contact bands can be had for voltage-dividing functions. ● Removable mounting feet. ● Ideal for critical resistance values, tapped resistance, bleeder networks, etc. ● Standard list prices. 10, 25, 50, 80, 100 and 200 watt ratings. 1 to 100,000 ohms.

TYPE 10-C — 10-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	200	2,000	9,000
2	250	2,250	10,000
3	300	2,500	11,000
5	350	3,000	12,000
7.5	400	3,500	12,500
10	500	4,000	14,300
15	600	4,500	15,000
20	750	5,000	20,000
25	800	6,000	25,000
50	1,000	7,000	30,000
75	1,250	7,500	35,000
100	1,450	8,000	40,000
150	1,500	8,500	50,000

Packed 10 to a box.

List Price.....$0.40

TYPE 20C — 20-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	500	2,500	11,000
5	750	2,750	12,000
10	800	3,000	12,500
25	850	3,500	15,000
50	1,000	4,000	20,000
75	1,200	4,500	25,000
100	1,250	5,000	30,000
150	1,500	6,000	35,000
200	1,750	7,000	40,000
250	1,850	7,500	50,000
300	2,000	8,000	
350	2,250	9,000	
400	2,400	10,000	

Packed 5 to a box.

List Price—1 Ohm to 15M Ohms.....$0.65
List Price—20M Ohms to 50M Ohms.. .75

TYPE 25C — 25-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
1	150	1,250	7,500
3	200	1,500	8,000
5	250	2,250	9,000
10	300	2,500	10,000
15	400	3,000	12,000
25	500	3,500	15,000
50	750	4,000	20,000
75	800	5,000	25,000
100	1,000	6,000	

List Price—1 Ohm to 5M Ohms $0.75
List Price—6M Ohms to 15M Ohms... .85
List Price—20M Ohms to 25M Ohms.. .95

TYPE 40-C — 40-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	300	2,500	12,500
50	400	3,000	15,000
75	500	4,000	20,000
100	750	5,000	25,000
125	1,000	6,000	35,000
150	1,500	7,500	
200	2,000	10,000	

List Price—25 Ohms to 5M Ohms ...$0.90
List Price— 6M Ohms to 35M Ohms.. 1.00

TYPE 50-C — 50-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	750	6,000	20,000
10	1,000	7,000	25,000
25	1,500	7,500	30,000
50	2,000	8,000	40,000
100	2,500	10,000	50,000
200	3,000	12,000	60,000
250	4,000	12,500	75,000
500	5,000	15,000	100,000

List Price—5 Ohms to 5M Ohms.....$1.10
List Price—6M Ohms to 25M Ohms... 1.25
List Price—30M Ohms to 100M Ohms. 1.45

TYPE 80C — 80-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
5	750	6,000	30,000
10	1,000	7,500	40,000
25	1,500	8,000	50,000
50	2,000	10,000	60,000
100	2,500	15,000	75,000
200	3,000	20,000	100,000
250	4,000	25,000	
500	5,000		

List Price—5 Ohms to 5M Ohms.....$1.25
List Price—6M Ohms to 25M Ohms... 1.50
List Price—30M Ohms to 50M Ohms.. 1.75
List Price—60M Ohms to 75M Ohms.. 2.00
List Price—100,000 Ohms..... 2.25

TYPE 100C — 100-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
25	750	5,000	40,000
50	1,000	7,500	50,000
75	1,250	10,000	60,000
100	1,500	15,000	75,000
150	2,000	20,000	100,000
250	2,500	25,000	
500	3,000	30,000	

List Price—25 Ohms to 3M Ohms.....$1.50
List Price—5M Ohms to 25M Ohms... 1.75
List Price—30M Ohms to 50M Ohms.. 2.00
List Price—60M Ohms to 75M Ohms.. 2.25
List Price—100M Ohms..... 2.50

TYPE 160C — 160-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	2,500	7,500	35,000
200	3,000	10,000	40,000
500	3,500	15,000	50,000
1,000	4,000	20,000	60,000
1,500	4,500	25,000	70,000
2,000	5,000	30,000	80,000
			100,000

List Price—100 Ohms to 10M Ohms...$2.00
List Price—15M Ohms to 50M Ohms.. 2.40
List Price—60M Ohms to 100M Ohms. 2.70

TYPE 200C — 200-WATT SIZE

Resis. Ohms	Resis. Ohms	Resis. Ohms	Resis. Ohms
100	3,000	15,000	60,000
250	3,500	20,000	75,000
500	4,000	25,000	100,000
1,000	4,500	30,000	125,000
1,500	5,000	35,000	150,000
2,000	7,500	40,000	
2,500	10,000	50,000	

List Price—100 Ohms to 10M Ohms...$2.50
List Price—15M Ohms to 100M Ohms. 3.00
List Price—125M Ohms to 150M Ohms. 3.50

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World Radio History

CLAROSTAT

RESISTOR TUBES — POWER CORDS

UNIVERSAL METAL-TUBE RESISTORS

The Universal Resistor Tube will operate any AC-DC set within the voltage ranges specified on the tube, regardless of what pilot current is drawn or any pilot lamp combination.

List Price . . . $1.00

Universal Tube No.	Replaces AC-DC Tubes beginning with letters	Having numbers from	Ending in letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H,
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H,
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H,
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

Available for UX (4 Prong) Resistor Tube Replacements
Simply Add "UX" Before Tube No.—i.e.—UX-23*55-A

STANDARD RESISTOR TUBES

RESISTOR TUBE INTERCHANGEABILITY

To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.	To Replace Other Mfr's Tube No.	Use Clarostat Tube No.
5B	KX-49-B	49B2	KY-49-C	L-55-C	L-55-C	165LC	L-49-C	6.130	6.130
6B	KX-49-C	K-49-A	K-49-A	L-55-D	L-55-D	185A	KX-55-A	2LR-212	KY-42-D
32	BK-52-H	K-49-B	K-49-B	L-55-E	L-55-E1	185R	KX-55-A	2UR-224	L-49-B
36A	K-36-A	K-49-C	K-49-C	M-55-E	M-55-E1	185R4	KX-55-B	2UR-215	L-55-B
K-36-A	K-36-A	K-49-D	K-49-D	K-55-CP	K-55-CPR	185R8	KX-55-C	3CR-241	L-49-D
K-36-B	K-36-B	K-49-E	K-49-E1	L-55-CP	L-55-CPR	185R44	KX-55-D	3ER-248	L-49-DJ
K-36-C	K-36-C	L-49-B	L-49-B	60R30	KX-23-B	185L4	LX-55-B	69.2033	L-49-B
K-36-D	K-36-D	L-49-C	L-49-C	60R30G	KX-23-B	185L8	LX-55-C	69.2037	L-42-C
K-36-E	K-36-E1	L-49-D	L-49-D	K-78-B	K-78-B	185L44	LX-55-D	P-27287	L-49-E1
L-36-B	L-36-B	K-49-X	KX-49-B	K-79-B	K-79-B	185KB	K-55-B	W43357	K-49-B
L-36-C	L-36-C	K-49-Y	KX-49-C	K-80-F	K-80-F	185KC	K-55-C	3326	BK-42-D
L-36-D	L-36-D	L-49-E	L-49-E1	K-80-H	K-80-H	185LB	L-55-B	3334	BK-49-D
40	KX-42-A	50	KX-49-A	K-90-F	K-90-F	185LC	L-55-C	3334-A	BK-49-D
40A2	KX-42-C	50A2	KX-49-C	K-92-B	K-92-B	245A	KX-74-A	3613	BK-55-B
40B2	KX-42-B	50B2	KX-49-B	140A	KX-42-A	245KB	K-74-B	115.22	BK-55-D
40W	KX-42-A	50W	KX-55-A	140R	KX-42-A	245KC	K-74-C	115.28	BK-49-D
K-40-X	KX-42-B	50-MG	KZ-49-A	140R4	KX-42-B	250A	KX-74-A	115.40	K-55-A
K-40-Y	KX-42-C	50-AZ-MG	KZ-49-C	140R8	KX-42-C	250R	KX-74-A	115.41	BK-49-B
40X300	KX-42-A	50-B2-MG	KZ-49-B	140R44	KX-42-D	250KB	K-74-B	115.42	BK-32-D
42A	K-42-A	50X3	KX-55-A	140L4	LX-42-B	250KC	K-74-C	115.46	115.46
42A1	KY-42-A	50X3T	KX-55-C	140L8	LX-42-C	250R4	KX-74-B	L-495.5-E	L-49-E
42A2	KY-42-B	50X-300	KX-55-A	140L44	LX-42-D	250R8	KX-74-C	L-555.5-C	L-55-C
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K-42-A	K-42-A	M-52-H	M-52-H	140KC	K-42-C	100.37	L-49-CJ	M-42-HG	M-42-H
K-42-B	K-42-B	55A	K-55-A	165A	KX-49-A	100.38	L-42-CJ	M-49-HG	M-49-H
K-42-C	K-42-C	55A1	KY-55-A	165R	KX-49-A	878R48	KX-23-R	M-55-HG	M-55-H
K-42-D	K-42-D	55A2	KY-55-B	165R4	KX-49-B	8593	M-49-B	M-80-HG	M-80-H
K-42-E	K-42-E1	55B2	KY-55-C	165R8	KX-49-C	8598	L-55-B	6.135	K-23-AJ
L-42-B	L-42-B	K-55-A	K-55-A	165R44	KX-49-D	8600	8600	16032	K-60-C
L-42-C	L-42-C	K-55-B	K-55-B	165L4	LX-49-B	8601	M-55-E1	16036	M-49-C
L-42-D	L-42-D	K-55-G	K-55-C	165L8	LX-49-C	8663	8663	A16037	K-17-E
M-42-H	M-42-H	K-55-D	K-55-D	165L44	LX-49-D	8664	L-55-E1	A16040	K-49-C
45W	KX-46-A	K-55-E	K-55-E1	165KB	K-49-B	6.125	L-42-DJ	95K2	K-42-C
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49A1	KY-49-A	55-H	K-55-H	165LB	L-49-B	6.129	L-49-DJ	135K1A	K-49-BJ
49A2	KY-49-B	L-55-B	L-55-B						

List Price . . . $.80

CLAROSTAT POWER CORDS

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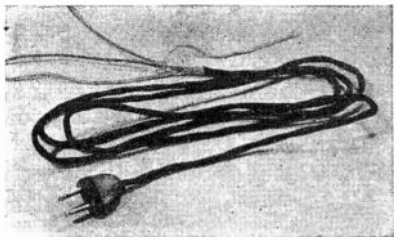

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PC*290	25 to 31.5 volts	290 ohms
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PC*220	45 to 52 volts	220 ohms
PC*180	53 to 61 volts	160 ohms
PC*135	69 to 75.2 volts	135 ohms

LIST PRICE — $0.55

XC-320 220 to 110 volts 320 ohms

LIST PRICE — $1.50

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World Radio History

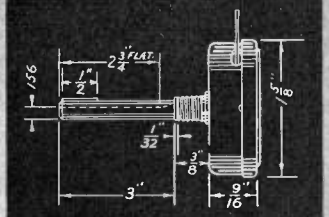
Approved PRECISION PRODUCTS

P. R. MALLORY & CO. INC.
MALLORY YAXLEY

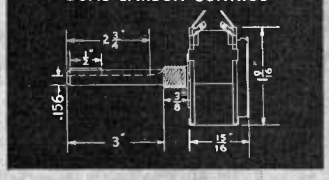
SINGLE CARBON CONTROL

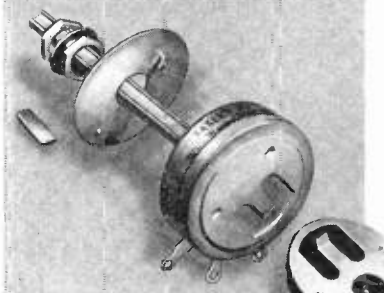
DUAL CARBON CONTROL

SINGLE CARBON CONTROL



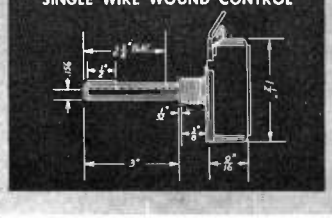
DUAL CARBON CONTROL





SINGLE WIRE WOUND CONTROL

SINGLE WIRE WOUND CONTROL



Standard Replacement Controls

- Mallory-Yaxley control design incorporates exclusive mechanical features, which have added more to the convenience of the service man than any other replacement control on the market. The many universal features are directly responsible for minimizing the time required for replacing controls in receivers and providing additional profits for service men. Their use in any radio equipment insures the owner of long life and satisfactory performance.

All Mallory-Yaxley Standard (or large size) **Universal Controls**—both wire wound and carbon types—incorporate:

- Universal shaft and insert to fit all type knobs.
- Instantly attachable switches—no screws—no clamps to bend.
- Easily cut aluminum shaft—three inches long.
- Rugged assembly with dust-proof case completely enclosing control.
- High-quality plated finish to protect metal parts.
- Uniform characteristics—controls are held to rigid, detailed specifications and are manufactured to the same exacting specifications that are required by original equipment users.
- Permanently identified — a non-removable ink assures permanent identification for your convenience.

Mallory-Yaxley Silent Universal Carbon Controls have all of the above features that have made Yaxley famous. In addition, they incorporate other features that contribute to their silent and stable performance, such as:

- "The Roller That Does Not Roll." This exclusive Yaxley contact design maintains a constantly dust-free surface element and is further protected by Yaxley's dust-proof shield.
- Pure Silver Short-outs. Used for clean-cut, quick, positive switch action.
- Silver-to-Silver Contacts. Used between all moving current-carrying parts.
- Perfect Contact. Mallory-Yaxley controls have perfect contact between moving arm and carbon element. A true and uniform area of contact is effected on the element at all points.

Mallory-Yaxley Silent Universal Carbon Controls also embody:

- Perfect, smooth taper controlled by geometric design; no sudden changes in resistance value. Tapers are feather-edged to insure electrical smoothness.
- Highest current-carrying capacity of any carbon control.
- Low humidity coefficient permits satisfactory operation in all climates.
- Long Life—25,000 to 50,000 and over complete cycles, borne out in over four years' testing.

Mallory-Yaxley "Universal" application answers every service need. See page 7 for Yaxley precision-engineered volume control accessories that provide extreme flexibility and quick, sure, satisfactory replacements.

Explanation of Tapers

Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire wound type. Should always be used in shunt circuits as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.

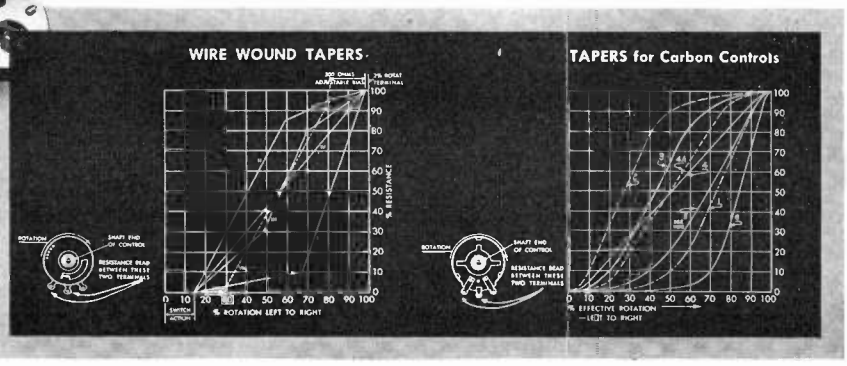
Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage is proportional to the degree of rotation.

Taper Number 4A is a modification of the regular linear taper Number 4.

Taper Number 5 is a general outline of the taper used on a large number of the tapped controls. However, the actual curve varies due to the location of the tap. In general, it is identified by 20% total resistance at 50% rotation.

Taper Number 6 is a special variation of the Number 1 taper for use where control is tapped at a low value.

Taper Number 7 is made only in the wire wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



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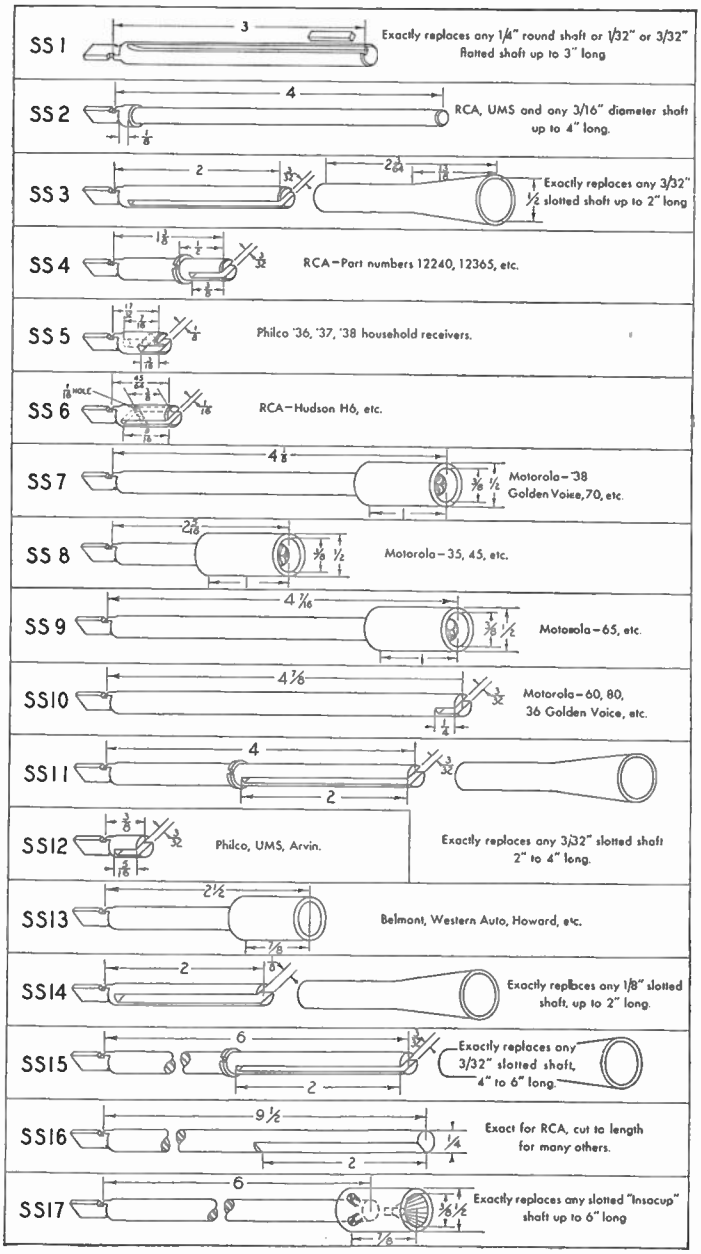
World Radio History

Midget Replacement Controls and Accessories

Universal and Special Plug-In Shafts for Use with Types UM and TM Controls

● The purchaser of each Mallory-Yaxley Type UM or TM control at the complete price indicated on the carton is entitled to the selection of the desired Plug-In Shaft for the intended application. At the right is a complete list of a selection that will serve any special shaft length, size, plain or insulated coupling required to replace original equipment.

Extra Type SS shafts are available at 25 cents list each.



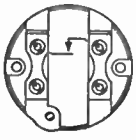
Midget Controls with Fixed Shafts, Type MR

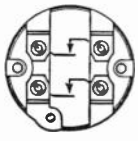
Resistance Value	Taper	Catalog Number	List Price
5M	4A	MR14	$1.00
10M	1	MR18	1.00
10M	2	MR19	1.00
10M	4	MR20	1.00
15M	1	MR21	1.00
15M	2	MR22	1.00
20M	1	MR24	1.00
25M	2	MR28	1.00
25M	4	MR29	1.00
50M	1	MR33	1.00
50M	2	MR34	1.00
50M	4	MR35	1.00
75M	1	MR36	1.00
75M	2	MR37	1.00
100M	1	MR39	1.00
100M	2	MR40	1.00
100M	4	MR41	1.00
150M	1	MR42	1.00
250M	1	MR44	1.00
250M	2	MR45	1.00
500M	1	MR48	1.00
500M	4	MR50	1.00
750M	1	MR51	1.00
1 Meg.	1	MR53	1.00
2 Meg.	1	MR55	1.00
3 Meg.	1	MR57	1.00

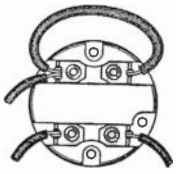
Midget Attachable Switches

● Where necessary, UM, TM and MR controls are designed with switch cover and cam to accommodate attachable switches. A complete line of exclusive Mallory-Yaxley Midget Control Switches are available in the following types and circuits:

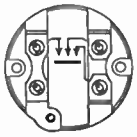
Cat. No.	Circuit Arrangement	List Price
M-26	Single-Pole, Single-Throw.....	$0.50
M-27	Double-Pole, Single-Throw.....	.60
M-28	Single-Pole, Double-Throw.....	.60
M-23	Three-Pole, Single-Throw, Shorting	.60
M-24	Four-Pole, Single-Throw, Shorting	.60

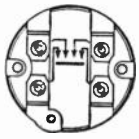

M-26


M-27


M-27 (3 Pole, Closing)

M-28


M-23


M-24

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World Radio History

Approved PRECISION PRODUCTS

P. R. MALLORY & CO. INC.
MALLORY YAXLEY

Midget Replacement Controls

● Now—your problem of how to make a wide range of volume control replacements quickly and economically is definitely solved.

Through the development of the new Mallory-Yaxley Midget Volume Controls (Types UM and TM) and the introduction of the new Mallory-Yaxley Plug-In Shaft (Type SS), Mallory-Yaxley offers a great advance in volume control servicing.

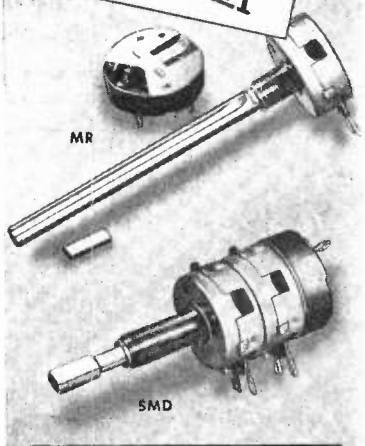
Mallory-Yaxley Midget Volume Controls have flexibility—adaptability—universality—and attachable switches where necessary. But—overshadowing all these advantages is the Mallory-Yaxley Plug-In Shaft!

A single set of Mallory-Yaxley Plug-In Shafts multiplies the usefulness of any one of these controls by 17—or more.

For example—10 new Mallory-Yaxley Midget Controls plus 17 shafts give you the servicing equality of 170 ordinary Exact Replacement Controls with fixed shafts. Now—let's go a step further! Multiply seventeen or more exact replacement possibilities by the fifty-six known basic type controls. To cover such a service range with fixed shafts (so-called "specials") would mean you would need one each of 952 individual controls. Mallory-Yaxley Midget Volume Controls with Plug-In Shafts provide the same service stock with only 56 controls and 17 Plug-In Shafts.

The line of MR Midget Controls will be found satisfactory for many applications where special shafts and couplings are unnecessary.

For complete details see your distributor or the Mallory-Yaxley Radio Service Encyclopedia, 2nd Edition, for correct replacement control recommendations by make of set and model number of over 17,000 receivers.



Midget Tapped Controls, Type TM

Complete with selection of SS Shaft desired. In placing order, be sure to specify the Mallory-Yaxley SS Type Plug-In Shaft desired. For example: "TM229 with SS4."

Res. Value	Tap at	Taper	Catalog Number	List Price Less Shaft	List Price With Shaft
250M	50M	5	TM219*	$1.25	$1.50
250M	50M	5	TM220	1.25	1.50
250M	125M	5	TM221	1.25	1.50
250M	125M	5	TM222*	1.25	1.50
250M	75M	5	TM225	1.25	1.50
500M	5M	6	TM228	1.25	1.50
500M	125M	5	TM229*	1.25	1.50
500M	125M	5	TM230	1.25	1.50
500M	250M	5	TM231	1.25	1.50
1 Meg.	250M	5	TM232*	1.25	1.50
1 Meg.	200M	5	TM240	1.25	1.50
1 Meg.	200M	5	TM241*	1.25	1.50
1 Meg.	450M	5	TM242*	1.25	1.50
2 Meg.	500M	5	TM243	1.25	1.50
2 Meg.	5M	6	TM245	1.25	1.50
2 Meg.	25M	5	TM246	1.25	1.50
2 Meg.	50M	5	TM247	1.25	1.50
2 Meg.	200M	5	TM248	1.25	1.50
2 Meg.	500M	5	TM249	1.25	1.50
2 Meg.	1 Meg.	5	TM251	1.25	1.50
2 Meg.	1 Meg.	5	TM252*	1.25	1.50
2 Meg.	5 & 500M	Spec.	TM253	1.25	1.50
3 Meg.	1 Meg.	4	TM257	1.25	1.50

Special Midget Dual Controls with Fixed Concentric Shaft and Switch

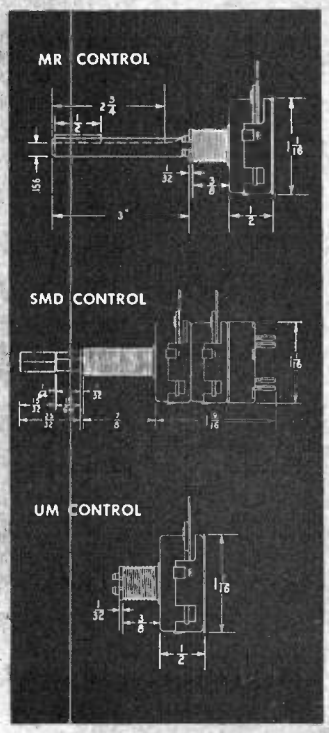
Res. Front	Res. Rear	Tap at	Catalog Number	List Price
2 Meg.	2 Meg.		SMD500	$3.00
2 Meg.	1 Meg.	Front 500M	SMD501	3.00
250M	1 Meg.	Rear 250M	SMD502	3.00

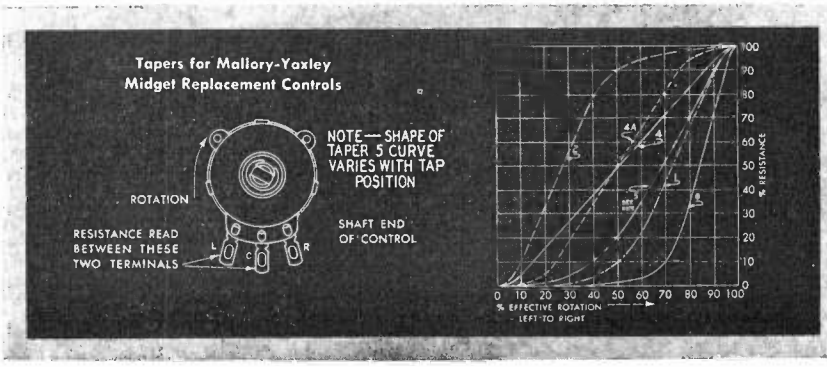
Midget-Single Universal Controls Type UM

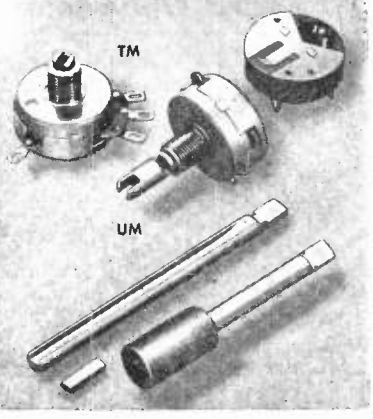
Complete with selection of SS Shaft desired. In placing order, be sure to specify the Mallory-Yaxley SS Type Plug-In Shaft desired. For example: "UM122 with SS4."

Res. Value	Taper	Catalog Number	List Price Less Shaft	List Price With Shaft
5M	4A	UM114	$1.25	$1.50
10M	1	UM118	1.25	1.50
10M	2	UM119	1.25	1.50
10M	4	UM120	1.25	1.50
15M	1	UM121	1.25	1.50
15M	2	UM122	1.25	1.50
20M	1	UM124	1.25	1.50
25M	2	UM128	1.25	1.50
25M	4	UM129	1.25	1.50
50M	1	UM133	1.25	1.50
50M	2	UM134	1.25	1.50
50M	4	UM135	1.25	1.50
75M	1	UM137	1.25	1.50
75M	2	UM138	1.25	1.50
100M	1	UM140	1.25	1.50
100M	2	UM141	1.25	1.50
100M	4	UM142	1.25	1.50
100M	1	UM143*	1.25	1.50
150M	1	UM144	1.25	1.50
250M	1	UM147	1.25	1.50
250M	4	UM149	1.25	1.50
250M	1	UM150*	1.25	1.50
350M	1	UM151	1.25	1.50
500M	1	UM154	1.25	1.50
500M	4	UM156	1.25	1.50
500M	1	UM157*	1.25	1.50
750M	1	UM158	1.25	1.50
1 Meg.	1	UM161	1.25	1.50
1 Meg.	1	UM162*	1.25	1.50
2 Meg.	1	UM163	1.25	1.50
3 Meg.	1	UM165	1.25	1.50
100M	Spec.	UM180‡	1.25	1.50
2 Meg.	Spec.	UM181‡	1.25	1.50

*Clutch type controls—no provision for attachable switch. ‡Right hand switch action.







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World Radio History

P. R. MALLORY & CO. INC.
MALLORY YAXLEY

Approved PRECISION PRODUCTS

Standard Universal Single Controls

Prices do not include Switch or Accessories. Two No. 232 Nuts, one No. 225 Washer and a Terminal are included.

Ohms Resistance	Taper	General Use	Type Element	Catalog Number	List Price
2	IV	Filament	W.W.	Q	$1.00
6	IV	Filament	W.W.	R	1.00
10	IV	Filament	W.W.	S	1.00
20	IV	Filament	W.W.	T	1.00
30	IV	Filament	W.W.	U	1.00
60	IV	Filament	W.W.	V	1.00
100	IV	Misc.	W.W.	W	1.00
200	IV	Misc.	W.W.	X	1.00
400	IV	Misc.	W.W.	A400P	1.00
500	I	Ant. Shunt	W.W.	A	1.00
550	IV	Bias	W.W.	A550P	1.00
1M	IV	Voltage Divider (Bias)	W.W.	A1MP	1.00
1M	I	Ant. or Pri. Shunt	W.W.	B	1.00
1M	II	Bias	W.W.	UC500	1.00
2M	IV	Voltage Divider (Bias)	W.W.	*A2MP	1.00
2M	I	Ant. or Pri. Shunt	W.W.	*C12	1.00
2M	II	Bias	W.W.	*C	1.00
3M	IV	Voltage Divider	W.W.	*A3MP	1.00
3M	I	Ant. or Pri. Shunt	W.W.	*D12	1.00
3M	II	Bias	W.W.	*D	1.00
3M	VII	Ant.-Bias	W.W.	*D7	1.00
5M	IV	Voltage Divider	W.W.	*A5MP	1.00
5M	IV	Voltage Divider (Bias, Screen)	Carbon	Y5MP	1.00
5M	I	Ant. Shunt or Ant.-Bias	Carbon	*E12	1.00
5M	II	Bias	W.W.	*E	1.00
5M	VII	Ant.-Bias	W.W.	*E7	1.00
7500	I	Ant. Shunt or Ant. Bias	Carbon	*F12	1.00
7500	II	Bias	W.W.	*F	1.00
7500	VII	Ant.-Bias	W.W.	*F7	1.00
10M	IV	Voltage Divider (Bias, Screen)	W.W.	*A10MP	1.00
10M	IV	Voltage Divider (Bias, Screen)	Carbon	Y10MP	1.00
10M	I	Ant. Shunt or Ant.-Bias, Tone	Carbon	*G12	1.00
10M	II	Bias	W.W.	*G	1.00
10M	II	Bias	Carbon	UC501	1.00
10M	VII	Ant.-Bias	W.W.	*G7	1.00
15M	I	Ant. Shunt or Ant.-Bias, Tone	Carbon	*H12	1.00
15M	II	Bias	W.W.	*H	$1.00
15M	VII	Ant.-Bias	W.W.	*H7	1.00
20M	IV	Voltage Divider (Bias)	W.W.	*A20MP	1.00
20M	I	Ant. Shunt, Ant.-Bias, Screen	Carbon	*Y	1.00
25M	IV	Voltage Divider (Screen)	Carbon	Y25MP	1.00
25M	II	Bias	Carbon	*J	1.00
50M	IV	Batt. Bias, Screen	Carbon	Y50MP	1.00
50M	I	Screen Voltage, Tone	Carbon	K12	1.00
50M	II	Bias	Carbon	*K	1.00
75M	I	Screen Voltage, Tone	Carbon	Z12	1.00
75M	II	Bias	Carbon	*Z	1.00
100M	IV	Voltage Divider (Bias, Screen)	Carbon	Y100MP	1.00
100M	I	RF or AF Shunt, Screen, Tone	Carbon	L	1.00
100M	II	Bias or Ant.-Bias (AC-DC)	Carbon	*UC510	1.00
150M	I	Tone, RF or AF Shunt	Carbon	UC502	1.00
200M	IV	Voltage Divider, Misc.	Carbon	Y200MP	1.00
250M	IV	Voltage Divider, Misc.	Carbon	Y250MP	1.00
250M	I	Audio Tone, RF or AF Shunt	Carbon	M	1.00
250M	I	Audio (Automobile)	Carbon	†UC511	1.00
250M	II	Bias, Ant.-Bias (AC-DC)	Carbon	*UC509	1.00
500M	IV	Voltage Divider, Misc.	Carbon	Y500MP	1.00
500M	I	Audio, RF or AF Shunt	Carbon	N	1.00
500M	I	Audio (Automobile)	Carbon	†UC512	1.00
500M	I	Audio (Automobile)	Carbon	††UC515	1.00
500M	II	Bias, Ant.-Bias, Bias-Audio	Carbon	UC513	1.00
750M	I	Tone, Audio, Audio Shunt	Carbon	UC503	1.00
1 Meg	IV	Misc.	Carbon	Y1000MP	1.00
1 Meg.	I	Audio, Audio Shunt, Tone	Carbon	O	1.00
1 Meg.	I	Audio (Automobile)	Carbon	†UC514	1.00
2 Meg.	I	Audio, Audio Shunt, Tone	Carbon	P	1.00
3 Meg.	I	Audio Shunt, Tone	Carbon	UC504	1.00
4 Meg.	I	Tone	Carbon	UC505	1.00
5 Meg.	I	Audio Shunt	Carbon	UC506	1.00
5 Meg.	II	Series Screen Control	Carbon	UC507	1.00
9 Meg.	I	Audio Shunt	Carbon	UC508	1.00

*Wire wound controls have exclusive Yaxley adjustable bias feature. Carbon controls have external adjustable resistor. †Has Slotted Shaft for Automobile Receivers. ††Has long, adjustable Slotted Shaft for Automobile Receivers and Special Shaft Coupling. W.W.—Wire Wound Element.

Standard Universal Dual Controls

Prices do not include Switch and Accessories. Two No. 232 Nuts, one No. 225 Washer and a Terminal are included.

Ohms Resistance		Taper		Type Element		General Use	Cat. No.	List Price
Front	Rear	Front	Rear	Front	Rear			
2M	5M	I	I	W.W.	W.W.	Ant. Shunt and Bias	CE	$2.50
10M	5M	VII	IV	W.W.	W.W.	Ant. Shunt Bias or Screen	*GE	2.50
10M	10M	VII	IV	W.W.	W.W.	Ant. Shunt Bias or Screen	GG	2.50
10M	50M	I	IV	Carbon	Carbon	Ant. Shunt Bias or Screen	GK	2.50
50M	50M	IV	IV	Carbon	Carbon	Grid Shunt and Cathode Control	†KK	2.50
100M	100M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	LL	$2.50
100M	250M	I	I	Carbon	Carbon	Audio Shunt, Tone, Screen or RF Shunt	LM	2.50
250M	250M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	MM	2.50
250M	500M	I	I	Carbon	Carbon	Audio Shunt and Tone Compensation	MN	2.50
500M	500M	I	I	Carbon	Carbon	Audio Shunt in Push Pull	NN	2.50

*Formerly DRP192 †See DRP308

Standard Universal Tapped (TRP) Controls

Prices do not include Switch or Accessories. Two No. 232 Nuts, one No. 225 Washer and a Terminal are included.

Catalog Number	Total Ohms Resistance	Tapped at Ohms	Used As	List Price
TRP600	6M	2500	Vol.	$1.50
TRP601	30M	6M	Vol.	1.50
TRP602	63M	3M	Vol.	1.50
TRP603	250M	125M	Vol.	1.50
TRP604	350M	25M	Phono. Vol.	1.50
TRP605	350M	75M	Vol.	1.50
TRP606	500M	100M	Phono. Vol.	1.50
TRP607	500M	250M	Vol.	1.50
TRP608	1 Meg.	200M	Vol.	1.50
TRP609	1 Meg.	500M	Vol.	1.50
TRP610	1 Meg.	20M	Phono. Vol.	1.50
TRP611	1 Meg.	170M	Vol.	1.50
TRP612	2 Meg.	25M	Vol.	$1.50
TRP613	2 Meg.	450M	Vol.	1.50
TRP614	350M	75M	Vol.	1.50
TRP615	3 Meg.	1 Meg.	Vol.	1.50
TRP616	500M	50M	Vol.	1.50
TRP617	60M	10M	Vol.	1.50
TRP618	2 Meg.	200M	Vol.	1.50
TRP619	500M	100M 300M	Vol.	1.50
TRP620	2 Meg.	1 Meg.	Vol.	1.50
TRP621*	2½ Meg.	250M 500M	Vol. Phono.	1.50
TRP622	44M	7M 14M	Vol.	1.50
TRP623	250M	50M	Vol.	1.50
TRP624	2½ Meg.	250M 500M	Vol. Phono.	1.50

*No provision for switch; where switch is desired use TRP624

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World Radio History

Approved PRECISION PRODUCTS

P. R. MALLORY & CO. INC. MALLORY YAXLEY

Standard Special Single (SRP) Controls

Prices do not include Switch or Accessories. Some Controls have Special Nuts and Washers where required. Minimum of One No. 232 Nut and One No. 225 Washer included.

Catalog Number	Ohms Resistance	Type Element	Used As	List Price
SRP133	2M	Carbon	Vol.	$1.50
SRP134	4500	W.W.	Vol., Sen	1.50
SRP138	450	W.W.	Vol.	1.50
SRP139	550	W.W.	Vol.	1.50
SRP141	1200	W.W.	Vol.	1.50
SRP142	2900	W.W.	Vol.	1.50
SRP144	2M	Carbon	Vol.	1.50
SRP145	2M	Carbon	Vol.	1.50
SRP150	50M	Carbon	Vol.	1.50
SRP152	60	W.W.	Phono., Vol.	1.50
SRP153	13M	W.W.	Vol.	1.50
SRP154	50M	Carbon	Vol.	1.50
SRP160	3200	Carbon	Equal	1.50
SRP170	75M	Carbon	Vol.	1.50
SRP179	125M	Carbon	Vol.	1.50
SRP185	1500	Carbon	Vol.	1.50
SRP188	32M	Carbon	Vol.	1.50
SRP213	250M	Carbon	Vol.	1.50
SRP216	500M	Carbon	Vol.	1.50
SRP223	1M	W.W.	Vol.	1.50
SRP239	450	W.W. Strip	Vol.	.50
SRP241	6M	W.W. Strip	Vol.	.50
SRP245	32M	Carbon	Vol.	1.50
SRP249	20M	W.W.		1.50
SRP251	250M	Carbon	Vol.	1.50
SRP252	500M	Carbon	Vol.	1.50
SRP253	400	W.W.	Hum	1.50
SRP254	3500	W.W.	Vol.	1.50
SRP255	15M	W.W.	Vol.	1.50
SRP256	10M	Carbon	Vol.	1.50
SRP257	3M	W.W.	Vol.	1.50
SRP258	15M	Carbon	Vol.	1.50
SRP259	50M	Carbon	Phono.	1.50
SRP260	1M	W.W.	Vol.	1.50
SRP261	100M	Carbon	Vol.	$1.50
SRP262	1500	W.W.	Vol.	1.50
SRP263	32M	Carbon	Vol., Tone	1.50
SRP264	650	W.W.	Vol.	1.50
SRP265	200	W.W.	Hum	1.50
SRP266	600	W.W.	Hum	1.50
SRP267	8M	W.W.	Tone Beam	1.50
SRP268	15	W.W.	Vol.	1.50
SRP269	10M	Carbon	Vol.	1.50
SRP271	150	W.W.	Vol.	1.50
SRP272	300	W.W.	Vol.	1.50
SRP273	500M	Carbon	Vol.	*2.00
SRP274	10M	W.W.	Vol.	1.50
SRP275	500M	Carbon	Vol.	1.50
SRP276	3M	Carbon	Regen.	1.50
SRP277	2M	Carbon	Vol.	1.50
SRP278	500M	Carbon	Vol.	1.50
SRP279	50M	Carbon	Vol.	1.50
SRP280	500M	Carbon	Vol.	*2.00
SRP281	500M	Carbon	Vol.	1.50
SRP282	350M	Carbon	Vol.	1.50
SRP283	2500	W.W.	Vol.	1.50
SRP284†	100M	Carbon	Vol., Tone	1.50
SRP285†	500M	Carbon	Vol., Tone	1.50
SRP286†	250M	Carbon	Vol., Tone	1.50
SRP287†	5M	Carbon	Vol., Tone	1.50
SRP288	100M	Carbon	Vol., Tone	1.50
SRP900	20M	Carbon	Vol.	1.50
SRP901	10M	Carbon	Vol.	1.50
SRP960	800	W.W.	Vol.	1.50
SRP961	10M	Carbon	Vol.	1.50
SRP962	250M	Carbon	Vol.	1.50

*Price includes Switch. † Right Hand Switch Action.

Standard Special Dual (DRP) Controls

Prices do not include Switch or Accessories. Some Controls have Special Nuts and Washers where required. Minimum of One No. 232 Nut and One No. 225 Washer included.

Catalog Number	Ohms Resistance		Type Element		Used As	List Price
	Front	Rear	Front	Rear		
DRP114	250	5M	W.W.	W.W.	Vol.	$2.50
DRP115	3800	3800	Carbon	Carbon	Vol.	2.50
DRP116	25700	10000	W.W.	W.W.	Vol.	2.50
DRP117	500	2500	W.W.	W.W.	Vol.	2.50
DRP119	3M	10M	W.W.	W.W.	Vol.	2.50
DRP122	645	10M	W.W.	W.W.	Vol.	2.50
DRP169	7500	10M	W.W.	W.W.	Vol.	2.50
DRP221	10M	100M	Carbon	Carbon	Vol.	2.50
DRP222	75M	32M	Carbon	Carbon	Vol.	2.50
DRP232	3 Meg.	3 Meg.	Carbon	Carbon	Vol.	2.50
DRP239	25M	25M	Carbon	Carbon	Vol.	2.50
DRP240	250M	10M	Carbon	Carbon	Vol.	2.50
DRP241	5M	150M	Carbon	Carbon	Vol.	2.50
DRP242	10M	500M	Carbon	Carbon	Vol.	2.50
DRP243	3M	750M	Carbon	Carbon	Vol.	2.50
DRP244	25M	6M	Carbon	Carbon	Vol.	2.50
DRP245	1 Meg.	3 Meg.	Carbon	Carbon	Vol.	2.50
DRP246	32M	50M	Carbon	Carbon	Vol.	2.50
DRP250	50M	1M	Carbon	Carbon	Vol.	2.50
DRP301	5M	2500	Carbon	W.W.	Vol.	$2.50
DRP302	100M	250M	Carbon	Carbon	Vol.	2.50
DRP303	2500	100M	Carbon	Carbon	Vol.	2.50
DRP304	1 Meg.	3 Meg.	Carbon	Carbon	Vol.	2.50
DRP305	25M	25M	Carbon	Carbon	Vol.	2.50
DRP306	5M	10M	W.W.	Carbon	Vol.	2.50
DRP307	3M	12M	W.W.	Carbon	Vol.	2.50
DRP308	50M	50M	Carbon	Carbon	Vol.	2.50
DRP309	12M	65M	Carbon	Carbon	Vol.	2.50
DRP310	25M	25M	Carbon	Carbon	Vol.	2.50
DRP311	150M	250M tapped 160M	Carbon	Carbon	Vol.	2.50
DRP312	75M	500M	Carbon	Carbon	Vol.	2.50
DRP313	1M	500M	Carbon	Carbon	Vol.	2.50
DRP314	500M	2500	Carbon	Carbon	Vol.	2.50
DRP315	2 Meg.	2500	Carbon	Carbon	Vol.	2.50
DRP316	200M	1M	Carbon	Carbon	Supp.	2.50
DRP317	500M	1M	Carbon	Carbon	Vol.	2.50

Standard Universal Hum Controls

Prices do not include Switch or Accessories. One No. 232 Nut included.

Ohms Resistance	General Use	Type Element	Catalog Number	List Price
6	Hum	W.W.	HU6	$1.00
10	Hum	W.W.	HU10	1.00
20	Hum	W.W.	HU20	1.00
30	Hum	W.W.	HU30	1.00
50	Hum	W.W.	HU50	$1.00
75	Hum	W.W.	HU75	1.00
100	Hum	W.W.	HU100	1.00
200	Hum	W.W.	HU200	1.00

Etched Dial Plates for Controls, Rheostats and Potentiometers

Marking	For Type of Control	Diameter	Cat. No.	List Price
0 to 10	For all Mallory-Yaxley Standard Silent Carbon Controls with switch type cover	2¼"	398	$0.25
0 to 10	For all Mallory-Yaxley Standard Silent Carbon Controls with plain cover	2¼"	397	.25
0 to 10	For all Mallory-Yaxley Standard Wire Wound Controls with switch type cover	2¼"	396	.25
0 to 10	For all Mallory-Yaxley Standard Wire Wound Controls with plain cover; also "M" Type Rheostats and Potentiometers	2¼"	395	.25
0 to 10	For all Mallory-Yaxley "C" Type Rheostats and Potentiometers	2¼"	393	.25
0 to 10	For all Mallory-Yaxley "E" Type Potentiometers	2¼"	399	.25
0 to 100	All Mallory-Yaxley Rheostats and Potentiometers	2¼"	369	.25
Increase Volume	All Mallory-Yaxley Rheostats and Potentiometers	1½"	391	.15

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World Radio History

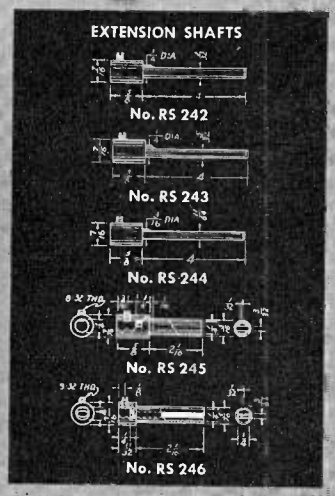
Approved PRECISION PRODUCTS

MALLORY YAXLEY

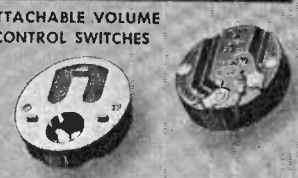
Standard Control Accessories

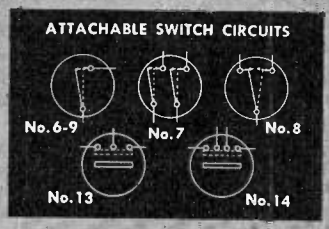
Complete and detailed instructions for the use of Mallory-Yaxley Universal Control Accessories and Switches are given in the Mallory-Yaxley Radio Service Encyclopedia.

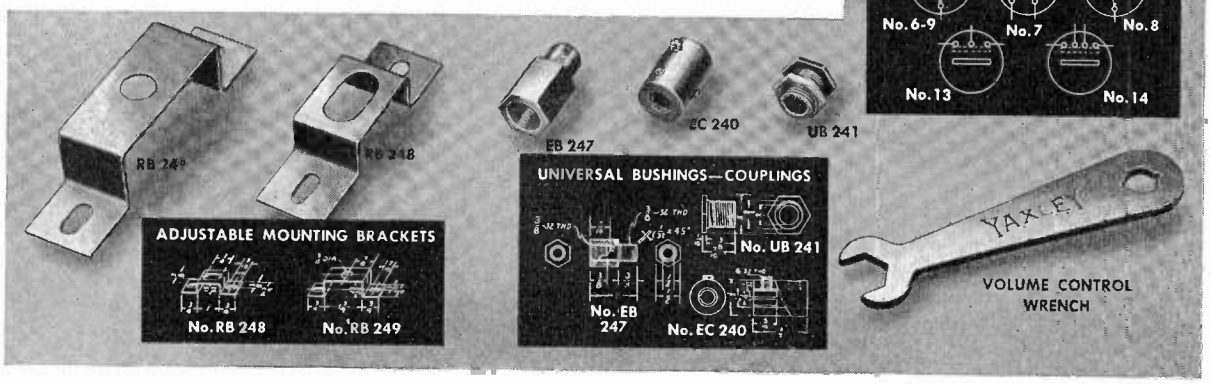
	Catalog Number	List Price
Attachable Volume Control Switches:		
Single-Pole—Single-Throw	6-9	$0.50
Double-Pole—Single-Throw	7	.60
Single-Pole—Double-Throw	8	.60
Three-Pole—Single-Throw Shorting	13	.60
Four-Pole—Single-Throw Shorting	14	.60
Universal Extension Shafts:		
4″ long x 1/4″ dia. x 1/32″ flat	RS242*	.30 ea.
4″ long x 1/4″ dia. x 3/32″ flat	RS243*	.30 ea.
4″ long x 3/16″ dia. x 1/64″ flat	RS244*	.30 ea.
2″ long x 1/4″ dia. with 3/32″ slot (Enclosed in tight-fitting tube) For adapting Universal Controls to automobile receivers when slotted shaft is needed.	RS245*	.35 ea.
2″ long x 1/4″ wide x 3/32″ Thick (Tongue shape and fitted with tube) For adapting Universal Controls to automobile receivers where tongue-shaped shaft is needed.	RS246*	.35 ea.
	*Packed 5 to Envelope	
Universal Flexible Coupling Shafts:		
For Universal replacement of all flexible wire shafts, coupling to 1/4″ solid shafts	FS250	.60
Shaft Coupling has 7/32″ hole, 1/2″ deep, with transverse pin, and is for use (with the correct Mallory-Yaxley control) as a replacement for Philco Models 805, 806, 808, 809 and PHD and PHXD, Studebaker AC266, Pierce-Arrow MT-3, Reo RT-3, etc.	FS251	.60
Shaft Coupling has 5/32″ hole, approximately 1/2″ deep, and has 2 set screws opposite each other. It is used as a replacement for Philco Model D, Nash AC-989 (Code 122)	FS252	.60
Shaft Coupling has 1/4″ dia. hole, 1/2″ deep, equipped with 2 screws at 90 degrees. This is to be used with the correct Mallory-Yaxley Control as a replacement for Chevrolet No. 364441	FS253	.60
Universal Combination Extension Shaft Coupling and Reducer:		
Will couple two 1/4″ shafts or one 1/4″ shaft and one 3/16″ shaft	EC240	.25
Universal Extension Bushing:		
Designed to screw on the present bushing of Mallory-Yaxley controls and switches, so that the body of the control or switch will be held 5/8″ away from the mounting surface. For example, it is used with the correct Yaxley Universal Control to service Philco Models 28, 29, 45 and 45C	EB247	.20
Universal Bushing and Nut:		
Designed to accommodate 1/4″ shaft wherever a panel bushing is desired. Includes one No. 232 nut	UB241	.75 for 10
	Packed 10 in Envelope	
Hexagon Shoulder Mounting Nuts:		
For 1/8″ Panels	255	.10
For 1/2″ Panels	A11260-12	.15
For 3/4″ Panels	A11260-2	.20
Volume Control Wrench:		
For all standard Volume Control Hexagon Nuts	178	.20
Adjustable Mounting Brackets:		
1 3/4″ Mounting Centers	RB248†	.20 ea.
2 1/2″ Mounting Centers	RB249†	.20 ea.
	†Packed 6 to Box	



ATTACHABLE VOLUME CONTROL SWITCHES







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World Radio History

RESISTORS OHMITE RHEOSTATS

"Brown Devil" Fixed Resistors and "DIVIDOHM" Adjustable Resistors

VITREOUS ENAMELED — 10 WATT — 1¾" x ⅜"

Ohms	Mills	Ohms	Mills	Ohms	Mills	Ohms	Mills	Ohms	Mills
1	3150	100	315	800	111	3500	51	12500	20
2	2230	150	258	900	105	4000	47	15000	18
3	1825	200	223	1000	100	4500	44	17500	17
5	1415	250	200	1200	91	5000	40	18000	16
7.5	1155	300	182	1250	89	6000	36	20000	15
10	1000	350	169	1500	79	7000	83	22500	15
15	815	400	158	1750	74	7500	32	25000	14
20	707	500	141	2000	69	8000	31	30000	8
25	630	600	129	2250	64	8500	30	40000	7
50	447	700	119	2500	61	10000	24	45000	6
75	365	750	115	3000	56	12000	20	50000	6

List Price, Brown Devils (1 to 50,000 Ohms).....**$0.40**
List Price, Dividohms (1 to 10,000 Ohms only)..... **.60**

20 WATT — 2" x ½"

Ohms	Mils	Volts	Ohms	Mils	Volts	Ohms	Mils	Volts
30,000	21	635	55,000	11	550	80,000	8	693
35,000	18	648	60,000	10	600	85,000	7	635
40,000	17	694	65,000	10	650	90,000	6.5	600
45,000	13	585	70,000	9	650	95,000	6	600
50,000	11	550	75,000	9	670	100,000	6	633
List Price....$0.75			**List Price....$1.00**			**List Price....$1.00**		

"Red Devil" Wire-Wound Resistors

Only unit capable of withstanding heat test. Porcelain core covered with cement to prevent injury. All units have 1½" tinned wire leads. 10-watt 1¾" long:

10-Watt Rating

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
50	447	700	119	2250	64	8000	31
75	365	750	115	2500	61	8500	30
100	315	800	111	3000	56	10000	24
150	258	900	105	3500	51	12000	20
200	223	1000	100	4000	47	12500	20
250	200	1200	91	4500	44	15000	18
300	182	1250	89	5000	40	17500	17
350	169	1500	79	6000	36	18000	16
400	158	1750	74	7000	33	20000	15
500	141	2000	69	7500	32	22500	15
600	129					25000	14

List Price.....**$0.40**

OHMITE "WIRE WATT" 1-Watt Wire Wound Resistors

Wire wound over core of special insulating material. Ends of wire mechanically locked and then brazed to terminal lugs to insure freedom from noise. 5% accurate. 1½" tinned wire leads. RMA color coded. Size 1¾" x 1¼".

Ohms	Mils.	Volts	Ohms	Mils.	Volts
100	100	10	2250	21	46
150	81	12	2500	20	50
200	70	14	3000	18	54
250	63	15	3500	16	56
300	67	17	4500	14	63
400	50	20	5000	14	70
500	44	22	6000	12	72
600	40	24	7000	11	77
700	37	26	7500	11	82
750	36	27	8000	11	88
800	35	28	9000	10	90
1000	31	31	10000	10	100
1100	30	33	12500	9	110
1200	28	33	15000	8	120
1250	28	35	17500	7	122
1500	25	37	20000	7	140
1750	23	40	22500	6	135
2000	22	44	25000	6	150

List Price, Each.....**$0.25**

OHMITE BAND-CHANGING SWITCH

Band-switching is the modern method of changing radio transmitter frequency. It substitutes a quick, convenient turn of a knob for the cumbersome, old-fashioned coil-changing method.

List Price, Complete with Knob and Mounting Bracket.....**$3.00**

OHMITE VITREOUS ENAMELED FIXED RESISTORS

Standard wire-wound, vitreous enameled fixed resistors These resistors are of the very finest construction obtainable. All units are furnished with mounting brackets.

DIVIDOHM VITREOUS ENAMELED ADJUSTABLE RESISTORS

Ideal replacement voltage dividers. Adjustable lugs, which can be locked in place, can be furnished All units are furnished with mounting brackets.

25 WATTS
Size 2" x ⅝".
Mounting centers 2¾".

Fixed Res. List	Res. Ohms.	Max. Cur. Mills	Var. Res. List
....	1	5000	**$0.85**
....	2	3540	**.85**
....	3	2890	**.85**
$0.75	5	2240	**.85**
....	7.5	1890	**.85**
.75	10	1580	**.85**
....	15	1290	**.85**
....	20	1140	**.85**
.75	25	1000	**.85**
.75	50	707	**.85**
.75	75	577	**.85**
.75	100	500	**.85**
.75	150	410	**.85**
.75	200	354	**.85**
....	300	289	**.85**
....	400	250	**.85**
.75	500	224	**.85**
.75	750	182	**.85**
.75	1000	158	**.85**
....	1250	141	**.85**
.75	1500	129	**.85**
.75	2000	112	**.85**
.75	2500	100	**.85**
.75	3000	91	**.85**
.75	3500	84	**.85**
.75	4000	79	**.85**
.75	5000	70	**.85**
.85	6000	64	**.95**
....	7000	60	**.95**
.85	7500	57	**.95**
....	8000	56	**.95**
....	9000	53	**.95**
.85	10000	50	**.95**
.85	12000	44	**.95**
.85	15000	34	**.95**
1.00	20000	26	**1.10**
1.00	25000	23	**1.10**

75 WATTS
Size 6" x ⅝".
Mounting centers 7".

	10	2730	**$1.75**
	15	2230	**1.75**
	25	1730	**1.75**
	50	1220	**1.75**
	100	865	**1.75**
	200	612	**1.75**
Furnished	300	500	**1.75**
in	400	424	**1.75**
Var.	500	387	**1.75**
Res.	750	316	**1.75**
Only	1000	274	**1.75**
	1250	245	**1.75**
	1500	223	**1.75**
	2000	193	**1.75**
	2500	173	**1.75**
	3000	158	**1.75**
	3500	146	**1.75**
	4000	137	**1.75**
	5000	122	**1.75**
	6000	112	**2.00**
	7000	103	**2.00**
	7500	100	**2.00**
	8000	98	**2.00**
	9000	92	**2.00**
	10000	86	**2.00**
	12000	79	**2.00**
	15000	70	**2.00**
	20000	61	**2.00**
	25000	55	**2.00**
	35000	47	**2.25**
	40000	43	**2.25**
	50000	39	**2.25**
	100000	27	**2.50**

50 WATTS
Size 4" x ⅝".
Mounting centers 4¾".

Fixed Res. List	Res. Ohms	Max. Cur. Mills	Var. Res. List
$1.10	5	3160	**$1.35**
1.10	10	2240	**1.35**
1.10	25	1420	**1.35**
1.10	50	1000	**1.35**
1.10	75	815	**1.35**
1.10	100	707	**1.35**
1.10	150	577	**1.35**
1.10	200	500	**1.35**
....	300	408	**1.35**
....	400	354	**1.35**
1.10	500	316	**1.35**
1.10	750	258	**1.35**
1.10	1000	224	**1.35**
....	1250	200	**1.35**
1.10	1500	183	**1.35**
1.10	2000	158	**1.35**
1.10	2500	142	**1.35**
1.10	3000	129	**1.35**
....	3500	120	**1.35**
1.10	5000	100	**1.35**
....	6000	91	**1.50**
....	7000	84	**1.50**
1.25	7500	81	**1.50**
1.25	8000	79	**1.50**
....	9000	74	**1.50**
1.25	10000	70	**1.50**
1.25	15000	57	**1.50**
1.25	20000	48	**1.50**
1.25	25000	43	**1.50**
....	30000	41	**1.70**
1.45	50000	25	**1.70**
1.45	100000	12	**2.00**

100 WATTS
Size 6½" x ⅞"
Mounting centers 7¼".

$1.50	100	1000	**$2.00**
1.50	500	445	**2.00**
1.50	1000	316	**2.00**
1.50	2500	200	**2.00**
1.50	5000	140	**2.00**
1.75	10000	100	**2.25**
1.75	15000	81	**2.25**
1.75	20000	70	**2.25**
1.75	25000	56	**2.25**
2.00	30000	51	**2.50**
2.00	50000	28	**2.50**
2.25	75000	16	**2.75**
2.50	100000	14	**2.75**

160 WATTS
Size 8½" x 1¼".
Mounting centers 9¼".

$2.00	100	1266	**$2.50**
2.00	500	566	**2.50**
2.00	1000	400	**2.50**
2.00	2500	253	**2.50**
2.00	5000	179	**2.50**
2.00	10000	126	**2.50**
2.40	15000	103	**2.90**
2.40	20000	89	**2.90**
2.40	25000	80	**2.90**
2.40	30000	73	**2.90**
2.40	50000	43	**2.90**
2.70	75000	27	**3.25**
2.70	100000	18	**3.25**

ADJUSTABLE LUGS

No.		List Price
0358	—For ⅝" dia. resist...	**$0.10**
1958	—For ⅞" dia. resist...	**.15**
2158	—For 1¼" dia. resist...	**.15**

For more complete information on OHMITE Products ask for Catalog No. 16A

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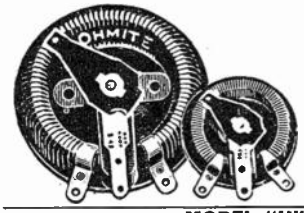
World Radio History

RESISTORS OHMITE RHEOSTATS



OHMITE VITREOUS ENAMELLED RHEOSTATS

Every particle of material in the rheostats is either porcelain or metal: there is nothing to smoke or char. All models have insulated shafts and provision to keep the units from turning. Wire is wound over a porcelain core which is fused to porcelain base by vitreous enamel. Contact shoe is of metal-impregnated carbon-graphite. Ratings are for open air use. A trouble-free unit of small size and high wattage rating. Ohmite rheostats are also available in Models N, R and U, rated at 300, 500 and 1000 watts respectively.

INSULATED SHAFTS AND BUSHINGS

MODEL "H"—25 Watt
Diameter 1½": depth behind panel 1½".

Stk. No.	Total Ohms Resist.	Max. Current Mils.	List Price	Stk. No.	Total Ohms Resist.	Max. Current Mils.	List Price
0140	1	5000	$4.50	0152	125	445	$4.00
0141	2	3450	4.00	0153	175	375	4.00
0142	3	2880	4.00	0154	250	315	4.00
0143	6	2040	4.00	0155	350	267	4.00
0144	8	1770	4.00	0156	500	222	4.00
0145	10	1580	4.00	0157	750	173	4.00
0146	15	1290	4.00	0158	1000	155	4.50
0147	25	1000	4.00	0159	1500	129	4.50
0148	35	845	4.00	0160	2500	100	4.50
0149	50	709	4.00	0161	3500	84	4.75
0150	75	575	4.00	0162	5000	70	4.75
0151	100	500	4.00				

MODEL "K"—100 Watt
Diameter 3⅛": depth behind panel 1¾".

Stk. No.	Total Ohms Resist.	Max. Current Mils.	List Price	Stk. No.	Total Ohms Resist.	Max. Current Mils.	List Price
0440	0.5	12500	$7.50	0452	200	707	$7.00
0441	1	10000	7.50	0453	300	575	7.00
0442	2	7070	7.50	0454	400	500	7.00
0443	3	5750	7.50	0455	500	445	7.00
0444	5	4450	7.00	0456	750	365	7.00
0445	7.5	3650	7.00	0457	1000	315	7.50
0446	10	3150	7.00	0458	1500	258	7.50
0447	16	2500	7.00	0459	2000	224	7.50
0448	25	2000	7.00	0460	2500	200	7.50
0449	50	1420	7.00	0461	5000	141	8.00
0450	75	1150	7.00	0462	7500	115	8.50
0451	100	1000	7.00	0463	10000	100	9.00

MODEL "J"—50 Watt
Diameter 2¼": depth behind panel 1¼".

Stock No.	Total Ohms Resist.	Max. Current Mils.	List Price	Stock No.	Total Ohms Resist.	Max. Current Mils.	List Price
0308	0.5	10000	$5.00	0321	150	575	$4.50
0309	1	7070	5.00	0322	225	470	4.50
0310	2	5000	5.00	0323	300	405	4.50
0311	4	3500	4.50	0324	500	315	4.50
0312	6	2880	4.50	0325	800	250	4.75
0313	8	2500	4.50	0326	1000	220	4.75
0314	12	2040	4.50	0327	1600	176	4.75
0315	16	1760	4.50	0328	2500	140	4.75
0316	22	1500	4.50	0329	3500	119	5.00
0317	35	1190	4.50	0330	5000	100	5.00
0318	50	1000	4.50	0331	8000	79	5.00
0319	80	790	4.50	0332	10000	70	5.00
0320	125	630	4.50				

MODEL "L"—150 Watt
Diameter 4": depth behind panel 1¾".

Stock No.	Total Ohms Resist.	Max. Current Mils.	List Price	Stock No.	Total Ohms Resist.	Max. Current Mils.	List Price
0524	0.5	15000	$9.50	0537	150	1000	$9.00
0525	1	12500	9.50	0538	200	865	9.00
0526	2	8650	9.50	0539	250	775	9.00
0527	3	7070	9.50	0540	350	655	9.00
0528	5	5480	9.50	0541	500	548	9.00
0529	7.5	4470	9.00	0542	750	447	9.50
0530	10	3880	9.00	0543	1250	346	9.50
0531	15	3163	9.00	0544	1800	288	10.00
0532	25	2450	9.00	0545	2250	259	10.00
0533	35	2070	9.00	0546	3000	224	10.00
0534	50	1735	9.00	0547	4500	182	10.50
0535	75	1415	9.00	0548	7500	141	11.00
0536	100	1225	9.00	0549	10000	122	12.00

OHMITE R. F. PLATE CHOKES

(1000 Milliamps.)

These solenoid chokes have been engineered so as to avoid either fundamental or harmonic resonations in the amateur bands. These four chokes have been designed to cover the six main radio amateur bands of 5, 10, 20, 40, 80, and 160 meters. Non-magnetic mounting brackets are furnished with the three larger sizes, and ample space has been allowed at the ends of the units to prevent flash-over to ground. For high-power operation it is recommended that the chokes be mounted on suitable stand-off insulators.

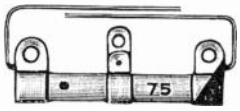
Stock No.	Amateur Band Meters	Micro-Henries	D C Ohms	Length overall	Diameter	List Price
Z-1	5	5.4	0.85	1¾"	5/16"	$0.25
Z-2	10 and 20	35	2	3"	11/16"	.65
Z-3	20 and 40	95	5	6"	11/16"	1.10
Z-4	20, 40, 80 and 160	220	9	6½"	⅞"	1.50

OHMITE POWER LINE CHOKES

These power line chokes, when used as a filter, in connection with two grounding condensers of 0.1 microfarad capacity each, serve two definite purposes. They prevent high-frequency currents from going out over the power line from such sources as radio transmitters, therapeutic machines, etc., to disturb nearby radio receiving sets. And they can be used on radio receiving sets to prevent high-frequency interference from coming into such sets over power lines and house lines. The small Z-20 choke is especially designed for this latter purpose. The special purpose of these power line chokes is for the prevention of interference from high-frequency currents. They are not recommended for use in suppressing currents of audio frequency

Stock No.	Micro-Henries	Current Rating (D. C.)	D. C. Ohms	Length overall	Tube Diam.	List Price
Z-20	13.5	5 Amperes	0.15	4"	⅝"	$1.50
Z-21	14	10 Amperes	0.07	6½"	¾"	2.50
Z-22	16.5	20 Amperes	0.045	8½"	1⅛"	3.60

OHMITE CENTER-TAPPED RESISTORS



Center-tapped resistors are usually used across radio tube filaments to provide an electrical center when the transformer has no center-tap of its own.

"WIRE WATT"—1 Watt

Res. Ohms.	Max. Volts	Res. Ohms	Max. Volts
10	3.15	40	6.3
15	3.85	50	7.0
20	4.4	75	8.5
25	5.0	100	10.0
30	5.3	200	14.0

List Price, Each **$0.35**

"BROWN DEVIL"—10 Watt

Res. Ohms.	Max. Volts	Res. Ohms.	Max. Volts
10	10.0	40	20.0
15	12.5	50	22.3
20	14.0	75	27.3
25	15.5	100	31.5
30	17.2	200	44.5

List Price, Each **$0.50**

"CORDOHM" Line Cord Resistor

For A.C.-D.C. Sets

Replaces the internal voltage dropping resistor in older A.C.-D.C. sets thereby keeping the heat produced outside of the receiver. A third element in the line cord reduces the line voltage to that required by the tubes.

Stock No.	Voltage Drop	Ohms.	Stock No.	Voltage Drop	Ohms
C-350	12.0 to 17.0	350	C-220	45.0 to 52.0	220
C-330	18.0 to 24.0	330	C-180	53.0 to 61.0	180
C-290	25.0 to 31.5	290	C-160	62.0 to 68.9	150
C-250	32.0 to 44.5	250	C-135	69.0 to 75.2	135

List Price, Any Value **$0.55**

X-320—Line Drop Cord, 220 volts to 120 volts at 0.36 amps.. **$1.50**

For more complete information on OHMITE Products ask for Catalog No. 16-A.

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World Radio History

DEPENDABLE MUTER PRODUCTS

MORE WATTS PER DOLLAR — **ZIPOHM** — MORE WATTS PER INCH

5 WATT ZIPOHM WIRE WOUND REPLACEMENT RESISTORS

Size 1½" x ½"

Zipohms are flat and fit into tight places easily. The 1½" tinned leads are long enough for unusual installations. Accuracy is 5% and each unit is impregnated with a protective high temperature electric cement.

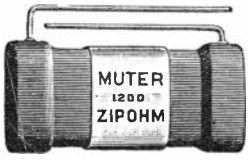
Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
910	100	922	800	934	3500	944	12,500
911	125	923	900	935	4000	950	15,000
912	150	924	1000	936	4500	951	16,000
913	200	925	1100	937	5000	952	17,500
914	250	926	1200	938	6000	953	18,000
915	300	927	1250	939	7000	954	20,000
916	350	928	1500	940	7500	955	22,500
917	400	929	1750	941	8000	956	25,000
918	500	930	2000	942	9000		
919	600	931	2250	943	10,000		
920	700	932	2500				
921	750	933	3000				

NOTE

Size of the above 8 units is ½"x2"

List Price of Above Units—25c

10 WATT ZIPOHM WIRE WOUND REPLACEMENT RESISTORS



Size 1½" x ¾"

Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
1005	5	1033	200	1044	1000	1056	4500
1010	10	1034	250	1046	1200	1057	5000
1020	20	1035	300	1048	1500	1058	6000
1025	50	1036	350	1050	2000	1060	7500
1027	75	1037	400	1052	2500	1063	10,000
1030	100	1038	500	1053	3000	1064	12,000
1031	125	1039	600	1054	3500	1067	15,000
1032	150	1041	750	1055	4000	1071	20,000
						1073	25,000

List Price of Above Units—40c

ZIPOHM SPECIAL RESISTOR KIT FOR SERVICEMEN

The large clearly marked aluminum tags make it possible to quickly select the desired resistor value. Kit assortment is supplied in the compact, convenient box shown above. Size of box, 8¼ x 3¾ x 2½, weight, 1 lb.

$15.45 Value for $11.75

57 Zipohms in 27 different varieties

5 Watt	Ohms	5 Watt	Ohms	5 Watt	Ohms	10 Watt	Ohms
2	100	4	750	4	5,000		
1	150	5	1,000	1	6,000	2	10,000
2	200	1	1,250	1	7,500		
1	250	3	1,500	2	10,000	2	15,000
2	300	4	2,000	1	15,000		
1	400	4	2,500	1	20,000	2	20,000
4	500	2	3,500	1	25,000	2	25,000
1	600	1	4,000				

The above units contained in the Zipohm Kit have been very carefully selected from frequency charts and will cover 80% of average replacement requirements for wire wound resistors. Other wire wound resistor values not contained in the Kit are listed above.

Stock No. 1075—Zipohm Resistor Kit **$11.75**

ORIGINAL EQUIPMENT CANDOHM REPLACEMENT RESISTORS

U. S. PATENT NO. 1,789,150

Candohm patented wire-wound resistors and Voltage Dividers are found in practically all radio sets today. Make replacements with genuine Muter units exactly the same as supplied manufacturers originally. LOOK FOR THE SET MANUFACTURERS' PART NUMBER STAMPED IN THE METAL CANDOHM CASE, which makes it easy to order. We can supply any Candohm, give name of set and manufacturer's part number. Do not order by model. If unable to locate part number, send actual unit to be replaced.

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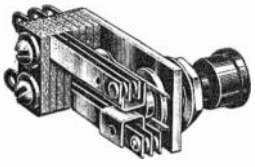
DEPENDABLE MUTER PRODUCTS

MUTER PUSH BUTTON SWITCHES

NON-LOCKING TYPE WITH BAKELITE BUTTON

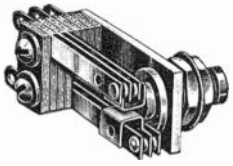


Size 1⅞" x ¾" x 1 5/16"
Bakelite buttons are removable without loosening set screw.

Stock No.	Description	List
4500	Single Pole Make Contact	$ .90
4501	Single Pole Break Contact	.90
4502	Single Pole Double Throw	1.00
4503	2 Pole—Make 2 Contacts	1.20
4504	2 Pole—Break 2 Contacts	1.20
4505	2 Pole—Double Throw	1.50
4506	2 Pole—Make 2—Break 1	1.30
4507	Double Throw—Make Before Break	1.65

NOTE.—To remove the bakelite button, merely rotate through one-half a turn and at the same time pull. To re-assemble, push in and at the same time rotate 180°. The button remains locked in postiion, held by a new unique spring design.

NON-LOCKING TYPE WITH METAL BUTTON

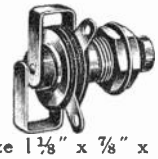


Size 1⅞" x ¾" x 1⅛"
Switches have built-in lifters, eliminating trouble from loose parts.

Stock No.	Description	List
4520	Single Pole Make Contact	$ .90
4521	Single Pole Break Contact	.90
4522	Single Pole Double Throw	1.00
4523	2 Pole—Make 2 Contacts	1.20
4524	2 Pole—Break 2 Contacts	1.20
4525	2 Pole—Double Throw	1.50
4526	2 Pole—Make 2—Break 1	1.30
4527	Double Throw—Make Before Break	1.65

NOTE.—This series of Muter Push Button Switches are equipped with permanent lifters which are positive acting and cannot be removed. All metal parts are plated.

SINGLE POLE PUSH BUTTON SWITCH



Size 1⅛" x ⅞" x 1¼"
Compact switch which can be used when back of panel space is very limited.

Stock No.	Description	List
4540	Single Pole Make Contact Non-Locking Type	70c

SPECIAL FEATURES.—A rugged compact switch using less space back of panel. Equipped with phosphor bronze springs, easily accessible solder lugs and metal push button insulated from contacts.

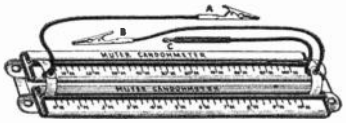
Midget Knife Throw Switches

Single Pole Single Throw
Base 1¼" long, ½" wide.
Jobbers' standard quantity 50.
Weight per 100 is 2 lbs.
Stock No. 1900.....List Price $0.20

Single Pole Double Throw
Base 1¼" long, ½" wide.
Jobbers' standard quantity 50.
Weight per 100 is 2½ lbs.
Stock No. 1925.....List Price $0.30

Double Pole Double Throw
Base 1¼" long, 1" wide.
Jobbers' standard quantity 25.
Weight per 100 is 5 lbs.
Stock No. 1950.....List Price $0.50

Candohmeter Resistance Indicators



Description—An accurate uniform wire-wound resistor insulated from and enclosed in metal housing with exposed slot permitting contact with resistor. Furnished with insulated handle test prods. Has two scales, the upper one to determine approximate value, the lower to permit more accurate reading within that range. Serves to determine proper resistance to replace a defective resistor; useful as a voltmeter multiplier to secure high voltage readings with low-range voltmeter; also serves as calibrated resistor for use in experimental work. Packed in individual boxes 1¾"x1"x7½" with complete instructions for use. Approximate weight 7 oz. Jobbers' standard quantity 10.

Stock No.	Range in Ohms	List Price
1700	0 to 10,000 and 0 to 100,000	$2.00
1701	0 to 100 and 0 to 1,000	1.75

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DEPENDABLE MUTER PRODUCTS

MUTER TUBULAR PAPER CONDENSERS

Muter By-Pass Condensers are non-inductively wound to full capacity and to withstand the full rated voltage plus a liberal safety factor. These condensers are encased in double, impregnated, moisture-proof, cardboard containers with self supporting 2" tinned wire leads. Muter Condensers are vacuum impregnated and are unaffected by humidity. The unique construction insures no leakage. Muter By-Pass Condensers are most efficient, are thoroughly tested and made of the highest quality raw materials obtainable. Jobbers standard quantity 10.

200 WORKING VOLT CONDENSERS

Number	Mfd.	List
2016	.05	$.15
2018	.1	.20
2019	.25	.25
2020	.5	.35
2021	1.	.50

400 WORKING VOLT CONDENSERS

Number	Mfd.	List
2030	.001	$.15
2031	.002	.15
2032	.003	.15
2034	.004	.15
2035	.005	.15
2036	.006	.15
2037	.01	.15
2038	.02	.15
2041	.05	.15
2043	.1	.20
2044	.25	.25
2045	.5	.50

600 WORKING VOLT CONDENSERS

Number	Mfd.	List
2055	.001	$.15
2056	.002	.15
2057	.003	.15
2058	.004	.15
2059	.005	.15
2060	.006	.15
2061	.008	.15
2062	.01	.15
2063	.02	.15

600 WORKING VOLT CONDENSERS —Concluded

Number	Mfd.	List
2064	.03	$.20
2065	.04	.20
2066	.05	.20
2067	.06	.20
2068	.1	.25
2069	.25	.35
2070	.5	.50

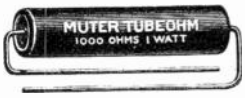
MUTER ELECTRIC RAZOR INTERFERENCE FILTER

Size 1⅜" x 2½"

Muter Interference Filter is especially designed to eliminate radio interference from electric razors and small electrical appliances. Easily installed, by simply plugging the razor into the Filter and the Filter into the wall outlet. This device is ideal for reducing interference caused by vacuum cleaners, fans, electric mixers, etc. For use as a line noise filter, plug radio set into this unit and plug this unit into outlet. Weight 1½ oz. Jobbers standard quantity 24.

	List
Stock No. 2755—Small Appliance Interference Filter	50c

1 WATT TUBEOHM WIRE WOUND REPLACEMENT RESISTORS



Size ⅜" x 1½"

Tubeohm values are clearly and permanently marked

Rating 1 Watt

Tubeohms are a new development in a 1 watt wire wound resistor. The winding is encased in an impregnated tube which effectively seals the resistance against moisture. Equipped with adjustable leads, Tubeohms are easier to handle, take less room and are low in price. Jobbers standard quantity 10.

Number	Ohms	Number	Ohms	Number	Ohms	Number	Ohms
800	100	807	400	814	1000	821	2250
801	125	808	500	815	1100	822	2500
802	150	809	600	816	1200	823	3000
803	200	810	700	817	1250	824	3500
804	250	811	750	818	1500	825	4000
805	300	812	800	819	1750		
806	350	813	900	820	2000		

List Price of Above Units—15c

MUTER TRANSMITTING AND SENSITIVE RELAYS

Size 3¼" Long x ¾" Wide

Muter Relays are entirely new in design, dependable in performance and built to withstand hard usage. The 110 volt A.C. Double Pole Double Throw and Single Pole Single Throw Relays provide a means of rapidly switching from receiving to transmitting. Large pure silver contacts are used throughout. Muter sensitive Relays are ideal for amplifier circuits and photo electric cell equipment.

Stock No.	Description	List
4550	Double Pole Double Throw 110 Volt AC	$6.00
4551	Single Pole Single Throw 110 Volt AC	5.00
4552	1000 ohm Coil Half Wave Rectified DC	5.00
4553	2500 ohm Coil Half Wave Rectified DC	5.00
4554	5000 ohm Coil 110 Volt AC 2.5 Amp. Contacts	5.00
4555	10000 ohm Coil 110 Volt DC 1.5 Amp. Contacts	5.00

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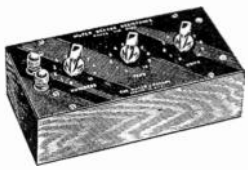
DEPENDABLE MUTER PRODUCTS

MUTER RESISTANCE BRIDGE AND DECADE BOXES

Size 9¾" x 8¼" x 5⅜"
Shipping Weight 8 lbs.

FOR SERVICEMEN, LABORATORIES AND PRODUCTION TESTING

Muter Certified Resistance Bridge is contained in a solid walnut case with nickeled brass hardware and complete with internal battery. Ratio arm resistors are accurate to ¼ of 1% and rheostat resistors are within ½ of 1%, providing overall accuracy of 1% in intermediate steps and 5% at the extremes.



Size 9" x 4⅜" x 3½"
Shipping Weight 2 lbs. 10 oz.

Muter Decade Resistance Boxes are accurate within ½ of 1% and are for use with D. C. or audio frequency A. C. Each section will dissipate ½ watt.

Stock No.	Description	List Price
1200	.01 ohm to 11 Megohm Resistance Bridge	$55.00
1275	111 ohm Decade Box in steps of .1 ohms	19.50
1276	1,100 ohm Decade Box in steps of 1 ohms	19.50
1277	11,100 ohm Decade Box in steps of 10 ohms	22.50
1278	111,000 ohm Decade Box in steps of 100 ohms	28.00

MUTER SPIRASHIELD

Description — The perfect shield for either Radio or Audio frequencies. May be cut to any desired length and regular hookup wire inserted. Quick and easy to handle, makes an extremely neat job at a low cost. Thoroughly tinned for soldering quickly at any point. Supplied in three standard sizes ⅛", 3/16" and ¼" inside diameter in six foot lengths. Approximate weight per six foot length 3½ oz. Jobbers standard quantity 12.

Stock Number	Inside Diameter	List Price Six Foot Lengths
444	¼" ID	$1.20 ea.
446	3/16" ID	.90 ea.
448	⅛" ID	.60 ea.

INSULATED TIE TERMINAL

Description—A single terminal entirely insulated from the mounting lug and tested at 1000 volts A.C. Very convenient for tying three or four leads together. Size ½" x ¾". Weight per 100 is 8 oz.

Stock No. 601—Tie Terminal, per 100 $5.00

MANUFACTURERS TYPE SOLDERING LUG

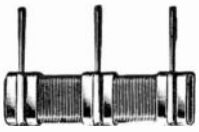
Actual Size

Easy Soldering

Description—A most convenient soldering lug used extensively by manufacturers and excellently adapted for service work. Weight per 100-1 oz., 500-8oz., 1000-14 oz.

Stock No. 475 —(Per package of 100) ..... .25c
Stock No. 475A—(Per package of 500) $1.00
Stock No. 475B —(Per package of 1000) 1.75

CENTER TAP RESISTORS



Size 1½" x ½"
Dissipates 2 watts.

Muter wire wound center tap resistors are particularly adaptable for use in filament, vibrator and hum balancing circuits. For convenience these units are supplied with 1½ inch adjustable leads as illustrated. Jobbers standard quantity 10.

Stock No.	Ohms	List
990	10	$.20
992	20	.20
994	40	.20
996	60	.20
998	80	.20
999	100	.20

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DEPENDABLE MUTER PRODUCTS

BALLAST RESISTOR QUICK REFERENCE CHART

THE BALLAST RESISTOR CHART below shows the manufacturers' number first and is conveniently subdivided for easy reference. You can instantly locate the Ballast Resistor desired and order by the Muter catalog stock number. The Cross-Reference Guide on the opposite side is numerically arranged according to Muter catalog stock numbers following which are the various manufacturers' numbers each catalog number will replace. This is most valuable in keeping stock down to a minimum and yet giving maximum service. All Ballast Resistors are individually boxed and clearly stamped with numbers.

LIST PRICE OF TYPE ILLUSTRATED **80c**

Mfrs. Number	Catalog Number
NUMBERS	
6.125	5587
6.126	5588
6.129	5553
6.135	5653
18	5501
32	5586
69.2033	5550
69.2037	5548
100-37	5502
100-38	5503
115.41	5623
115.42	5658
115.46	5643
610-10	5526
3271	5504
5568	5568
5569	5569
5573	5573
5585	5585
8593	5563
8598	5555
8600	5582
8601	5583
8664	5621
16032	5648
16036	5622
26871	5505
0 to 99 PREFIX	
2LR212	5543
2VR215	5555
2UR224	5550
3CR241	5567
3ER248	5553
3MZ419	5500
5B	5512
6B	5577
40A2	5510
40B2	5590
42A2	5592
42B2	5593
42HA	5506
49A2	5595

Mfrs. Number	Catalog Number
0 to 99 PREFIX (Cont'd)	
49B2	5596
50A2	5577
50A2MG	5507
50B2	5512
50B2MG	5508
50X3T	5513
55A2	5598
55B2	5584
55H	5613
55LB	5555
60R30	5600
60R30G	5600
95K2	5530
100 to 199 PREFIX	
135K1	5533
140KB	5590
140KC	5510
140L4	5601
140L8	5602
140L44	5603
140R4	5590
140R8	5510
140R44	5605
160R4	5578
165KB	5512
165KC	5577
165L4	5606
165L8	5607
165L44	5608
165LB	5606
165LC	5607
165R4	5512
165R8	5577
165R44	5610
185KB	5612
185KC	5513
185L8	5615
185LB	5614
185LC	5615
185L4	5614

Mfrs. Number	Catalog Number
110 to 199 PREFIX (Cont'd)	
185L44	5616
185R4	5612
185R8	5513
185R44	5617
200 and up PREFIX	
200R	5570
245A	5571
245KB	5618
245KC	5619
250A	5571
250KB	5618
250KC	5619
250R	5571
250R4	5618
250R8	5619
300R4	5620
320R4	5572
A PREFIX	
A16037	5650
A16040	5534
BK PREFIX	
BK23B	5514
BK32D	5658
BK36B	5515
BK42C	5516
BK42D	5517
BK49B	5623
BK49D	5518
BK52H	5586
BK55B	5519
BK55D	5652
BK62B	5647

Mfrs. Number	Catalog Number
BL and BM PREFIX	
BM36C	5520
BM42C	5521
BM49B	5522
BM49C	5523
BM55B	5524
BM80B	5525
K PREFIX	
K17BJ	5576
K17E	5650
K23AJ	5653
K24C	5527
K36B	5624
K36C	5625
K36D	5626
K36E	5627
K36E1	5628
K38B2	5528
K40B	5629
K40X	5590
K40Y	5510
K42B	5629
K42C	5530
K42D	5630
K42E	5531
K42E1	5632
K43B	5532
K49AJ	5581
K49B	5533
K49C	5534
K49D	5633
K49E	5634
K49E1	5635
K49X	5512
K49Y	5577
K52H	5613
K55B	5535
K55C	5536
K55CP	5529
K55CPR	5529
K55D	5644
K55E	5645
K55E1	5646
K55H	5613

Mfrs. Number	Catalog Number
K PREFIX (Cont'd)	
K60C	5648
K67B	5537
K74B	5579
K74C	5538
K78B	5539
K80B	5539
K80F	5636
K80H	5637
K87B	5540
K90B	5574
K90F	5638
K92A	5541
K92B	5542
K95B	5542
KX PREFIX	
KX23B	5600
KX42B	5590
KX42C	5510
KX42D	5605
KX49B	5512
KX49C	5577
KX49D	5610
KX55B	5612
KX55C	5513
KX55D	5617
KX74A	5571
KX74B	5618
KX74C	5619
KY PREFIX	
KY42B	5592
KY42C	5593
KY42D	5543
KY49B	5595
KY49C	5596
KY55B	5598
KY55C	5584

Mfrs. Number	Catalog Number
KZ PREFIX	
KZ49B	5508
KZ49C	5507
L PREFIX	
L36B	5604
L36C	5609
L36D	5589
L36DJ	5588
L40C	5544
L40S2	5546
L42B	5547
L42C	5548
L42CJ	5503
L42CS4	5575
L42D	5549
L42DJ	5587
L42E	5591
L49B	5550
L49BJ	5551
L49C	5552
L49CJ	5502
L49D	5567
L49DJ	5553
L49E	5594
L49E1	5554
L55B	5555
L55C	5556
L55CP	5611
L55CPR	5611
L55D	5597
L55E	5639
L55E1	5621
L55S1	5557
L55S2	5558
L66B	5580
L80B	5561
L495.5E	5594
L55.5C	5556

Mfrs Number	Catalog Number
LX PREFIX	
LX42B	5601
LX42C	5602
LX42D	5603
LX49B	5606
LX49C	5607
LX49D	5608
LX55B	5614
LX55C	5615
LX55D	5616
M PREFIX	
M36H	5651
M42B	5562
M42H	5640
M42HG	5640
M49B	5563
M49C	5622
M49H	5656
M49HG	5656
M52H	5641
M55B	5657
M55E	5642
M55E1	5583
M55H	5655
M55HG	5655
M61B	5649
M80H	5654
M80HG	5654
P to Z PREFIX	
P27877	5554
W42520	5564
W43506	5565
W44338	5566

See Reverse Side for Ballast Resistor Cross Reference Guide and Special Muter Ballast Resistor Replacement Kits

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World Radio History

DEPENDABLE MUTER PRODUCTS

BALLAST RESISTOR CROSS-REFERENCE GUIDE

THE CROSS-REFERENCE GUIDE below is arranged numerically according to Muter catalog stock numbers by which all Ballast Resistors should be ordered. It simplifies ordering and shows the various manufacturers' number each Muter catalog number will replace. This catalog contains most all of the Ballast Resistors commonly used. If unable to locate in our catalog the Ballast Resistor needing replacement, return the burnt out unit to us giving, if possible, name and model of set, type and number of radio tubes, number of pilot lights and color of bead filament.

Catalog Number	Mfrs. Number
5500	3MZ-419
5501	18
5502	100-37
	L49CJ
5503	100-38
	L42CJ
5504	3271
5505	26871
5506	42HA
5507	50A2MG
	KZ49C
5508	50B2MG
	KZ49B
5510	40A2
	KX42C
	140R8
	K40Y
	140KC
5512	165R4
	50B2
	KX49B
	K49X
	5B
	165KB
5513	185KC
	50X3T
	185R8
	KX55C
5514	BK23B
5515	BK36B
5516	BK42C
5517	BK42D
5518	BK49D
5519	BK55B
5520	BM36C
5521	BM42C
5522	BM49B
5523	BM49C
5524	BM55B
5525	BM80B
5526	610-10
5527	K24C
5528	K38B2
5529	K55CP
	K55CPR
5530	95K2
	K42C
5531	K42E
5532	K43B
5533	135K1
	K49B
5534	A16040
	K49C
5535	K55B
5536	K55C
5537	K67B
5538	K74C
5539	K80B
	K78B
5540	K87B
5541	K92A
5542	K95B
	K92B
5543	KY42D
	2LR212
5544	L40C
5546	L40S2
5547	L42B
5548	L42C
	69.2037
5549	L42D
5550	L49B
	2UR224
	69.2033
5551	L49BJ
5552	L49C
5553	L49DJ
	3ER248
	6.129
5554	L49E1
	P27287
5555	L55B
	2VR215
	8598
	55LB
5556	L555.5C
	L55C
5557	L55S1
5558	L55S2
5561	L80B
5562	M42B
5563	M49B
	8593
5564	W42520
5565	W43506
5566	W44338
5567	3CR241
	L49D
5568	5568
5569	5569
5570	200R
5571	250R
	245A
	250A
	KX74A
5572	320R4
5573	5573
5574	K90B
5575	L42CS4
5576	K17BJ
5577	KX49C
	50A2
	165R8
	K49Y
	165KC
	6B
5578	160R4
5579	K74B
5580	L66B
5581	K49AJ
5582	8600
5583	8601
	M55E1
5584	55B2
	KY55C
5585	5585
5586	32
	BK52H
5587	6.125
	L42DJ
5588	6.126
	L36DJ
5589	L36D
5590	40B2
	140KB
	140R4
	K40X
	KX42B
5591	L42E
5592	KY42B
	42A2
5593	42B2
	KY42C
5594	L49E
	L495.5E
5595	49A2
	KY49B
5596	49B2
	KY49C
5597	L55D
5598	55A2
	KY55B
5600	60R30
	60R30G
	KX23B
5601	140L4
	LX42B
5602	140L8
	LX42C
5603	140L44
	LX42D
5604	L36B
5605	140R44
	KX42D
5606	165L4
	165LB
	LX49B
5607	165L8
	165LC
	LX49C
5608	165L44
	LX49D
5609	L36C
5610	165R44
	KX49D
5611	L55CP
	L55CPR
5612	185KB
	185R4
	KX55B
5613	55H
	K52H
	K55H
5614	185L4
	185LB
	LX55B
5615	185L8
	185LC
	LX55C
5616	185L44
	LX55D
5617	185R44
	KX55D
5618	245KB
	250KB
	250R4
	KX74B
5619	245KC
	250KC
	250R8
	KX74C
5620	300R4
5621	L55E1
	8664
5622	M49C
	16036
5623	BK49B
	115.41
5624	K36B
5625	K36C
5626	K36D
5627	K36E
5628	K36E1
5629	K40B
	K42B
5630	K42D
5632	K42E1
5633	K49D
5634	K49E
5635	K49E1
5636	K80F
5637	K80H
5638	K90F
5639	L55E
5640	M42H
	M42HG
5641	M52H
5642	M55E
5643	115.46
5644	K55D
5645	K55E
5646	K55E1
5647	BK62B
5648	16032
	K60C
5649	M61B
5650	K17E
	A16037
5651	M36H
5652	BK55D
5653	K23AJ
	6.135
5654	M80HG
	M80H
5655	M55H
	M55HG
5656	M49H
	M49HG
5657	M55B
5658	BK32D
	115.42

MUTER BALLAST RESISTOR REPLACEMENT KIT

MUTER BALLAST RESISTOR REPLACEMENT KIT contains ballast resistors which occur with the greatest frequency in nationally distributed sets. While the assortment will be found correct for most localities, obviously set distribution varies in certain territories. This can be adjusted by ordering additional ballast resistors from the replacement guide to compensate or making up a special order according to the territorial requirements. Weight 1 lb. 4 oz.

CONTAINS 16 TUBES IN 12 VARIETIES

1—No. 5512	2—No. 5536	1—No. 5548	1—No. 5555
1—No. 5518	1—No. 5543	3—No. 5550	1—No. 5519
2—No. 5534	1—No. 5547	1—No. 5552	1—No. 5567

Stock No. 5599—Above 16 Ballast Resistor Replacement Kit.....LIST $12.80

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World Radio History

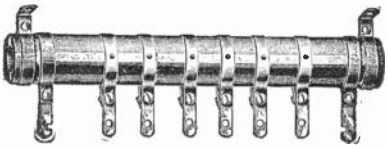
ATLAS WIRE WOUND-TUBULAR RESISTORS

ATLAS HEAVY DUTY ADJUSTABLE VOLTAGE DIVIDERS
S-I-X OUTSTANDING REASONS W-H-Y

YOU GET FAR MORE FOR YOUR MONEY WHEN YOU BUY ATLAS VARIABLE RESISTORS:

1—FULLY PACK WIRE-WOUND—NOT SPACE-WOUND.
2—HEAVIER WIRE AND MORE OF IT—FULL SAFE WATTAGE RATING.
3—HEAVY DUTY CHROME-OXIDE COATING—SAFELY DISSIPATING HIGH HEAT.
4—FROM ONE TO SIX BANDS SUPPLIED FREE WITH EVERY RESISTOR—EFFECTING A CONSIDERABLE SAVING.
5—ACCURATELY WOUND RESISTANCE VALUES—WELL WITHIN 5% TOLERANCE.
6—LARGE, OVERSIZE NON-HYGROSCOPIC TUBING—AFFORDING PLENTY OF AREA FOR HEAT DISSIPATION.

All Adjustable Resistors are Supplied with Mounting Brackets Attached



75 Watts—Size 5¾"x¾"
COATED ADJUSTABLE TYPE

IMPORTANT

Do not order values above maximum ohmages listed

10 to 200 WATTS

Type	Watts	Dimensions	Bands	Ohms	List
VA	10	2" x ½"	1	100 to 10M	$0.45
VB	20	2½"x ⅝"	1	100 to 15M	.60
VC	25	3" x ⅝"	1	100 to 20M	.75
VD	30	4" x ⅝"	2	20 to 25M	.85
VE	35	4" x ⅝"	3	20 to 30M	1.00
VF	40	4½"x ¾"	3	20 to 40M	1.30
VG	50	5¼"x ¾"	4	30 to 50M	1.50

Type	Watts	Dimensions	Bands	Ohms	List
VH	75	5¾"x ¾"	6	50 to 25M	$1.80
VH	75	5¾"x ¾"	6	26M to 75M	1.95
VI	100	8" x ⅝"	6	50 to 25M	2.15
VI	100	8" x ⅝"	6	26M to 100M	2.30
VJ	150	9½"x1"	6	50 to 25M	2.60
VJ	150	9½"x1"	6	26M to 100M	3.00
VK	200	11" x1⅛"	6	100 to 25M	3.15
VK	200	11" x1⅛"	6	26M to 50M	3.25
VK	200	11" x1⅛"	6	51M to 100M	3.85

NOTE—Extra Bands—Add 10c each to cost

5 and 10-Watt Wire-Wound Resistors with PIGTAILS and LUGS

10 Resistors of each Ohmage in Standard Cartons

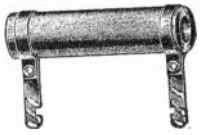
Moisture Proof—Triple Insulation
Tolerance within 2%—64 Standard Ohmages

Type SPT- 5 (5 watts)—Size 1¾"x⅝".
Type SPT-10 (10 watts)—Size 1¾"x⅜".

Ohms	List Price 5 Watts	List Price 10 Watts	Ohms	List Price 5 Watts	List Price 10 Watts
5	$0.30	$0.35	1350	$0.30	$0.35
10	.30	.35	1400	.30	.35
15	.30	.35	1500	.30	.35
20	.30	.35	1750	.30	.35
25	.30	.35	2000	.30	.35
30	.30	.35	2250	.30	.35
40	.30	.35	2500	.30	.35
50	.30	.35	2750	.30	.35
75	.30	.35	3000	.30	.35
100	.30	.35	3500	.30	.35
125	.30	.35	4000	.30	.35
150	.30	.35	4500	.30	.35
175	.30	.35	5000	.30	.35
200	.30	.35	6000	.30	.35
225	.30	.35	7000	.30	.35
250	.30	.35	7500	.30	.35
275	.30	.35	8000	.30	.35
300	.30	.35	8500	.30	.35
350	.30	.35	9000	.30	.35
400	.30	.35	10000	.30	.35
450	.30	.35	12500	.30	.35
500	.30	.35	14000	.30	.35
600	.30	.35	15000	.30	.35
700	.30	.35	17500	.30	.35
750	.30	.35	20000	.30	.35
800	.30	.35	22500	.30	.35
850	.30	.35	25000	.30	.35
900	.30	.35	30000	...	.40
1000	.30	.35	35000	...	.40
1100	.30	.35	40000	...	.40
1200	.30	.35	45000	...	.40
1250	.30	.35	50000	...	.40

10-20-25 WATTS WIRE-WOUND RESISTORS

Special Black Enamel—Fixed Resistors



Moisture Proof—Triple Insulation—Tolerance within 2%
64 Standard Ohmages—5 to 50000 Ohms

Type	Size	Watts	Ohms
SP-10	2" x½"	10	5 to 50000
SP-20	2" x⅝"	20	5 to 50000
SP-25	2½"x⅝"	25	5 to 50000

Ohms	List Price 10 Watts	List Price 20 Watts	List Price 25 Watts	Ohms	List Price 10 Watts	List Price 20 Watts	List Price 25 Watts
5	$0.35	$0.45	$0.50	1350	$0.35	$0.45	$0.50
10	.35	.45	.50	1400	.35	.45	.50
15	.35	.45	.50	1500	.35	.45	.50
20	.35	.45	.50	1750	.35	.45	.50
25	.35	.45	.50	2000	.35	.45	.50
30	.35	.45	.50	2250	.35	.45	.50
40	.35	.45	.50	2500	.35	.45	.50
50	.35	.45	.50	2750	.35	.45	.50
75	.35	.45	.50	3000	.35	.45	.50
100	.35	.45	.50	3500	.35	.45	.50
125	.35	.45	.50	4000	.35	.45	.50
150	.35	.45	.50	4500	.35	.45	.50
175	.35	.45	.50	5000	.35	.45	.50
200	.35	.45	.50	6000	.35	.45	.50
225	.35	.45	.50	7000	.35	.45	.50
250	.35	.45	.50	7500	.35	.45	.50
275	.35	.45	.50	8000	.35	.45	.50
300	.35	.45	.50	8500	.35	.45	.50
350	.35	.45	.50	9000	.35	.45	.50
400	.35	.45	.50	10000	.35	.45	.50
450	.35	.45	.50	12500	.35	.45	.50
500	.35	.45	.50	14000	.35	.45	.50
600	.35	.45	.50	15000	.35	.45	.50
700	.35	.45	.50	17500	.35	.45	.50
750	.35	.45	.50	20000	.35	.45	.50
800	.35	.45	.50	22500	.35	.45	.50
850	.35	.45	.50	25000	.35	.45	.50
900	.35	.45	.50	30000	.40	.50	.55
1000	.35	.45	.50	35000	.40	.50	.55
1100	.35	.45	.50	40000	.40	.50	.55
1200	.35	.45	.50	45000	.40	.50	.55
1250	.35	.45	.50	50000	.40	.50	.55

NOTE.—For any other ohmage than those listed above—add 5c to cost.
BE SURE TO SPECIFY TYPE WHEN ORDERING

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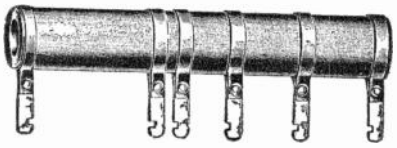
World Radio History

ATLAS VOLTAGE DIVIDERS
STANDARD REPLACEMENTS

The immediate choice of radio servicemen who know and appreciate honest quality.
Atlas Voltage Dividers are built to entirely eliminate a major source of trouble—open-circuit dividers.

FAST SERVICE
PROMPT DELIVERY



PACK WIRE-WOUND
CHROME-OXIDE COATED

QUALITY RESISTORS THAT HAVE NO SUBSTITUTE

Type	Total Resistance	Sections	List Price
AIRLINE			
Model 2955	23973 Ohms	150-11250-9473-3100	$1.35
ALL-AMERICAN MOHAWK	6200 "	900-300-1000-2000-2000	1.30
AMRAD			
Mode. 7 A.C.	4080 "	2175-1555-350	1.15
Model 70	8600 "	5000-3600	1.10
Model 82	2475 "	475-300-1000-700	1.15
APEX			
Model 7	4300 "	1100-3200	1.30
Model 7	3315 "	800-1800-225-290-200	1.40
Model 8	4450 "	500-1000-1200-600-600-550	1.40
Model 10	6825 "	2500-0-425-600-1800-1000-500	1.35
Model 27	23800 "	10700-8400-4700	1.30
Model 31	37600 "	10700-8400-3500-15000	1.40
Model 48	2970 "	70-2200-700	1.05
Gloritone 99A	24300 "	300-10000-11000-3000	1.35
Models 500-502	20950 "	10650-10000-300	1.35
Model 1009	17635 "	75-60-17500	1.35
ARGUS B195	5505 "	4000-0-460-700-0-65-280	2.60
BALKITE 180B	10800 "	6000-3000-1800	1.35
BOSCH			
Model Essex 4	21900 "	10000-11500-400	1.50
Model 48	4400 "	950-1450-2000	1.10
Model 49	4400 "	1950-800-1650	1.25
Model 54	20 "	20	1.10
Model 58	5130 "	950-180-1950-2050	1.30
Model 60	4790 "	1300-2380-160-950	1.30
Model 62	4250 "	1400-2600-250	1.30
Model 260R	7480 "	3700-2270-1510	1.25
Model 370E	27000 "	1000-12000-8000-6000	1.35
BRANDES			
Model B-10	8540 "	5600-0-10000-140-1800	1.30
Model B-16	2955 "	2500-45-410	1.25
BREMER-TULLY			
Model 640	16720 "	3000-560-6500-5000-1660	1.40
Model 820	13400 "	4900-5500-3000	1.25
BROWNING DRAKE			
Model 54	15300 "	850-4500-3450-3900-2600	1.40
BRUNSWICK			
Model DC	66 "	30-36	3.35
Model PR8-B17	9100 "	1900-200-2500-4000-500	1.30
Model 5KR7-3KR-2KR	3940 "	1600-0-1900-440	1.30
Model 3NC-8 5NC-8	1290 "	400-350-350-190	1.35
Model 3NW8	7780 "	2200-300-4000-1280	1.30
Model 3NW8	3040 "	1500-1000-250-130-160	1.30
Model P.14	10700 "	300-100-700-2600-7000	1.20
COLONIAL			
Model 28 A.C.	7200 "	1000-4000-2200	1.25
Model 28 A.C.	15500 "	8500-7000	1.25
Model 28 A.C.	125000 "	50000-50000-25000	1.50
Model 31 A.C.	111000 "	37000-370000-37000	1.25
Model 31 D.C.	60 "	Large, filament resistor	2.50
Model 32 D.C.	34.9 "	34.9	2.50
Model 33	420 "	210-210	.55
Model 33 A.C.	121000 "	60000-50000-11000	1.50
Model 36 D.C.	176 "	4-36-136	1.70

Type	Total Resistance	Sections	List Price
COL. KOLSTER			
Model 300	2640 Ohms	2000-140-500	$1.25
Model 500	2650 "	2100-120-430	1.25
Model 920	2060 "	1650-410	1.10
Model 931	9035 "	6000-2200-135-700	1.35
Model 940	2955 "	2500-45-410	1.25
Model 950	13110 "	9000-3200-140-70-700	1.30
Model 950	50000 "	30000-20000	1.40
Model 961C5	8050 "	7200-60-90-700	1.30
CROSLEY			
Fiver	32400 "	24000-8400	.50
Model 158	25000 "	10000-15000	.50
Model 76 D.C.	52.7 "	5-47.7	1.62
Model 704	5000 "	1525-3475	.95
Model 705	140 "	95-45	.95
D. C. RESISTOR	360 "	45-315	.75
DAY FAN	8100 "	1000-3700-2050-100-50-1200	2.15
DAY FAN JR.	6300 "	2000-3000-1300	1.30
EARL			
Models 31-32	4750 "	4000-0-750	1.30
Models 31-32	5000 "	5000	1.25
EDISON			
Model D.C.	31 "	24-3½-3½	1.95
Model D.C.	32 "	20-6-6	1.95
Model R1	1500 "	750-750	.70
Model R2	12500 "	12500	1.30
ERLA	18100 "	100-14600-3400	1.30
FADA			
Model 18 D.C.	250 "	10-200-40	1.25
Model 82 D.C.	25 "	15-10	1.95
FEDERAL E	2685 "	135-2000-200-350	1.75
FREED			
Model 95S	4750 "	4000-0-750	1.30
Model 95S	5000 "	5000	1.25
FREED EISEMAN			
Model NR60	6350 "	2000-350-0-4000	1.40
Model NR80	3750 "	2000-1750	1.25
Model NR80	4350 "	4000-0-350	1.30
Model NR85	2350 "	2000-350	1.10
Model NR85	4250 "	1900-2000-0-350	1.35
FRESHMAN			
Model G	10950 "	300-1250-4300-3000-2100	1.30
Model G60S	11300 "	1800-4500-3000-2000	1.30
Model H60S	9300 "	4000-3800-1500	1.30
Model N	18100 "	2200-6600-3300-4500-1500	1.30
GENERAL MOTORS			
Model	5187 "	800-59-1863-2000-465	1.30
Model 251	19300 "	4800-7600-6900	1.10
Model S1A	40000 "	15000-25000	1.00
GOLDEN LEUTZ	41000 "	9000-3500-4000-4500-11000-9000	2.30
GREBE			
Model A.C. 6	2500 "	2500	.70
Model A.C. 6	7090 "	6300-95-695	1.30
Model A.C. 6	9450 "	5900-2800-750	1.30
Model S.K. 4	2930 "	677-2200-62	1.30
GULBRANSON			
Model 8 A.C.	24005 "	3100-9475-11250-180	1.40
HALSON	360 "	330-30	1.10
	425 "	375-50	1.10
HOWARD 135 A.C.	29600 "	1600-12000-16000	1.30
KENNEDY			
Model 20B	4250 "	2000-1500-750	1.25
Model 32	5750 "	2800-400-1800-750	1.30

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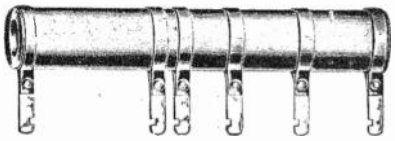
World Radio History

ATLAS VOLTAGE DIVIDERS EXACT DUPLICATES

ATLAS WIRE-WOUND TUBULAR RESISTORS have been generally acclaimed throughout the world as standard resistors designed especially to meet all radio requirements. They are used widely in service and replacement work.

MOST COMPLETE LINE PACKED IN INDIVIDUAL BOX



PACK WIRE-WOUND CHROME-OXIDE COATED

MADE TO EXACT SPECIFICATIONS

Type	Total Resistance		Sections	List Price
KOLSTER				
Model 6H	6440	Ohms	940-5000-500	$1.25
Model 6J	7120	"	3000-3000-220-900	1.30
Model 21K	1115	"	90-125-900	1.25
Model 22K	7120	"	3000-3000-220-60-840	1.30
Model 24K	7835	"	3400-3800-55-80-140-360	1.20
Model 38K	4430	"	3600-55-75-700	1.25
Model 42K	3580	"	840-140-2600	1.25
Model 43K	2980	"	1600-1000-380	1.30
Model 44K	2650	"	1450-650-200-350	1.35
Model 48K	5600	"	1500-2000-100-2000	1.30
Model 70K	8200	"	3000-3000-2000-200	1.30
Model 90K	16250	"	6000-7000-3000-250	1.30
Model 250K	8650	"	7800-60-90-700	1.10
LANG D.C.	233	"	30-27-27-27-27-15-80	1.40
MAJESTIC				
Model 20	12650	"	0-150-800-0-7500-4200	1.85
Model 25 D.C	83	"	1½-20-60-0-1½	3.80
Model 30	10461	"	2350-3890-3460-0-101-750	1.85
Model 50	33620	"	140-250-0-23000-10000-230	1.85
Model 60	12700	"	6500-0-4300-600-0-500-800	1.85
Model 163	21400	"	4300-5700-4100-6000-500-800	1.85
Model 200	13790	"	7000-3500-3000-110-180	1.30
Model 250	82	"	45-15-2-0-20	3.80
Model 290	28610	"	230-0-6700-2400-18000-180-700-0-400	2.00
Model 300	25532	"	230-0-4900-72-20000-220-110	1.85
Model 360	29050	"	1500-9000-125-18000-200-225	1.85
Model 460	21778	"	10000-9000-364-1800-134-480	1.85
NORDEN HAUCK				
Model	755	"	775	.70
Model	6000	"	6000	.80
Model	14000	"	6500-6000-1500	1.40
Model 550	23000	"	8000-2500-3000-2500-7000	1.40
PEERLESS K70	19000	"	2500-8000-8500	1.40
PHILCO				
Model 20	5107	"	1400-187-75-0-2470-975	1.30
Models 30-76-77-77A	1050	"	250-800	.70
Model 70	3610	"	180-70-0-2300-1060	1.30
Model 86	4750	"	2100-1000-150-1500	1.30
Model 87	4582	"	3785-157-0-640	1.30
Model 511	20700	"	12500-5500-0-300-2400	1.40
R.C.A. RADIOLA				
Model 17	9100	"	1900-200-2500-4000-500	1.30
Model 18	3940	"	1600-0-1900-440	1.30
Model 28	2800	"	2000-300-500	1.30
Model 30A	6700	"	3000-2000-300-500-900	1.30
Models 31-33 D.C.	580	"	80-500	1.15
Model 41	25300	"	12300-8000-5000	1.30
Models 42-48	4865	"	3200-830-120-715	1.25
Models 44-46	2580	"	500-0-1460-540-0-80	1.30
Models 44-46	8400	"	2800-900-3600-1100	1.30
Models 46-47	2080	"	1460-540-0-80	1.30
Models 60-62	1290	"	400-350-350-190	1.35
Model 64	3040	"	1500-1000-250-130-160	1.30
Model 64	7780	"	1280-4000-300-2200	1.30
Model 64-67	4470	"	310-3850-310	1.00
Model 67	4030	"	2400-960-240-115-215-100	1.35
Model 67	8335	"	1435-3400-300-3200	1.30
SILVER MARSHAL				
Model 651	9720	"	3800-4200-730-990	1.30
SIMPLEX	1399	"	430-210-750	.80
SONORA				
A.36	21000	"	14000-7000	1.30
B-31	6950	"	750-1200-1500-3500	1.25

Type	Total Resistance		Sections	List Price
SPARTON D.C.		Ohms	54	$1.38
SPLITDORF				
Model	1500	"	750-750	.70
Model	13200	"	650-150-4500-5400-2500	1.40
Model 171	11650	"	2000-3500-4000-150-2000	1.35
SPLITDORF ABBEY				
Model	11500	"	2500-3000-3000-3000	1.30
Model	13500	"	2500-3000-3000-3000-2000	1.40
STEINITE				
Model 26	16000	"	8000-8000	1.00
Model 40	20200	"	1190-4270-11740-3000	1.50
Model 50-102	25877	"	8100-11750-5200-827	1.40
Model 70	22440	"	10000-10000-2440	1.40
Model 991	2500	"	1000-1000-250-0-250	1.25
STERLING				
Model 41	5350	"	4000-450-900	1.30
Model 41	29000	"	20000-9000	1.30
STEWART WARNER				
Model 950	3250	"	850-2400	.95
Model 950	3330	"	1110-2220	.50
Model 950	15500	"	10000-5500	1.25
STROMBERG CARLSON				
Models 10-11	4500	"	400-100-4000	1.40
Models 10-11	10000	"	4570-3250-2000	1.40
Model 12	11025	"	4000-4000-3025	1.40
Model 12	6570	"	5000-100-1210-260	1.40
Model 20	3285	"	1575-900-0-60-0-750	1.40
Model 25	4900	"	4000-100-800	1.35
Model 25	9300	"	1800-3000-4500	1.35
Model 403 A.A.	5500	"	3000-2500	1.30
Model 523	3770	"	3000-70-700	1.35
Model 523	5500	"	3000-2500	1.30
Model 635	9270	"	2500-3000-3000-770	1.30
Model 638 D.C.	10	"	10	1.40
Model 638 D.C.	12	"	12	1.40
Model 638 D.C.	30	"	30	1.40
Model 638 D.C.	200	"	200	1.40
Model 638	9000	"	2500-6000-500	1.15
Models 641-651	19300	"	7800-4500-3000-4000	1.40
Model 642	9750	"	1450-4000-3000-1300	1.30
Model 642	11000	"	7800-3200	1.15
Model 846	9200	"	3200-6000	1.30
Model 846	6380	"	330-1700-4350	1.35
TEMPLE				
Model 7-60	21600	"	8000-1600-8000-4000	1.40
Model 8-60	6850	"	900-5200-750	1.30
THORDARSON				
Model R171	13000	"	2000-3000-3000-3000-2000	1.40
VICTOR				
Models 9-18	3670	"	630-1500-1000-250-130-160	1.35
Model R925	3400	"	1400-2000	1.10
Models R32, 45, 52 & 75	4325	"	2000-1350-200-775	1.50
ZANEY GILL VITATONE				
Model 54	18450	"	2100-7500-7500-1350	1.30
ZENITH				
Model 10	24500	"	6000-7500-8500-2500	1.35
Model 10 Power Pack	22700	"	12000-5200-5500	1.40
Model 11	7200	"	3200-1200-1200-1600	1.35
Model 12	7500	"	1000-3500-1000-2000	1.40
Model 18	35300	"	13000-11000-9500-1800	1.55
Model 50	6000	"	850-2350-2800	1.30
Model 90	13000	"	3000-10000	.45
Model 91	6400	"	2800-3600	.60
Model 91	8000	"	3000-5000	.60

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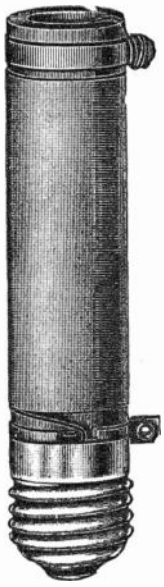
World Radio History

ATLAS RESISTORS FOR SPECIAL REQUIREMENTS

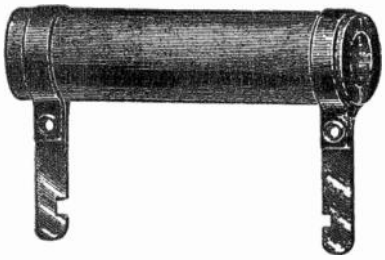
We recommend Atlas Pack-Wound Heavy-Duty Chrome-Oxide Coated Resistors for Ship Instruments, Meters, Laboratory Equipment, Transmitting and Radio Receivers or any requirement where dependable resistors are essential

Every Mechanical Advantage to produce the Highest Efficiency Possible is represented in these Specially Designed Types.



ACCURATE

2% TOLERANCE



NON-POROUS

A QUALITY PRODUCT

SINGLE OR TAPPED UNITS

Type	Watts	Dimensions	Ohms	List
AB	5	1" x 9/16"	5 to 25M	$0.30
BC	5	2" x 5/16"	5 to 25M	.35
CD	10	2" x 1 1/2"	5 to 25M	.40
CD	10	2" x 1 1/2"	26M to 50M	.45
DE	20	2" x 3/8"	5 to 25M	.55
DE	20	2" x 3/8"	26M to 50M	.60
EF	25	3" x 3/8"	5 to 25M	.70
EF	25	3" x 3/8"	26M to 50M	.75
FG	35	4" x 3/8"	10 to 25M	.90
FG	35	4" x 3/8"	26M to 50M	.95
GH	50	4" x 15/16"	10 to 25M	1.00
GH	50	4" x 15/16"	26M to 50M	1.10

Type	Watts	Dimensions	Ohms	List
HI	60	5" x1"	20 to 25M	1.15
HI	60	5" x1"	26M to 50M	1.20
IJ	75	6" x 15/16"	20 to 50M	1.35
IJ	75	6" x 15/16"	51M to 100M	1.45
JK	100	8" x 15/16"	20 to 50M	1.65
JK	100	8" x 15/16"	51M to 100M	1.80
KL	150	9 1/2"x1"	20 to 50M	1.90
KL	150	9 1/2"x1"	51M to 100M	2.15
LM	200	11" x1 1/8"	20 to 100	2.20
LM	200	11" x1 1/8"	150 to 25M	2.40
LM	200	11" x1 1/8"	26M to 100M	2.65

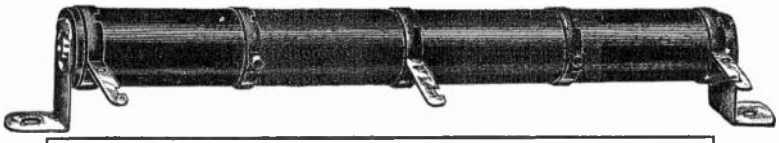
Edison Base Types are available only in 5/8" tube diameter. 50, 75, 100-Watt Ratings

NOTE: ADD 10c TO COST FOR EACH ADDITIONAL TAP
ADD 20c TO COST FOR HEAVY MOUNTING BRACKETS
ADD 30c TO COST FOR EDISON BASE TYPE

ATLAS HEAVY-DUTY CHROME-OXIDE COATED TRANSMITTING BLEEDER RESISTORS WITH CENTER TAP

Ruggedly built, accurately made and procurable in a practical non-inductive winding. Atlas high voltage bleeder resistors are designed to improve the performance of your transmitter by functioning quietly, and effectively.

4 or 8 Sections.



Used for Grid Leaks as well as for Bleeders by
AMATEUR SHORT-WAVE AND BROADCAST STATIONS
Specify whether you want Inductive or Non-Inductive Bleeders
EQUIPPED WITH HEAVY MOUNTING BRACKETS

A most important feature found only in Atlas heavy duty bleeder resistors is the non-inductive winding. Each side of the center tap has two to four oppositely wound sections of equal resistance. Therefore should only one section be used, that section will be purely non-inductive as well.

Type	Ohmage	Resistance	List
100 WATTS—Size 8"x 9/16"			
SF	5000	2500-0-2500	$1.95
SFA	10000	5000-0-5000	1.95
SFB	15000	7500-0-7500	1.95
SFC	20000	10000-0-10000	1.95
SFD	30000	15000-0-15000	1.95
SFE	40000	20000-0-20000	2.10
SFF	50000	25000-0-25000	2.10
SFG	100000	50000-0-50000	2.10
150 WATTS—Size 9 1/2"x1"			
TG	5000	2500-0-2500	2.20
TGA	10000	5000-0-5000	2.20

Type	Ohmage	Resistance	List
150 WATTS—Size 9 1/2"x1" (Continued)			
TGB	20000	10000-0-10000	$2.20
TGC	50000	25000-0-25000	2.45
TGD	100000	50000-0-50000	2.45
200 WATTS—Size 11"x1 1/8"			
UH	5000	2500-0-2500	2.50
UHA	10000	5000-0-5000	2.50
UHB	15000	7500-0-7500	2.50
UHC	20000	10000-0-10000	2.50
UHD	30000	15000-0-15000	2.50
UHE	40000	20000-0-20000	2.70
UHF	50000	25000-0-25000	2.70
UHG	100000	50000-0-50000	2.70

Add 40c to Cost for Non-Inductive Bleeders

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World Radio History

WIRT *Resistors*

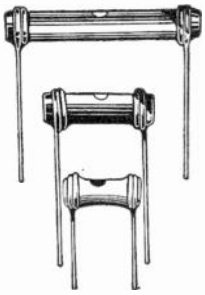
CARBON COMPOSITION FIXED RESISTORS

RMA Color-Coded Any Resistance

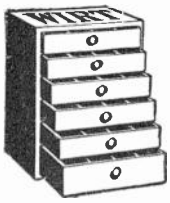
Watts	List Price
2	$0.30
1	.20
½	.20
⅓	.20
¼	.20

FIVE REASONS WHY WIRT FIXED RESISTORS ARE SPECIFIED BY BEST KNOWN RECEIVING SET MANUFACTURERS

1. **Voltage coefficient:** Guaranteed well within 10%. By actual test 3% up to 500,000 ohms and not greater than 10% of any value.
2. **Noise:** Less than one microvolt when measured on an amplifier having a gain of 65 dB.
3. **Humidity:** After 100 hours in 90% relative humidity at 105° F. resistance change guaranteed under 10%—average of 1000 recorded tests under 3%.
4. **Life:** Contrary to custom WIRT laboratory life tests are made at 100% oveload instead of at a fraction of rated wattage. A batch of resistors recently removed from test after 4240 hours continuous 100% overload showed average resistance change of 2.81%.
5. **Accuracy:** Resistors are individually tested by advanced methods to insure accuracy.



NOW! WIRT RESISTORS IN THE NEW LIFETIME CABINET



AND WHAT A CABINET! It is **made** by a leading manufacturer of small cabinets, of **carefully selected, well seasoned bass wood, with corners dadoed and glued for strength; varnished and rubbed to give a beautiful natura wood finish.**
It has six drawers, each one having three removable partitions, making four compartments. The upper five drawers are one inch deep and the bottom one is one and one-half inch deep. All are six inches wide and five and one-half inches long. **Drawer guides, bottoms, and partitions are made of three-ply laminated wood, to prevent warping.** The knobs are brass and securely fastened.
It is just such a cabinet as radio repair men would be glad to buy for the storage of such parts as condensers, bolts, nuts and small tools. BUT—**it is given to you at this time absolutely free with your purchase** of the **selected assortment of ONE HUNDRED WIRT CARBON RESISTORS, which are packed in the cabinet for shipment.**
The carbon resistors in these new Wirt Lifetime Cabinets are subjected to the same rigid tests as the millions supplied to the leading manufacturers for use in receiving sets. The assortment is made up of resistance values, which the serviceman will need to repair radio sets now in use. A complete list will be found below. The cabinets are uniform in size. Two or more can be placed side by side to make a chest of drawers of any desired storage capacity. Anticipate your resistor requirements. Build up a unit large enough to store all of your small parts. You will appreciate this suggestion once you see these cabinets.

R. M. A. COLOR-CODED ONE-WATT CARBON RESISTOR ASSORTMENT

In making up the contents of these cabinets we were faced with the problem of supplying a **balanced assortment.** We were not satisfied to rely solely upon our judgment, but consulted a number of our distributor outlets.

The following list is the result of this investigation:

Ohms	Quantity	Ohms	Quantity	Ohms	Quantity	Ohms	Quantity
300	2	2,000	4	20,000	4	100,000	8
400	4	2,500	2	25,000	8	200,000	2
500	4	3,000	2	30,000	2	250,000	8
600	2	5,000	4	40,000	2	500,000	8
1,000	4	10,000	8	50,000	8	1,000,000	4
1,500	2	15,000	4	75,000	2	2,000,000	2

Total 100

If you feel that you should not purchase one hundred resistors at one time ask your jobber about our offer covering fifty units.

AUTO RADIO IGNITION SUPPRESSORS

910

902-904

906

908

914-916

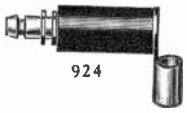
All metal parts made of rugged unfinished brass. Ceramic casing is glazed wet process high-tension porcelain with internal threads to engage threaded terminals. Terminals are securely fastened in casings by special moisture and heat resisting dielectric cement. Resistor pills are sprayed with molten copper and tinned, then double impregnated with a special moisture-proofing compound. Resistance value will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change not more than 3%. WIRT Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Made in two kinds of casings—Ceramic and Bakelite.

901

915

921-923 918-922



924

CERAMIC CASINGS

No.		List, Each
910	**Distributor Type,** Standard for all Distributors	$0.40
902	**Bracket Type,** for all Standard Work	.40
904	**Ford V8,** Special Resistance for Ford V8 cars	.40
906	**Cable Type,** for splicing in cable	.40

BAKELITE CASINGS

No.		List, Each
901	**Elbow Type,** with terminal attached to casing	$0.30
908	**Elbow Type,** with terminal molded in	.40
914	**Bracket Type,** Standard	.30
916	**FV-8**	.30
915	**Distributor Type,** Standard	.30
918	**FV-8 Brush Type for 1933-34 and 35 Cars**	.30
922	**FV-8 Brush Type for 1936-37 Cars**	.30
921	**Universal Screw Type**	.30
923	**Universal Screw Type FV8**	.30
924	**Slip-on for 1938 Cars**	.30

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World Radio History

WIRT *Resistors*

WIRT SEMI-VARIABLE RESISTORS

WIRT SEMI-VARIABLE RESISTORS are wound on ceramic tubing and are protected by Phenocote, the new tough, rugged, heat-resisting covering developed in the WIRT laboratories. Bands are made with small contact buttons so that a number of taps may be made without shorting out much resistance.

Standard Equipment: 2 Tab Terminals — 1 Sliding Band — 2 Mounting Brackets. (No mounting brackets furnished with 10-Watt size.)

SIZE: 1¾" x ⅜" — RATING 10 WATTS

	List Price Each
1 ohm to 10,000 ohms	$0.60

SIZE: 2" x ¾" — RATING 25 WATTS

1 ohm to 5000 ohms	$0.85
6M to 10M ohms	.95
20M to 25M ohms	1.10

SIZE: 4" x ¾" — RATING 50 WATTS

5 ohms to 5M ohms	$1.35
7M to 25M ohms	1.50
30M to 50M ohms	1.70
60M to 100M ohms	2.00

SIZE: 6" x ¾" — RATING 75 WATTS

	List Price Each
10 ohms to 5M ohms	$1.75
7500 to 25M ohms	2.00
30M to 50M ohms	2.25
60M to 100M ohms	2.50

SIZE: 8½" x 1⅛" — RATING 100 WATTS

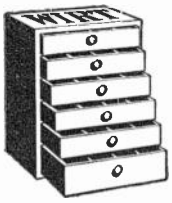
5 ohms to 10M ohms	$2.50
15M to 50M ohms	2.90
75M to 100M ohms	3.25

EXTRA SLIDING BANDS

10W, 25W, 50W	$0.10
75W, 100W	.15

WHEN ORDERING BE SURE TO STATE TOTAL RESISTANCE OF UNITS

NOW! WIRT *WIRE WOUND* RESISTORS IN THE NEW LIFETIME CABINET



The Cabinet contains the following ten-watt Phenocote Tubular Resistors:

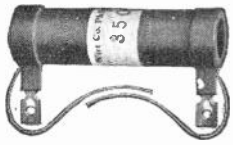
1—100 Ohms	2— 500 Ohms	2—2500 Ohms	2— 7500 Ohms
2—200 "	2— 750 "	2—3000 "	5—10000 "
2—250 "	2—1000 "	1—4000 "	5—15000 "
1—300 "	2—1500 "	5—5000 "	5—20000 "
1—400 "	2—2000 "	1—6000 "	5—25000 "

FIFTY TEN-WATT RESISTORS ..... **VALUE $12.00**

SPECIAL INTRODUCTORY PRICE **$10.00**

and the cabinet is FREE! . . . for full description see reverse side.

WIRTHY FIXED RESISTORS



WIRTHY RESISTORS are wound on ceramic tubes and protected by either VITREOUS ENAMEL, PHENOCOTE, or BAKED ENAMEL.

VITREOUS ENAMEL Units are made of the same material and in the same way as the standard WIRT Enameled Units, which have been adopted as standard by leading users of resistors.

PHENOCOTE—A special material developed in our laboratories, which is baked on the units at a high temperature, insuring resistance to moisture and heat.

BAKED ENAMEL Units are covered with a superior enamel which is baked on at a high temperature.

SIZE: ⅜" x 1¾" — RATING 10 WATTS

Stock Resistance Values in Ohms

1	7.5	25	75	250	750	2500	7500
2	10	30	100	300	1000	3000	10000
3	12	35	125	400	1200	4000	12000
4	15	40	150	500	1500	5000	15000
5	20	50	200	600	2000	6000	20000

Resistance	List Prices: Phenocote or Baked Enamel, Monel Metal Leads Each	List Prices: Vitreous Enamel, Monel Metal Leads Each
1 to 25,000 ohms	$0.40	$0.40

SIZE: ½" x 2" — RATING 20 WATTS

Stock Resistance Values in Ohms

5	100	400	800	1500	2500	5000	10000
10	150	500	850	1750	2750	6000	12500
25	200	650	1000	1850	3000	7000	15000
50	250	700	1100	2000	3500	7500	25000
75	300	750	1200	2250	4000	8000	35000

Resistance Ohms	List Prices: Phenocote or Baked Enamel, Monel Metal Leads Each	List Prices: Vitreous Enamel, Monel Metal Leads Each
5 to 1500	$0.65	$0.65
16000 to 50000	.75	.75
51000 to 100000	1.00	1.00

SIZE: ⅜" x 1" — RATING 5 WATTS

Resistance	List Prices: Phenocote or Baked Enamel, Monel Metal Leads Each	List Prices: Vitreous Enamel, Monel Metal Leads Each
1 to 10,000 ohms	$0.35	$0.35

SIZE: ¾" x 4" — RATING 50 WATTS

Stock Resistance Values in Ohms

10	500	2000	5000	9000	17500	50000
20	700	2250	6000	10000	20000	60000
50	750	2500	7000	12000	25000	75000
100	1000	3000	7500	12500	30000	100000
250	1500	4000	8000	15000	40000	

Resistance Ohms	List Prices: Phenocote or Baked Enamel, Tab Term Each	List Prices: Vitreous Enamel, Tab Term Each
5 to 5000	$1.10	$1.10
5100 to 2500	1.25	1.25
26000 to 100000	1.45	1.45

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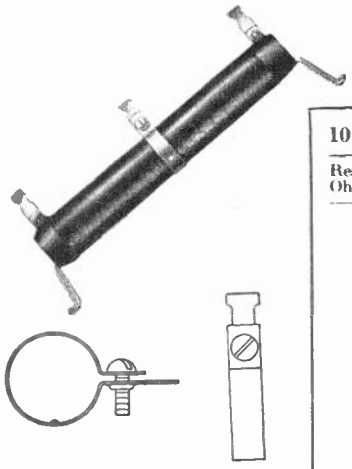
World Radio History

ADJUSTOHM RESISTORS

WITH BARE SIDE FOR ADJUSTMENT

WARD LEONARD



Mounting brackets are furnished with all Adjustohm Resistors except the 10 Watt size.

Price of resistor includes end brackets for mounting and one adjustable band. Extra bands are furnished at 10 cents each for units of the 10, 25 and 50 Watt sizes and 15 cents each for units of larger sizes.

The vitreous enamel, covering most of the unit, provides protection against mechanical damage and prevents the wire from shifting.

Loosening the screw on the band permits adjustment of the resistance to the desired value. Potentiometer connection can be obtained by using end terminals and band connection.

10 WATTS 1¾" x 5/16"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
1	507-756	3160	$0.60
2	507-757	2240	.60
3	507-758	1825	.60
5	507-759	1415	.60
7.5	507-760	1155	.60
10	507-761	1000	.60
15	507-762	815	.60
20	507-763	705	.60
25	507-764	630	.60
35	507-765	535	.60
50	507-766	450	.60
75	507-767	365	.60
100	507-768	315	.60
200	507-769	225	.60
300	507-770	183	.60
400	507-771	158	.60
500	507-772	142	.60
750	507-773	115	.60
1,000	507-774	100	.60
1,250	507-775	89	.60
1,500	507-776	81	.60
2,000	507-777	70	.60
2,500	507-778	63	.60
3,000	507-779	58	.60
4,000	507-780	50	.60
5,000	507-781	45	.60
6,000	507-782	41	.60
7,500	507-783	36	.60
10,000	507-784	30	.60

No brackets furnished

25 WATTS 2" x 5/8"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
1	507-560	5000	$0.85
3	507-561	2880	.85
5	507-562	2230	.85
10	507-583	1580	.85
15	507-342	1290	.85
25	507-343	1000	.85
50	507-344	710	.85
75	507-345	580	.85
100	507-252	500	.85
200	507-243	355	.85
300	507-244	290	.85
400	507-245	250	.85
500	507-246	225	.85
750	507-247	180	.85
850	507-248	170	.85
1,000	507-249	160	.85
1,250	507-250	140	.85
1,500	507-251	130	.85
2,000	507-252	110	.85
2,500	507-253	100	.85
3,000	507-254	90	.85
3,500	507-255	85	.85
4,000	507-256	80	.85
5,000	507-257	70	.85
6,000	507-258	65	.95
7,500	507-259	53	.95
8,500	507-346	47	.95
10,000	507-347	40	.95

50 WATTS 4½" x ¾"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
5	507-564	3160	$1.35
10	507-565	2240	1.35
25	507-348	1110	1.35
50	507-349	1000	1.35
75	507-350	815	1.35
100	507-351	705	1.35
250	507-352	445	1.35
500	507-130	315	1.35
750	507-131	260	1.35
1,000	507-597	225	1.35
1,250	507-132	200	1.35
1,500	507-133	180	1.35
2,500	507-134	140	1.35
3,000	507-135	130	1.35
3,500	507-136	120	1.35
4,000	507-353	110	1.35
5,000	507-137	100	1.35
7,000	507-138	85	1.50
8,000	507-354	79	1.50
9,000	507-355	75	1.50
10,000	507-139	71	1.50
15,000	507-356	58	1.50
20,000	507-357	50	1.50
25,000	507-358	40	1.50
30,000	507-359	33	1.70
40,000	507-360	25	1.70
50,000	507-361	20	1.70

75 WATTS 6½" x ¾"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
10	507-566	2740	$1.75
15	507-567	2240	1.75
25	507-568	1730	1.75
50	507-569	1220	1.75
75	507-570	1000	1.75
100	507-362	865	1.75
250	507-363	550	1.75
500	507-364	385	1.75
750	507-365	315	1.75
1,000	507-260	275	1.75
1,500	507-366	225	1.75
2,000	507-367	195	1.75
2,500	507-261	173	1.75
3,000	507-368	158	1.75
3,500	507-369	146	1.75
4,000	507-370	137	1.75
4,500	507-371	129	1.75
5,000	507-262	122	1.75
7,500	507-372	100	2.00
8,000	507-373	97	2.00
10,000	507-263	87	2.00
15,000	507-264	71	2.00
20,000	507-374	61	2.00
25,000	507-265	55	2.00
30,000	507-375	50	2.25
35,000	507-266	43	2.25
40,000	507-376	37	2.25
50,000	507-267	30	2.25
60,000	507-377	25	2.50
70,000	507-378	21	2.50

100 WATTS 6½" x 1⅛"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
10	507-726	3160	$2.00
15	507-727	2580	2.00
25	507-728	2000	2.00
50	507-729	1410	2.00
75	507-730	1150	2.00
100	507-731	1000	2.00
250	507-732	630	2.00
500	507-733	445	2.00
750	507-734	365	2.00
1,000	507-735	315	2.00
1,500	507-736	260	2.00
2,000	507-737	225	2.00
2,500	507-738	200	2.00
3,000	507-739	180	2.00
3,500	507-740	170	2.00
4,000	507-741	160	2.00
4,500	507-742	150	2.00
5,000	507-743	140	2.00
7,500	507-744	115	2.25
8,000	507-745	110	2.25
10,000	507-746	100	2.25
15,000	507-747	80	2.25
20,000	507-748	70	2.25
25,000	507-749	60	2.25
30,000	507-750	50	2.50
35,000	507-751	43	2.50
40,000	507-752	37	2.50
50,000	507-753	30	2.50
60,000	507-754	25	2.75
70,000	507-755	21	2.75

160 WATTS 8½" x 1⅛"

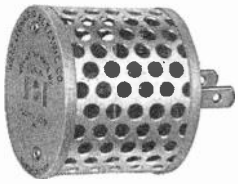
Resis. Ohms	Catalog Number	Cur. m. a.	List Price
100	507-180	1260	$2.50
200	507-181	900	2.50
500	507-182	570	2.50
1,000	507-270	400	2.50
1,500	507-379	330	2.50
2,000	507-380	280	2.50
2,500	507-271	250	2.50
3,000	507-381	230	2.50
3,500	507-382	215	2.50
4,000	507-383	200	2.50
4,500	507-384	185	2.50
5,000	507-272	180	2.50
7,500	507-385	145	2.50
10,000	507-273	125	2.50
15,000	507-274	105	2.90
20,000	507-386	90	2.90
25,000	507-275	80	2.90
30,000	507-387	67	2.90
35,000	507-276	57	2.90
40,000	507-388	50	2.90
50,000	507-277	40	2.90
60,000	507-177	33	3.25
70,000	507-389	28	3.25
80,000	507-178	25	3.25
100,000	507-179	20	3.25

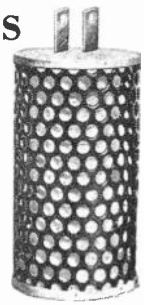
200 WATTS 10½" x 1⅛"

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
100	507-571	1400	$3.00
250	507-572	900	3.00
500	507-573	630	3.00
1,000	507-574	450	3.00
1,500	507-575	365	3.00
2,000	507-576	315	3.00
2,500	507-577	280	3.00
3,000	507-578	260	3.00
3,500	507-579	240	3.00
4,000	507-580	225	3.00
4,500	507-581	210	3.00
5,000	507-582	200	3.00
7,500	507-583	165	3.00
10,000	507-584	140	3.00
15,000	507-585	115	3.50
20,000	507-586	100	3.50
25,000	507-587	90	3.50
30,000	507-588	82	3.50
35,000	507-589	71	3.50
40,000	507-590	62	3.50
50,000	507-591	50	3.50
60,000	507-592	42	3.50
75,000	507-593	33	3.50
100,000	507-594	25	3.50
125,000	507-595	20	3.75
150,000	507-596	16	3.75

LINE VOLTAGE REDUCERS

These line voltage reducers protect radio sets, Christmas tree lamp strings, and other electrical apparatus within their ratings, from high line voltage.





Catalog Number	Length Inches	Resis. Ohms	Load	List Price
507-109	1½	25	For 35-65 watt 115 volt radio set on 115-140 volts	$1.50
507-109A	1½	10	For 65-130 watt 115 volt radio set on 115-140 volts	1.50
507-109B	2¼	1.5	For 130-285 watt 115 volt radio set on 115-140 volts	1.80
507-109F	2¼	*	For 115 volt Schick Dry Shaver on 230 volts	4.85
507-109G	3¼	850	For 115 volt Packard Razor on 230 volts	4.85
507-109H	5¼	300	For 60 watt 115 volt radio set on 230 volts	2.75

*Potentiometer connected.

World Radio History

WARD LEONARD

FIXED RESISTORS

WIRE-WOUND

10 WATT SIZE

Ward Leonard Resistors are known for their accuracy, dependability, and long life.

1¾"x5/16". No brackets furnished

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
1	507-598	3160	$0.40
3	507-599	1825	.40
5	507-390	1415	.40
10	507-391	1000	.40
15	507-392	815	.40
25	507-393	630	.40
50	507-394	450	.40
75	507-395	365	.40
100	507-331	315	.40
150	507-396	260	.40
200	507-397	225	.40
250	507-332	200	.40
400	507-333	158	.40

1¾"x5/16". No brackets furnished

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
500	507-334	142	$0.40
750	507-335	115	.40
800	507-409	110	.40
1,000	507-336	100	.40
1,250	507-410	89	.40
1,500	507-337	81	.40
2,000	507-338	70	.40
2,500	507-339	63	.40
3,000	507-340	58	.40
4,000	507-398	50	.40
5,000	507-341	45	.40
7,500	507-411	36	.40
10,000	507-412	30	.40

2"x7/16". No brackets furnished

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
12,500*	507-207	20	$0.40
15,000*	507-208	18	.40
20,000*	507-209	16	.40
25,000*	507-210	14	.40
30,000*	507-211	13	.50
35,000*	507-212	12	.50
40,000*	507-213	11	.60
45,000*	507-408	10.5	.60
50,000*	507-214	10	.60

*Low temperature. Black finish. Rated at 5 watts.

4⅛"x9/16". No brackets furnished

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
60,000†	507-399	13	$1.00
70,000†	507-400	12	1.00
75,000†	507-401	11.5	1.00
80,000†	507-402	11	1.00
90,000†	507-403	10.5	1.00
100,000†	507-404	10	1.00

†Furnished with combined tab and lead terminal. Black Finish.

20 WATT SIZE

2" x 9/16" No Brackets Furnished

Made with a high grade resistance wire, wound on a special refractory tube.

Resis. Ohms	Catalog Number	Cur. m. a.	List Price
1	507-413	4480	$0.65
3	507-414	2570	.65
5	507-415	2000	.65
10	507-416	1410	.65
15	507-417	1150	.65
25	507-418	900	.65
50	507-419	630	.65
75	507-420	510	.65
100	507-421	450	.65
150	507-422	365	.65
200	507-423	320	$0.65
250	507-424	285	.65
400	507-425	220	.65
500	507-426	200	.65
750	507-427	160	.65
800	507-428	155	.65
1,000	507-429	140	.65
1,250	507-430	125	.65
1,500	507-431	115	.65
2,000	507-432	100	.65
2,500	507-433	90	$0.65
3,000	507-434	80	.65
4,000	507-435	70	.65
5,000	507-436	65	.65
6,000	507-437	55	.65
7,500	507-438	50	.65
10,000	507-439	40	.65
12,500	507-440	32	.65
15,000	507-441	26	.65
25,000*	507-442	17	$0.75
35,000*	507-443	14	.75
40,000*	507-444	13	.75
50,000*	507-445	12	.75
60,000*	507-446	11	1.00
70,000*	507-447	10	1.00
75,000*	507-448	9.5	1.00

*Low temperature. Black Finish. Rated at 7 watts.

HEAVY DUTY

Mounting brackets are furnished with these sturdy wire wound heavy duty Vitrohm resistors.

25 WATTS
2" x 5/8"

Resis. Ohms	Catalog Number	Cur. m.a.	List Price
15	507-152	1290	$0.75
25	507-154	1000	.75
50	507-156	710	.75
75	507-157	580	.75
100	507-158	500	.75
200	507-161	355	.75
300	507-162	290	.75
400	507-163	250	.75
500	507-164	225	.75
750	507-165	180	.75
850	507-449	170	.75
1,000	507-166	160	.75
1,250	507-167	140	.75
1,500	507-168	130	.75
2,000	507-169	110	.75
2,500	507-171	100	.75
3,000	507-172	90	.75
3,500	507-173	85	.75
4,000	507-174	80	.75
5,000	507-175	70	.75
6,000	507-176	65	.85
7,500	507-450	53	.85
8,500	507-451	47	.85
10,000	507-452	40	.85
15,000	507-453	27	.85

40 WATTS
3½" x ¾"

Resis. Ohms	Catalog Number	Cur. m.a.	List Price
25	507-454	1265	$0.90
50	507-455	900	.90
75	507-456	730	.90
100	507-185	630	.90
125	507-186	565	.90
150	507-187	515	.90
200	507-188	450	.90
300	507-189	365	.90
400	507-190	315	.90
500	507-191	280	.90
750	507-192	230	.90
1,000	507-193	200	.90
1,500	507-194	160	.90
2,000	507-195	140	.90
2,500	507-196	125	.90
3,000	507-197	115	.90
4,000	507-198	100	.90
5,000	507-199	90	.90
6,000	507-200	80	1.00
7,500	507-201	70	1.00
10,000	507-202	60	1.00
12,500	507-203	56	1.00
15,000	507-204	47	1.00
20,000	507-457	35	1.00
25,000	507-458	28	1.00
35,000	507-459	20	1.00

100 WATTS
6½" x 1⅛"

Resis. Ohms	Catalog Number	Cur. m.a.	List Price
100	507-460	1000	$1.50
250	507-461	630	1.50
500	507-215	445	1.50
750	507-216	365	1.50
1,000	507-217	315	1.50
1,500	507-218	260	1.50
2,000	507-219	225	1.50
2,500	507-462	200	1.50
3,000	507-220	180	1.50
3,500	507-463	170	1.50
4,000	507-221	160	1.50
4,500	507-464	150	1.50
5,000	507-222	140	1.50
7,500	507-223	115	1.75
10,000	507-224	100	1.75
15,000	507-225	80	1.75
20,000	507-226	70	1.75
25,000	507-227	60	1.75
30,000	507-228	50	2.00
35,000	507-465	43	2.00
40,000	507-466	37	2.00
50,000	507-229	30	2.00
60,000	507-405	25	2.25
70,000	507-406	21	2.25
75,000	507-230	20	2.25

160 WATTS
8½" x 1⅛"

Resis. Ohms	Catalog Number	Cur. m.a.	List Price
100	507-467	1260	$2.00
200	507-468	900	2.00
500	507-469	570	2.00
1,000	507-470	400	2.00
1,500	507-471	330	2.00
2,000	507-472	280	2.00
2,500	507-473	250	2.00
3,000	507-474	230	2.00
3,500	507-475	215	2.00
4,000	507-476	200	2.00
4,500	507-477	185	2.00
5,000	507-278	180	2.00
7,500	507-478	145	2.00
10,000	507-279	125	2.00
15,000	507-280	105	2.40
20,000	507-281	90	2.40
25,000	507-479	80	2.40
30,000	507-282	67	2.40
35,000	507-480	57	2.40
40,000	507-283	50	2.40
50,000	507-284	40	2.40
60,000	507-481	33	2.70
70,000	507-482	28	2.70
80,000	507-285	25	2.70
100,000	507-407	20	2.70

200 WATTS
10½" x 1⅛"

Resis. Ohms	Catalog Number	Cur. m.a.	List Price
100	507-483	1400	$2.50
250	507-484	900	2.50
500	507-485	630	2.50
1,000	507-486	450	2.50
1,500	507-487	365	2.50
2,000	507-488	315	2.50
2,500	507-489	280	2.50
3,000	507-490	260	2.50
3,500	507-491	240	2.50
4,000	507-492	225	2.50
4,500	507-493	210	2.50
5,000	507-494	200	2.50
7,500	507-495	165	2.50
10,000	507-496	140	2.50
15,000	507-497	115	3.00
20,000	507-498	100	3.00
25,000	507-499	90	3.00
30,000	507-551	82	3.00
35,000	507-552	71	3.00
40,000	507-553	62	3.00
50,000	507-554	50	3.00
60,000	507-555	42	3.00
75,000	507-556	33	3.00
100,000	507-557	25	3.00
125,000	507-558	20	3.50
150,000	507-559	16	3.50

World Radio History

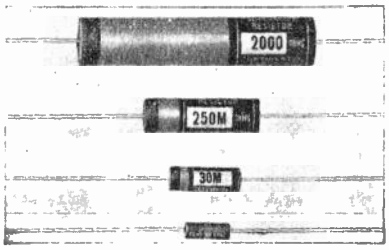
CONTINENTAL RESISTORS

CONTINENTAL Bakelite and Ceramic Insulated Resistors

1000-Volt Insulation: Protects against Shorts to Sub-Panel and Wiring. Permanent Resistance Value.

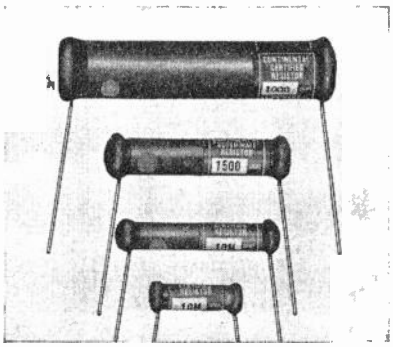
Bakelite

M3 2"x13/32"	3 Watt $.30
M1 1"x9/32"	1 Watt $.20
M½ ⅝"x7/32"	½ Watt $.17
M⅓ ⅜"x9/64"	⅓ Watt $.15



Ceramic

D5 3"x9/16"	5 Watt $.50
D3 2"x3/8"	3 Watt $.30
D1 1¾"x¼"	1 Watt $.20
D½ 1"x¼"	½ Watt $.17



Standard Stock Resistor Values

Available in Bakelite or Ceramic Insulation

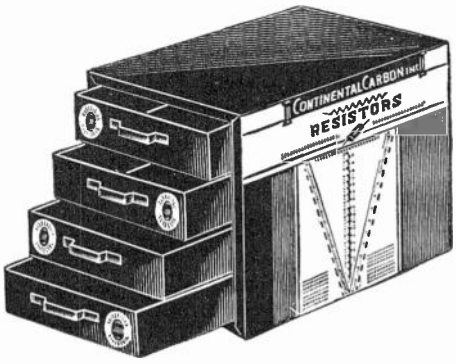
50	17,500
100	20,000
150	25,000
200	30,000
250	35,000
300	40,000
400	50,000
500	55,000
600	60,000
750	70,000
	75,000
1,000	100,000
1,250	125,000
1,500	150,000
1,750	200,000
2,000	250,000
2,500	300,000
3,000	400,000
3,500	500,000
4,000	1,000,000
5,000	1,500,000
6,000	2,000,000
7,500	3,000,000
10,000	4,000,000
12,500	5,000,000
15,000	10,000,000

CONTINENTAL CARBON insulated resistors are now available in carbon and wire resistance elements, in bakelite, ceramic, glass, and cement insulation according to their service requirements. Bakelite Insulated Type M resistors are recommended where space limits and insulation quality require a reliable, rugged, and small resistor capable of withstanding severe service as in auto, airplane, and marine radio equipment. Ceramic insulated Type D resistors are slightly larger than the bakelite units and dissipate heat over a wider area on overloads. In high gain amplifier circuits the large area of contact between the copper leads soldered to copper sprayed ends of the resistor assures permanent resistance value and absolute absence of molecular noise in the circuit. The 1000-volt over-all insulation is a dual protection against shorts and against oxidation of the resistance element which changes the value of uninsulated resistors.

Lucky Sevens "777" Cabinet Deal

One Large Four Drawer Genuine Metal Cabinet and One Valuable Resistor Chart that tells what resistor to use with purchase of 70 Continental Certified Resistors **FREE**

TOTAL VALUE COMPLETE $15.95—YOUR PRICE $7.77



You get an all metal four drawer resistor cabinet 8" x 6" x 5¾" finished in olive green with a big stiff cardboard wall chart which solves every problem in Ohms Law at a glance. The chart is an invaluable aid in resistor service problems as are Continental Certified Resistors. Every standard value is available in carbon or wire wound.

One each of these 35 resistors in 1 watt and 1 each in ½ watt —your choice of bakelite molded or ceramic insulated supplied in the following values:

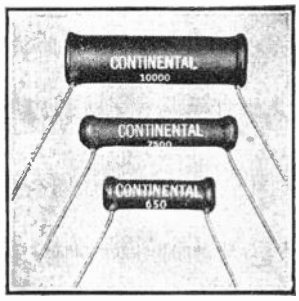
150	1,000	2,500	5,000	10,000	20,000	50,000	150,000
250	1,500	3,000	6,000	12,500	25,000	60,000	250,000
400	1,750	3,500	7,500	15,000	30,000	75,000	300,000
500	2,000	4,000	8,500	17,500	40,000	100,000	500,000

1, 2, and 3 megohms

Code	List Price
777M—70 Bakelite molded resistors with Cabinet and Chart	$12.95
777D—70 Ceramic insulated resistors with Cabinet and Chart	12.95

VITRECONS

W Type ± 5%



New Vitrecon Insulation

WIRE WOUND resistors employ the highest grade low temperature coefficient resistance wire. The resistance is wound on porcelain and entirely insulated in Vitrecon insulation which is impervious to moisture and unaffected by heat or abrasion. It resists cracking and chipping and permanently anchors the machine wound uniformly spaced resistance wire. The open core of the porcelain tube increases the heat dissipation and permits extraordinary overloads without permanent damage or shift of resistance. Tolerance limits are ±5%.

Type W20—2" x ⅝", 1½" leads, 20 watts. List Price $0.65
Type W10—1¾" x ¾", 1½" leads, 10 watts. List Price $0.40
Type W5 —1¼" x ⅜", 1½" leads, 5 watts. List Price $0.30

Standard Stock Resistor Values

1	30	250	1,000	4,000	12,500
2	35	300	1,100	4,500	13,500
3	40	350	1,200	5,000	14,500
4	50	400	1,250	6,000	15,000
5	75	450	1,500	7,000	16,000
7.5	100	500	1,750	7,500	17,500
10	125	600	2,000	8,000	18,000
12	150	700	2,250	8,500	20,000
15	175	750	2,500	10,000	22,500
20	200	800	3,000	11,000	25,000
25	225	900	3,500	12,000	*30,000
					*35,000
					*40,000
					*45,000
					*50,000

*Note: These values made only in W20-20 watt size.
Note: W5-5 watt made only up to 15,000 ohms.

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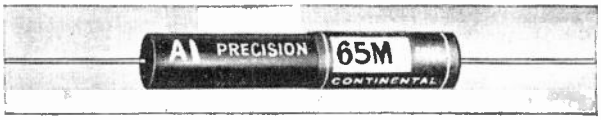
World Radio History

CONTINENTAL RESISTORS

Type A - Precision Carbon Resistors



AVAILABLE IN: Type A½— ½ Watt—1" x ¼" dia.
Type A1 — 1 Watt—1½" x ¼" dia.

A new type of carbon resistor, impregnated, hermetically sealed in glass, impervious to moisture, of the utmost stability, the A Type sets a new high standard of perfection for precision applications. Suitable for any 1-watt or ½-watt application, the A type is particularly recommended for high resistance voltmeter multipliers, critical photo-electric circuits which must be extremely stable, and in military and naval applications where the dependability of each component is most vital.

Types A1 and A½—Tolerance ±2% ..... List Price $0.50
Types A1 and A½—Tolerance ±5% ..... List Price .30

Semi-Precision Resistors

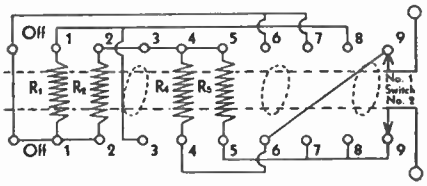
CONTINENTAL CARBON Type D1, ceramic insulated carbon resistors in semi-precision type provide an accurate unit of resistance within ±5% tolerance limits at a low price. Used by leading instrument manufacturers as multipliers.
Type D1—Tolerance ±5% ..... List Price $0.30

Stock Ohm Values—Precision and Semi-Precision Resistors

100	4,450	13,500	90,000	490,000
200	4,950	15,000	100,000	500,000
400	5,000	20,000	150,000	600,000
500	5,500	25,000	175,000	750,000
1,000	5,950	30,000	200,000	800,000
1,450	7,450	40,000	240,000	900,000
2,000	8,500	50,000	250,000	1,000,000
2,950	8,950	60,000	300,000	9,000,000
3,500	9,950	75,000	400,000	10,000,000
4,000	10,000	85,000	450,000	20,000,000

A Simplified Decade Resistance Box

Diagram of Each Decade



LIST OF PARTS

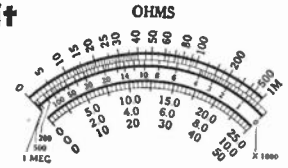
Code 16D1—16 Semi-Precision Resistors ..... List Price $4.80
Code 16A1—16 Precision Resistors ..... List Price 8.00
Makes Resistance Box 100 Ohms to 1 Megohm in 100 Ohm Steps.

Decade No.	R1	R2	R4	R5
1	100	200	400	500
2	1,000	2,000	4,000	5,000
3	10,000	20,000	40,000	50,000
4	0.1 meg.	0.2 meg.	0.4 meg.	0.5 meg.

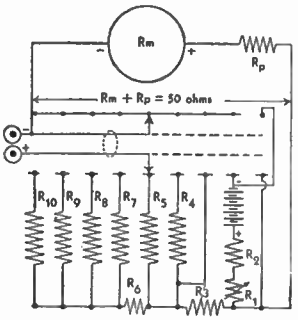
PARTS PURCHASED SEPARATELY

Four double-deck, shorting-type ten-point rotary switches.
(The off position must have two active closed contacts on these switches.)
Four small tapered knobs to fit the switches; Two binding posts;
One 3/16" bakelite panel 6" x 6½";
One small box at least 2½" deep to take the panel and assembly.

Meter Multiplier Kit



For the conversion of any standard 0 to 1 milliammeter into a modern volt - ohm - milliammeter, CONTINENTAL offers a complete kit containing composite replacement dial scales for Weston Model 301; Jewell Patterns 88, 54, 444, 408, 409, 199, 133, 133A, 210, 528, 137, 137A, 574; Beede 701; Triplett 321, and the 5¼" Triplett 521. Other parts required are: 11 point, double-deck non-shorting rotary switch, one 2000-ohm or 3000-ohm wire wound rheostat, and 2 small 4½-volt "C" batteries. In addition to resistors listed under the diagram, the kit includes a 25-ohm length of insulated resistance wire which may be used in the circuit diagram as Rp and as the shunt resistors for the milliampere ranges. CONTINENTAL volt-ohm - milliammeter kits with semi-precision CONTINENTAL CARBON 5% resistors.



R1	variable	2,000-ohm
R2		8,000-ohm
R3		4,950-ohm
R4		5,000-ohm
R5		20,000-ohm
R6		5,000-ohm
R7		40,000-ohm
R8		90,000-ohm
R9		240,000-ohm
R10		490,000-ohm
Rp	25-ohm insulated resistance wire to be cut to size.	

Code No. 109-D1
List Price, Complete $3.60

Code 109-A1
2% Precision Resistor Kit complete as above,
List Price $5.40

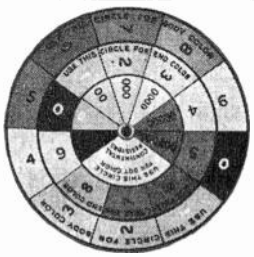
Tool Box Resistor Kit

"Metal-Pac" resistor kits include: Choice of twenty-five ½ or 1-watt standard CONTINENTAL CARBON insulated resistors, dial color code indicator, and a lacquered steel carrying case suitable for rough usage in your tool box.
Purchase CONTINENTAL molded carborite resistors in this convenient form. Any assortment with any duplication of values from the longer list of stock values will be furnished on request. Standard kits contain the following 25 certified resistors:

Ohms	Ohms	Ohms	Ohms	Ohms
250	2,500	10,000	30,000	100,000
500	3,000	12,500	40,000	250,000
1,000	4,000	15,000	50,000	500,000
1,500	5,000	20,000	60,000	
2,000	6,000	25,000	75,000	

1 megohm, 2 megohms

Code	Resistors	Insulation	List Price
125D1	25 1-watt	ceramic	$5.00
125D½	25 ½-watt	ceramic	4.25
125M1	25 1-watt	bakelite	5.00
125M½	25 ½-watt	bakelite	4.25



Resistor Color Code

Purchase several of these convenient rotary color code indicators for instantly determining the value in ohms of any R. M. A. color coded resistor. Clear, distinct colors accurately matched with R. M. A. color code specifications. CONTINENTAL CARBON dial color code disc.
List Price, each $0.20

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World Radio History

CONTINENTAL SUPPRESSORS

AUTO-RADIO SUPPRESSORS AND FILTER UNITS

CONTINENTAL Suppressors have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value has been scientifically determined and is not changed after years of the most adverse conditions. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

Code WS5

Wheel Static Suppressors

LIST PRICE—

Both Types, Per Pair.....$0.30

Code WS6

T-14

T-15

Ford Distributor Suppressors

	List Price
Type T-14—For 1935 and previous models	$0.30
Type T-15—For Ford V8-1936 and 1937 models	.30

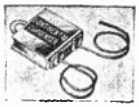
Type T-17 Universal type with insulating sleeve

Type T-17 is T-15 slipped into a bakelite insulating tube of the same external diameter as T-14, to fit 1935 and previous models ..... .30

New Auto-Radio Vibrator Condensers

TAE

Buffer condensers rated for 1500 volts D.C. and flash tested at 3000 volts. Type T are tubular and Type V are rectangular in sealed metal containers.

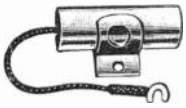


VAE

Code	Capacity	Size	List Price
TAE11	.01	1 5/8" x 1/2" dia.	$0.35
TAE12	.02	1 5/8" x 5/8" dia.	.35
VAE11	.01	1" x 7/8" x 9/32"	.45
VAE12	.02	1" x 7/8" x 9/32"	.45
VAE13	.03	1" x 1 1/8" x 9/32"	.45
VAE14	.04	1" x 1 1/8" x 9/32"	.45

Continental Auto-Radio Filter Condensers

This new line of equipment has been specially designed to give the serviceman a means of easily eliminating every cause of noise interference in auto-radio installation—at the actual source of interference.



GB05F6

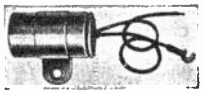
GB025, GB05, GB1

GB05C

Code	Application	Capacity	Size	List Price
GB025	Generator and coil	.25	2 1/8" x 3/4"	$0.40
GB05	Generator and coil	.5	2 1/8" x 3/4"	.50
GB1	Generator and coil	1.0	2 1/4" x 1"	.70
GB05C	Ammeter to ground	.5	2" x 7/8"	.50
GB05H	Dome light filter	.5	3" x 1"	.80
GB05HC	Dome light filter, can type	.5	3 3/8" x 1 1/4"	.80
GB05DH	Dome light filter, can type	.5–.5	3 3/8" x 1 3/4"	1.00
GB05F	Ford V-8 coil	.5	2 1/8" x 3/4"	.60
GB05F6	Ford V-8 coil—1936	.5	2 1/8" x 3/4"	.50

GB05H

GB05F



GB05DH, GB05HC

Spark Plug Suppressors

ALL MODELS.....List Price $0.30

Code S-21 Universal Spark Plug Suppressor—with "U" terminal. 5000 ohms.

Code S-27 Suppressor—Thread will fit all spark plugs. Most universal type yet devised. Ferrule nut is removable. 5000 ohms.

Code S-20A Spark Plug Suppressor—for Buick, Packard and Chrysler cars. Takes place of terminal on ignition cable. 5000 ohms.

Code S-19 Spark Plug Suppressor—Snaps on to spark plug. 5000 ohms. Vertical mounting.

Code S-23 Spark Plug Suppressor—Flexo-Terminal type. Can be bent to any angle, snaps on to spark plug.

Distributor Suppressors

ALL MODELS..... List Price $0.30

Code C-11 Cable Suppressor—meets requirements where it is necessary to cut ignition cable. 10,000 ohms.

Code T-13 Distributor Suppressor—fits all distributors. 10,000 ohms. Cable screws into housing making a watertight and non-loosening connection.

Code T-20 Distributor Suppressor—Cable clip snaps into suppressor. 10,000 ohms. Not necessary to remove clip on cable and therefore suppressor can be quickly removed for ignition testing purposes.

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World Radio History

CONTINENTAL CONDENSERS

Paper Condensers for Replacing Electrolytics in Cardboard and Metal Cases

CONTINENTAL Carbon Models E and L condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. Models E and L are flash tested at 3 times their d-c working voltage and have the advantage of low power factor at 60 cycles. They are non-inductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations below show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d-c working volts, 600; peak volts, 1000. Model L, d-c working volts, 475; peak volts, 600.

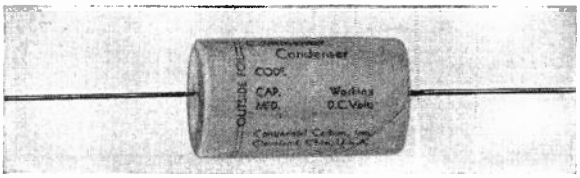
Data and Prices on Models E & L Condensers, Cardboard Containers—Furnished with Six-Inch Wire Leads

E-Type 600 Volts dc Code	List Price	L-Type 475 Volts dc Code	List Price	Capacity in Mfds.	Equivalent Electrolytic	Size of both E & L Condensers in Inches
EE2	$.95	EL2	$.75	1.2	2	2 ½ x1 ⅜ x1 ⅛
EE4	1.15	EL4	.85	2.4	4	2 ½ x1 ⅜ x1 ⅛
EE8	1.50	EL8	1.05	4.8	8	4 ⅜ x1 ⅜ x1 ⅛
EE44	1.85	EL44	1.40	2.4-2.4	4-4	4 ⅜ x1 ⅝ x1 ½
EE48	2.20	EL48	1.65	2.4-4.8	4-8	4 ⅜ x1 ⅝ x1 ¾
EE88	2.45	EL88	1.80	4.8-4.8	8-8	4 ⅜ x1 ⅝ x2 ⅛

Condensers in Metal Cans, Inverted Stud Mounting, Six-Inch Leads Insulated from Can

IE4	$1.40	IL4	$1.05	2.4	4	3 ⅜ x1 ⅜ Dia.
IE8	1.70	IL8	1.30	4.8	8	4 ⅜ x1 ½ Dia.

NEW TUBULAR Replacement Condensers



Non-Inductive tubular condensers in cardboard vacuum impregnated with moisture-proof wax. Bare flexible tinned leads. 2 ⅝ in. long. Available in all standard sizes.

Code	Mfds.	D-C Working Voltage	Size Len. "	Size Dia. "	List Price
TF31	.0001	600	1 ¼	1/16	$0.15
TF325	.00025	600	1 ¼	1/16	.15
TF21	.001	600	1 ¼	1/16	.15
TF22	.002	600	1 ¼	1/16	.15
TF25	.005	600	1 ¼	1/16	.15
TF11	.01	600	1 ¼	1/16	.15
TF12	.02	600	1 ¼	½	.15
TF15	.05	600	1 ⅞	½	.20
TF01	.1	600	1 ⅞	⅝	.25
TF025	.25	600	1 ⅞	1	.35
TF05	.5	600	1 ⅞	1 ¼	.50
TD25	.005	400	1 ¼	1/16	.15
TD11	.01	400	1 ¼	1/16	.15
TD12	.02	400	1 ¼	½	.15
TD15	.05	400	1 ⅞	½	.15
TD01	.1	400	1 ⅞	⅝	.20
TD025	.25	400	1 ⅞	⅞	.25
TD05	.5	400	1 ⅞	1 ⅛	.35
TD1	1.0	400	1 ⅞	1 ¼	.50

"W" Type Transmitting Condensers

ESPECIALLY DESIGNED FOR COMMERCIAL, POLICE AND AMATEUR TRANSMITTERS

The Continental Type W transmitting condensers are wax impregnated, non-inductive, conservatively rated and will stand severe service. Power factor is extremely low (½ of 1%) and reduces heating to a minimum. Enclosed in drawn metal containers. Glazed white porcelain stand-off type insulators. For continuous duty on A.C., restrict to not over 25% of D.C. working voltage.

Code	Capacity	D.C. Working Voltage	Size in Inches	List Price
WAJ1	1	1000	5 x2 x2	$1.75
WAJ2	2	1000	5 x2 ½ x1 ⅞	2.50
WAJ4	4	1000	5 x2 ½ x2 ¼	4.50
WAE1	1	1500	5 x2 ½ x1 ⅞	2.25
WAE2	2	1500	5 x2 ½ x2 ¼	3.25
WAE4	4	1500	5 x4 x3	5.00
WBJ1	1	2000	5 x2 ½ x1 ⅞	2.90
WBJ2	2	2000	5 x2 ½ x2 ¼	4.00
WBJ4	4	2000	5 x4 x3	6.00

CARDBOARD CASED GENERAL UTILITY CONDENSERS TYPE P

Non-inductive rugged cased condensers for all filter and by-pass circuits. Sturdy container vacuum impregnated with heat-resistant moisture-proof wax gives the Type P Condenser adequate mechanical protection. Far superior to ordinary wax-coated replacement sections. Conservatively rated, convenient size, and attractively priced—these CONTINENTAL Condensers are dependable capacity units.

Type P Condensers are particularly recommended for use in Power Amplifiers and Theater Sound Systems where long periods of operation require superior dielectric strength.

FOR FULL RATED D.C. OR AT 25% OF D.C. WORKING VOLTAGE ON A.C.

Code	Cap. Mfds.	D.C. Work. Voltage	Dimensions-In. H. W. T.	List Price
PD025	0.25	400	2 ⅛ x1 ⅜ x ⅝	$0.40
PD05	0.5	400	2 ⅝ x2 x ⅝	.45
PD1	1.	400	4 x2 x ⅝	.75
PD2	2.	400	4 x2 x1	1.00
PF01	0.1	600	2 ⅛ x1 ⅜ x ⅝	.45
PF025	0.25	600	2 ⅛ x1 ⅜ x ⅝	.50
PF05	0.5	600	2 ⅝ x2 x ⅝	.65
PF1	1.	600	4 x2 x ⅝	.95
PF2	2.	600	4 x2 x1 ½	1.40
PF4	4.	600	4 ⅜ x2 ⅛ x1 ⅝	2.25
PAJ01	0.1	1000	2 ⅝ x2 x ⅝	.50
PAJ05	0.5	1000	4 x2 x ⅝	.85
PAJ1	1.	1000	4 x2 x1	1.25
PAJ2	2.	1000	4 ⅜ x2 ⅛ x1 ⅝	2.00

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World Radio History

CONTINENTAL FILTERNOYS

For Elimination of Electrical Radio Interference

Filternoys units reduce or eliminate man-made static! With the development of ultra sensitive receivers, the problem of interference elimination has become a major factor in the sale and servicing of these radios. Vacuum sweepers, electric refrigerators, cake mixers, and other kitchen gadgets, electric shavers, sewing machines, and a host of other items all contribute their share to spoiling good reception. Every buzz, snap, or crackle heard on a new radio lessens the chances of a sale, but these same disturbances open the path for the alert dealer to sell **"noise elimination service"** along with the radio—and at a profit!

The offices of doctors, lawyers, dentists, and professional men—where radio provides entertainment and relaxation for waiting clientele—offer a lucrative market to radio servicemen who have the ability to locate man-made radio interference and quiet it with CONTINENTAL CARBON Filternoys devices. Filternoys are of three types: **Suppression** to block radiation of interference at its source; **Rejectors** to prevent noise from entering a receiver's power supply; and **Diverters** intended for use anywhere along a power line to divert interference to the ground. **Filternoys** are simple to install and profitable to sell. Never be without them in stock.

Filternoys F1005DH and F505DH

Are Used at Electrical Devices to Eliminate Radio Interference

SUPPRESSION TYPE

Two chokes and two condensers are contained in this heavy duty unit intended for motors, neon signs, and on the individual circuits of a store or residence where it is necessary to exclude interference following the power lines. It may also be used on oil burner circuits in conjunction with OB15 oil burner ignition suppressors. 10-Ampere capacity. Size 4⅜" by 3" diameter. 110 to 220 volts, a.c. or d.c.

Filternoys F1005DH ..... List Price $5.00

SUPPRESSION TYPE

Contains two medium size choke coils and two condensers suitable for suppression of noise from heater pads, flat-irons, domestic refrigerators, diathermy and dental machines, mangles, hair driers, etc. Handy plug-in type with soft rubber non-breakable plug on 36" cord. Suitable for devices on 110-120 volts drawing less than 550 watts. Size 4⅜" by 2½" diameter. With flexible ground wire, a.c. or d.c.

Filternoys F505DH ..... List Price $4.00

Filternoys F05D - Diverter Type

Suitable for Across Brush Arms of Large KW Generators

Filternoys Diverter F05D is a dual capacitor designed to resonate a power supply line to a point below broadcast frequencies and to divert interference to ground. For voltages up to 220 regardless of watts load. Size 4⅜" x 2½" diameter. Wire leads. Low power factor.

F05D ..... List Price $2.50

Filternoys G01DH

SUPPRESSION TYPE

A wire-in suppressor with dual chokes and two condensers with a grounded frame. Suitable for equipment having grounded frame or a connection to metal BX wiring conduit. For diathermy and dental machines where the G01DH unit may be mounted within the interfering device and for small motors of exhaust fans, pumps, and compressors. Size 3⅜" by 1¼" diameter, 6-inch leads, 300 watts, a.c. or d.c., 110-130 v.

Filternoys G01DH ..... List Price $1.50

Filternoys R305DH and R01DH

Are Used at Radios to Block Incoming Line Interference

REJECTOR TYPE

Contains two chokes and two condensers properly connected to block noise from entering a radio receiver through its power line circuit. Supplements a noise rejecting aerial system for complete quieting. Intended for stores, hospitals, or homes where line interference is particularly severe. 660-Watt capacity on 110 to 220-volt a.c. or d.c. lines. Size 4⅜" by 2½" diameter. Plug-in type, with ground wire.

Filternoys R305DH ..... List Price $3.00

REJECTOR TYPE

A junior size line noise rejector with two chokes and two condensers for keeping moderate line interference out of a radio power line circuit. R01-DH helps particularly where traction line noise is picked up by house wiring and conducted to the radio outlet. Plug-in type for 110-120 v. a.c. or d.c. line. 5-Amp. capacity. Size 2⅝" by 1⅜" diam. Thoroughly insulated for safe handling.

Filternoys R01DH ..... List Price $1.00

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World Radio History

CONTINENTAL FILTERNOYS

Filternoys F01DH

Most Popular and Universal Plug-in Type

FOR ELECTRIC RAZORS

Counter Display Cards Available

SUPPRESSION TYPE

Handy plug-in type suppressor with two r-f chokes, two condensers, and a ground lead for use on electrical devices of 300 watts or less, creating interference of intermittent or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding machines, or electric typewriters. Size 2⅝" by 1⅜" diameter. 300-Watt capacity on 120 volts, a.c. or d.c.

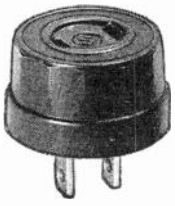
Filternoys F01DH ..... List Price $1.00

FREE! Attractive Counter Display Card with 24 - F18 Filternoys

Code 24-F18—List Price $12.00

Filternoys Diverter F18 is a compact 0.1 mfd capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

F18 ..... List Price $0.50



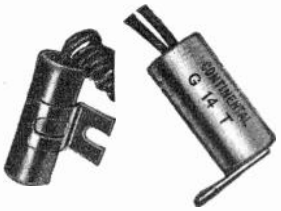
F18

Filternoys G01D and G14T

Designed to Be Mounted directly on Small Electrical Devices

Filternoys Diverter G01D—Dual capacitors in a grounded container for any size electric motor operating on 120 volts or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size 2⅛" by ¾" diameter.

G01D ..... List Price $0.50



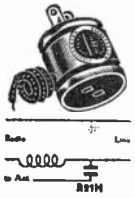
Filternoys Diverter G14T—Triple capacitors in a circuit which permits its use with all hand-operated motor driven devices without danger of shock. Particularly applicable to vacuum cleaners, flat-irons, etc. Size 1½" by ⅝". Flexible leads for direct connection.

G14T ..... List Price $0.50

Oil Burner Suppressor

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3½" x $\frac{13}{16}$" diameter. Universal connections at both ends for solderless contact.

OB15 ..... List Price $1.50



Aerial Substitute

R21H, for broadcast and short wave reception. A practical substitute aerial for use where a regular antenna is difficult to install or cannot be used. Diverts to the receiver signals picked up by the electric lighting system. Ineffective where electric system is completely shielded in conduit. Size 1¾" x 1⅜".

Filternoys R21H ..... List Price $0.50

CONTINENTAL CARBON INTERFERENCE CHART

Cause	Filternoys Unit	Cause	Filternoys Unit	Cause	Filternoys Unit	Cause	Filternoys Unit
Adding Machines	F505DH or F01DH	Dish Washers	F505DH	Hair Driers	F01H	Printing Presses	G01D or F05D
Aerators	F01H	Door Bells	G01DH or F05D	Heating Pads	F505DH	Razors, Electric	F01DH
Barbers' Clippers	F01H	Drink Mixers	F01DH	Malted Milk Shakers	F01DH	Refrigerators	F505DH
Beer Pumps	F1005DH	Electric Typewriters	F01DH or F18	Mangles	F505DH	Sewing Machines	G14T
Cash Registers	F01H	Fans	G01D or F01DH	Massage Exercisers	F505DH	Sign Flashers	F1005DH
Compressors, Air	F1005DH	Flat-irons	F505DH	Motors, Repulsion	F05D	Stoker Motors	F1005DH
Dental Motors	G01DH or G01D	Food Mixers	F01H	Motors, Series Type	G01D or F05D	Vacuum Cleaners	G14T
Dental Lathes	G01DH or G01D	Fruit Juicers	F505DH	Neon Signs	F1005DH	Violet-rays	F505DH
Diathermy Machines	G01DH or G01D	Generators	F05D	Oil Burners	OB15 or OB14	Washing Machines	F505DH
Dictographs	G14T	Hand Drills	G01D or F01DH	Ozonators	F01H	X-rays	F1005DH

World Radio History

INSULATED *Metallized* and WIRE WOUND RESISTORS

TYPE BT — INSULATED METALLIZED RESISTORS

Type BT-1/2—1/2 Watt

5/8" long x 3/16" diameter. All ranges shown in list from 50 ohms to 20.0 megohms.

List Price, Each.....$0.17

Type BT-1—1 Watt

1 1/4" long x 1/4" diameter. All ranges shown in list from 150 ohms to 20.0 megohms.

List Price, Each.....$0.20

Type BT-2—2 Watts

1 3/4" long x 5/16" diameter. All ranges shown in list from 200 ohms to 20.0 megohms.

List Price, Each.....$0.30

Other BT Resistor ranges available on special order.

Standard Stock Ranges

Subject to the minimum and maximum values for each of the various types of BT and type F Resistors listed above and the Type BW Insulated Wire Wound Resistors in outer column.

Ohms	Ohms	Ohms	Ohms	Meg.
0.5				
1	200	3,000	22,500	0.3
2	250	3,500	25,000	0.4
3	300	4,000	30,000	0.5
5	350	5,000	35,000	0.6
7.5	400	6,000	40,000	0.75
10	450	7,000	50,000	1.0
15	500	7,500	60,000	1.5
20	600	8,000	65,000	2.0
25	750	9,000	70,000	3.0
30	800	10,000	75,000	4.0
40	1,000	11,000	Meg.	5.0
50	1,250	12,000	0.1	6.0
75	1,500	12,500	0.125	7.0
100	2,000	15,000	0.15	10.0
120	2,250	17,500	0.2	20.0
150	2,500	20,000	0.25	

WHAT ARE "*Metallized*" RESISTORS?

"Metallized" Resistors differ from conventional units in that a homogeneous film of high resistance material is applied and bonded at high temperatures to insulating bases of various types. The result of this process is a resistance element of predetermined resistance value and accuracy. This process, time-tested throughout 16 years, has been utilized and perfected for seven distinctive types of resistors, each one internationally known for its high quality:

The Type BT "Metallized" Resistors, completely insulated in phenolic, and the Type F protected by ceramic, are perhaps the best known for radio and high frequency service.

Types FH and MG, protected by ceramic or glass, are made from 100 to 100,000 meg.

The Types C and CS "Metallized" Controls.

Type MP, a recently developed resistor for high frequency needs.

The New Type MV, a high voltage "Metallized" Resistor capable of carrying 50,000 volts on a 10 1/2" x 1 1/8" tube.

The inherent characteristics of "Metallized" Resistors are stability, low noise level, uniformity, non-ageing, low voltage and temperature coefficient and freedom from major humidity effects.

No other type of resistance material holds such an outstanding record of success. None holds such broad possibilities for future development.

IRC TYPE F RESISTORS

Unexcelled for high frequency work when constant impedance over a wide frequency band is essential.

1/2 Watt (Type F-1/2)—50 ohms to 10 meg. List....$0.17

1 Watt (Type F-1) — 100 ohms to 10 meg. List....$0.20

2 Watts (Type F-2)—50 ohms to 10 meg. List Price $0.30

TYPE BW — INSULATED WIRE WOUND RESISTORS

These are INSULATED wire wound resistors similar in appearance to the BT-1 Metallized units. Made in the low ranges, they offer new opportunities for stabilized inexpensive resistor applications in meters, as cathode bias resistors or for air cell battery use. They are most appropriate for use as center tap resistors, enabling many combinations of values to be obtained through parallel and series arrangements.

Type BW-1/2—1/2 Watt

5/8" x 3/16"—Wire Wound. Following ranges: 0.5, 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 100, 150, 200, 250, 300, 400, 450, 500, 600, 750 ohms. **List Price**.....$0.17

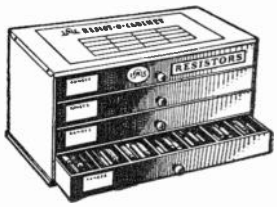
Type BW-1—1 Watt

1 1/4" x 1/4"—Wire Wound. Following ranges: 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 750, 800, 1,000, 1,250, 1,500, 2,000, 2,250, 2,500 ohms. **List Price**.....$0.20

Type BW-2—2 Watt

1 3/4" x 5/16"—Wire Wound. Following ranges: 1, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 750, 800, 1,000, 1,250, 1,500, 2,000, 2,250, 2,500, 3,000, 3,500, 4,000, 5,000, 6,000, 7,000 ohms. **List Price**.....$0.30

ALL METAL RESIST-O-CABINET



Get One Free! The largest, most durable, most practical cabinet of its kind. Will hold an essential stock of resistors or other parts. Made of 28 gauge metal finished in blue and silver. Four large metal drawers have metal partitions providing 28 separate compartments. Labels are attached to outside of drawers. Cabinet is 11" long x 5 1/2" deep x 5 1/2" high. Supplied with 59 IRC Type BT Insulated and Types AB and ABA Power Wire Wounds in frequently needed ranges. You pay only the standard price for the resistors. The Steel Resist-O-Cabinet costs you nothing extra!

CONTAINS 59 RESISTORS AS FOLLOWS:

TYPE BT-1/2 (1/2 Watt)—one each 1,000; 5,000; 10,000; 25,000 and 50,000 ohms; 0.1; 0.25 and 0.5 megohms.

TYPE BT-1 (1 Watt)—one each 40,000 and 75,000 ohms; 0.15 and 0.2 megohms.

Two Each—1,000; 1,500; 2,000; 2,500; 5,000; 15,000 and 25,000 ohms; 1.0 and 2.0 megohms.

TYPE BT-1 Three Each—10,000 and 50,000 ohms; 0.1; 0.25 and 0.5 megohms.

TYPE AB (10 Watts Fixed) One Each—1,000; 1,500; 2,500 and 5,000 ohms.

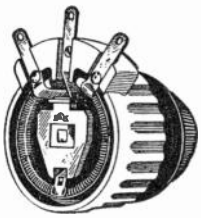
Two Each—10,000; 15,000 and 25,000 ohms.

TYPE ABA (10 Watts Adjustable) One Each—1,000; 2,500; 5,000 and 10,000 ohms.

Actual value of above 59 Resistors (Steel Cabinet included free). **List Price** $15.16

IRC RHEOSTATS

TYPE PR-25—25-WATT ALL METAL



Stated in few words, this latest IRC development means simply this: **More watts per dollar.** Due to the quick heat dissipation made possible by their all metal construction, IRC Type PR-25 Rheostats may safely be used at full rated load. Their 25 Watts rating is based on a hottest spot temperature rise of only 140° C. The same rating applies when as little as 1/4 of the entire resistance winding is in use. In this latter case, the temperature rise is only 160° C. These unique aluminum Rheostats are only 1 31/32" in diameter with a behind panel depth of 33/32". Even the resistance element is wound on an insulated quick heat-dissipating aluminum core. This provides uniform heat distribution, regardless of what percentage of the element is actually in service. This is the first of an important new series of Rheostats to be announced later by IRC.

IRC Type PR-25—25 Watt Rheostats

Total Ohms Resistance	Max. Current Milliamps.	List Price
0.5	7,000	$4.50
1	5,000	4.50
2	3,450	4.00
3	2,880	4.00
6	2,040	4.00
8	1,770	4.00
10	1,580	4.00
15	1,290	4.00
25	1,000	4.00
35	845	4.00
50	709	4.00
75	575	4.00
100	500	4.00
125	445	4.00
175	375	4.00
250	315	4.00
350	267	4.00
500	222	4.00
750	173	4.00
1,000	155	4.50
1,500	129	4.50
2,500	100	4.50
3,500	84	4.75
5,000	70	4.75

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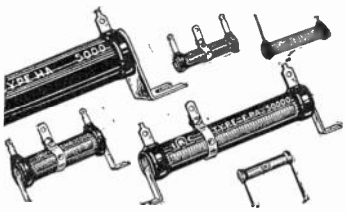
World Radio History

IRC *Cement Coated* WIRE WOUND RESISTORS

MOISTURE PROOF • GREATER LOAD CAPACITY • GREATER MECHANICAL STRENGTH • LOWER SURFACE TEMPERATURE • LONGER LIFE



IRC Cement Coated WIRE WOUND RESISTORS

FOR MAXIMUM SERVICE UNDER ALL HEAVY DUTY REQUIREMENTS

IRC Cement Coated Power Wire Wound Resistors are made in both fixed and adjustable types in popular sizes from 10 watts to 200 watts, and in many special sizes.

The ceramic core is non-hygroscopic and has great mechanical strength. The resistance alloy wire is of highest grade. No very fine gauge wire is used, even for the high ranges.

The Cement Coating is designed for maximum service under severe overload conditions and contains no ingredients that can prove chemically harmful to the resistor. It is applied and treated at a comparatively low temperature. This avoids any chance of straining or damaging the wire. It is extremely hard, affording excellent mechanical protection and is an excellent insulator. It is impervious to moisture.

Bands and mounting brackets are furnished as indicated in the following listings.

FIXED TYPES

10 WATTS
Type AB
1¾" x 5/16"

Range Ohms	Max. m. a.	List Price
1	3150	$0.40
2	2210	.40
3	1830	.40
5	1420	.40
7.5	1150	.40
10	1000	.40
15	820	.40
20	720	.40
25	640	.40
50	440	.40
75	360	.40
100	315	.40
150	260	.40
200	220	.40
250	200	.40
300	175	.40
350	169	.40
400	157	.40
500	140	.40
600	125	.40
750	115	.40
800	112	.40
1,000	100	.40
1,250	90	.40
1,450	83	.40
1,500	83	.40
2,000	71	.40
2,250	67	.40
2,500	63	.40
3,000	57	.40
3,500	53	.40
4,000	50	.40
4,500	47	.40
5,000	45	.40
6,000	41	.40
7,000	37	.40
7,500	36	.40
8,000	35	.40
8,500	34	.40
9,000	33	.40
10,000	31	.40
11,000	30	.40
12,000	28	.40
12,500	28	.40
14,300	25	.40
15,000	25	.40
20,000	22	.40
25,000	20	.40
30,000*	13	.40
35,000*	12	.40
40,000*	11	.40
50,000*	10	.40

20 WATTS
Type DG
2" x 9/16"

Range Ohms	Max. m. a.	List Price
1	4400	$0.65
5	2000	.65
10	1415	.65
25	895	.65
50	683	.65
75	517	.65
100	447	.65
150	365	.65
200	316	.65
250	282	.65
300	258	.65
350	238	.65
400	224	.65
500	200	.65
750	163	.65
800	158	.65
850	153	.65
1,000	141	.65
1,200	129	.65
1,250	126	.65
1,500	115	.65
1,750	107	.65
1,850	104	.65
2,000	100	.65
2,250	94	.65
2,400	91	.65

20 WATTS
Type DG—(Cont.)

Range Ohms	Max. m. a.	List Price
2,500	89	.65
2,750	85	.65
3,000	81	.65
3,500	75	.65
4,000	70	.65
4,500	66	.65
5,000	63	.65
6,000	57	.65
7,000	53	.65
7,500	51	.65
8,000	50	.65
9,000	46	.65
10,000	43	.65
11,000	41	.65
12,000	40	.65
12,500	39	.65
15,000	35	.65
20,000	30	.75
25,000	28	.75
30,000	25	.75
35,000	23	.75
40,000	22	.75
50,000	20	.75
60,000*	13	1.00
65,000*	12	1.00
70,000*	12	1.00
75,000*	11	1.00
80,000*	11	1.00
100,000*	10	1.00

50 WATTS
Type EP
4½" x ¾"
Mounting Brackets Included

5	3165	$1.10
10	2230	1.10
25	1390	1.10
50	1000	1.10
100	700	1.10
200	500	1.10
250	440	1.10
500	300	1.10
750	250	1.10
1,000	215	1.10
1,500	175	1.10
2,000	155	1.10
2,500	135	1.10
3,000	120	1.10
4,000	105	1.10
5,000	95	1.10
6,000	85	1.25
7,000	78	1.25
7,500	77	1.25
8,000	75	1.25
10,000	66	1.25
12,000	63	1.25
12,500	60	1.25
15,000	56	1.25
20,000	48	1.25
25,000	43	1.25
30,000	39	1.45
40,000	34	1.45
50,000	30	1.45
60,000	28	1.45
75,000	25	1.45
0.1 meg.	21	1.45

80 WATTS
Type ES
6½" x ¾"
Mounting Brackets Included

5	4000	$1.25
10	2730	1.25
25	1730	1.25
50	1220	1.25
100	865	1.25
200	612	1.25
250	545	1.25
500	387	1.25

80 WATTS
Type ES—(Cont.)

Range Ohms	Max. m. a.	List Price
750	316	1.25
1,000	274	1.25
1,500	223	1.25
2,000	193	1.25
2,500	173	1.25
3,000	158	1.25
4,000	137	1.25
5,000	122	1.25
6,000	112	1.50
7,500	100	1.50
8,000	98	1.50
10,000	86	1.50
15,000	70	1.50
20,000	61	1.50
25,000	55	1.50
30,000	50	1.75
40,000	43	1.75
50,000	39	1.75
60,000	35	2.00
75,000	31	2.00
0.1 meg.	27	2.25

100 WATTS
Type HA
6½" x 1⅛"
Mounting Brackets Included

25	2000	$1.50
50	1414	1.50
75	1155	1.50
100	1000	1.50
150	815	1.50
250	632	1.50
500	447	1.50
750	365	1.50
1,000	315	1.50
1,250	280	1.50
1,500	250	1.50
2,000	220	1.50
2,500	200	1.50
3,000	180	1.50
5,000	140	1.50
7,500	115	1.75
10,000	100	1.75
15,000	80	1.75
20,000	70	1.75
25,000	63	1.75
30,000	58	2.00
40,000	50	2.00
50,000	44	2.00
60,000	41	2.25
75,000	36	2.25
0.1 meg.	31	2.50

200 WATTS
Type HO
10½" x 1⅛"
Mounting Brackets Included

25	2830	$2.50
50	2000	2.50
100	1414	2.50
250	804	2.50
500	632	2.50
750	515	2.50
1,000	447	2.50
1,500	365	2.50
2,000	316	2.50
2,500	283	2.50
3,000	258	2.50
5,000	200	2.50
7,500	163	2.50
10,000	141	2.50
15,000	115	3.00
20,000	100	3.00
25,000	90	3.00
30,000	81	3.00
40,000	70	3.00
50,000	63	3.00
60,000	57	3.00
75,000	51	3.00
0.1 meg.	44	3.00

ADJUSTABLE TYPES

10 WATTS
Type ABA

Universally adapted for any resistance need up to 10 watts
1¾" x 5/16"
Extra Bands List $0.10

Range Ohms	Max. m. a.	List Price
1	3150	$0.60
2	2210	.60
3	1830	.60
5	1420	.60
7.5	1150	.60
10	1000	.60
15	820	.60
20	720	.60
25	640	.60
50	440	.60
75	360	.60
100	315	.60
150	260	.60
200	220	.60
250	200	.60
300	175	.60
350	160	.60
400	157	.60
500	140	.60
600	125	.60
750	115	.60
800	112	.60
1,000	100	.60
1,250	99	.60
1,450	83	.60
1,500	83	.60
2,000	71	.60
2,250	67	.60
2,500	63	.60
3,000	57	.60
3,500	53	.60
4,000	50	.60
4,500	47	.60
5,000	45	.60
6,000	41	.60
7,000	37	.60
7,500	36	.60
8,000	35	.60
8,500	34	.60
9,000	33	.60
10,000	31	.60

25 WATTS
Type DHA
2½" x 9/16"
Mounting Brackets Included
Extra Bands $0.10

1	5000	$0.85
3	2850	.85
5	2200	.85
10	1580	.85
15	1290	.85
25	1000	.85
50	710	.85
75	575	.85
100	800	.85
150	400	.85
200	353	.85
250	320	.85
300	289	.85
400	250	.85
500	224	.85
750	182	.85
800	177	.85
1,000	158	.85
1,250	141	.85
1,500	129	.85
2,000	112	.85
2,250	105	.85
2,500	100	.85
3,000	91	.85
3,500	84	.85
4,000	79	.85
5,000	71	.85

25 WATTS
Type DHA—(Cont.)

Range Ohms	Max. m. a.	List Price
6,000	64	.95
7,500	58	.95
8,000	56	.95
9,000	53	.95
10,000	50	.95
12,000	45	.95
15,000	41	.95
20,000	35	1.10
25,000	32	1.10

50 WATTS
Type EPA
4½" x ¾"
Mounting Brackets Included
Extra Bands $0.10

5	3165	$1.35
10	2230	1.35
25	1390	1.35
50	1000	1.35
75	810	1.35
100	700	1.35
150	550	1.35
200	500	1.35
250	440	1.35
300	375	1.35
400	350	1.35
500	300	1.35
750	250	1.35
800	248	1.35
1,000	215	1.35
1,250	195	1.35
1,500	175	1.35
2,000	155	1.35
2,500	135	1.35
3,000	120	1.35
4,000	105	1.35
5,000	95	1.35
6,000	85	1.50
7,500	77	1.50
8,000	75	1.50
10,000	66	1.50
12,000	63	1.50
15,000	56	1.50
20,000	48	1.50
25,000	43	1.50
30,000	39	1.70
40,000	34	1.70
50,000	30	1.70
60,000	28	2.00
75,000	25	2.00

80 WATTS
Type ESA
6½" x ¾"
Mounting Brackets Included
Extra Bands $0.10

5	4000	$1.75
10	2730	1.75
15	2230	1.75
25	1730	1.75
50	1220	1.75
100	865	1.75
200	612	1.75
250	545	1.75
300	500	1.75
400	430	1.75
500	387	1.75
750	316	1.75
800	305	1.75
1,000	274	1.75
1,500	223	1.75
2,000	193	1.75
2,500	173	1.75
3,000	158	1.75
3,500	145	1.75

80 WATTS
Type ESA—(Cont.)

Range Ohms	Max. m. a.	List Price
4,000	137	1.75
5,000	122	1.75
6,000	122	2.00
7,500	100	2.00
8,000	98	2.00
10,000	86	2.00
15,000	70	2.00
20,000	61	2.00
25,000	55	2.00
30,000	50	2.25
35,000	47	2.25
40,000	43	2.25
45,000	41	2.25
50,000	39	2.25
60,000	35	2.50
80,000	30	2.50
0.1 meg.	27	2.50

100 WATTS
Type HAA
6½" x 1⅛"
Mounting Brackets Included
Extra Bands $0.15

100	1000	$2.00
200	710	2.00
400	500	2.00
500	447	2.00
750	365	2.00
1,000	315	2.00
1,500	250	2.00
2,000	220	2.00
2,500	200	2.00
3,000	180	2.00
4,000	155	2.00
5,000	140	2.00
6,000	130	2.25
7,500	115	2.25
8,000	110	2.25
10,000	100	2.25
15,000	80	2.25
20,000	70	2.25
25,000	63	2.25
30,000	58	2.50
40,000	50	2.50
50,000	44	2.50
60,000	41	2.75
75,000	36	2.75
0.1 meg.	31	2.75

200 WATTS
Type HOA
10½" x 1⅛"
Mounting Brackets Included
Extra Bands $0.15

100	1414	$3.00
500	632	3.00
1,000	447	3.00
1,500	365	3.00
2,000	316	3.00
2,500	283	3.00
3,000	258	3.00
5,000	200	3.00
10,000	141	3.00
15,000	115	3.50
20,000	100	3.50
25,000	90	3.50
30,000	81	3.50
40,000	70	3.50
50,000	63	3.50
60,000	57	3.50
75,000	51	3.50
0.1 meg.	44	3.50

(*) To obtain these higher resistance values, an insulated enameled resistance wire and a special low-power cement coating are used. Therefore, these units are not recommended for use at higher than five watts for the AB type and 10 watts for the DG type.

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World Radio History

TODAY'S RADIO NEEDS IRC PRODUCTS

IRC PRECISION Wire Wound RESISTORS

IRC PRECISION Wire Wound Resistors are made in 14 standard inductive and non-inductive types in shapes, sizes and ranges for use wherever the highest accuracy and durability are essential. Consult general IRC Catalog for detailed listing of all types. 1% accuracy is standard. Closer tolerances available at slightly higher prices as follows: For ½% tolerance add 10% to following list prices; for ¼ of 1% accuracy add 15% to list prices; and for 1/10 of 1%, add 25%. Unexcelled for use as meter multipliers and shunts in increasing the range of single range voltmeters and milliammeters and for other precision instruments such as faders, gain controls, pads, etc.

Type WW-1—2⅛" x 9/16"
Type WW-2—2 13/16" x ⅞"
Type WW-4—1" x 9/16"
Type WW-5—1¼" x ¾"

	WW-4 List	WW-1 List
0.1; 0.5; 1; 10; 25; 50; 100; 200; 250; 300 and 500 ohms	$0.85	$1.15
1,000; 1,500 and 2,000 ohms	.90	1.15
2,500 ohms	.90	1.25
4,000; 5,000; 7,500 and 10,000 ohms	1.00	1.25
12,500 and 15,000 ohms	1.10	1.35
20,000; 22,500; 25,000; 30,000; 40,000 and 50,000 ohms	1.35	1.60
60,000 and 75,000 ohms	1.60	1.90
0.1 meg	1.85	2.10
0.125 meg	2.10	2.40
0.15; 0.175 and 0.2 meg	2.35	2.65
0.225 and 0.25 meg	2.60	2.90
0.3 meg	2.85	3.15
0.4 meg	3.00	3.15
0.5 meg	3.40	3.65
	WW-2	WW-5
0.6 meg	4.25	4.25
0.75 meg	4.50	4.50
0.9 meg	4.75	4.75
1.0 meg	5.25	5.25
1.5 meg	7.50	
2.0 meg	10.00	
2.5 meg	12.50	

For list prices of odd ranges not shown, use same price as given for next higher range.

Type WW-3 (9/16" x 9/16") with wire leads or lug terminals obtainable on special order at same price as WW-4. Made in all ranges from 1 ohm to 0.15 meg.

WW-4 and WW-5 with wire lead terminals instead of lugs are available on special order.

IRC Metallized MOTOR RADIO SUPPRESSORS

MCB Elbow Type

MS Spark Plug Type

MC Cable Type

MCA Cable End Type

MD Distributor Type

IRC Suppressors are designed for the elimination of ignition noise in automobile and motor boat radio installations; oil burner interference, etc. They are sturdily constructed as integral units without springs, steel wool, rivets or other intermediate parts which might loosen or corrode under intense heat, motor vibration, and climatic conditions.

"MCB" Elbow Type—Eliminates splicing cable. Recommended for Buicks and other cars having recessed plugs.

"MS" Spark Plug Type—A sturdy unit which meets the most exacting demands for spark plug noise suppression.

"MC" Cable Type—A convenient unit for use where cable may be spliced.

"MCA" Cable End Type—Especially recommended for Fords and all cars where a small, light-weight unit for convenient cable type installation is required.

"MD" Distributor Type—Spring terminal snaps into distributor socket. Cable is plugged into socket terminal of suppressor.

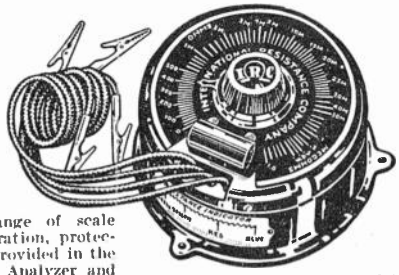
All Types—List Price $0.30 Each

IRC RESISTANCE ANALYZER & INDICATOR

A CALIBRATED VARIABLE INSTRUMENT
For All Kinds of Resistance Measurement

FREE!

Interesting 16-Page Manual for Use Furnished with EACH Indicator

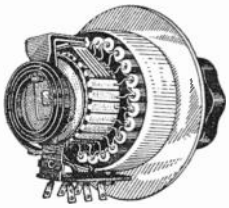


The ultimate in range of scale reading, ease of operation, protection and design are provided in the new IRC Resistance Analyzer and Indicator. Among its many uses may be mentioned: Voltmeter multiplier; wire wound rheostat or potentiometer (0 to 30,000 ohms); carbon rheostat or potentiometer (30,000 to 1 megohm); volume or tone control on radio sets; calibrated gain control or attenuator; voltage divider; resistance analyzer for the measurement and determination of resistance values either by substitution or voltage measurements; for estimating the resistance value and taper of volume controls, etc. A complete 16-page instruction manual furnished with each Analyzer details its many uses.

Direct reading—only one adjustment knob to vary resistance from zero to 1.0 megohm. Resistance forms will not warp or expand, thus eliminating wire breakage. Elements are completely enclosed. Diameter is 4¾", height 3¼". Molded black Bakelite case. Four test leads have handy, small-size alligator clips. Furnished with three fuses—5/8, 1/32, and 1/200 amp., for use in various applications.

Resistance Analyzer (including 3 fuses and 16-page instruction booklet) ..... NET PRICE $4.95*

Type A-21 IRC ATTENUATORS



The new IRC Type A-21 Attenuator utilizes a molded motor commutator with conducting segments of polished, hard-drawn copper molded in phenolic. By combining this obvious advantage with a multi-finger beryllium copper contact and a flat, spiral spring connector that eliminates one series pressure contact, an original low noise level maintained in actual service is made possible. IRC Insulated Resistors are used.

Both straight potentiometer and ladder type networks are available. Attenuation range is from 0 to infinity in 21 steps, linear attenuation to 45 DB in 18 steps of 2.5 DB per step, tapering to infinity. Standard impedances are 50, 200, 250 and 500 ohms for the ladder network and 250,000 ohms for the stepped potentiometer. Supplied with detent. Removable aluminum cover provides electrostatic shield. Unit is 2" long, 2" in diameter. Panels up to ¼" in thickness can be accommodated. Calibrated dial plate and a knob are furnished.

Type	Impedance	Network	NET Price
A-21L50	50 ohms	Ladder	$7.00*
A-21L200	200 ohms	Ladder	7.00*
A-21L250	250 ohms	Ladder	7.00*
A-21L500	500 ohms	Ladder	7.00*
A-21-250M	250,000 ohms	Potentiometer	6.75*

UNIVERSAL BLEEDER RESISTORS

Type M-1034—25,000 ohms over-all resistance, tapped at 7,500; 10,000; 12,500 and 15,000 ohms. 18 watts rating attached flat to chassis, 9 watts free air rating. Used as bleeder in any power supply up to 500 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Bracket supplied.

M-1034—IRC Bleeder Resistor ..... List Price $1.25

Type MP Power Type HIGH FREQUENCY RESISTORS

This new type Metallized Resistor is unexcelled as terminating resistor for Rhombic Antenna. Ratings represent maximum allowable dissipation in free air, based on maximum temperature of 140° C.

	NET Price
Type MPO—800 ohms, 50 watts, 1⅛" diam. x 10½" long	$5.00*
Type MPR—800 ohms, 150 watts, 2" diam. x 18½" long	10.00*
Type MPR—400 ohms, 150 watts, 2" diam. x 18½" long	10.00*

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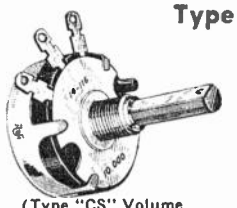
World Radio History

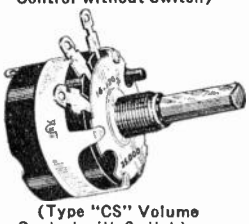
IRC Metallized CONTROLS

SILENT SPIRAL CONNECTOR • MULTI-FINGER CONTACT

Type CS VOLUME CONTROLS



(Type "CS" Volume Control without Switch)



(Type "CS" Volume Control with Switch)

New IRC Volume Controls, Type CS, are a logical adaptation of the famous IRC Metallized Type Resistance principle to variable resistor use. They feature the proven 5-Finger "Knee Action" Silent Element Contact plus the exclusive Silent Spiral Connector (patent applied for). These Controls afford the utmost in Stability, Quietness, Permanency and Uniformity to prescribed taper. Made in a popular line of 42 standard values in the smallest physical size consistent with maximum efficiency. Easily attachable switches are available in five types. Aluminum shafts are 3" long, with milled flat 3/32" deep along entire length. A spacer 1/16" thick is supplied to decrease depth to 1/32" where required.

STANDARD CONTROL LIST PRICES

Standard Single Controls—
Without switch (plain cover)....$1.00

†Standard Tapped Controls—
Without switch (plain cover).... 1.50

SWITCH PRICES

No. 21—Single Pole—Single Throw. List Price.....$0.50
No. 22—Double Pole—Single Throw. List Price..... .60
No. 23—Single Pole—Double Throw. List Price..... .60
No. 24—Three Point. List Price..... .60
No. 25—Four Point. List Price..... .60

Type CS STANDARD CONTROLS
A Type for Almost Every Need

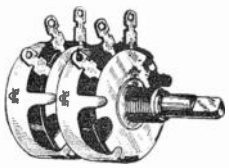
Resistance Ohms	Type No. Without Switch	Taper	Usual Application
500	11-103	A	Potentiometer Voltage Divider
1,000	11-108	A	Potentiometer Voltage Divider
2,000	11-110	A	Potentiometer Voltage Divider
3,000	11-112	A	Potentiometer Voltage Divider
4,000	11-113	A	Potentiometer Voltage Divider
5,000	11-114	A	Potentiometer Voltage Divider
5,000	13-114	C	Antenna Control
7,500	11-115	A	Potentiometer Voltage Divider
10,000	11-116	A	*Antenna Grid Bias Control
10,000	13-116	C	Antenna Control
10,000	14-116	D	*Antenna Grid Bias of 2 Tubes
10,000	16-116	F	*Antenna Grid Bias of 1 Tube
15,000	14-118	D	*Antenna Grid Bias Control
15,000	16-118	F	*Antenna Grid Bias Control
20,000	16-119	F	*Antenna Grid Bias Control
25,000	11-120	A	Potentiometer Voltage Divider
25,000	14-120	D	*Grid Bias Control
25,000	16-120	F	Antenna Control
50,000	11-123	A	Potentiometer Voltage Divider
50,000	13-123	C	Tone Control
75,000	13-125	C	Tone Control
75,000	14-125	D	*Grid Bias Control
100,000	11-128	A	Potentiometer Voltage Divider
100,000	13-128	C	Tone or Audio Circuit Control
200,000	11-129	A	Potentiometer Voltage Divider
200,000	14-129	D	*Grid Bias Control
250,000	13-130	C	Tone or Audio Circuit Control
250,000	†13-130X	H	Tapped Tone Compensation
250,000	14-130	D	*Grid Bias Control
350,000	†18-132X	H	Tapped Tone Compensation
500,000	11-133	A	Potentiometer Voltage Divider
500,000	13-133	C	Tone or Audio Circuit Control
500,000	†13-133X	H	Tapped Tone Compensation
1.0 Meg	13-137	C	Tone or Audio Circuit Control
1.0 Meg	†13-137X	H	Tapped Tone Compensation
1.0 Meg	†VC-539X	..	Fader Control for fading out of one circuit into another
2.0 Meg	13-139	C	Tone or Audio Circuit Control
2.0 Meg	†13-139X	H	Tapped Tone Compensation
3.0 Meg	13-140	C	Tone or Audio Circuit Control
5.0 Meg	11-141	A	Potentiometer Voltage Divider
7.0 Meg	11-142	A	Potentiometer Voltage Divider
10.0 Meg	11-143	A	Potentiometer or Rheostat

*A 300 ohm BT-½ (½-Watt) Insulated Metallized Resistor is included without additional charge with every Control indicated by an asterisk (*) for use as external grid bias resistor.
†All Controls marked with an "X" following the part number are tapped.

F R E E ! 216-Page VOLUME CONTROL GUIDE

In addition to the 42 standard types, IRC Type "CS" Volume Controls are made in a complete line of Special Replacements for practically every radio receiver in common use. The new edition of the IRC Volume Control Replacement Guide—just off press—containing 216 pages—and listing all standard and special replacement types is available free to servicemen. It includes handy control and resistance calculation data and resistor catalog. Ask for your copy!

IRC DUAL and TRIPLE CONTROLS
Standard Type CS



IRC controls can be provided in any combination of two or three units operated from the same shaft.

SWITCHES—The same switches can be used with these Controls as with the single controls. Descriptions and prices of these switches appear in the opposite column.

IRC Dual Volume Controls

IRC Type No.	Resistance	List Price
35-1620	10M ohms and 25M ohms	$2.50
61-1623	10M ohms and 50M ohms	2.50
33-2828	100M ohms and 100M ohms	2.50
33-3030	250M ohms and 250M ohms	2.50
33-3333	500M ohms and 500M ohms	2.50
33-3939	2.0 Meg. and 2.0 Meg.	2.50

TRIPLE CONTROLS are specified for a number of Exact Duplicate Replacements, but are not listed separately as standard controls. These and practically any special multi-gang controls are available on special order.

IRC L-PAD and T-PAD ATTENUATORS

By the use of special tapers and connections, the well-known IRC Type "CS" Dual and Triple Controls are now available as L-Pad and T-Pad Attenuators. Because of the extremely low noise level of these units resulting from the Silent Spiral Connector, the 5-Finger Silent Element Contactor and other IRC features, they are specially adapted to controlling low level input circuits in inexpensive sound equipment of all kinds.

L-PADS (Dual) Type J-976—500 ohms. List Price.....$2.50
T-PADS (Triple) Type J-977—500 ohms. List Price..... 3.50

8 STANDARD TAPERS

TAPER A—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

TAPER B—A semi-logarithmic curve used as tone control or audio circuit control.

TAPER C—A logarithmic curve. Used as audio circuit control or antenna shunt control.

TAPER D—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

TAPER E—Used as a rheostat in cathode circuit to control grid bias.

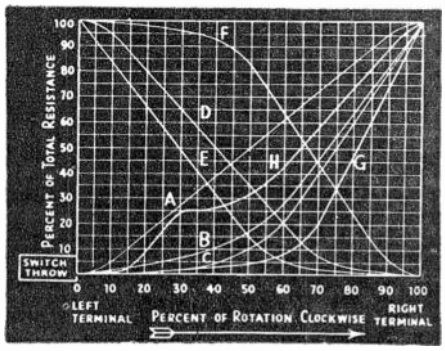
TAPER F—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is essential in controlling volume. Generally used where the control changes the grid bias of only one or two tubes. Must not be used with heavy currents.

TAPER G—A logarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenna shunt control.

TAPER H—A tapped logarithmic curve used as audio level control for automatic bass compensation.

Standard Controls are made with Tapers A, C, D, F and H only. Special Replacements use all eight curves.

SPECIAL CONTROLS having resistances or tapers not listed as standard may be obtained by special order.



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World Radio History

IRC REPLACEMENT CONTROLS

Manufacturer and Models	IRC No.	List Price
ALL AMERICAN MOHAWK		
11-D, 19-D, 19-H, 29-H, 3-D	J-270	2.50
39, 40, 41, 712, 722	11-120	1.00
S-63	14-116	1.00
8-SW, 10-S, 65-SA, 80-SW, 90-SA, 91-SA, SA-110	13-133 S-21	1.50
Lyric K	13-133	1.00
70, 73, 75 Lyric	J-59	2.50
SA-130	J-405	1.50
B80	J-112	2.50
1931 DC	J-128	2.50
ATWATER-KENT		
37, 38, 40, 40-F, 41, 42, 42-F, 43, 44, 46, 47, 51, 52, 53	J-192	1.50
33, 424, 534, 816, 936	13-133	1.00
84 Early, 84-D, 84-F Early, 84-Q, 85 Early	J-193	2.00
145, 206, 325	13-133 S-21	1.50
99-P, 155 (all types) 228-D, 228-F, 236, 266, 448, 460 (all types), 467, 555 (both types), 588, 666, 926	13-133 S-21	1.50
387 (both types)	11-133 S-22	1.50
67 Battery, 67-C, 85-Q, (all types)	J-195	1.50
55-C Late, 55-F Late, 55-FC Late, 56 Late, 57 Late	J-272	2.50
80, 80-F, 83, 83-F, 90, 90-F	J-196	2.00
82, 82-F, 85 Late, 85-F	11-103 S-21	1.50
H-1, H-2	J-11	2.50
D, F, L-1, L-2, P	J-273	2.50
82D-DC, (all types), 84-D Late, 89, 89-F, 89-P, 92, 92-F, 96, 96-F, 99, 99-F, 165 Late, 185, 185-A, 188, 188-F, 260, 260-F, 469, 469-D, 558, 588-D, 612, 627, 812	J-335	2.00
BELMONT		
404	J-189	1.50
755	J-995	2.00
879	J-992	2.00
1070, 1170-B, 1173, 1174, 1175; (Tone)	J-991	2.00
BOSCH		
7, 7-A, 7-C, 20, 20-L, 31, 32, 36, 37, 73, 74, 133, 135, 236, 237, 305-A	J-197	2.00
10, 46-AC, 58, 60, 62-DC, 63, 96, 96-DC, 107, 116, 126, 136, 146, 166, 176, 242-E, 243, 312, 313 Tone	13-133	1.00
60, 61, 62	J-340	1.50
524, 536 (with sel.), 634	J-764	2.00
736, 737, 738, 838	J-987	1.50
58, 62-AC, 62-DC	J-274	1.50
28, 29	J-222	1.50
48-AC, 49, 54-DC	J-275	2.50
BREMER TULLY		
6, 8-AC, 8-12, 8-13, 8-16, 8-17	13-133	1.00
6-40, 6-41, 640, 641	16-120	1.00
7-70, 7-71, 8-20, 8-21, 8-22	16-118	1.00
36, 85	11-113 S-21	1.50
S-81, S-82	11-112 S-21	1.50
BRUNSWICK		
B-17, PR-17-8	J-277	1.50
21, 31	14-120 S-21	1.50
81, 821	14-125	1.00
COLONIAL		
25, 600, 600-A, 601, 602, 603, 604, 651, 652, 656	13-133	1.00
76, 397-T, 399-C, 495-C	16-118 S-21	1.50
32-AC, 32-DC	J-8	2.50
52	14-118	1.00
62, 73	16-116 S-21	1.50
250-AC-DC, 250-AC-SW, 300-AC-DC, 300-AC-SW, 501, 501-AC, 650, 655, 658, 700-AC, 701-AC, 702-AC	13-133 S-21	1.50
400	J-997	3.00
434, 439, 440, 441, 444, 493	J-998	1.50
CROSLEY		
22, 23	13-116	1.00
30, 30-S, 31-S, 32, 33-S, 34-S, 40-S Late, 51-S Late, 42-S Late, 45-S Late, 82-S, 315	J-63	1.50
41A, 42 Early, 61, 602, 608, 609, 610 Gem Box, 704, 705, 706, female shaft	J-278	1.50
84	J-999	1.50
6625	J-985	2.50
555, 666, 5555, 5666	J-984	3.00
804	J-319	1.50
1216, 1316, 1336, 1516	J-986	2.50
53, 54, 55-DC, 56-DC, 57, 58	J-264	1.50
95-Auto, 96-Auto	J-199	2.00
98, 99-Auto	13-140 S-21	1.50
CROSLEY (Con't)		
134, 134-1, 146, 146-1, 150, 157, 158, 160, 168-D, 170, 171	J-200	1.50
172, 174(add 160 ohm bias resistor)	16-116 S-21	1.50
176 (add 300 ohm bias resistor)	16-116 S-21	1.50
169 Early	J-304	2.00
169 Late	14-116 S-21	1.50
706 Early (Long Shaft)	J-201	1.50
Auto Roamio, B Series	13-133	1.00
5V1, DeLuxe Fiver	13-139 S-21	1.50
7H2, 7H3	J-202	1.50
8B3	J-203	1.50
Johnny Smoker	11-110	1.00
55, 126	J-68	1.50
124, 125	J-352	2.00
5-M3, Dual Fiver, 40, 141, 148, 159, 167, 184	J-807	2.00
DETROLA		
4-D, Hamilton, Renfrew, Windsor, York	J-205	2.00
Roadmaster	13-133	1.00
155X, 163, 165, D-692	J-990	1.50
DE WALD		
53, KAD, KAF, KRE	16-118 S-21	1.50
532-3DC, 535-6-AC, 547-AC, 547-A-AC, 646-7-AC, 746-M-AC	11-114	1.00
732 D.C.	11-116	1.00
EDISON RADIO		
C-1, M-6, E-175, SC; Front Unit	J-207	1.50
R-1, C-2, R-2, R-3, SRC-3, M-5, M-6; Rear Unit	J-206	1.50
R-4, R-5, Abbey Jr	J-98	3.00
R-6, R-7 (Early)	J-52	1.50
EMERSON		
H-5, 26-AW, 26-LW, 30, 30-AW, 30-LW, 33, 33-AW, 33-LW, 250, 250-AW, 250-LW, 300, 321, 321-AW, 321-LW, 350, 350-AW, 350-LW, 409, 410, 411, 415, 416, 420, Mickey Mouse	J-208	2.00
DS-5, 39, 59	J-817	3.00
F-6-D (Chassis), 280	J-983	3.00
4-DC, 4-L-DC, 55-AW, KS, L-AC-A	14-116 S-21	1.50
4-L-AC, 5-LA-C, JS, T, TS	J-209	2.00
EVEREADY		
1, 2, 3	J-222	1.50
Series 30, 40	11-108	1.00
31	14-125	1.00
Series 50 Early	J-93	2.50
Series 50, Late	J-828	2.50
FADA		
16, 16-Z, 17, 18-DC, 32, 32-Z	J-61	1.50
41, 42, 44, 46, 47	13-137	1.00
35B	J-142	2.50
35, 35Z, 75, 77	J-81	1.50
43, 762, KF, KG	J-111	2.50
45, 45-KU, 51, 53, 57, KX-61, 66, 66-KX, 171, 173, 173-KOC	11-116	1.00
48-KW, 49-KW	13-133	1.00
55, 58, KC, KO, RG	14-116 S-21	1.50
73, 74, 76, 79, 83, 85, 88, 89, RA, RC, RE	13-137 S-21	1.50
GALVIN (Motorola)		
Golden Voice, 60, 70, 75, 79, 80	J-821	2.00
Motorola K40	J-56	1.50
50, 100, 101	J-820	2.00
57, 62	J-822	2.00
65	J-979	2.00
GENERAL ELECTRIC		
GET-12	16-118	1.00
T-12	J-326	1.50
S-22, S-22-X, H-31, H-51 Volume, H-71 Volume	J-211	1.50
S-42	J-286	1.50
M-51, M-56	J-285	2.00
K-62, J-80, K-82, J-85, S-132	J-210	1.50
J-82	J-266	1.50
H-91, H-91-R	13-123	1.00
M-85, M-86, M-89	J-188	1.50
A-82, A-86, A-87	J-823	2.50
T-41	J-107	2.50
M50, M51, M51A, M-52, M-55, M-56, C-60, M-62, M655	J-285	2.00
N-60	J-751	2.00
E-61, E-62, E68, E71, E72, E-76, S-81, E86, E91, E95, E-101, E-105, E-106	J-967	2.00
GENERAL ELECTRIC (Con't)		
M61, M66, M67, M69, M81, M85, M86, M89	J-188	1.50
K62, KZ-62-P, J-80, K82, J-85, S-132, JZ-835	J-210	1.50
F-63, F-65, F-66, F-74, F-77	J-981	2.00
F-70, F-75, F-81, F-86	J-1002	1.50
D-50, D-51, D-52, D-72	J-960	2.00
A-83, A-85, E-115	J-970	1.50
F-96, F-107, F-135	J-1003	1.50
A-125	J-993	2.50
E-126, E-129	J-971	2.00
E-155	J-969	2.00
FA-61, FA-60, FA-80	J-973	1.50
F40	J-974	2.00
F51	J-975	2.00
GENERAL MOTORS		
120, 130, 140 Chassis A below 29, 100A, Chassis B below 1,700 B	J-100	2.50
120, 130, 140 Chassis A above 29,099A, Chassis B above 1,699B	J-110	2.50
160, 1001	J-102	2.50
120, 130, 140 (Tone)	J-54	1.50
S-1A, S-1B, 216, 217, 219, 250	J-312	2.00
S-2A, S-2B, S-3A, S-3B, 252, 253, 254, 255, 256, 257, 258, Volume	J-226	2.00
S-4A, S-4B, 290-A, 290-B, 291-A, 291-B	J-40	2.00
GRAYBAR		
GT-7, GB8A, GB8 Midget, GC-13	J-286	1.50
GB311, DC	J-280	1.50
GB-700, GB-770, GB-900	J-211	1.50
GB-770, GB-900 Tone	11-123	1.00
GEN HOUSEHOLD UTILITIES (Grunow)		
Chassis 8-A, 500, 801	J-565	2.00
Chassis 11-A, 1151, 1152	13-137 S-21	1.50
Chassis 5-G, 501, 580; Tone	13-133X	1.50
660, 661, 662, 6A, C, F	J-574	1.50
7-B, 7-D, 750, 751, 752, 753; Tone	J-567	2.00
Chassis 9-A, 901, 902	J-834	2.00
450 (4-A)	J-234	2.00
11-A Chassis Tone	13-133	1.00
5G, 6G, 6J, Chassis, 580, 581, 640, 641, 680, 681	J-819	2.00
7B, 7E Chassis, 750, 751, 752, 753, 7-D	J-567	2.00
8A, 9A Chassis, 901, 902	J-834	2.00
11-C, 12-A Chassis 1171, 1241	J-835	1.50
HOWARD		
S-2	J-257	2.00
MAJESTIC		
70 and 70B	J-85	1.50
90, 90-B, 91, 92, Chassis 90	J-58	1.50
20, 21, 22, 23	J-236	2.00
15, 15-B, 150	J-45	2.00
60, 61, 62	J-292	1.50
130, 130-A, 131, 132	J-293	1.50
25 Chassis	J-238	2.00
30 Chassis	J-294	3.00
100 Chassis	J-239	2.50
50, 51, 52	J-295	2.50
15 Chassis: Tone Control	J-25	1.50
180, 181, Phono Control	16-120	1.00
110 Auto	J-70	1.50
340, 344, 360, 363, 390, 393 (Tone)	J-21	2.00
340, 344, 360, 363, 390, 393	J-38	1.50
260	J-51	2.00
210, 211, 214, 215	J-72	1.50
200, 201, 203, 204	J-73	1.50
220, 221, 223	J-78	1.50
490, 491, 493	J-155	1.50
570	J-156	1.50
77, 290, 291, 293, 294, 310A, 310B, 311, 314, 315, 320, 324, 330, 331, 336	J-165	1.50
67, 68, 69, 196, 460, 461, 463, 666, 886, Century Six, Master Six, Park Ave., Ritz Lido, Riviera	J-166	1.50
800	J-169	1.50
118 Ford Auto	J-178	1.50
90, 101, 180, 181, 320, 321	J-876	1.50
MIDWEST		
16-34	J-1006	2.50
16-35, Imperial 18 (1935)	J-1007	3.00
MONTGOMERY-WARD (Airline)		
62,-77, 95, 110, 120, 122, 126, 128, 149, 155, 160, 162	J-2	1.50
62-103, 62-105	J-365	2.00
62-118	J-1008	2.00

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World Radio History

IRC REPLACEMENT CONTROLS

Manufacturer and Models	IRC No.	List Price
MONTGOMERY-WARD (Airline) (Con't)		
62-166, 62-202	J-751	2.00
62-169, 62-171	J-189	1.50
62-178, 62-181, 62-189, 62-211	J-762	2.00
62-179, 62-194, 62-206, 62-216, 62-218	J-940	3.00
62-185, 62-186, 62-187, 62-190, 62-196	J-763	3.00
62-197	J-752	3.50
62-313, 62-314	J-978	2.00
13, 15, 16, 16X, 17 (1933), 18, 18X, 20W, 26P, 26PX, 49, 62-055, 62-232, 62-520	16-116	1.00
11-12 (Early), WG-24, 62-020 (1st), 62-29 (1st)	14-116	1.00
11-12 (Late), 62-11 (2nd), 62-14 (2nd), 62-19 (2nd), 62-21, 62-22, 62-27 (2nd), 62-29 (2nd), 62-30, 62-138, 1932 Auto	13-133	1.00
1522, 1562, 1611, 1711, 1922, 3035, 3037, 3063, 3065, 3067, 11000 Chalenger (2nd Type)	16-116	1.00
62-11 (1st), 62-12 (1st), 62-14 (1st), 62-19 (1st), 62-27 (1st), Grenadier	11-114	1.00
62-38, 62-40, 62-50, 62-91, 62-93, 1238 Recital, 1355 Minstrel, 1955	13-137	1.00
1711 (Tone)	J-49	2.00
62-103, 62-105 (Tone)	J-765	1.50
2955	J-10	2.50
MOTOROLA		
5 Motorola, 5T71, 6T12	14-125	1.00
NOBLITT-SPARKS (Arvin)		
7, 17, 27, 37	J-1001	2.00
9-A, 19, 29, 39, 18, 28, 33	J-1009	1.50
15, 16, 25, 35, 45	J-1010	2.00
PHILCO		
5, 82, 86, 87, 511, 521, 531, 541, 551, 561, 571, 581	J-5	1.50
96, 96A, 30, 111, 111A, 112, 112A, 112E, 211, 211A, 212, 212A, 212E	J-84	1.50
71H, 71L, 71B	J-36	1.50
70 Early, 70A Early below Serial Number 22001; 90, 90A Using two '45	J-296	2.50
70, 70A: Serial Numbers above B-22000; 90 Using two '47, Serial Numbers 32,001 to B35,000 and above B53,100	J-170	1.50
73, 76	J-297	1.50
38-1, 38-2, 38-4, 38-5, 38-7, 38-8, 38-9, 38-23	J-1011	1.50
37-116, 37-610, 37-623, 37-630, 38-3, 37-9, 37-10, 37-11, 37-611, 38-116, 38-623, 37-624, 38-624, 37-620, 37-641, 37-643, 37-640, 37-660, 37-650, 37-655, 37-665, 37-670, 37-675	J-958	1.50
37-61, 37-89	J-956	1.50
95	J-6	1.50
20, 20A, 21, 220	J-298	2.50
24, 51, 51A, 52	J-35	1.50
16, 17 Early	J-243	2.00
17 Late, 118	J-244	2.00
124	J-246	1.50
25	J-248	2.00
610	J-250	2.00
611	J-251	2.00
620	J-252	2.00
32	J-174	2.00
23X	13-133	1.00
91 Late	J-844	1.50
91	J-856	1.50
90, 90-A, Using one 47 above No. 237001, 490	J-171	1.50
19, 89 (Late)	J-184	1.50
680	J-185	1.50
38 Battery, 38 Code 123, 38-A Battery	J-175	1.50
806, 809, 810 Car Radio	J-181	1.50
60, 66, 261, 505	J-408	2.00
16 Series 5, 650, 116-B (Code 121) (Check resistance of original control) 655, 660, 665	J-556	2.00
28 (Tone), 29 (Tone), 45 (AC-DC) 28 (AC-DC)	J-560	2.00
640 (Tone), 645	J-628	2.00
80	J-562	2.00
37-84 (Code 122), 84, 84-B	J-761	2.00
FT-9 Ford, 816, 817	J-777	1.50
CZ Chrysler, DU Dodge, G (Code 122) Dodge, Chrysler, Hupmobile, PJ Plymouth, CT-2 Chrysler, CT-5 Chrysler, CT-5 De Soto, C-6, FT-6 Ford	J-781	2.00
50, 50-A	J-863	2.50
RCA-VICTOR		
Radiola 17, 50, 41, 7-25, 7-54	J-277	1 50
Radiola 18, 33, 51, 7-11, 7-26	J-280	1.50
RCA-VICTOR (Con't)		
Radiola 44, 46, 47	J-281	1.50
Radiola 60, 62	J-282	1.50
Radiola 66	J-283	1.50
80, 82, 86, 35, 39	J-211	1.50
Superette R-7A, R-7-DC	J-286	1.50
R-8, R-10, R-11, RE-18, R-21, RAE-26	J-210	1.50
42, 48	J-107	2.50
R-32, RE-45, R-52, RE-75	J-127	2.50
100, 101	J-287	2.00
118	J-285	2.00
120	J-213	1.50
121, 122, 221	J-262	1.50
140, 141, 141E, 240	J-216	1.50
210, 310	J-288	2.00
220, 222	J-215	1.50
260, 261, 280	J-552	2.00
R-34, R-35 Micro-Synchronous, R-39, R-39 Micro-Synchronous, RE-57, Micro-Synchronous, RE-73	J-106	2.50
5-T, C-6-8, C-6-2, 6-T, 6-K, 6-T-2, 6-K-2, T-6-1, T-6-7, T-6-8, C-7-6, D-7-7, T-7-5, 7-T, 7-K, 7-U, 7-X, C-8-15, C-8-19, C-8-20, 8-K, 8-T, T-8-14, T-8-16, C-8-17, T-8-18, D-8-28, C-9-4, 6-9-6, D-9-19, T-9-10	J-693	1.50
9-K, 9-K-2, 9-T, 10-K	J-699	1.50
T-10-1, T-10-3, C-11-1, C-11-3, D-11-2, C-13-1, C-13-2, 10-T	J-945	1.50
128, 128-E, ACR-136, 143, 143 1934 Production, 224, 224-A, 224-E, M-226, 242, 1934 Production, 243, 322, 322-E, 322-E, Duo, 341	J-188	1.50
6-M, 6-M-2	J-1016	1.50
R-8, R-10, R-11, R-12, RE-18, RE-18A, RE-19, R-21, RO-23, RAE-26	J-210	1.50
9-K-1	J-961	2.00
R-51-B, R-53-B	J-970	1.50
M-101, M-104, M-108, M-109	J-960	2.00
R-3B	J-606	1.50
SEARS-ROEBUCK (Silvertone)		
49-50, 56, 100, 108 (Early), 7048	16-116	1.00
53, 54, 95, 99, 111	14-118	1.00
1326, 1390, 1400, 1404, 1406, 1408, 1660, 7168	16-118 S-21	1.50
1802A, 1803, 1803A, 1805A, 1806, 1807, 1808, 1808A, 1809, 1811, 1823, 1826A, 1827, 1829, 1833, 1835, 1841, 1842, 1845, 1854, 1855, 1858, 1859, 1859X, 1860, 1860X, 1865, 1869X, 1871, 1900, 1907, 1910, 1924, 1927X, 1930, 1934, 1937X, 1939, 1940, 1942, 1944, 1956, 1956X, 1957, 1970, 1970A, 1985, 1994, 1995, 7116, 7118, 7124, 7127, 1733, 7145, 7146, 7148, 7172	13-133	1.00
1715, 1721, 1721X, 1722, 1722X, 1726X, 1732, 1732X	J-839	2.50
1705	J-997	3.00
1869-X, 7157, 5 Tube Auto ('35)	J-1017	2.00
1828, 1863, 1903, 1909, 1912, 1925, 1953, 1954X, 1972, 7136, 7137, 7138, 7139, 7140, 7141, 7142, 7143, 7144, 7150, 7154, 7155, 7156, 7157, 7158, 7163, 7167	13-133 S-21	1.50
1650, 1652, 1654, 1670, 1822, 1824, 1830, 1831, 7043, 7044, 7045, 7047, 7053, 7066	13-137	1.00
7110, 7130, 7135, 7152, 7165, 7166, 7176	14-130	1.00
7165X, 7166X, 7173, 7183—add 200 ohm Grid Resistor	14-130 S-21	1.50
FF, J	13-116	1.00
1936A	13-114	1.00
SILVER MARSHALL		
R5, R7, 683, 716, 773, G, J	11-113	1.00
30, 30B, 714, 770	14-116	1.00
34A, 35A, 36A, 724AC	11-112	1.00
60B, 75B, 90B, 712, 722AC	11-116	1.00
SPARTON		
25, 26	J-299	2.00
69, 79A, 101, 109, 110, 301, 591, 593, 930, 931	J-167	1.50
410, 420, 600A, 610A, 620A	J-136	3.00
STEWART-WARNER		
950DC, 970	J-300	2.50
R 111	J-253	2.00
305, 315, 320, 325	11-103	1.00
R 101A, 101B	16-116	1.00
STEWART-WARNER (Con't)		
R-100, R-100-A, R-100-B, R-100-E, 935, Series 950-AC Check 20-Ohm Resistor—Should be 3-Watt Rating.	J-15	1.50
SPARKS-WITHINGTON		
89-A, 103, 111-A, 574, 737	J-168	1.50
410, 420, 430	J-136	3.00
69, 79-A, 101, 109, 110-AC, 301, 589, 591, 593, 930, 931	J-167	1.50
89-A, 103, 111A, 564, 570, 574, 600, 610, 620, 737, 740, 870	J-168	1.50
STROMBERG-CARLSON		
635, 636, 638, Double Shaft	J-76	1.50
846, 848, Long Shaft	J-74	1.50
641, 642, 652, 654; Double Shaft	J-879	1.50
48, 49, 50, 51	J-124	2.50
638AC, 638DC (Long Shaft)	J-91	1.50
38, 39, 40, 41	J-138	3.00
641 A (Double Shaft), 641 B (Double Shaft), 641 C (Double Shaft), 641 (Double Shaft), 652 (Double Shaft), 654 (Double Shaft)	J-879	1.50
U. S. RADIO AND TELEVISION		
8 Series, 10 Series	13-137	1.00
Gloriatone 26 P	J-662	1.50
Gloriatone Late 27	J-256	2.00
WELLS-GARDNER		
80-8	J-10	2.50
5-E, O6-A	J-2	1.50
2C, 2-CM, OD, ODM	J-940	3.00
2 DL	J-978	2.00
O22, 122	J-919	1.50
6-F, RF Series	J-752	3.50
6-K Series	J-960	2.00
7-G, 7-GM, 7-K, 37-G-508, 37-G-566	J-763	3.00
WESTINGHOUSE		
WR-45, WR-45-A, WR-46, WR-46-A, WR-49, WR-50	J-188	1.50
WR-48, WR-48-A, WR-53	J-285	2.00
WR-500	J-764	2.00
ZENITH RADIO		
11, 12, 14, 15, 16, 17, 33, 34, 34P, 35, 35A, 35APX, 35PX, 37A, 39, 39A, 40A, 41, 42, 55, 333, 342, 342P, 352, 352A, 352APX, 352PX, 353, 362, 392A, 422	J-50	2.00
52, 53, 54, 60 Early, 61, 62, 64, 67, 602, 613, 622, 642, 672	J-457	2.00
70, 71, 72, 73, 77, 722, 732, 772, 60 Late	J-139	3.00
91, 92 Early	J-458	2.00
91 Late, above Serial Number 373334, 92 Late, above Serial Number 301394	J-459	2.00
230, 240, 245, 701	13-133 S-21	1.50
474, 750, 2054	J-484	2.00
705, 706, 707, 711, 712 Single, 755, 756, 760, 765, 767	J-485	2.00
5513, 5513 A Chassis, 5-S-29, 5-S-56	J-460	2.00
4-V-31, 4-V-59	13-130 S-21	1.50
4-V-31 Tone, 4-V-59 Tone	13-123	1.00
1202, 1601-C Chassis	J-162	2.00
5513 Tone, 5513-A Tone	J-263	1.50
740	J-39	1.50
9-S-54, 9-S-55, 12-L-57, 12-L-58, 16-A-61, 16-A-63, 1202, 1601-C, 1601-P, 5903; (Tone)	J-160	1.50
215, 216, 225, 2044 (Chassis)	J-931	1.50
6-S-27, 6-S-57, 6-V-27, 6-V-62 (5619, 5621 CH.)	J-1025	2.00
7-M-91-S, 7-M-91-D (5706 CH.)	J-930	2.00
6-M-92 (5632 CH.)	J-929	2.00
6-B-107, 6-B-129, 6-B-164, 6-S-128, 6-S-137, 6-S-147, 6-S-152, 6-S-157, 8-S-129, 8-S-154, 10-S-130, 10-S-147, 10-S-153, 10-S-155, 10-S-156, 10-S-157, 10-S-160, 12-U-158, 12-U-159 (1004, 1203, 5634, 5635, 5801 Chassis)	J-927	2.00
6-M-90-S, 6-M-91-S, 6-M-91-D (5630, 5631 CH)	J-928	2.00
6-M-193, 6-M-194, 8-M-195 (5637, 5803 CH.)	J-1024	3.00
15-U-246, 15-U-269, 15-U-270, 15-U-271, 15-U-273, 15-U-277 (1501 Chassis)	J-1026	1.50
462, 650 (2057 Chassis)	J-937	2.00
660, 666, 668, 680, 860, Hudson (5616, 5617, 5626 CH.)	J-925	2.00
835, 880, 935, 978, 980, 983, 985, 990, 1101, 1105 (1001, 1201 CH.)	J-935	2.00
970, 975 (5902 CH.)	J-934	2.00

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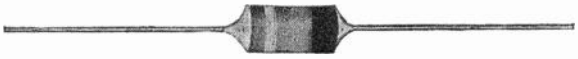
World Radio History

ERIE RESISTOR CORP.

INSULATED RESISTORS

1. 100% sealed with cement that bonds to the ceramic shell, terminal wire and metal cap.
2. Impossible to loosen tinned-copper terminal wires from resistance unit by longitudinal pull or side thrust.
3. Pre-formed ceramic shell that will withstand 3,000 volts A.C. without breakdown, insures positive, uniform insulation.
4. Electrical characteristics of unit, uniformly good without the cement-seal at ends, now better than ever.
5. Color bands painted on white shell do not lose their brilliance; are easy to read under all types of artificial illumination.

Erie Insulated Resistors have the same excellent operating characteristics of the famous Non-Insulated Erie Resistors described at the right. They may be used for replacing any type ¼ or ½ watt unit and because they are completely insulated, they can be placed anywhere in the set chassis without danger of shorts or grounds. The many Erie Insulated Resistor exclusive features are covered by U. S. Pat. 2,046,922 and other patents granted and pending.



¼ Watt Insulated Resistor

Size.....¼" x $\frac{7}{16}$"

Supplied in all standard ranges from 2 Ohms to 3.0 Megohms.

List Price.....each 17c

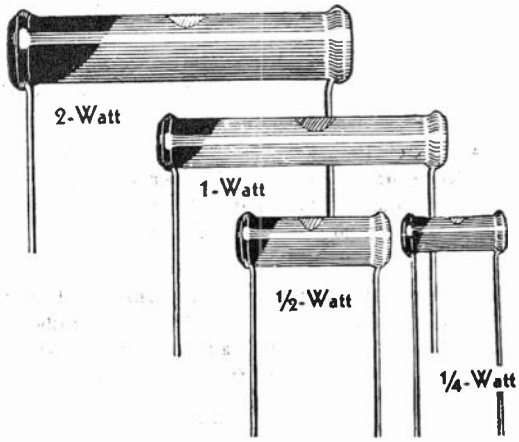
½ Watt Insulated Resistor

Size.....¼" x $\frac{11}{16}$"

Supplied in all standard ranges from 50 Ohms to 5.0 Megohms.

List Price.....each 17c

SOLID MOLDED CARBON RESISTORS



Erie Resistors are the result of careful and painstaking manufacturing methods. Modern automatic production equipment, much of which has been designed by Erie engineers, gives rigid control throughout manufacturing processes. Production samples are taken every day at random for laboratory tests on performance and every Erie Resistor is triple tested for resistance value before leaving the factory. Exhaustive laboratory tests show conclusively that out of seven competitive types of resistors only Erie Resistors give all-round balanced performance on standard operating tests. That's why you can be certain that when Erie Resistors are used for replacement, the set will operate satisfactorily and the customer will be satisfied. These resistors are identical with the millions that are sold to set manufacturers every year for original equipment. Erie Resistors are furnished color-coded according to the standards of the Radio Manufacturers Association.

RATING	SIZE	RANGES	LIST PRICE
2 WATT	⅜"x2"	50 Ohms to 5 Megohms	30c ea.
1 WATT	¼"x1¾"	100 Ohms to 10 Megohms	20c ea.
½ WATT	¼"x1"	50 Ohms to 5 Megohms	17c ea.
¼ WATT	$\frac{3}{16}$"x¾"	2 Ohms to 3 Megohms	17c ea.

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World Radio History

ERIE RESISTOR CORP.

ERIE INSULATED RESISTORS give Dependable, Balanced Operation

LOAD: After 2,000 hours 1.50% change in resistance at rated load; less than 2.50% change in resistance at 100% overload. ½ watt Erie Insulated Resistor will safely carry a 1 watt load.

HUMIDITY: Less than 4% change in resistance value after being subject to 90% relative humidity at 40° C. for 1,000 hours.

VOLTAGE COEFFICIENT: 1,000 ohm ½ watt Erie Insulated Resistor drops but .002% per volt; a 10,000 ohm unit changes only .0041% per volt; a 100,000 ohm resistor drops .0076% per volt and a 1 megohm unit .011% per volt.

MECHANICAL STRENGTH: Erie Insulated Resistors will withstand a longitudinal pull of 32 pounds without fracture. This is more than adequate to prevent open-circuiting either during or after installation.

Every Service-Man should have this Compact, Handy Chest

Just the thing you want to keep your Erie Resistors in. The new Erie Resistor cabinet measures only 10½ inches high, 5 inches wide by 5¼ inches deep. It has eight deep, roomy drawers that are specially designed for holding Erie Resistors. Attractively finished in silver and black, with handy information on color code and chart for determining proper resistor to use under any set of conditions encountered in servicing sets.

This handsome chest is supplied absolutely free with 70 ¼ or ½ watt Erie Insulated Resistors in the most popular ranges.

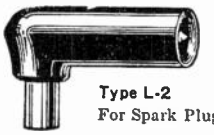
Get Yours Now
IT'S FREE!

This handy silver Erie Resistor Chest is supplied absolutely free with your order of 70 ½-watt or ¼-watt Erie Insulated Resistors in popular fast-moving ranges. Get yours now.

ERIE SUPPRESSORS

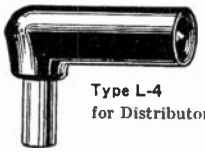
for eliminating ignition noise in auto radios

Erie Supressors effectively eliminate ignition noise in auto radios without appreciably affecting motor operation because their unusual efficiency does not require the use of extremely high resistance values. After 50,000 miles of use, Erie Suppressors change less than 1% in resistance value. The solid molded carbon resistance element is sealed in a vibration-proof bakelite housing Erie Suppressors are approved by over 34 automobile manufacturers. They are made in 6 types which are designed to fit every suppression installation.



Type L-2
For Spark Plug

Type L-2—Angle Type Spark Plug Suppressor that has proven very popular. Not necessary to splice ignition cable. For Buick cars, order Modified Angle Suppressor Type L-1.



Type L-4
for Distributors

Type L-4—Same as Type L-2 but with longer metal insert for inserting in distributor head.

Type S-1-B for Spark Plug

Type S-1-B—Not necessary to cut ignition cable when using this handy Suppressor.

Type A-2 for Spark Plug

Type A-2—Midget spark plug suppressor makes a very neat installation job. Over-all height less than 1¼".

Type D-7 for Distributors

Type D-7—For distributors. Designed by an automotive engineer for maximum efficiency. Has sturdy pressure fitting on distributor end. Gives added protection against moisture. Fits most cars.

Type S-5 for Distributors

Type S-5—For distributors. For use when splicing cable. Has screw terminal at both ends.

LIST PRICE, ALL TYPES, 30c EACH

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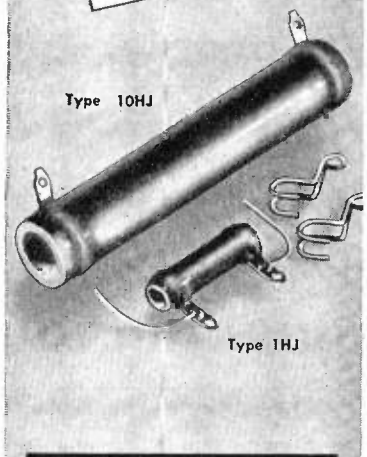
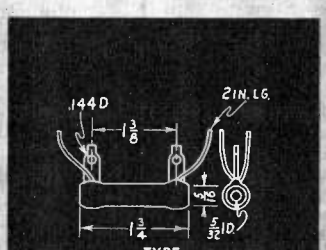
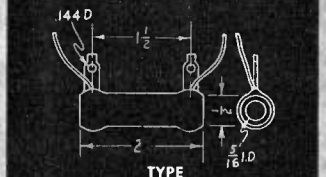
World Radio History





TYPE 1HJ



TYPE 2HJ

TYPE 5HJ

TYPE 10HJ

TYPE 20HJ

Vitreous Enameled Fixed Resistors

● Conservatively rated, rugged and dependable, Mallory Fixed Vitreous Resistors, type HJ, provide a standard unit for all receivers, amplifier, transmitter, and industrial applications. The small-sized resistors 1HJ (10-watt) and 2HJ (20-watt) are furnished with pig tails and lugs for mounting or connection. The larger resistors 5HJ (50-watt), 10HJ (100-watt), and 20HJ (200-watt) have connecting lugs only, and are supplied with convenient mounting brackets. Mallory Vitreous Enameled Resistors can be depended on to provide long, uninterrupted service.

†10 Watt Rating

(†On Values to 10,000 Ohms) Size: 5/16 x 1¾ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	3150	3	1HJ1	$0.40
2	2200	4.5	1HJ2	.40
3	1800	5.5	1HJ3	.40
5	1400	7	1HJ5	.40
7.5	1150	8.5	1HJ7.5	.40
10	1000	10	1HJ10	.40
15	812	12	1HJ15	.40
20	707	14	1HJ20	.40
25	630	16	1HJ25	.40
35	530	19	1HJ35	.40
50	447	22	1HJ50	.40
75	360	27	1HJ75	.40
100	315	31	1HJ100	.40
125	280	35	1HJ125	.40
150	260	39	1HJ150	.40
200	220	44	1HJ200	.40
250	200	50	1HJ250	.40
300	180	55	1HJ300	.40
400	158	63	1HJ400	.40
500	141	70	1HJ500	.40
600	130	77	1HJ600	.40
750	115	85	1HJ750	.40
1000	100	100	1HJ1000	.40
1250	89	111	1HJ1250	.40
1500	81	122	1HJ1500	.40
2000	70	141	1HJ2000	.40
2500	63	158	1HJ2500	.40
3000	56	173	1HJ3000	.40
3500	53	185	1HJ3500	.40
4000	50	200	1HJ4000	.40
4500	47	212	1HJ4500	.40
5000	45	224	1HJ5000	.40
6000	40	240	1HJ6000	.40
7500	36	270	1HJ7500	.40
10000	32	316	1HJ10000	.40
12000*	17	204	1HJ12000	.40
15000*	15	225	1HJ15000	.40
20000*	13	260	1HJ20000	.40
25000*	12	300	1HJ25000	.40
30000*	11	330	1HJ30000	.40
40000*	9	360	1HJ40000	.40
50000*	8	400	1HJ50000	.40

†20 Watt Rating

(†On Values to 12,500 Ohms) Size: ½ x 2 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	2000	10	2HJ5	$0.65
10	1415	14	2HJ10	.65
25	895	22	2HJ25	.65
50	633	31	2HJ50	.65
75	517	38	2HJ75	.65
100	447	44	2HJ100	.65
150	365	54	2HJ150	.65
200	316	63	2HJ200	.65
300	258	77	2HJ300	.65
400	224	90	2HJ400	.65
500	200	100	2HJ500	.65
750	163	122	2HJ750	.65
1000	141	141	2HJ1000	.65
1250	126	157	2HJ1250	.65
1500	115	173	2HJ1500	.65
1750	107	187	2HJ1750	.65
2000	100	200	2HJ2000	.65
2250	94	211	2HJ2250	.65
2500	89	222	2HJ2500	.65
2750	85	235	2HJ2750	.65
3000	81	243	2HJ3000	.65
3500	75	262	2HJ3500	.65
4000	71	284	2HJ4000	.65
4500	66	300	2HJ4500	.65
5000	63	315	2HJ5000	.65
6000	57	345	2HJ6000	.65
7500	51	387	2HJ7500	.65
10000	44	440	2HJ10000	.65
12500	40	500	2HJ12500	.65
15000*	23	346	2HJ15000	.65
20000*	20	400	2HJ20000	.75
25000*	18	447	2HJ25000	.75
35000*	15	529	2HJ35000	.75
40000*	14	566	2HJ40000	.75
50000*	13	632	2HJ50000	.75
75000*	10	773	2HJ75000	1.00
100000*	9	894	2HJ100000	1.00

†50 Watt Rating

(†On Values to 25,000 Ohms) Size: ¾ x 4½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2240	22	5HJ10	$1.10
25	1415	35.4	5HJ25	1.10
50	1000	50	5HJ50	1.10
100	707	70	5HJ100	1.10
250	447	111	5HJ250	1.10
500	316	158	5HJ500	1.10
750	258	192	5HJ750	1.10
1000	224	224	5HJ1000	1.10
1500	183	275	5HJ1500	1.10
2000	158	316	5HJ2000	1.10
2500	141	354	5HJ2500	1.10
5000	100	500	5HJ5000	1.10
7500	81	610	5HJ7500	1.25
10000	70	700	5HJ10000	1.25
12500	63	790	5HJ12500	1.25
15000	57	850	5HJ15000	1.25
20000	50	1000	5HJ20000	1.25
25000	44	1100	5HJ25000	1.25
30000*	26	774	5HJ30000	1.45
40000*	22	894	5HJ40000	1.45
50000*	20	1000	5HJ50000	1.45
75000*	16	1223	5HJ75000	1.45
100000*	14	1414	5HJ100000	1.45

†100 Watt Rating

(†On Values to 50,000 Ohms) Size: 1⅛ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2000	50	10HJ25	$1.50
50	1414	70	10HJ50	1.50
75	1155	85	10HJ75	1.50
100	1000	100	10HJ100	1.50
150	815	120	10HJ150	1.50
250	632	158	10HJ250	1.50
500	447	220	10HJ500	1.50
750	365	275	10HJ750	1.50
1000	316	315	10HJ1000	1.50
1500	258	385	10HJ1500	1.50
2000	223	447	10HJ2000	1.50
2500	200	500	10HJ2500	1.50
5000	141	700	10HJ5000	1.50
7500	115	865	10HJ7500	1.75
10000	100	1000	10HJ10000	1.75
15000	81	1200	10HJ15000	1.75
20000	70	1400	10HJ20000	1.75
25000	63	1580	10HJ25000	1.75
30000	57	1724	10HJ30000	2.00
40000	50	2000	10HJ40000	2.00
50000	44	2200	10HJ50000	2.00
75000*	23	1732	10HJ75000	2.25
100000*	20	2000	10HJ100000	2.50

†200 Watt Rating

(†On Values to 75,000 Ohms) Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	2830	70	20HJ25	$2.50
50	2000	100	20HJ50	2.50
75	1635	120	20HJ75	2.50
100	1414	140	20HJ100	2.50
250	894	220	20HJ250	2.50
500	632	315	20HJ500	2.50
750	515	385	20HJ750	2.50
1000	447	445	20HJ1000	2.50
1500	361	447	20HJ1500	2.50
2000	316	541	20HJ2000	2.50
2500	283	705	20HJ2500	2.50
3000	258	770	20HJ3000	2.50
5000	200	1000	20HJ5000	2.50
7500	163	1200	20HJ7500	2.50
10000	141	1400	20HJ10000	2.50
20000	100	2000	20HJ20000	3.00
30000	81	2400	20HJ30000	3.00
40000	70	2800	20HJ40000	3.00
50000	63	3150	20HJ50000	3.00
75000	51	3820	20HJ75000	3.00
100000*	28	2828	20HJ100000	3.00

*Low temperature enamel is used on these sizes because it affords better protection to the small diameter wire that must be used to make the higher resistance values.

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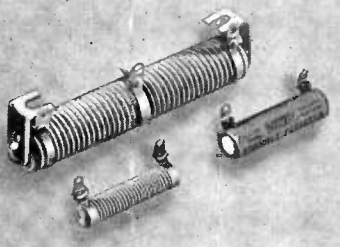
World Radio History



Truvolt Resistors

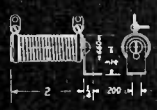
● Because of their unique design and merit, Truvolt Resistors have long been a favorite of service men and experimenters. Truvolt construction provides:

1. Greater radiating surface. 2. Cooler operation. 3. Better distribution of heat because of the heat conducting copper core. 4. Larger wire size for a given resistance value. 5. Negligible inductance at broadcast frequencies.

The end terminals of Mallory Truvolt Resistors are adjustable, permitting the use of standard value resistors for the replacement of odd value original equipment resistors in amplifiers and receivers. A removable full-length fiber insulation guard protects each resistor.

Type B Truvolt Resistors are provided with one mounting bracket. Types C and D Truvolt Resistors are provided with two mounting brackets. One extra adjustable clip is supplied with types C and D—additional clips for all types are available.

TYPE A TRUVOLT



TYPE B TRUVOLT

TYPE C TRUVOLT

TYPE D TRUVOLT

†10 Watt Rating—1000 Volt Insulation

(†On Values to 15,000 Ohms) Size: 3/8 x 1 3/4 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
.5	4500	2.2	A.005	$0.50
1	3150	3	A.01	.50
2	2200	4.5	A.02	.50
3	1800	5.5	A.03	.50
5	1400	7	A.05	.50
7.5	1150	8.5	A.075	.50
10	1000	10	A.1	.50
15	815	12	A.15	.50
20	700	14	A.2	.50
25	630	16	A.25	.50
30	570	17	A.3	.50
50	450	22	A.5	.50
75	360	27	A.75	.50
100	315	31	A1	.50
200	220	45	A2	.50
300	180	55	A3	.50
400	158	63	A4	.50
500	141	70	A5	.50
750	115	86	A7.5	.50
800	112	89	A8	.50
1000	100	100	A10	.50
1500	81	112	A15	.50
2000	70	141	A20	.50
2500	63	158	A25	.50
3000	56	173	A30	.50
4000	50	200	A40	.50
5000	45	222	A50	.50
7500	36	274	A75	.50
10000	31	316	A100	.50
15000	26	388	A150	.50
20000	20	395	A200	.50
25000	16	400	A250	.50

†25 Watt Rating—1000 Volt Insulation

(†On Values to 40,000 Ohms) Size 11/16 x 2 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
2	3500	7	B.02	$0.85
5	2200	11.4	B.05	.85
10	1580	15.8	B.1	.85
25	1000	25	B.25	.85
50	719	35	B.5	.85
75	575	43.5	B.75	.85
100	500	50	B1	.85
200	353	71	B2	.85
300	289	86.5	B3	.85
500	250	100	B5	.85
750	182	137	B7.5	.85
1000	158	158	B10	.85
1500	129	194	B15	.85
2000	112	223	B20	.85
2500	100	250	B25	.85
3000	91	275	B30	.85
4000	79	316	B40	.85
5000	71	352	B50	.85
7500	58	430	B75	.95
10000	50	500	B100	.95
15000	41	610	B150	.95
20000	35	715	B200	1.10
25000	32	780	B250	1.10
30000	29	860	B300	1.30
40000	25	1000	B400	1.30
50000	22.5	1000	B500	1.30

†50 Watt Rating—1000 Volt Insulation

(†On Values to 20,000 Ohms) Size: 11/16 x 4 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
25	1420	35	C.25	$1.35
50	1000	50	C.5	1.35
100	700	70	C1	1.35
200	500	100	C2	1.35
300	406	123	C3	1.35
400	353	142	C4	1.35
500	316	158	C5	1.35
750	258	193	C7.5	1.35
1000	224	223	C10	1.35
1500	182	274	C15	1.35
2000	158	316	C20	1.35
2500	141	353	C25	1.35
3000	129	386	C30	1.35
4000	112	446	C40	1.35
5000	100	500	C50	1.35
7500	82	612	C75	1.50
10000	71	707	C100	1.50
15000	58	865	C150	1.50
20000	50	1000	C200	1.50
25000	45	1000	C250	1.50
30000	41	1000	C300	1.70
40000	35	1000	C400	1.70
50000	32	1000	C500	1.70
80000	25	1000	C800	2.00
100000	22.5	1000	C1000	2.00

†75 Watt Rating—1000 Volt Insulation

(†On Values to 10,000 Ohms) Size: 11/16 x 6 Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	1220	61.5	D.5	$1.75
100	865	87	D1	1.75
200	610	123	D2	1.75
300	500	150	D3	1.75
400	432	174	D4	1.75
500	387	194	D5	1.75
750	316	237	D7.5	1.75
1000	274	274	D10	1.75
1500	224	335	D15	1.75
2000	194	387	D20	1.75
2500	173	434	D25	1.75
3000	158	475	D30	1.75
3500	146	514	D35	1.75
4000	137	550	D40	1.75
4500	129	582	D45	1.75
5000	122	615	D50	1.75
7500	100	750	D75	2.00
10000	86	865	D100	2.00
15000	71	1000	D150	2.00
20000	61	1000	D200	2.00
25000	55	1000	D250	2.00
30000	50	1000	D300	2.25
50000	39	1000	D500	2.25
80000	31	1000	D800	2.50
100000	27	1000	D1000	2.50

Extra Truvolt Adjustable Clips

	List Price
Type 1V—For Truvolt Type A	$0.10 each
Type 2V—For Truvolt Types B, C, and D	.10 each

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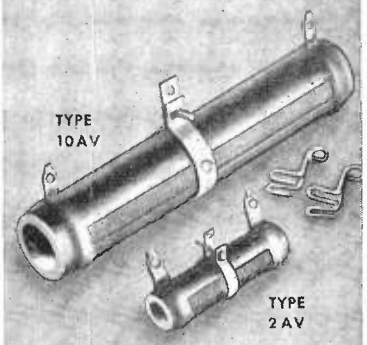
World Radio History

P. R. MALLORY & CO. INC.
MALLORY
YAXLEY

Variohm Adjustable Resistors

● Mallory Variohm Adjustable Resistors, type AV, incorporate all the quality features of the Mallory HJ type of fixed resistors. Because of their adjustable feature these resistors are valuable for replacing voltage dividers in radio receivers, for use in radio transmitter power supplies and general experimental work.

The adjustable clip supplied with each resistor is specially designed for ease of adjustment, and to prevent injury to the resistance wire while providing proper electrical contact. Additional clips are available. Two convenient mounting brackets are supplied with each variohm resistor.



†25 Watt Rating

(†On Values to 12,000 Ohms) Size: ⅝ x 2½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	5000	5	2AV1	$0.85
3	2890	8.6	2AV3	.85
5	2240	11	2AV5	.85
10	1580	15	2AV10	.85
15	1290	19.3	2AV15	.85
25	1000	25	2AV25	.85
50	707	35	2AV50	.85
75	575	43	2AV75	.85
100	500	50	2AV100	.85
150	400	60	2AV150	.85
200	353	70	2AV200	.85
250	316	79	2AV250	.85
300	288	86	2AV300	.85
400	250	100	2AV400	.85
500	224	112	2AV500	.85
750	182	137	2AV750	.85
1000	158	158	2AV1000	.85
1250	141	176	2AV1250	.85
1500	129	194	2AV1500	.85
2000	112	224	2AV2000	.85
2500	100	250	2AV2500	.85
3000	91	274	2AV3000	.85
3500	84	296	2AV3500	.85
4000	79	316	2AV4000	.85
5000	71	354	2AV5000	.85
6000	64	384	2AV6000	.95
7500	57	431	2AV7500	.95
10000	50	500	2AV10000	.95
12000	44	537	2AV12000	.95
15000*	26	387	2AV15000	.95
20000*	22	447	2AV20000	1.10
25000*	20	500	2AV25000	1.10

†50 Watt Rating

(†On Values to 40,000 Ohms) Size: ⅝ x 4½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
5	3160	15	5AV5	$1.35
10	2230	22	5AV10	1.35
25	1410	35	5AV25	1.35
50	1000	50	5AV50	1.35
75	816	61	5AV75	1.35
100	707	70	5AV100	1.35
150	577	86	5AV150	1.35
200	500	100	5AV200	1.35
250	447	111	5AV250	1.35
300	408	122	5AV300	1.35
400	354	140	5AV400	1.35
500	316	157	5AV500	1.35
750	258	192	5AV750	1.35
1000	224	224	5AV1000	1.35
1500	182	275	5AV1500	1.35
2000	158	315	5AV2000	1.35
2500	141	350	5AV2500	1.35
3000	129	387	5AV3000	1.35
4000	112	448	5AV4000	1.35
5000	100	500	5AV5000	1.35
7500	81	610	5AV7500	1.50
10000	70	700	5AV10000	1.50
12000	64	768	5AV12000	1.50
15000	57	855	5AV15000	1.50
20000	50	1000	5AV20000	1.50
25000	44	1100	5AV25000	1.50
30000	41	1240	5AV30000	1.70
40000	35	1415	5AV40000	1.70
50000*	20	1000	5AV50000	1.70
60000*	18	1080	5AV60000	2.00
75000*	17	1275	5AV75000	2.00
80000*	16	1265	5AV80000	2.00
100000*	14	1414	5AV100000	2.00

Extra Adjustable Clips

	List Price
Type No. 3V— For 25, 50, and 80-Watt Variohms	$0.10 each
Type No. 4V— For 100-Watt 1" dia. Variohm	.15 each
Type No. 5V— For 200-Watt 1¼" dia. Variohm	.15 each
Type No. 6V— For 100 and 200-Watt 1⅛" Variohms	.15 each

†80 Watt Rating

(†On Values to 40,000 Ohms) Size: ⅝ x 6½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
10	2830	28.3	8AV10	$1.75
15	2310	34.6	8AV15	1.75
25	1790	44.8	8AV25	1.75
50	1265	63.2	8AV50	1.75
100	894	89.4	8AV100	1.75
250	566	141.5	8AV250	1.75
300	517	155	8AV300	1.75
400	495	178	8AV400	1.75
500	400	200	8AV500	1.75
750	327	245	8AV750	1.75
1000	283	283	8AV1000	1.75
1500	231	346	8AV1500	1.75
2000	200	400	8AV2000	1.75
2500	179	448	8AV2500	1.75
3500	152	530	8AV3500	1.75
5000	126	632	8AV5000	1.75
7500	103	775	8AV7500	2.00
10000	89	894	8AV10000	2.00
15000	73	1092	8AV15000	2.00
20000	63	1270	8AV20000	2.00
25000	57	1414	8AV25000	2.00
30000	51	1530	8AV30000	2.25
40000	44	1790	8AV40000	2.25
50000*	25	1265	8AV50000	2.25
60000*	23	1385	8AV60000	2.50
75000*	21	1575	8AV75000	2.50
80000*	20	1600	8AV80000	2.50
100000*	18	1789	8AV100000	2.50

†100 Watt Rating

(†On Values to 50,000 Ohms) Size: 1⅛ x 6½ Tube

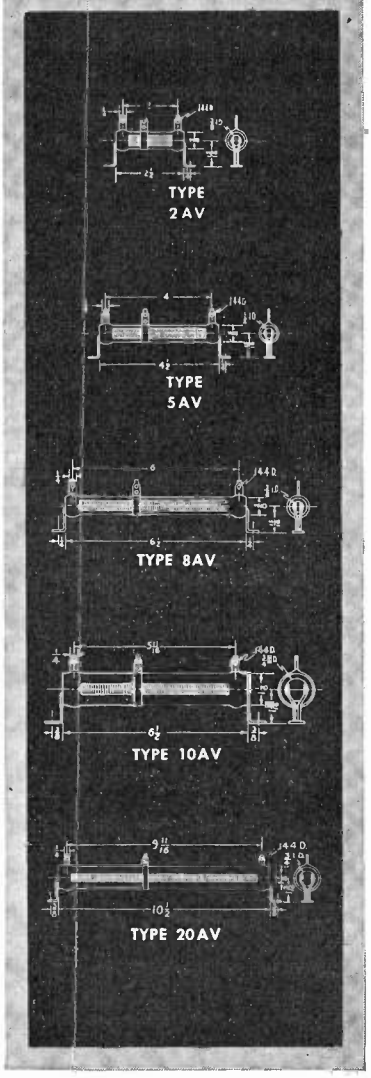
Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	1413	71	10AV50	$2.00
100	1000	100	10AV100	2.00
500	447	223	10AV500	2.00
1000	316	316	10AV1000	2.00
2000	223	447	10AV2000	2.00
3000	182	547	10AV3000	2.00
4000	158	633	10AV4000	2.00
5000	141	707	10AV5000	2.00
7500	115	860	10AV7500	2.25
10000	100	1000	10AV10000	2.25
15000	81	1200	10AV15000	2.25
20000	70	1400	10AV20000	2.25
25000	63	1580	10AV25000	2.25
30000	57	1700	10AV30000	2.50
35000	53	1850	10AV35000	2.50
40000	50	2000	10AV40000	2.50
50000	44	2200	10AV50000	2.50
75000*	23	1732	10AV75000	2.75
100000*	20	2000	10AV100000	2.75

200 Watt Rating

Size: 1⅛ x 10½ Tube

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
50	2000	100	20AV50	$3.00
100	1414	140	20AV100	3.00
500	632	315	20AV500	3.00
1000	447	447	20AV1000	3.00
1500	361	541	20AV1500	3.00
2000	316	632	20AV2000	3.00
2500	283	700	20AV2500	3.00
5000	200	1000	20AV5000	3.00
10000	141	1414	20AV10000	3.00
20000	100	2000	20AV20000	3.50
25000	89	2225	20AV25000	3.50
30000	81	2437	20AV30000	3.50
50000	63	3150	20AV50000	3.50
75000	51	3825	20AV75000	3.50
100000*	28	2828	20AV100000	3.50

*Low temperature enamel is used on these sizes because it affords better protection to the small diameter wire that must be used to make the higher resistance values.



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World Radio History

Approved PRECISION PRODUCTS

MALLORY YAXLEY

Precision Resistors · Wire Wound Resistors

● Precision Wire Wound Resistors have been developed to meet the requirements for an accurate, dependable resistor with a minimum of inductance and distributed capacity.

Type 6P resistors utilize a non-porous ceramic form having six sections. This provides a non-inductive resistor with low distributed capacity by means of reversing the winding direction of adjacent sections. The resistance wire ends are spun under the end caps to insure positive, low resistance contact to the terminals. The wire thus anchored is completely protected from mechanical injury at all times.

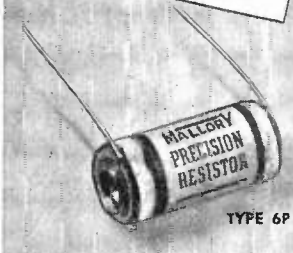
These resistors are particularly useful as voltmeter multipliers, resistor elements of laboratory instruments and custom built apparatus. Accuracy within 1% + or −.

Ferrule Terminals For Precision Wire Wound Resistors

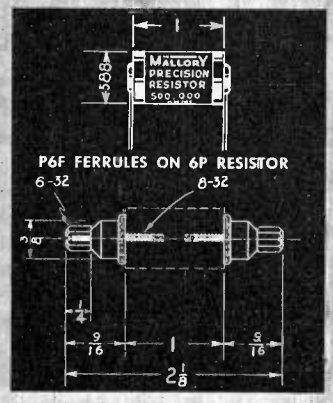
By use of these ferrules the Mallory Precision Resistor Type 6P can be transformed into a ferrule type resistor. The ferrules can be screwed into the ends of any type 6P resistor. A complete unit can then be mounted in clips or attached to wire leads by means of the binding nuts. Type P6F, List Price..$0.25 per pr.

1½ Watt Rating

Resistance Ohms	Current Milli-amperes	Volts Max.	Catalog Number	List Price
1	1225	1.2	6P1	$1.15
5	548	2.7	6P5	1.15
10	387	3.8	6P10	1.15
25	245	6.1	6P25	1.15
50	173	8.6	6P50	1.15
100	122	12	6P100	1.15
150	100	15	6P150	1.15
200	86	17	6P200	1.15
500	55	27	6P500	1.25
1000	38	38	6P1000	1.25
2500	24	61	6P2500	1.25
4500	18	82	6P4500	1.35
5000	17	86	6P5000	1.35
7500	14	106	6P7500	1.35
10000	12	122	6P10000	1.35
12500	11	137	6P12500	1.40
15000	10	150	6P15M	1.40
20000	8.6	173	6P20M	1.60
25000	7.7	194	6P25M	1.60
30000	7	212	6P30M	1.60
40000	6.1	245	6P40M	1.70
50000	5.5	274	6P50M	1.70
75000	4.4	336	6P75M	1.90
100000	3.8	387	6P100M	2.10
125000	3.4	433	6P125M	2.60
150000	3.1	475	6P150M	2.60
200000	2.7	548	6P200M	2.75
250000	2.4	610	6P250M	2.90
300000	2.2	670	6P300M	3.15
400000	1.9	775	8P400M	3.40
500000	1.7	860	8P500M	3.75
750000	1.3	1000	8P750M	4.50
1000000	1.0	1000	8P1Meg	5.25



TYPE 6P



"700" Type Wire Wound Fixed Resistors

¾ Watt Dissipation per Running Inch of Active Winding, which is ⅛" Less than Mounting Centers.

Ohms Resistance	Carrying Capacity in Amps.	Mounting Centers	Cat. No.	List Price
10	.28	1 15/16"	710	$0.15
15	.23	1 15/16"	715	.15
20	.2	1 15/16"	720	.15
25	.17	1 15/16"	725	.15
30	.16	1 15/16"	730	.15
40	.14	1 15/16"	740	.15
50	.12	1 15/16"	750	.15
100	.09	1 15/16"	7100	.15
200	.05	1 3/8"	7200	.20
300	.04	1 21/32"	7300	.20
400	.03	1 11/32"	7400	.20
500	.028	1 15/32"	7500	.20
600	.029	1 9/16"	7600	.20
700	.029	1 21/32"	7700	.20
800	.029	1 3/4"	7800	.20
900	.028	1 1/4"	7900	.20
1000	.028	1 15/16"	71000	.20
1500	.028	2 13/32"	71500	.20

CENTER TAPPED

¾ Watt Dissipation per Running Inch of Active Winding, Which is 1 1/16" Less than Mounting Centers.

Ohms Resistance	Carrying Capacity in Amps.	Mounting Centers	Cat. No.	List Price
6	.33	1 15/16"	706C	$0.15
10	.25	1 15/16"	710C	.15
15	.21	1 15/16"	715C	.15
20	.18	1 15/16"	720C	.15
40	.13	1 15/16"	740C	.15
60	.10	1 15/16"	760C	.15
100	.08	1 15/16"	7100C	.20
200	.06	1 15/16"	7200C	.20
400	.04	1 15/16"	7400C	.20

"800" Type Wire Wound Fixed Resistors

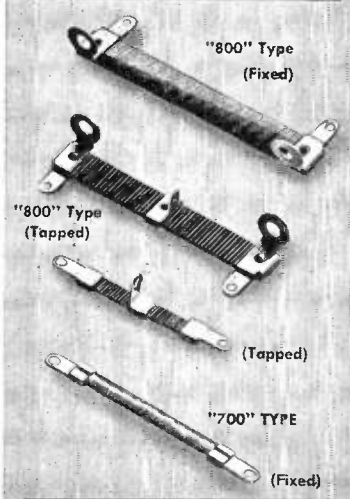
2½ Watts Dissipation per Running Inch of Active Winding Space Which is ¼" Less than Mounting Centers.

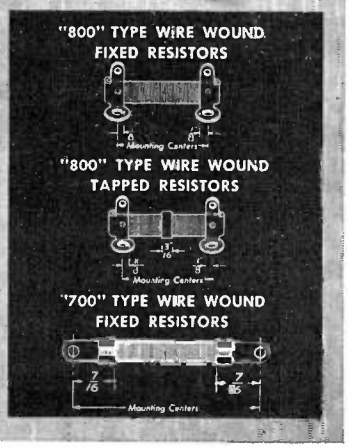
Ohms Resistance	Carrying Capacity in Amps.	Mounting Centers	Cat. No.	List Price
1	1.25	1 1/32"	801	$0.20
2	1.	1 17/32"	802	.20
3	.75	1 1/32"	803	.20
4	.7	1 1/32"	804	.20
5	.75	1 13/32"	805	.20
6	.7	1 7/16"	806	.20
7	.45	27/32"	807	.20
8	.45	15/16"	808	.20
10	.45	1 1/8"	810	.20
15	.45	1 5/16"	815	.20
20	.4	1 1/2"	820	.20
25	.4	1 25/32"	825	.20
30	.4	2 1/16"	830	.20
40	.35	2 5/8"	840	.20
50	.18	13/16"	850	.20
200	.14	1 29/32"	8200	.25
400	.08	3 3/4"	8400	.35
1000	.075	3 3/4"	81000	.35

CENTER TAPPED

2½ Watts Dissipation per Running Inch of Active Winding Space Which is 7/16" Less than Mounting Centers.

Ohms Resistance	Carrying Capacity in Amps.	Mounting Centers	Cat. No.	List Price
6	.6	1 7/8"	806C	$0.25
10	.45	1 5/16"	810C	.25
12	.45	1 3/4"	812C	.25
15	.45	1 25/32"	815C	.25
20	.4	1 11/16"	820C	.25
30	.4	2 1/32"	830C	.25
50	.2	1 5/32"	850C	.25
64	.2	1 3/8"	864C	.25
100	.22	2 3/8"	8100C	.35
300	.08	3 1/4"	8300C	.35
400	.08	2"	8400C	.35





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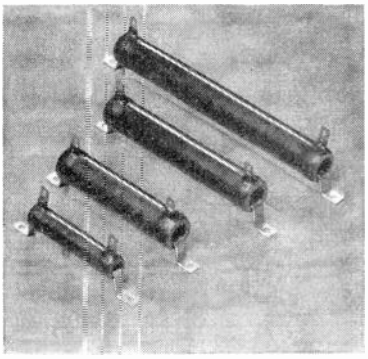
World Radio History

Utah Fixed Vitreous Enamel Resistors

10-20-50-100-160-200 Watts



10 WATT SIZES—Type CC

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE
1	3,150	3
2	2,230	4.4
3	1,825	5.4
4	1,580	6.3
5	1,415	7
7.5	1,155	8.6
10	1,000	10
12	910	11
15	815	12
20	707	14
25	630	15
30	575	17
35	535	18
40	500	20
50	447	22
75	365	27
100	315	31
125	283	35
150	258	38
200	223	44
225	217	47
250	200	50
300	182	54
350	169	59
400	158	63
450	149	67
500	141	70
600	129	77
700	119	83
750	115	86
800	111	88
900	105	94
1,000	100	100
1,100	95	104
1,200	91	109
1,250	89	111
1,500	79	119
1,750	74	130
2,000	69	138
2,250	64	144
2,500	61	154
3,000	56	169
3,500	51	179
4,000	47	190
4,500	44	197
5,000	40	200
6,000	36	219
7,000	33	230
7,500	32	245
8,000	31	248
8,500	30	245
10,000	24	245
11,000	22	242
12,000	20	245
12,500	20	250
13,500	19	256
14,300	18	258
15,000	18	274
16,000	17	272
17,500	17	298
18,000	16	288
20,000	15	316
22,500	15	338
25,000	14	354
30,000	8	240
35,000	7	245
40,000	7	280
45,000	6	270
50,000	6	300

List Price.....40c

20 WATT SIZES—Type EE

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	2,000	10	$0 65
10	1,415	14	.65
25	895	22	.65
50	633	31	.65
75	517	38	.65
100	448	44	.65
150	365	54	.65
200	316	63	.65
250	283	70	.65
300	258	77	.65
350	239	83	.65
400	223	89	.65
500	200	100	.65
650	175	114	.65
700	169	118	.65
750	163	122	.65
800	158	126	.65
850	153	130	.65
1,000	141	141	.65
1,200	129	155	.65
1,250	126	158	.65
1,500	115	173	.65
1,750	107	187	.65
1,850	104	192	.65
2,000	100	200	.65
2,250	94	212	.65
2,400	91	219	.65
2,500	89	223	.65
2,750	85	234	.65
3,000	81	245	.65
3,500	75	264	.65
4,000	70	283	.65
4,500	66	300	.65
5,000	63	316	.65
6,000	57	346	.65
7,000	53	374	.65
7,500	51	387	.65
8,000	50	400	.65
10,000	43	436	.65
12,500	39	488	.65
15,000	34	520	.65
20,000	27	565	.75
25,000	25	630	.75
30,000	21	635	.75
35,000	18	648	.75
40,000	17	694	.75
45,000	13	585	.75
50,000	11	550	.75
55,000	8.5	470	1.00
60,000	8.0	490	1.00
65,000	7.5	509	1.00
70,000	7.5	528	1.00
75,000	7.0	547	1.00
80,000	7.0	565	1.00
85,000	6.5	583	1.00
90,000	6.5	600	1.00
95,000	6.5	615	1.00
100,000	6	633	1.00

50 WATT SIZES—Type KK

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	3,160	15	$1.10
10	2,240	22	1.10
25	1,420	35	1.10
50	1,000	50	1.10
75	815	61	1.10
100	707	70	1.10
150	577	86	1.10
200	500	100	1.10
250	447	110	1.10
500	316	158	1.10
750	258	193	1.10
800	250	200	1.10
1,000	224	224	1.10
1,500	183	274	1.10
2,000	158	316	1.10
2,500	142	354	1.10
3,000	129	387	1.10
4,000	112	448	1.10
5,000	100	500	1.10
7,500	81	600	1.25
8,000	79	632	1.25
10,000	70	700	1.25
12,000	64	768	1.25
15,000	57	850	1.25
20,000	48	960	1.25
25,000	43	1,070	1.25
35,000	33	1,150	1.45
50,000	25	1,250	1.45
75,000	16	1,200	1.45
100,000	12	1,200	1.45
125,000	11	1,375	2.00
150,000	9	1,350	2.25
175,000	7	1,225	2.25
200,000	7	1,400	2.50
225,000	6	1,350	2.50
250,000	6	1,500	2.75

100 WATT SIZES—Type NN

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	4,470	23	$1.50
10	3,160	31	1.50
25	2,000	50	1.50
50	1,414	70	1.50
75	1,155	85	1.50
100	1,000	100	1.50
150	815	120	1.50
250	632	155	1.50
500	447	220	1.50
750	365	275	1.50
1,000	316	315	1.50
1,500	258	385	1.50
2,000	223	445	1.50
2,500	200	500	1.50
3,000	182	545	1.50
5,000	141	700	1.50
7,500	115	860	1.75
10,000	100	1,000	1.75
15,000	81	1,200	1.75
20,000	70	1,400	1.75
25,000	56	1,400	1.75
30,000	51	1,500	2.00
40,000	38	1,520	2.00
50,000	28	1,400	2.00
60,000	22	1,320	2.25
75,000	16	1,200	2.25
100,000	14	1,400	2.50

160 WATT SIZES—Type PP

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	5,660	33	$2.00
10	4,000	40	2.00
25	2,530	63	2.00
50	1,788	89	2.00
75	1,460	108	2.00
100	1,266	126	2.00
150	1,035	150	2.00
250	800	200	2.00
500	566	282	2.00
750	462	346	2.00
1,000	400	400	2.00
1,500	328	493	2.00
2,000	283	566	2.00
2,500	253	632	2.00
3,000	231	692	2.00
5,000	179	895	2.00
7,500	146	1,090	2.00
10,000	126	1,260	2.00
15,000	103	1,545	2.40
20,000	89	1,780	2.40
25,000	80	2,000	2.40
30,000	73	2,190	2.40
40,000	55	2,200	2.40
50,000	43	2,150	2.40
60,000	35	2,100	2.70
75,000	27	2,020	2.70
100,000	18	1,800	2.70

200 WATT SIZES—Type UU

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	6,310	31	$2.50
10	4,470	44	2.50
25	2,830	70	2.50
50	2,000	100	2.50
75	1,635	120	2.50
100	1,414	140	2.50
150	1,150	170	2.50
250	894	220	2.50
500	632	315	2.50
750	515	385	2.50
1,000	447	447	2.50
1,500	364	545	2.50
2,000	316	630	2.50
2,500	283	705	2.50
3,000	258	770	2.50
5,000	200	1,000	2.50
7,500	163	1,200	2.50
10,000	141	1,400	2.50
15,000	115	1,725	3.00
20,000	100	2,000	3.00
25,000	89	2,200	3.00
30,000	81	2,400	3.00
40,000	63	2,500	3.00
50,000	49	2,450	3.00
60,000	40	2,400	3.00
75,000	30	2,200	3.00
100,000	20	2,000	3.00

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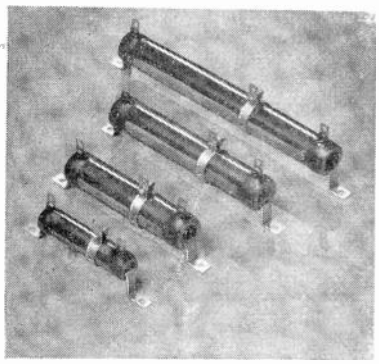
Utah Adjustable Vitreous Enamel Resistors

10-20-50-100-160-200 Watts



10 WATT SIZES—Type CCx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE
1	3,150	3
2	2,230	4.4
3	1,825	5.4
5	1,415	7
7.5	1,155	8.6
10	1,000	10
15	815	12
20	707	14
25	630	15
50	447	22
75	365	27
100	315	31
150	258	38
200	223	44
250	200	50
300	182	54
350	169	59
400	158	63
500	141	70
600	129	77
750	115	86
800	111	88
1,000	100	100
1,250	89	111
1,500	79	119
2,000	69	138
2,250	64	144
2,500	61	154
3,000	56	169
3,500	51	179
4,000	47	190
4,500	44	197
5,000	40	200
6,000	36	219
7,000	33	230
7,500	32	245
8,000	31	248
8,500	30	245
10,000	24	245

List Price 60c

20 WATT SIZES—Type EEx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
1	3,150	3	$0.85
2	2,230	4.4	.85
3	1,825	5.4	.85
5	2,000	10	.85
7.5	1,155	8.6	.85
10	1,415	14	.85
15	815	12	.85
20	707	14	.85
25	895	22	.85
50	633	31	.85
75	517	38	.85
100	448	44	.85
150	365	54	.85

20 WATT SIZES—Type EEx Continued

OHMS	MAX. CURRENT IN MILS	MAX VOLTAGE	LIST PRICE
200	316	63	$0.85
250	283	70	.85
300	258	77	.85
400	223	89	.85
500	200	100	.85
750	163	122	.85
800	158	126	.85
1,000	141	141	.85
1,250	126	158	.85
1,500	115	173	.85
2,000	100	200	.85
2,250	94	212	.85
2,500	89	223	.85
3,000	81	245	.85
3,500	75	264	.85
4,000	70	283	.85
4,500	66	300	.85
5,000	63	316	.85
6,000	57	346	.95
7,000	53	374	.95
7,200	56	416	.95
7,500	51	387	.95
8,000	50	400	.95
9,000	53	470	.95
10,000	43	436	.95
12,000	44	527	.95
15,000	34	520	.95
20,000	27	565	1.10
25,000	25	630	1.10

50 WATT SIZES—Type KKx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	3,160	15	$1.35
10	2,240	22	1.35
25	1,420	35	1.35
50	1,000	50	1.35
75	815	61	1.35
100	707	70	1.35
150	577	86	1.35
200	500	100	1.35
250	447	110	1.35
300	408	123	1.35
400	354	142	1.35
500	316	158	1.35
750	258	193	1.35
800	250	200	1.35
1,000	224	224	1.35
1,250	200	250	1.35
1,500	183	274	1.35
2,000	158	316	1.35
2,250	148	333	1.35
2,500	142	354	1.35
3,000	129	387	1.35
3,500	120	420	1.35
4,000	112	448	1.35
4,500	105	472	1.35
5,000	100	500	1.35
6,000	91	546	1.50
7,000	84	588	1.50
7,200	83	597	1.50
7,500	81	600	1.50
8,000	79	632	1.50
9,000	74	666	1.50
10,000	70	700	1.50
12,000	64	768	1.50
15,000	57	850	1.50
20,000	48	960	1.50
25,000	43	1,070	1.50
30,000	41	1,230	1.70
40,000	35	1,400	1.70
50,000	25	1,250	1.70
60,000	20	1,200	2.00
80,000	15	1,200	2.00
100,000	12	1,200	2.00

EXTRA ADJUSTABLE TERMINALS

Type C—For model CCx	List Price
Type E—For model EEx	
Type K—For model KKx	
Type NPU—For models NNx-PPx-UUx	10c

100 WATT SIZES—Type NNx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	4,470	23	$2.00
10	3,160	31	2.00
25	2,000	50	2.00
50	1,414	70	2.00
100	1,000	100	2.00
500	447	220	2.00
1,000	316	315	2.00
2,500	200	500	2.00
5,000	141	700	2.00
10,000	100	1,000	2.25
15,000	81	1,200	2.25
20,000	70	1,400	2.25
25,000	56	1,400	2.25
30,000	51	1,500	2.50
40,000	38	1,520	2.50
50,000	28	1,400	2.50
75,000	16	1,200	2.75
100,000	14	1,400	2.75

160 WATT SIZES—Type PPx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	5,660	33	$2.50
10	4,000	40	2.50
25	2,530	63	2.50
50	1,788	89	2.50
100	1,266	126	2.50
500	566	282	2.50
1,000	400	400	2.50
2,500	253	632	2.50
5,000	179	895	2.50
10,000	126	1,260	2.50
15,000	103	1,545	2.90
20,000	89	1,780	2.90
25,000	80	2,000	2.90
30,000	73	2,190	2.90
40,000	55	2,200	2.90
50,000	43	2,150	2.90
75,000	27	2,020	3.25
100,000	18	1,800	3.25

200 WATT SIZES—Type UUx

OHMS	MAX. CURRENT IN MILS	MAX. VOLTAGE	LIST PRICE
5	6,310	31	$3.00
10	4,470	44	3.00
25	2,830	70	3.00
50	2,000	100	3.00
100	1,414	140	3.00
500	632	315	3.00
1,000	447	447	3.00
2,500	283	705	3.00
5,000	200	1,000	3.00
10,000	141	1,400	3.00
15,000	115	1,725	3.50
20,000	100	2,000	3.50
25,000	89	2,200	3.50
30,000	81	2,400	3.50
40,000	63	2,500	3.50
50,000	49	2,450	3.50
75,000	30	2,200	3.50
100,000	20	2,200	3.50

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World Radio History

AMPHENOL

REG. U. S. PAT. OFF.

AMERICAN PHENOLIC PRODUCTS

MIP SOCKETS
(Molded-in-Plate)

These new Amphenol "MIP" Sockets are the strongest Sockets in the world today . . and yet are compact in size, modern and attractive in appearance, and lower in price. The sturdy cadmium-plated steel plate is molded directly into the solid bakelite body and cannot come loose or rattle. Made of highest electrical grade lustrous black Bakelite having practically no moisture absorption.

Cat. No.		Net Price
MIP4	4-contact	$.06 ea.
MIP5	5-contact	.06 ea.
MIP6	6-contact	.06 ea.
MIP7S	7-contact (small)	.06 ea.
MIP7L	7-contact (large)	.07 ea.
MIP8	8-contact (octal)	.07 ea.
MIP8	9-contact (octal)	.09 ea.
MIP11	11-contact (octal)	.12 ea.

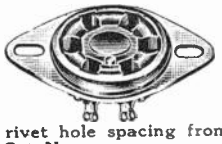
CHASSIS "S" TYPE SOCKET

Cadmium-plated contacts made of brass alloy, with two ears for soldering, maintains firm, low resistance contact with tube prongs. Sockets held to chassis by tempered steel ring, no rivets being necessary. Fits any chassis from .030" to .065" thick.

Cat. No.		Net Price
S4	4-contact	$.06½ ea.
S5	5-contact	.06½ ea.
S6	6-contact	.06½ ea.
S7S	7-contact (small)	.06½ ea.
S7L	7-contact (large)	.06½ ea.
S7C	7-contact (comb)	.08½ ea.
S8	8-contact (octal)	.08½ ea.
S9	9-contact (octal)	.10 ea.
S11	11-contact (octal)	.14½ ea.

(Price includes No. 6 Retainer Ring)

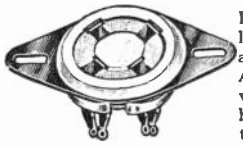
REPLACEMENT TYPE



Same as regular type S, above, but comes set in a cadmium plated steel adapter plate that fits any rivet hole spacing from 1½" to 1⅞".

Cat. No.		Net Price
RS4	4-contact	$.07 ea.
RS5	5-contact	.07 ea.
RS6	6-contact	.07 ea.
RS7S	7-contact (small)	.07 ea.
RS7L	7-contact (large)	.07 ea.
RS7C	7-contact (comb)	.09 ea.
RS8	8-contact (octal)	.09 ea.
RS9	9-contact (octal)	.11 ea.
RS11	11-contact (octal)	.15 ea.

STEATITE SOCKET



Low-loss and low moisture absorption. Ability to withstand high temperatures.

Cat. No.		Net Price
RSS4	4-contact	$.24 ea.
RSS5	5-contact	.24 ea.
RSS6	6-contact	.24 ea.
RSS7S	7-contact (small)	.24 ea.
RSS7L	7-contact (large)	.30 ea.
RSS8	8-contact (octal)	.24 ea.

Amphenol Sockets and Plug Assemblies are used in most of the better radio receivers, transmitters and test instruments throughout the world. Constructed of the best materials obtainable, designed perfectly for the purpose for which they are intended, yet priced so that they may be used by all servicemen, custom set builders, soundmen and amateurs. There is an Amphenol Socket or Plug Assembly for every radio or sound job.

SUPER-MIP SOCKETS
(Ultra-Low-Loss)

This New Amphenol development is the finest, lowest-loss Socket in the World! The body is made of a new transparent polystyrene base material, called "Amphenol 912." This material has remarkable LOW-LOSS properties which provides greater efficiency on high frequency work than has ever before been possible. The only caution to be emphasized is that they should never be heated beyond 200° F. (For electrical characteristics of Amphenol "912" see page N-8.)

		Net Price
No. 54-8	8-contact Octal	$.30 ea.

CHASSIS "CP" TYPE PLUG

Diameter 1¼", standard RMA prong spacing. Mounts with retainer ring. No screws or rivets are necessary. The ideal for fast mounting. Can also be used in conjunction with "S" type sockets and the 3-14 shell to make adapters.

Cat. No.		Net Price
CP4	4-prong	$.06½ ea.
CP5	5-prong	.06½ ea.
CP6	6-prong	.06½ ea.
CP7	7-prong	.06½ ea.
CP8	8-prong (octal)	.06½ ea.
CP9	9-prong (octal)	.08½ ea.
CP11	11-prong (octal)	.14½ ea.

(Price includes No. 6 Retainer Ring)

REPLACEMENT PLUG

Same as regular CP but comes set in a cadmium plated steel adapter plate that fits any rivet hole spacing from 1½" to 1⅞".

Cat. No.		Net Price
RCP4	4-prong	$.07 ea.
RCP5	5-prong	.07 ea.
RCP6	6-prong	.07 ea.
RCP7	7-prong	.07 ea.
RCP8	8-prong	.09 ea.
RCP9	9-prong	.11 ea.
RCP11	11-prong	.15 ea.

3-14 ADAPTER SHELL

Used with "S" type sockets and "CP" type plugs to form adapters. Sockets and plugs snap into place.

No. 3-14

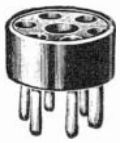
Net Price.....$.09 ea.

LABORATORY CHASSIS DIE

For punching holes for Amphenol sockets and plugs.

LD-1 for small sockets...	$1\frac{11}{64}$"	$6.00 ea.
LD-2 for large sockets...	$1\frac{21}{64}$"	6.00 ea.
LD-3 for mike connectors.	$\frac{13}{16}$"	1.80 ea.

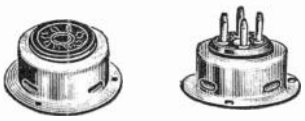
SPEAKER PLUGS



One-piece molded bakelite body with prongs securely riveted. Each prong is at the bottom of a deep molded hole which houses the wire and prevents shorts due to insulation pulling back.

Cat. No.		Net Price
70-4	4-prong	$.06½ ea.
70-5	5-prong	.06½ ea.
70-6	6-prong	.06½ ea.
70-7	7-prong	.06½ ea.
70-8	8-prong	.08½ ea.
70-9	9-prong	.10 ea.

ABOVE OR BELOW SURFACE MOUNTING



Regular "S" type Sockets or "CP" Plugs mounted in a heavy aluminum shell. Shell raises sockets or plug $\frac{13}{16}$" above sub-panel. For below surface mounting simply reverse bakelite element. Four knockouts in side of shell provide wire entrances from any angle.

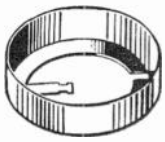
Plug No.	Socket No.		Net Price
ACP4	ACS4	4-contact	$.07 ea.
ACP5	ACS5	5-contact	.07 ea.
ACP6	ACS6	6-contact	.07 ea.
ACP7	ACS7S	7-small	.07 ea.
	ACS7L	7-large	.07 ea.
ACP8	ACS8	8-octal	.09 ea.
ACP9	ACS9	9-octal	.11 ea.
ACP11	ACS11	11-octal	.15 ea.

TAP CHANGE SWITCH

8-position, single-pole switch for impedance matching, test instruments and similar applications. Tap designations, visible through window in bevel of cap, are white numerals from 1 to 8. Side set screw locks switch in position, preventing accidental tap changes. Base is high di-electric black bakelite molded directly into cadmium-plated steel mounting plate. Mounts on the surface or from the rear so that only the knob protrudes.

		Net Price
No. 36	Tap Change Switch	$.45 ea.

TUBE SHIELD BASE



$1\frac{19}{32}$" for standard tube shield. Mounts under Amphenol sockets. Has soldering lug for grounding.

Net Price...$.02 ea.

Amphenol Radio Tube Sockets are patented under U. S. No. 2,087,784—also foreign patents. Other patents pending.

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World Radio History

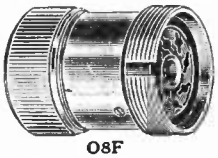
AMPHENOL

REG. U. S. PAT. OFF.

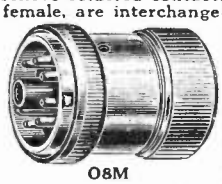
AMERICAN PHENOLIC PRODUCTS

OCTAL CONNECTORS

A new improved Octal Connector. The 8 prong plug follows the principle of the octal metal tube base and has the bakelite keyed pilot to guide prongs and contacts together. A drawn brass cadmium-plated shell protects the connector. Male has coupling ring which engages over threads on female, eliminating accidental disconnections. The rubber gasket and cable grip clamp are adjustable to any size cable, and relieve soldered contacts of strain. Bakelite elements, male or female, are interchange-

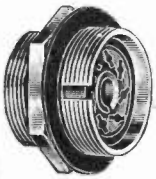


O8F



O8M

able in either cable or chassis housing. Cadmium-plated bronze contacts grip the prongs tighty for low resistance and high current carrying capacity. The Male Connector Shells have a key and the Female Connector Shells have a keyway, which engage together to definitely polarize and guide the prongs into the proper contacts. Illustrations half actual size.



PO8F

CABLE TYPE, MALE
Carries Coupling Ring

No.		Net Price
O4M—	4 prong	$.75 ea.
O5M—	5 prong	.75 ea.
O6M—	6 prong	.75 ea.
O8M—	8 prong—octal type	.75 ea.
O12M—	12 prong—octal type	1.20 ea.

CABLE TYPE, FEMALE
Carries Coupling Threads

No.		Net Price
O4F—	4 contact	$.75 ea.
O5F—	5 contact	.75 ea.
O6F—	6 contact	.75 ea.
O8F—	8 contact—octal type	.75 ea.
O12F—	12 contact—octal type	1.20 ea.

CCC-8

CHASSIS TYPE, FEMALE
Keyed Chassis hole required 1¼" diameter.

No.		Net Price
PO4F—	4 contact	$.75 ea.
PO5F—	5 contact	.75 ea.
PO6F—	6 contact	.75 ea.
PO8F—	8 contact—octal type	.75 ea.
PO12F—	12 contact—octal type	1.20 ea.

CAP AND CHAIN

CCC8 Cap and Chain fits Octal Connectors —1.380-20 thread—protects against dirt and tampering. Net Price ..... $.30 ea.

MICROPHONE CONNECTORS

MC1M

MC1F

Completely shielded unbreakable connector for use with single conductor microphone cable. Utilizes cable shield as return conductor. Coupling ring locks contacts together against vibration and prevents accidental pull-aparts. Accomodates cables up to ⅝". Coupling ring thread is ⅝"-27. Chrome-plated brass shell. Supplied with spring cord protector.

No. MC1F —Female Cable Type ..... Net Price $.30 ea.
No. MC1M—Male Cable Type ..... Net Price .24 ea.

CHASSIS CONNECTOR

Can be grounded to chassis or insulated with extruded fibre washer. Used with No. MC1F Cable Connector. With 2 fibre washers, metal washer, solder lug and hex, mounting nut.

Net Price
No. PC1M—Male Chassis Connector ..$.18 ea.

NEW! CLOSED CIRCUIT TYPE

Same as above but circuit closes when cable connector is removed. Eliminates grid howls when microphone is disconnected. Used as phono input, eliminates switch. Same thread and hardware supplied as on above.

No. CL-PC1M—Closed Circuit Connector .... Net Price $.24 ea.

SIDE CABLE OUTLET

Designed to be placed between a microphone and stand having ⅝"-27 threads. Its purpose is to provide an outlet for the microphone cable where it is not desired to run it through the stand tubing. Efficient cable grip relieves strain. Heavy metal casting, finished in polished chrome.

No. SCO3—Side Cable Outlet. Net Price .... $.45 ea.

MINIATURE CABLE CONNECTORS

MPF3

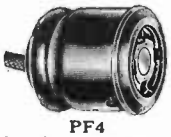
MPM3

Moulded bakelite female element the same as on "MC" series Microphone Connectors shown on adjoining page. Same contact spacing. Cadmium-plated metal cap held with set-screw. Cap has ¼" cable outlet hole.

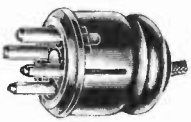
Male No.	Female No.		Net Price
MPM3	MPF3	3-contact	$.18 ea.
MPM4	MPF4	4-contact	.20 ea.

CABLE CONNECTORS

C-CAB



PF4



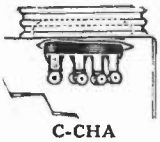
PM4

C-CAB

Made of our regular AMPHENOL sockets, snugly covered by a steel cap that fits tightly but may be pried with an ordinary screw driver. Cover is 1⅛" in height, black japanned. A rubber grommet protects cable from abrasions. Metal cover shields connections and provides an unbreakable cable terminal. Small and sturdy.

Female No.	Male No.		Net Price
PF4	PM4	4-contact	$.15 ea.
PF5	PM5	5-contact	.15 ea.
PF6	PM6	6-contact	.15 ea.
PF7	PM7	7-small	.15 ea.
PF8	PM8	8-octal	.15 ea.
PF9	PM9	9-octal	.17 ea.
PF11	PM11	11-octal	.18 ea.

CONNECTOR COVERS



C-CHA

Can be slipped over regular AMPHENOL Cable Connectors to lock the two sections together. Eliminates embarrassing pull-aparts. Threaded base for mounting under tube socket is furnished with type C-CHA.

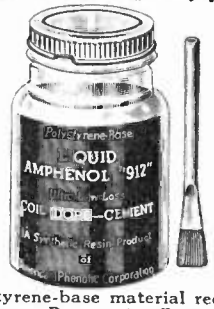
C-CAB (Cable Type) ..$.15 per pr.
C-CHA (Chassis Type)$.15 per set

RUBBER PLUG HANDLE

Fits snugly over all PF and PM style connector plug caps. Inner molded ring snaps into groove of cable connector cap. Will not come off accidentally.

No. RPH
Net Price....$.09 ea.

LIQUID AMPHENOL "912"



A polystyrene-base material reduced to liquid form. Does not affect electrical characteristics of coil windings. Unequalled for sealing pores of fibre, cardboard, paper and other moisture absorptive materials. Supplied with brush.

No. 53-2—2 Oz. Bottle ..... $.30 ea.
No. 53-4—4 Oz. Bottle ..... .39 ea.

CABLE CLAMP

Just remove rubber grommet of cable connector and slip this grip into place. Positive and dependable. Fits any size cable up to ½".

No. CC4—Net Price ..... $.06 ea.

NET

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AMPHENOL

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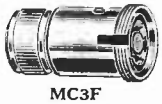
AMERICAN PHENOLIC PRODUCTS

MICROPHONE CONNECTORS



MC3F

MC3M

Interchangeable, compact, ideal for microphone and sound equipment work. All male and female threads are ⅝"-27, the standard for this industry, so that they may be screwed into microphone housings, rings or to the top of stands. Supplied with coiled spring cord protectors, available in two sizes—.281 I.D. and 385 I.D.

CABLE TYPE

No.		Net Price
MC3F	3-contact, female	$.60 ea.
MC4F	4-contact, female	.66 ea.
MC3M	3-prong, male	.60 ea.
MC4M	4-prong, male	.66 ea.
MC3MS	3-contact female in M shell	.60 ea.
MC4MS	4-contact female in M shell	.66 ea.

SC3F

STAND TYPE, FEMALE

Often used with MC3M connector for microphone stand work. ⅝"-27 female thread to fit most stands.

SC3F	3-contact, female	$.60 ea.
SC4F	4-contact, female	.66 ea.

CHASSIS CONNECTOR

With knurled ring, lock washer and hex locking nut. Requires 13/16" chassis hole.

No.		Net Price
PC3F	3-contact female	$.30 ea.
PC3M	3-prong male	.30 ea.
PC4F	4-contact female	.33 ea.
PC4M	4-prong male	.33 ea.

PC3F

SPECIAL CHASSIS TYPE

SP-PC3F

Similar to PC3F except contacts are shielded. Provided with two hexagon lock nuts and shake-proof washer. Will fit up to a ⅝" thick panel. These are generally used in connection with the cable type M.C. series for the connecting end.

No.		Net Price ea.
SP-PC3F	3-contact female	$.60
SP-PC4F	4-contact female	.66
SP-MC3M	3-prong male	.60
SP-MC4M	4-prong male	.66

SP-MC3M

CCC3

Connector Chain and Cap

For Above Chassis Connectors

Protects against dirt and tampering. 13/16"-thread.

No. CCC3 Net Price $.30 ea.

MINIATURE SPEAKER PLUGS AND SOCKETS

No. 7

S3S

70-3S

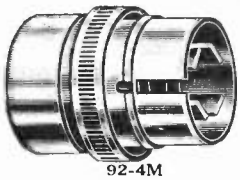
Molded from genuine bakelite. Compactly made. Especially desirable where space is at a premium. Assembles quickly to any chassis thickness with AMPHENOL No. 7 tempered spring steel Retainer Ring. ⅛" chassis hole required.

No.		Net Price
70-3S	3-prong male plug	$.08 ea.
70-4S	4-prong male plug	.08 ea.
S3S	3-contact female socket	.08½ ea.
S4S	4-contact female socket	.08½ ea.

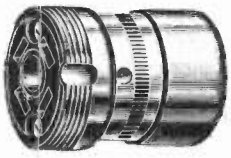
(Price includes No. 7 Retainer Ring)

NEW HEAVY DUTY POWER PLUGS

10-15 AMP. HEAVY DUTY TYPE



92-4M



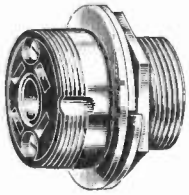
92-4F

A tough, compact, metal clad connector for heavy duty portable machinery and electrical appliances. **Underwriters' Listed** for 15 amps. at 125 volts, 10 amps. at 250. Four contacts and binding screw in shell for carrying up to five circuits. Contacts in individually molded chambers to prevent flashing across when circuit is broken. Coupling ring on male screws over threads on female to eliminate accidental disconnections. Male and female elements are interchangeable.

WATERPROOF and UNBREAKABLE: Heavy cadmium plated brass shell and Amphenol molded bakelite enables connector to withstand severe abuse. Walking on or banging will not bend shell out of shape. Live rubber gasket backed by fibre washer seals against dirt and water.

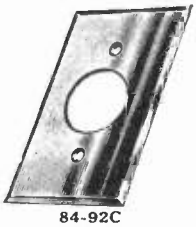
EASY to WIRE Unnecessary to remove contacts to wire. One piece bakelite element held in place by two easily accessible screws which are recessed to prevent shorting. Metal shells have polarizing keys to prevent incorrect insertion. Positive clamp grips cable, relieving strain on contacts. Cable clamp adjustable to ⅝".

Chassis Type Cat. No. 92-4C designed for standard outlet boxes or panel mounting in 1¼" hole. Held rigidly in place by lock washer and hexagon nut. Service end 1⅛" die cut threads to fit coupling ring of male connector or Cap (Cat. No. 87-A) to seal receptacle when not in use. Chassis type supplied complete for mounting in panels or any blank cover drilled to fit. For flush surface work mount on Yoke (Cat. No. 92-12) which has self centering holes to fit any shallow or deep condulet, switch or handy box. Chromium plated Wall Plate (Cat. No. 84-92C) has 1⅛" hole to accomodate service end of receptacle. Chassis type supplied with either male or female element.



92-4C

92-12



84-92C

87-A

Cat. No.		Net Price
92-4M	Male Connector	$1.50 ea.
92-4F	Female Connector	1.50 ea.
92-4C	Chassis type connector supplied with either male or female element,	1.50 ea.
92-12	Yoke for adapting chassis connector to standard outlet boxes supplied free with following plate.	
84-92C	Chrome finish Wall Plate	$.60 ea.
87-A	Connector Chain and Cap	.30 ea.

NEW COMPACT RECEPTACLE

61-F

Only ⅝" in height by 1¼" in diameter, yet it takes standard plugs and is Underwriters' Listed for 15 amps. at 125 volts, to 10 amps. at 250 volts. The most compact receptacle on the market. For phono-combinations, public address equipment, electrical appliances.

"Clip" and Its Mounted

No screws or rivets. Held firmly in place by the Amphenol retainer ring as used on Amphenol "S" type sockets. Keyed to prevent turning. Standard Amphenol radio socket mounting holes 11/16" in diameter. (Use LD-1 Laboratory Die for punching holes.)

Also supplied with cadmium-plated mounting plate with 1½" to 1⅞" centers, 5/32" mounting holes, for riveting or screwing to panel or chassis.

No.		Net Price
61-F	—Female Receptacle with retainer ring	$.15 ea.
61-M	—Male Receptacle with retainer ring	.15 ea.
61-F1	—Female Receptacle with mounting plate	.18 ea.
61-M1	—Male Receptacle with mounting plate	.18 ea.

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AMPHENOL

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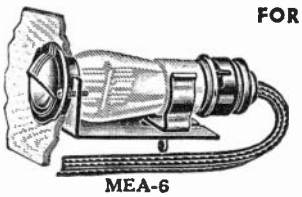
AMERICAN PHENOLIC PRODUCTS

ADJUSTABLE MOUNTINGS

FOR MAGIC EYE TUBE



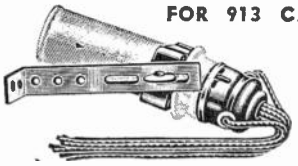
MEA-6

This AMPHENOL Mounting Assembly makes possible the application of the Magic-Eye tube to sets employing automatic volume control, but lacking a tuning indicator. Easy to install. A spring clip grips the base of the tube firmly and yet permits it to be revolved for proper focusing of the eye movement. This spring clip is adjustable to the slotted bracket, so the tube will extend properly to the panel. Assembly consists of the mounted tube socket, its protective unbreakable shell, a 22" five-wire color coded cable, and one-megohm target to plate resistor already wired into the socket. (All necessary hardware for assembling, with an attractive modernistically styled escutcheon, included.)

No. MEA6—Assembly for 6G5 or similar type tubes.
Net Price (Individually Boxed) ..... $.75 ea.

No. MEA8—Assembly for 6AF6 octal magic eye.
Net Price (Individually Boxed) ..... $.75 ea.

FOR 913 CATHODE RAY TUBE



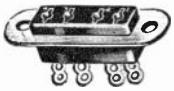
913

This AMPHENOL Wired Plug and Bracket Assembly simplifies the application of the RCA 913 Cathode Ray Tube to test equipment. Completely wired with a 22" seven-wire color coded cable. An ideal foundation for those desiring to design and build their own equipment. May be used for the alignment of radio receivers, measuring of voltage and current, locating distortion and hum in public address equipment, measuring percentage of modulation in transmitters and phase measurements. The "L" bracket permits mounting on either front panel or base of the apparatus. The thumb screw fastening of the spring clip gives easy adjustment to the position of the 913 tube. Spring clip will expand sufficiently to allow tube to be shielded by fibre or bakelite ring.

No. 913—Socket Assembly for RCA 913 Cathode Ray Tube. Net Price (Individually Boxed) ..... $.60 ea.

SPECIAL MINIATURE SOCKETS and PLUGS

70-26



77-26

Specially suited for use in compact Hearing Aid Devices, and where space is at a premium. Has molded-in-plate 1 3/8" mounting centers. Chassis hole required 1 1/16" x 3/8".

No.	Net Price
70-27—2-prong Plug	$.06 ea.
70-25—3-prong Plug	.08 ea.
70-26—4-prong Plug	.09 ea.
77-25—3-contact Socket	.13 ea.
77-26—4-contact Socket	.15 ea.

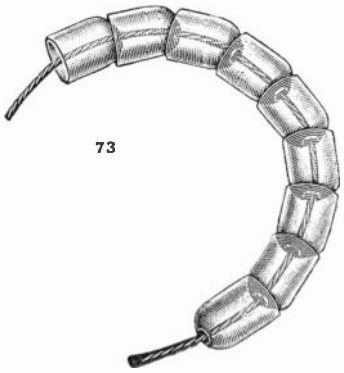
SINGLE PRONG PLUGS

70-1M

Molded Bakelite finger grips, in either Black, Gray or Red. Specify colors wanted.

No.	Net Price
70-1S—3/32" prong	$.03 ea.
70-1M—1/8" prong	.03 ea.
70-1L—5/32" prong	.03 ea.

TRANSPARENT ULTRA-LOW-LOSS INSULATING BEADS



73

A new "spaghetti type" insulator for Co-Axial Cables, Transmission Lines and all bare wires charged with high frequency current. Made of Amphenol "912", a new transparent insulating material with a loss factor that is practically nil. (See table below for comparison with other good insulating materials.) Unequalled for radio and test instrument construction, antenna leads, photo-electric cell transmission, public address work and thousands of other uses where high frequency losses are important.

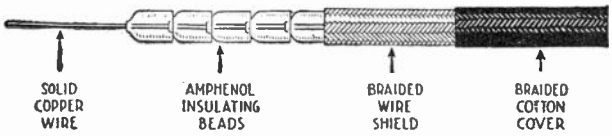
Easily and quickly strung on any size wire up to No. 12 to form a non-hygroscopic fish spine. A ball and socket design permits flexing and bending on a one inch radius without uncovering the wire.

Note: Bead diameter 5/16"—Length 7/16" overall—1/16" hole—Transparent color—For making cables figure 31 beads to the foot.

No. 73—Insulating Beads, packed 250 to the box. Net, $1.50 per Box

AMPHENOL No. 72 CO-AXIAL CABLE

(Shielded Concentric Transmission Line)



A new loss-loss cable for transmitting high frequencies inches or miles with incredible efficiency. Unequalled for radio and test instrument construction, antenna leads, photo-electric cell transmission, public address work, any place where high frequencies must be carried without radiation or pickup with a minimum loss.

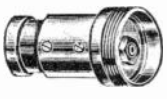
Constructed of No. 14 tinned solid copper wire strung with Amphenol Low-Loss Insulating Beads, then shielded with a woven tinned copper shell, finally covered with two separate cotton braids, the inner braid impregnated with a non-drying waterproofing compound, the outer treated with wax, doubly guarding against all adverse climatic conditions.

The chart below shows the high properties of Amphenol "912" insulating material and Amphenol Co-Axial Cable for carrying high frequency current with maximum efficiency. Co-Axial Cable is easy to use, bending on a one inch radius. Weight only 1 oz. per foot.

Standard length, 100 ft. reels; outside diameter 13/32"

Cat. No. 72—Co-Axial Cable ..... Net Price $.36 per foot

CO-AXIAL CABLE CONNECTOR



90-F

90-M

An ultra-low-loss connector especially designed for Co-Axial Cable. Amphenol "912" insulation; chrome-plated, heavy brass shell; coupling ring to lock male and female together. Use of connector employing other than Amphenol "912" insulation will nullify the high efficiency of Co-Axial transmission lines.

Cat. No.	Net Price
90-M—Male Cable Type	$1.20 ea.
90-F—Female Cable Type	1.20 ea.
90-C—Female Chassis Type	1.20 ea.

You are invited to confirm the following figures in your own laboratory.

Comparison Between Amphenol "912" and Other Good Insulators

	Best Steatite	Low-Loss Bakelite	AMPHENOL "912"
Power Factor	.04	.34	.0002
Dielectric Constant	5.8	4.1	2.60
Loss Factor	.23	1.39	.00053
Dialectric Strength per mil.	200.	400.	500.
Tensile Strength—lbs. per sq. inch	8500.	5000.	5000.

Electrical Characteristics of Co-Axial Cable

Characteristic Impedance	82.5	ohms
Loss per foot	.0009	db.
Inductance per foot	.1	microhenry
Capacity per foot	11.5	mmf.
Resistance per foot	.024	ohms

All above measurements made at a frequency of 1,000,000 cycles

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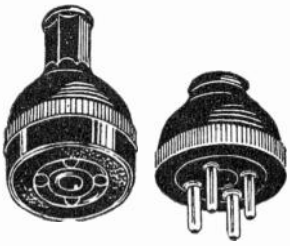
BINDING POSTS
CABLE CONNECTORS
SPEAKER PLUGS

EBY QUALITY

MOULDED SOCKETS
KNOBS and DIALS
TERMINAL STRIPS, ETC.

RUBBER CAPPED Male & Female PLUGS



Model 99-515 Model 97-505

Rubber capped male and female plugs furnished in two sizes of black rubber caps, as pictured above. 505 (small), 515 (medium length). Cable hole 5/16". Furnished for 4, 5, 6 or 7 conductors.

Model 28

SPEAKER PLUG

One piece moulded black bakelite. A moulded Speaker Plug with prongs securely fastened in. Each individual conductor protected with moulded insulation to prevent shorts from pushed back braid.

Cat. No.		List
28 A	4 Prong	$0.12
28 B	5 Prong	.12
28 C	6 Prong	.12
28 DN	7 Prong .750 Lay't	.12

Male	Female	Cap	MALE List	FEMALE List
No. 97A—	No. 99A—	505 4-prong small cap	$0.30	$0.40
No. 97B—	No. 99B—	505 5-prong small cap	.30	.45
No. 97C—	No. 99C—	505 6-prong small cap	.35	.50
No. 97DN—	No. 99DN—	505 7-prong small cap .750" lay't	.35	.50
No. 97—	No. 99DO—	505 7-prong small cap .855" lay't		.50
No. 97A—	No. 99A —	515 4-prong med. cap	.35	.45
No. 97B—	No. 99B —	515 5-prong med. cap	.35	.50
No. 97C—	No. 99C—	515 6-prong med. cap	.40	.55
No. 97DN—	No. 99DN—	515 7-prong med. cap .750" lay't	.40	.55
	No. 99DO —	515 7-prong med. cap .855" lay't		.55

MOULDED SOCKETS

No. 12 Moulded Socket

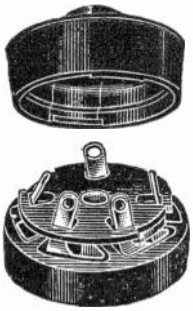
Both the No. 8 and No. 12 Eby Moulded Sockets are made with Eby recess ring, moulded through contact holes. Furnished in Black Bakelite finish.

The Type 12 has entire shell and base moulded in one piece. Contact designations moulded on the top and bottom of the base close to terminals.

No. 8 Moulded Socket

No. 8 is very similar, but the base consists of separate, laminated Bakelite plate . . . Both sockets for use where severe service is likely to be encountered.

Cat. No.	No. of Prongs		List Price
Type 8—1 11/16" Mtg. Centers			
8A	4		$0.20
8B	5		.25
8C	6		.25
8DN	7	.750" dia. layout	.25
8DO	7	.855" dia. layout	.25
8E	8	octal	.30
Type 12—1 11/16" Mtg. Centers			
12A	4		$0.30
12B	5		.30
12C	6		.40
12BC	Com. 5 & 6 prong		.40
12DO	7	.855" dia. layout	.40
12DNO	Com. lg. & sm. 7 prong		.40
12E	8	octal	.45



Socket Cable Connector, Disassembled View

SOCKET CABLE CONNECTORS

Assembled View

This Eby Moulded Socket arrangement is the safest and most satisfactory method of connection to hot wires. Fitting together by means of a convenient bayonet arrangement, the assembled unit matches the moulded Male Plug Connector and provides a quick method of make and break multiple circuit connections.

Cat. No.	No. of Prongs	Hole	List Price
11A	4	Small Cap 5/16"	$0.30
11B	5	Small Cap ⅜"	.35
11C	6	Small Cap 7/16"	.40
11DN	7	.750" dia. lay't ½"	.40
11DO	7	.855" dia. lay't ½"	.40

KNOBS AND TERMINAL NUTS

E-18

¼" Insert and Set Screw. Filled arrow. Black only. List .15

E-17

¼" Insert and Set Screw. Filled arrow. Black only. List .12

E-280

Height 15/32", ¼" Hole. Two-tone Walnut only. List $0.10

List

No. S-312-3—¼" Insert $0.65 ea.
No. S-312-1—No Insert .60 ea.
Width 2 15/16"

No. S-311-3—¼" Insert $0.50 ea.
No. S-311-1—No Insert .45 ea.
Width 2 1/16"

Above knobs have skirt base.

No. S-310-3—¼" Insert $0.50 ea.
No. S-310-1—No Insert .45 ea.
Width 2⅜"

No. S-309-3—¼" Insert $0.40 ea.
No. S-309-1—No Insert .35 ea.
Width 1⅝"

No. S-308-3—¼" Insert $0.30 ea.
No. S-308-1—No Insert .25 ea.
Width 1 3/16"

With Set Screw. Black only

INSTRUMENT DIALS & KNOBS

S-505

2" Rheostat Dial List $0.25

¼" Plain Insert with set screw. Graduations 100 to 0. Black only.

E-127

1¼" Ornamental Top; Set Screw Type ¼" Plain Hole with Set Screw. Walnut only List $0.10

E-110

1⅜" Two-tone Knob —¼" Hole. No Insert. No Skirt. Set Screw Type. List $0.14

E-292

1¼" Bar Knob Black or Walnut List $0.12

E-293

2¼" Bar Knob Black or Walnut List $0.15

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World Radio History

BINDING POSTS
CABLE CONNECTORS
SPEAKER PLUGS

EBY QUALITY

MOULDED SOCKETS
KNOBS and DIALS
TERMINAL STRIPS, ETC.

Type 21-S Moulded Twin Posts

TWIN and TRIPLE BINDING POSTS

These binding posts consist of standard Eby units mounted on moulded or laminated Bakelite Strips to form neat assemblies for making connections.

The standard insulated binding posts are used on all but the Type 22-S unit. Moulded units are furnished regularly in Black finish; laminated units in Brown.

Cat. No.	Type Material	Markings	List Price
Twin Post Units			
21-R*	Mld'd	Ant., Gnd.	**$0.50**
21-S*	Mld'd	Ant., Gnd.	**.50**
22-R	Lamin.	Ant., Gnd.	**.40**
22-S+	Lamin.	A. G.	**.35**
Triple Post Units			
21-T	Mld'd	L. Ant., S. Ant., Gnd.	**$0.65**
22-T	Lamin.	L. Ant., S. Ant., Gnd.	**$0.55**

TERMINAL STRIPS

New, Improved Types

These strips are equipped with new type lug shown above. Stamped thread, consisting of six or more turns, insures lasting contact without slightest danger of stripping. Supplied with from 1 to 8 terminals. Screws 6/32 thread.

Cat. No.	No. of Terminals	List Price
TS-561	1	**$0.10**
TS-562	2	**.15**
TS-563	3	**.15**
TS-564	4	**.20**
TS-565	5	**.20**
TS-566	6	**.20**
TS-567	7	**.25**
TS-568	8	**.25**

Above list prices are for strips unmarked.

NON-REMOVABLE HEAD BINDING POSTS

Junior or Ensign

Midget or Corporal or Sergeant or Captain

These famous Eby binding posts prevent loss of tops or errors due to a shift of knobs to wrong terminals. The all-metal posts have a milled slot in the base to serve as the lower contact, and a sliding shoe, operated by the knob to serve as the upper contact.

The insulated posts are provided with holes in the stud to receive the wire or pin tip lead.

Because of the special milled construction in the all-metal posts and the proper placement of the hole in the insulated ones, even a fine wire can be clamped securely without any danger of breaking or shearing.

Buddy or Sergeant S.S.

Junior P-3 or Commander P-3

Commander P-4

Binding Post General Characteristics

Trade Name	Height Closed	Cap. Dia.	Type of Finish	Material	List Price
Metal Binding Posts					
Midget	7/16"	5/16"	Note 2	Brass	**$0.15**
Corporal	9/16"	⅜"	Note 2	Brass	**.20**
Buddy	9/16"	⅜"	Note 2	Brass	**.20**
Sergeant	¾"	⅜"	Note 2	Brass	**.30**
Sergeant SS	¾"	½"	Note 2	Brass	**.35**
Captain	1"	⅝"	Note 2	Brass	**.45**
Insulated Binding Posts					
Ace	29/32"	½"	Black	Composition	**.15**
Junior*	11/16"	½"	Black	Composition	**.16**
Junior P-4+	11/16"	½"	Black	Note 1	**.25**
Junior P-3	11/16"	½"	Black	Note 1	**.25**
Ensign	11/16"	½"	Black	Composition	**.20**
Comm'der	¾"	⅝"	Black	Composition	**.35**
Comm. P-4	¾"	⅝"	Black	Note 1	**.45**
Comm. P-3	¾"	⅝"	Black	Note 1	**.45**

Note 1: Composition top and Bakelite base.
Note 2: List prices given are for tumbled nickel finish
Note *: Available in plain top and following standard markings:—Ant.; Gnd.; Input.; Output;-/-;—.
Note +: Available with 3 lengths of extensions on base, i. e. 1/32", 1/16" and ⅛". In ordering please specify base extension desired.

SINGLE, TWIN and TRIPLE TIP JACKS

Type 17, Moulded Twin Jacks

Type 18 Laminated Twin Jacks

Cat. No. 49M

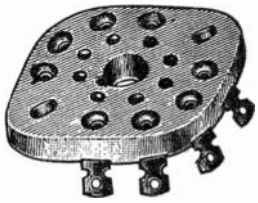
For making quick connections and for use with speakers and phonograph units.

The moulded units are furnished regularly in Black. They can also be supplied in Brown finish on special quantity orders. Laminated units furnished only in Brown finish.

Cat. No.	Mounting Hole	List Price	Specify whether Red or Black Bakelite Top desired.
49M	19/64	**$0.10**	

Cat. No.	Type Material	Mtg. Cen.	List Price
Twin Jacks			
17 Speaker	Moulded	*	**$0.35**
17 Phono	Moulded	*	**.35**
17 Plain	Moulded		**.35**
18 Speaker	Laminated	1 11/16"	**.10**
18 Plain	Laminated	1 11/16"	**.10**

*Note: Mounting screw at center. Jack centers 1 5/16". Jack centers on all except No. 17 units ⅞".



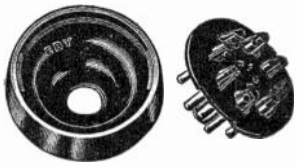
LOW LOSS SOCKETS

Of highest quality ceramic material for ultra high frequency use. Exposed surface glazed, underside unglazed. Special contacts of highest grade phosphor bronze, hot tinned. Socket adapted for mounting on chassis at 1-11/16" or 1-27/32" centers.

Low Loss Sockets

Cat. No.	No. of Prongs		List Price
37A	4		**$0.50**
37B	5		**.50**
37C	6		**.55**
37DN	7	.750" dia. layout	**.55**
37DO	7	.855" dia. layout	**.55**
37E	8	octal	**.60**

MOULDED PLUG CABLE CONNECTORS



Disassembled View

Eby Male plugs available with bayonet socket demountable moulded caps as illustrated. These plugs are made to match Eby No. 8 and No. 12 moulded tube sockets (See opposite page) and can be used with any standard tube socket, including octal.

Two-Piece Moulded Male Plugs — Black

Cat. No.	No. of Prongs		Hole	List Price
Without Soldering Lug Terminals				
7A	4		5/16"	**$0.15**
7B	5		3/8"	**.20**
7C	6		7/16"	**.25**
7DN	7	.750" dia. lay't	1/2"	**.25**
7DO	7	.855" dia. lay't	1/2"	**.25**
7E	8	As illustrated	1/2"	**.30**

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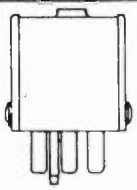
HOWARD B. JONES' PRODUCTS

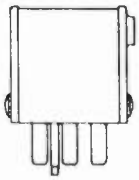
HEAVY DUTY PLUGS AND SOCKETS



Plug—Flared Hole in Top
SEE DATA SHEET FOR DIMENSIONS

P-2-FHT	$ .47
P-4-FHT	.61
P-6-FHT	.75
P-8-FHT	.89
P-10-FHT	1.03
P-12-FHT	1.17

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Flared Hole in End
SEE DATA SHEET FOR DIMENSIONS

P-2-FHE	$ .47
P-4-FHE	.61
P-6-FHE	.75
P-8-FHE	.89
P-10-FHE	1.03
P-12-FHE	1.17

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

Socket—Flared Hole in Top
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

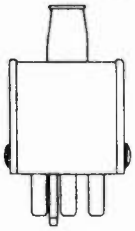
S-2-FHT	$ .53	SS-2-FHT	$ .70
S-4-FHT	70	SS-4-FHT	.87
S-6-FHT	87	SS-6-FHT	1.04
S-8-FHT	1.04	SS-8-FHT	1.21
S-10-FHT	1.21	SS-10-FHT	1.38
S-12-FHT	1.38	SS-12-FHT	1.55

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

Socket—Flared Hole in End
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-FHE	$ .53	SS-2-FHE	$ .70
S-4-FHE	.70	SS-4-FHE	.87
S-6-FHE	.87	SS-6-FHE	1.04
S-8-FHE	1.04	SS-8-FHE	1.21
S-10-FHE	1.21	SS-10-FHE	1.38
S-12-FHE	1.38	SS-12-FHE	1.55

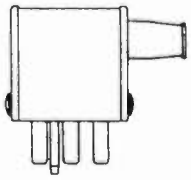
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Rubber Sleeve in Top
SEE DATA SHEET FOR DIMENSIONS

P-2-RST	$ .64
P-4-RST	.78
P-6-RST	.92
P-8-RST	1.06
P-10-RST	1.20
P-12-RST	1.34

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Rubber Sleeve in End
SEE DATA SHEET FOR DIMENSIONS

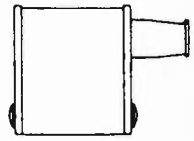
P-2-RSE	$ .64
P-4-RSE	.78
P-6-RSE	.92
P-8-RSE	1.06
P-10-RSE	1.20
P-12-RSE	1.34

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

Socket—Rubber Sleeve in Top
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-RST	$ .70	SS-2-RST	$ .87
S-4-RST	87	SS-4-RST	1.04
S-6-RST	1.04	SS-6-RST	1.21
S-8-RST	1.21	SS-8-RST	1.38
S-10-RST	1.38	SS-10-RST	1.55
S-12-RST	1.55	SS-12-RST	1.72

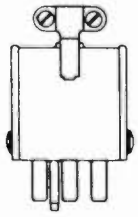
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Socket—Rubber Sleeve in End
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-RSE	$ .70	SS-2-RSE	$ .87
S-4-RSE	.87	SS-4-RSE	1.04
S-6-RSE	1.04	SS-6-RSE	1.21
S-8-RSE	1.21	SS-8-RSE	1.38
S-10-RSE	1.38	SS-10-RSE	1.55
S-12-RSE	1.55	SS-12-RSE	1.72

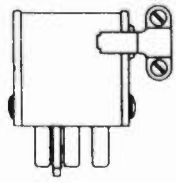
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Cable Clamp in Top
SEE DATA SHEET FOR DIMENSIONS

P-2-CCT	$ .61
P-4-CCT	.75
P-6-CCT	.89
P-8-CCT	1.03
P-10-CCT	1.17
P-12-CCT	1.31

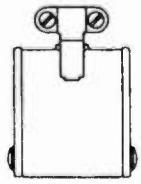
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Cable Clamp in End
SEE DATA SHEET FOR DIMENSIONS

P-2-CCE	$ .61
P-4-CCE	.75
P-6-CCE	.89
P-8-CCE	1.03
P-10-CCE	1.17
P-12-CCE	1.31

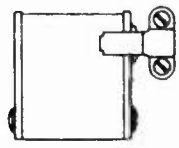
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Socket—Cable Clamp in Top
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-CCT	$ .67	SS-2-CCT	$ .84
S-4-CCT	.84	SS-4-CCT	1.01
S-6-CCT	1.01	SS-6-CCT	1.18
S-8-CCT	1.18	SS-8-CCT	1.35
S-10-CCT	1.35	SS-10-CCT	1.52
S-12-CCT	1.52	SS-12-CCT	1.69

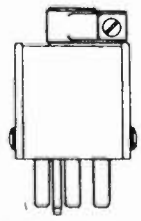
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Socket—Cable Clamp in End
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-CCE	$ .67	SS-2-CCE	$ .84
S-4-CCE	.84	SS-4-CCE	1.01
S-6-CCE	1.01	SS-6-CCE	1.18
S-8-CCE	1.18	SS-8-CCE	1.35
S-10-CCE	1.35	SS-10-CCE	1.52
S-12-CCE	1.52	SS-12-CCE	1.69

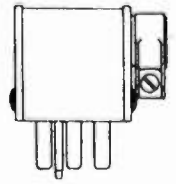
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Steel Flex clamp in Top
SEE DATA SHEET FOR DIMENSIONS

P-2-SFT	$ .67
P-4-SFT	.81
P-6-SFT	.95
P-8-SFT	1.09
P-10-SFT	1.23
P-12-SFT	1.37

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Plug—Steel Flex clamp in End
SEE DATA SHEET FOR DIMENSIONS

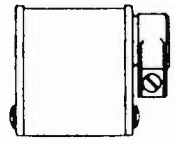
P-2-SFE	$ .67
P-4-SFE	.81
P-6-SFE	.95
P-8-SFE	1.09
P-10-SFE	1.23
P-12-SFE	1.37

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

Socket—Steel Flex clamp in Top
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-SFT	$ .73	SS-2-SFT	$ .90
S-4-SFT	.90	SS-4-SFT	1.07
S-6-SFT	1.07	SS-6-SFT	1.24
S-8-SFT	1.25	SS-8-SFT	1.42
S-10-SFT	1.41	SS-10-SFT	1.58
S-12-SFT	1.58	SS-12-SFT	1.75

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



Socket—Steel Flex clamp in End
SEE DATA SHEET FOR DIMENSIONS AND DETAIL ON TYPES "S" AND "SS"

S-2-SFE	$ .73	SS-2-SFE	$ .90
S-4-SFE	.90	SS-4-SFE	1.07
S-6-SFE	1.07	SS-6-SFE	1.24
S-8-SFE	1.25	SS-8-SFE	1.42
S-10-SFE	1.41	SS-10-SFE	1.58
S-12-SFE	1.58	SS-12-SFE	1.75

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

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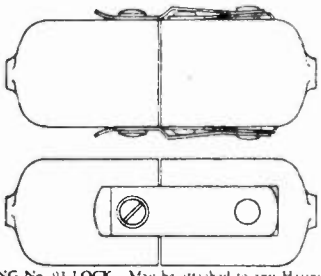
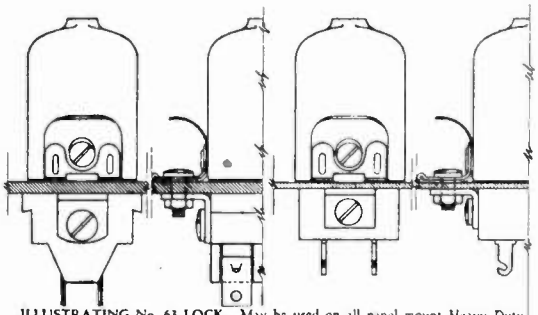
HOWARD B. JONES' PRODUCTS

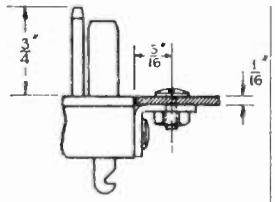
HEAVY DUTY PLUGS AND SOCKETS



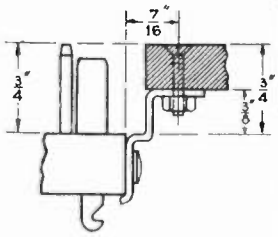
ILLUSTRATING No. 93 LOCK. May be attached to any Heavy Duty Plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 Locks."
No. 93 Lock when attached to plug, add to list ..... $ .25
No. 93 Locks ONLY, per pair ..... .25



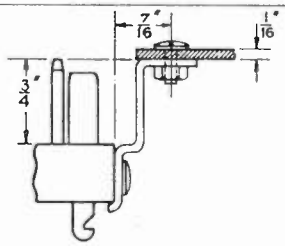
ILLUSTRATING No. 63 LOCK. May be used on all panel mount Heavy Duty Plugs and Sockets when surface is flush with top of panel. Cannot be used on plugs with 1/8" or 3/4" brackets.
No. 63 Locks ONLY, per pair ..... $ .25



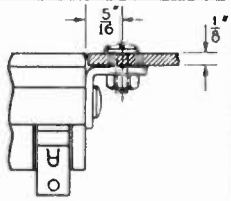
ANGLE BRACKET (CODE AB 1/16) ATTACHED TO HEAVY DUTY PLUG



ANGLE BRACKET (CODE AB 3/8) ATTACHED TO HEAVY DUTY PLUG

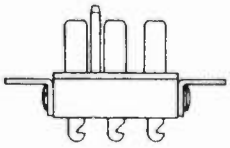


ANGLE BRACKET (CODE AB 3/4) ATTACHED TO HEAVY DUTY PLUG



ANGLE BRACKET (CODE AB) ATTACHED TO HEAVY DUTY SOCKET

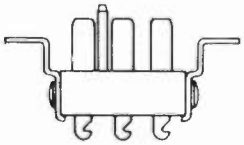
PLUGS AND SOCKETS WITH BRACKETS AND LESS BRACKETS



PLUG—WITH ANGLE BRACKETS FOR 1/16" PANEL
SEE DATA SHEET FOR DIMENSIONS

P-2-AB 1/16"	$ .44
P-4-AB 1/16"	.51
P-6-AB 1/16"	.58
P-8-AB 1/16"	.65
P-10-AB 1/16"	.72
P-12-AB 1/16"	.79

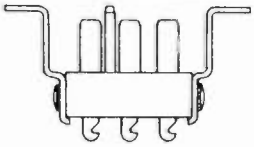
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



PLUG—WITH ANGLE BRACKETS 3/8" DROP
SEE DATA SHEET FOR DIMENSIONS

P-2-AB 3/8"	$ .50
P-4-AB 3/8"	.57
P-6-AB 3/8"	.64
P-8-AB 3/8"	.71
P-10-AB 3/8"	.78
P-12-AB 3/8"	.85

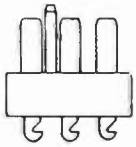
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



PLUG—WITH ANGLE BRACKETS 3/4" DROP
SEE DATA SHEET FOR DIMENSIONS

P-2-AB 3/4"	$ .61
P-4-AB 3/4"	.68
P-6-AB 3/4"	.75
P-8-AB 3/4"	.82
P-10-AB 3/4"	.89
P-12-AB 3/4"	.96

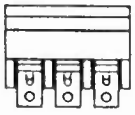
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



PLUG—LESS ANGLE BRACKETS
NOT DRILLED OR TAPPED UNLESS SPECIFIED

P-2-LAB	$ .27
P-4-LAB	.34
P-6-LAB	.41
P-8-LAB	.48
P-10-LAB	.55
P-12-LAB	.62

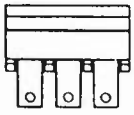
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



SOCKET—LESS ANGLE BRACKETS
NOT DRILLED OR TAPPED UNLESS SPECIFIED

S-2-LAB	$ .33
S-4-LAB	.43
S-6-LAB	.53
S-8-LAB	.63
S-10-LAB	.73
S-12-LAB	.83

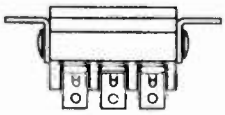
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS
NOTE: IF SHOULDERS ARE NOT REQUIRED, SPECIFY "LESS SHOULDERS"



SPECIAL SOCKET—LESS ANGLE BRACKETS
NOT DRILLED OR TAPPED UNLESS SPECIFIED

SS-2-LAB	$ .50
SS-4-LAB	.60
SS-6-LAB	.70
SS-8-LAB	.80
SS-10-LAB	.90
SS-12-LAB	1.00

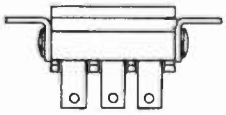
NUMERAL IN CODE INDICATES NUMBER OF CONTACTS
NOTE: IF SHOULDERS ARE NOT REQUIRED, SPECIFY "LESS SHOULDERS"



SOCKET—WITH ANGLE BRACKETS
SEE DATA SHEET FOR DIMENSIONS

S-2-AB	$ .50
S-4-AB	.60
S-6-AB	.70
S-8-AB	.80
S-10-AB	.90
S-12-AB	1.00

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS



SPECIAL SOCKET—WITH ANGLE BRACKETS
SEE DATA SHEET FOR DIMENSIONS

SS-2-AB	$ .67
SS-4-AB	.77
SS-6-AB	.87
SS-8-AB	.97
SS-10-AB	1.07
SS-12-AB	1.17

NUMERAL IN CODE INDICATES NUMBER OF CONTACTS

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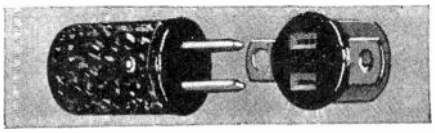
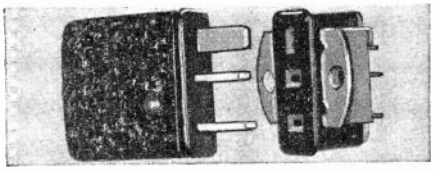
World Radio History

HOWARD B. JONES' PRODUCTS

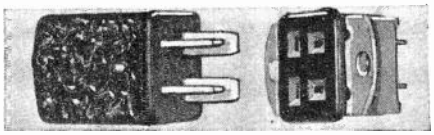
"300" SERIES PLUGS AND SOCKETS



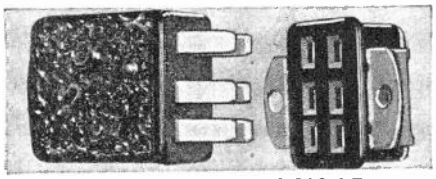
P-302-FHT S-302-AB



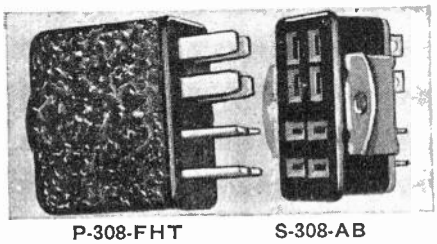
P-303-FHT S-303-AB



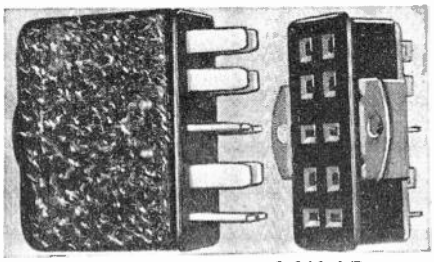
P-304-FHT S-304-AB



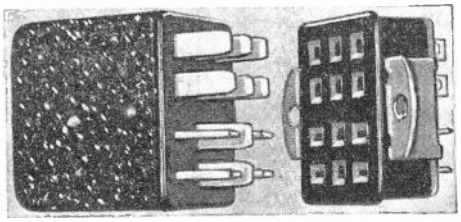
P-306-FHT S-306-AB



P-308-FHT S-308-AB



P-310-FHT S-310-AB



P-312-FHT S-312-AB

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General Specifications

300 SERIES PLUGS AND SOCKETS

- All plugs and sockets are polarized.
- Plugs of one size cannot fit into sockets of another size.
- Phosphor bronze "knife-switch" type female contacts engage both sides of flat male contacts—double contact area.
- Moulded Bakelite insulation.
- Formed metal caps.
- Formed fibre linings in caps.
- Small size, with good separation between contacts.
- Male or female for panel mounting.
- Male or female with cap.
- Simple, fool-proof assembly.
- Finish on caps — black crystal, except on large quantities at extreme discounts.
- Plug prongs—5/32" wide by 3/64" thick.

Prices

PLUG WITH DRAWN METAL CAP

		List Price
P-302-FHT— 2 contacts	Ea.	$0.20
P-303-FHT— 3 contacts	Ea.	.21
P-304-FHT— 4 contacts	Ea.	.24
P-306-FHT— 6 contacts	Ea.	.30
P-308-FHT— 8 contacts	Ea.	.35
P-310-FHT—10 contacts	Ea.	.42
P-312-FHT—12 contacts	Ea.	.47

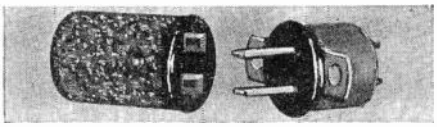
SOCKET WITH ANGLE BRACKETS

S-302-AB— 2 contacts	Ea.	$0.15
S-303-AB— 3 contacts	Ea.	.18
S-304-AB— 4 contacts	Ea.	.21
S-306-AB— 6 contacts	Ea.	.28
S-308-AB— 8 contacts	Ea.	.33
S-310-AB—10 contacts	Ea.	.40
S-312-AB—12 contacts	Ea.	.46

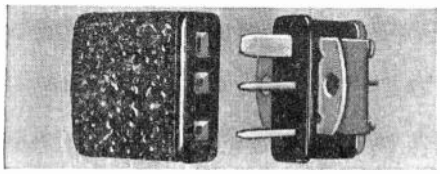
World Radio History

HOWARD B. JONES' PRODUCTS

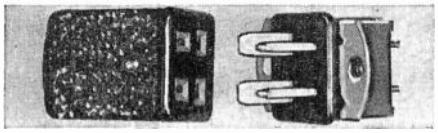
"300" SERIES PLUGS AND SOCKETS



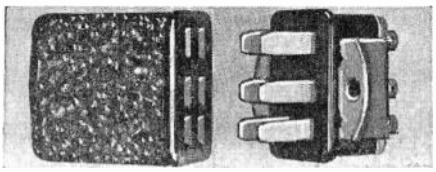
S-302-FHT P-302-AB



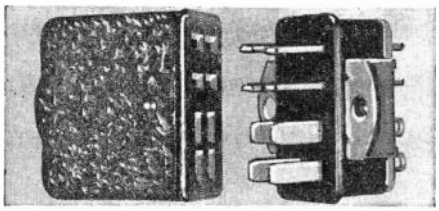
S-303-FHT P-303-AB



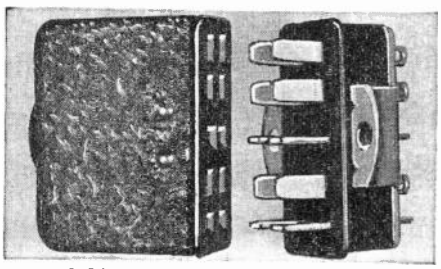
S-304-FHT P-304-AB



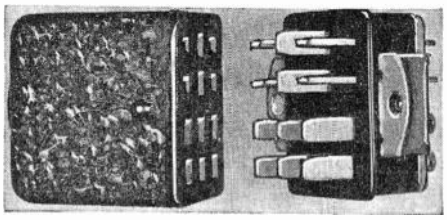
S-306-FHT P-306-AB



S-308-FHT P-308-AB



S-310-FHT P-310-AB



S-312-FHT P-312-AB

General Specification

300 SERIES PLUGS AND SOCKETS

General description of the 300 series will be found on the preceding page.

Cable clamps may be specified and included as an extra. See list on following page.

Locks holding plug and socket together may be specified and included as an extra. See list on following page.

Layout dimentions for panel hole sizes and mounting hole centers are shown on a following page.

In presenting the "300" series, we have tried to design a low price product of highest quality. Similar in design to our Heavy Duty line, a product that has given 100% satisfaction for eight years.

Prices

SOCKET WITH DRAWN METAL CAP

		List Price
S-302-FHT— 2 contacts	Ea.	$0.21
S-303-FHT— 3 contacts	Ea.	.22
S-304-FHT— 4 contacts	Ea.	.26
S-306-FHT— 6 contacts	Ea.	.34
S-308-FHT— 8 contacts	Ea.	.40
S-310-FHT—10 contacts	Ea.	.48
S-312-FHT—12 contacts	Ea.	.55

PLUG WITH ANGLE BRACKETS

P-302-AB— 2 contacts	Ea.	$0.14
P-303-AB— 3 contacts	Ea.	.17
P-304-AB— 4 contacts	Ea.	.19
P-306-AB— 6 contacts	Ea.	.24
P-308-AB— 8 contacts	Ea.	.28
P-310-AB—10 contacts	Ea.	.34
P-312-AB—12 contacts	Ea.	.38

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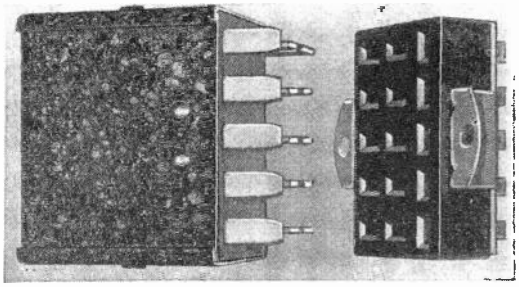
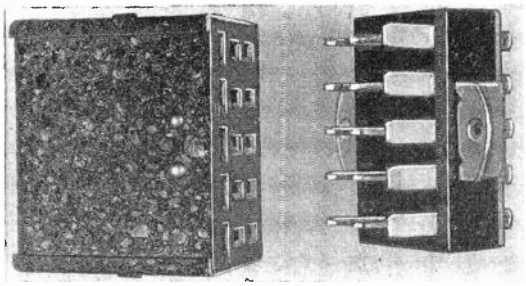
HOWARD B. JONES' PRODUCTS

"300" SERIES PLUGS AND SOCKETS

SIZES 15 CONTACTS TO 33 CONTACTS



P-315-FHE S-315-AB



S-315-FHE P-315-AB

PLUG WITH METAL CAP

		List Price
P-315-FHE—15 contacts	Ea.	$0.75
P-318-FHE—18 contacts	Ea.	.90
P-321-FHE—21 contacts	Ea.	1.10
P-324-FHE—24 contacts	Ea.	1.30
P-327-FHE—27 contacts	Ea.	1.50
P-330-FHE—30 contacts	Ea.	1.70
P-333-FHE—33 contacts	Ea.	1.90

SOCKET WITH METAL CAP

		List Price
S-315-FHE—15 contacts	Ea.	$0.85
S-318-FHE—18 contacts	Ea.	1.00
S-321-FHE—21 contacts	Ea.	1.20
S-324-FHE—24 contacts	Ea.	1.40
S-327-FHE—27 contacts	Ea.	1.60
S-330-FHE—30 contacts	Ea.	1.80
S-333-FHE—33 contacts	Ea.	2.00

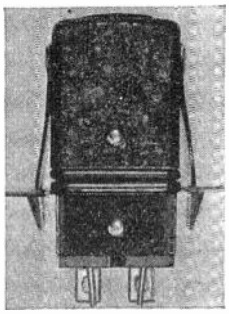
SOCKET WITH ANGLE BRACKETS

S-315-AB—15 contacts	Ea.	$0.65
S-318-AB—18 contacts	Ea.	.80
S-321-AB—21 contacts	Ea.	1.00
S-324-AB—24 contacts	Ea.	1.20
S-327-AB—27 contacts	Ea.	1.40
S-330-AB—30 contacts	Ea.	1.60
S-333-AB—33 contacts	Ea.	1.80

PLUG WITH ANGLE BRACKETS

P-315-AB—15 contacts	Ea.	$0.55
P-318-AB—18 contacts	Ea.	.70
P-321-AB—21 contacts	Ea.	.90
P-324-AB—24 contacts	Ea.	1.10
P-327-AB—27 contacts	Ea.	1.30
P-330-AB—30 contacts	Ea.	1.50
P-333-AB—33 contacts	Ea.	1.70

P-304-CCT



P-304-FHT-L
S-304-AB

CABLE CLAMPS

Cable clamp as illustrated will be supplied on caps when specified. On sizes from 2 contacts to 12 contacts a light clamp capable of securely holding any cable used is furnished. On sizes from 15 contacts to 33 contacts a heavier clamp is furnished.

To specify clamps on caps—substitute "CCT" (Cable Clamp on Top of cap) for "FHT" as shown in code number in price list and add to list:

CCT—Cable clamp for caps from 2 contacts to 12 contacts, Pair **$0.10**

Cable clamps on sizes from 15 contacts to 33 contacts may be specified for either top of cap "CCT", or end of cap "CCE". Add to list:

CCT—Cable clamp for caps from 15 contacts to 33 contacts, Pair **$0.14**

CCE—Cable clamp for caps from 15 contacts to 33 contacts, Pair **.14**

LOCKS

When it is desirable to lock plug and socket together, lock as illustrated should be specified. When one member is mounted on panel, panel hole must be cut to accommodate lock. (Print showing dimensions supplied.)

When both plug and socket have caps, a special stamped catch (part No. 73 is furnished on socket cap.

No. 64—Lock as illustrated for plug or socket cap ..... Pair **$0.10**

No. 73—Lock catch (not illustrated). See above ..... Pair **.10**

Note: When ordering plugs or sockets with locks, add "L" to code description. Example: P-312-FHT-L.

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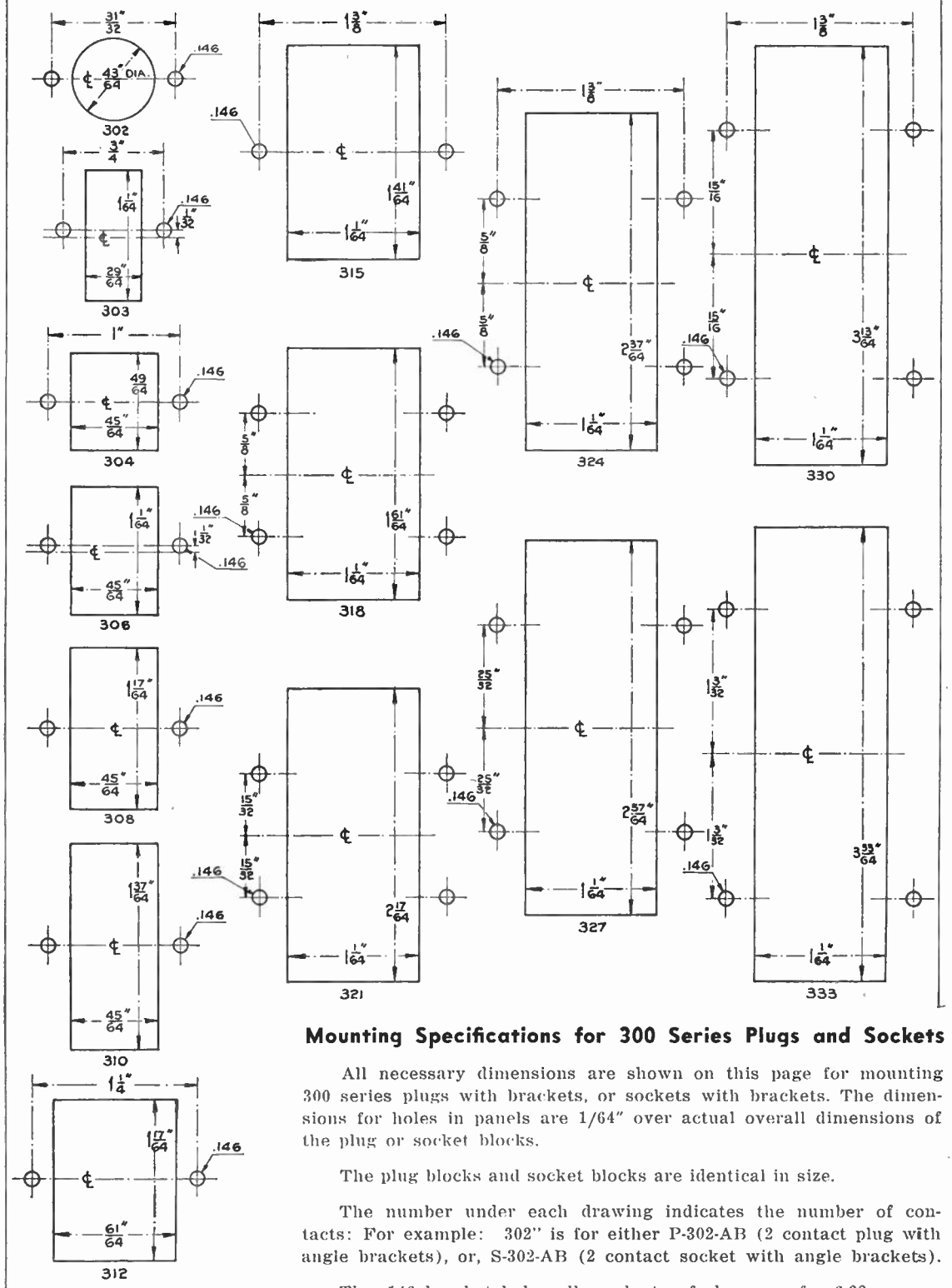
HOWARD B. JONES' PRODUCTS

"300" SERIES PLUGS AND SOCKETS

300 SERIES MOUNTING DATA.

BULLETIN 300-B



Mounting Specifications for 300 Series Plugs and Sockets

All necessary dimensions are shown on this page for mounting 300 series plugs with brackets, or sockets with brackets. The dimensions for holes in panels are 1/64" over actual overall dimensions of the plug or socket blocks.

The plug blocks and socket blocks are identical in size.

The number under each drawing indicates the number of contacts: For example: 302" is for either P-302-AB (2 contact plug with angle brackets), or, S-302-AB (2 contact socket with angle brackets).

The .146 bracket holes allow plenty of clearance for 6-32 screws.

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CROWE DIALS ESCUTCHEONS

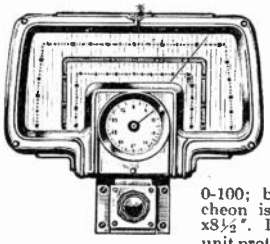
CROWE "MICROMASTER" BAND-SPREAD UNITS FOR PRECISION TUNING

Four Bands — Three Sizes

Nos. 316, 317 and 318 Crowe Micromasters have Croglas non-breakable and non-inflammable convex crystals. Four-channel kilocycle scale as illustrated. Two-speed planetary drives: 44 to 1, and 9 to 1. The secondary pointer magnifies each degree of condenser travel about sixteen times. Two walnut bakelite knobs and bronze escutcheon included.

No. 316 Crowe MICROMASTER
Diameter of scale 3⅜".
List Price.....$5.40
No. 317 Crowe MICROMASTER
Diameter of scale 3⅞".
List Price.....$5.80
No. 318 Crowe MICROMASTER
Diameter of scale 2 15/16".
List Price.....$5.00

8¼-Inch Modernistic



Combines beauty and fine band-spread tuning. Peach and brown pyrolin scale, approximately 3" x 6"; is calibrated 0-100; bronze escutcheon is about 5¾" x8½". Entire face of unit protected by glass crystal. Two-speed planetary drive: 100 to 1 and 18 to 1 in 360°. Secondary pointer moves about 36 times as fast as the main pointer. Complete with two brown Bakelite knobs.

No. 481 Crowe MICROMASTER
List Price.....$10.00

5¼-Inch — Four Bands

No. 404 large two-speed Crowe Micromaster unit for hair-line tuning. Allows exact repeat logging of high-frequency stations. Visible diameter of scale 5¼". Same bandspread features as No. 316, but much slower speed. Crowe planetary drive slow ratio of about 100 to 1; fast ratio about 24 to 1 in 360°. Ratio of slow pointer to fast pointer about 25 to 1. Complete with convex glass crystal, two brown Bakelite knobs, and bronze escutcheon.
List Price.....$8.50

Always Specify: (1) Whether unit is to fit ¼" or ⅜" condenser shaft; (2) whether condenser closes on the left or right; (3) Your choice of the scales listed with each unit.

STANDARD CROWE AIRPLANE DIALS — LESS BAND-SPREAD

3½-Inch — 0-100

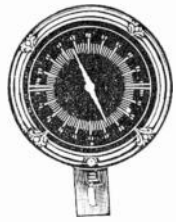
No. 150 Crowe Wedge Drive Airplane Dial. Visible diameter of scale 3½". Smooth serviceable unit with geared connection to pointer. Ratio about 14 to 1 in 360°. Has two pilot light sockets, and bronze escutcheon; black or peach 0-100 scale, or black 2-channel scale 0-100 and 1500-550.
List Price.....$3.20

5¼-Inch — Two-Speed

No. 389 Crowe 5½-in. Airplane Dial — Two-speed planetary drive: 80 to 1, and 15 to 1 in 360°. It has 0-100 or kilocycle scale. 2 brown Bakelite knobs, and pilot light sockets.
List Price.....$4.75

Midget Dial — 2¼-Inch

Two or Four-Channel Friction Drive



No. 180 Crowe Friction-Drive Unit with Pilot Socket — Visible diameter of scale 2¼". Ratio about 7 to 1 in 360°. Two-channel 0-100 or 4-channel kilocycle scale, with convex glass crystal and bronze escutcheon.
List Price.....$1.80

All-Star Dial

No. 123 Popular Medium Size Crowe Wedge Drive Unit. Visible diameter of scale 2 15/16". Ratio about 14 to 1 in 360°. Peach or black scales calibrated as illustrated or 0-100. Has convex glass crystal and bronze escutcheon.
List Price.....$3.00

Medium-Sized Types

No. 381 Medium Size Crowe Friction Drive— Exactly same as No. 379, shown on the right, except larger size. Bronze escutcheon as illustrated. Visible diameter of scale 2⅞".
List Price.....$2.25

Two-Inch Midget

No. 379 Friction Drive Unit — Ratio 10 to 1 in 360°. Diameter of scale 2". Peach and brown scale calibrated two-channel 0-100 or four-channel in kilocycles. For ¼" shaft only. Complete with convex glass and bronze escutcheon.
List Price.....$1.75

Two-Inch Midget

No. 125 Crowe Friction Drive Airplane Dial for Small Receivers—Diameter of scale 2". Ratio 3½ to 1 in 360°. Double-end pointer, 4-channel kilocycle calibration. Black or peach. Convex glass and bronze escutcheon.
List Price.....$1.50

Rectangular Dials

No. 154 Rectangular Crowe Wedge Drive Unit — Visible portion of scale 2⅞"x3". Ratio about 14 to 1 in 360°. Peach 4-band-kilocycle scale; convex glass crystal and bronze escutcheon.
List Price.....$3.40

No. 166—Same as No. 154, except has double-end pointer covering 180° in both channels of an 0-100 scale.
List Price.....$2.50

CROWE FAN-STYLE WEDGE-DRIVE TUNING UNITS

EXACT REPLACEMENT FOR MANY POPULAR RECEIVERS

Horizontal Type with Moving Pointer

No. 133—Horizontal Type with Pointer Moving in front of 0-100 scale. Visible portion of scale ¾"x4¼". Has bracket for clip-on type socket. Complete with bronze escutcheon.
List Price.....$2.20

Rotating Fan-Type Unit Pointer Style Escutcheon

No. 46—Rotating Fan-Type Unit. Outside diameter of scale 3⅞". Calibrated 0-100. Ratio 12 to 1 in 360°. Complete with pointer style bronze escutcheon.
List Price.....$1.50

Moving Shadow Semi-Circle Type

No. 132—Large Semi-circular Type with Moving Shadow Indicator. Visible width of scale 1¼". Calibrated 0-100. Ratio 12 to 1 in 360°. Complete with pilot light socket and bronze escutcheon.
List Price.....$2.60

Moving Shadow Small Semi-circle Type

No. 52—Small Semi-circular Type with Moving Shadow Indicator. Visible width of scale ⅝". Overall size of escutcheon 3¼"x4½". Calibrated 0-100. Ratio 10 to 1 in 360°. Complete with pilot light socket and bronze escutcheon.
List Price.....$2.00

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CROWE DIALS ESCUTCHEONS

The units illustrated below are particularly useful to experimenters and amateurs. Excellent as instrument controls and for transmitters. All types except Micrometer Dial mount on the front of the panel.

"FRONT-O-PANEL"

Diameter of scale 2⅞". Beautiful metal scales, flood-lighted from bulb concealed behind upper part of escutcheon. Glass enclosed.

No. 525—"Front-O-Panel" airplane dial with two-speed Crowe planetary drive. 165 to 1; and 30 to 1 in 360°. Complete with pilot light socket; black, bronze or chromium escutcheon and two Bakelite knobs.
List Price.....**$9.00**

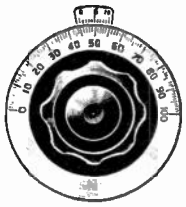
No. 526—"Front-O-Panel" airplane dial, single speed. Same as No. 525 above except does not have planetary feature. Ratio 30 to 1 in 360°.
List Price.....**$7.00**

MICROMETER TYPE

No. 371—Airplane Style Micrometer Control for Transmitters, Receivers, Precision Instruments, Oscillators, Frequency Meters, etc. Condenser setting can be read to one-tenth of one dial division with calibrated pointer. Open vision stamped pointer permits adding additional bands with India ink in center of scale. Has special brackets for mounting on metal panel if desired. Scale calibrated 0-100 in 268. Visible diameter of scale is 2⅞". Ratio of 14 to 1 in 360°. Complete with chrome-plated or black escutcheon and black Bakelite knob.
List Price.....**$4.50**

GENUINE VERNIER

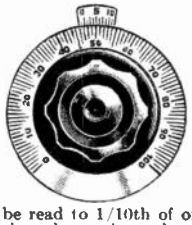
Have Reduced Speed Drives and Micrometer Indicators for Exact Instrument Adjustment



No. 296—"Plan-O-Vernier" Transmitter Type Reduced Speed Dial with Stationary Micrometer Marker. Has smooth Crowe planetary drive concealed in knob. Ratio about 5-1 in 360°. Dial is 4" diameter, calibrated 0-100, left to right, in 180° only. Die-stamped on heavy brass .040" thick; chromium plated, spun sun-ray finish. Identical size and appearance as Nos. 292 and 293 shown at right. Fits only ¼" diameter shaft.
List Price.....**$6.50**

INSTRUMENT DIALS

Best Quality Direct Drive Crowe Instrument Dials



Fine appearance, accurate workmanship and genuine spun chrome finish distinguish these precision dials. Instrument setting can be read to 1/10th of one dial division by using the micrometer marker plate supplied with each unit. All exposed metal parts are insulated from the instrument shaft.

No. 294—2¾" dia. 180° scale.
List Price.....**$1.65**
No. 292—4" dia. 180° scale.
List Price.....**$2.50**
No. 295—2¾" dia. 270° scale.
List Price.....**$1.65**
No. 293—4" dia. 270° scale.
List Price.....**$2.50**

CROWE ANODIZED "CHANGE-O-NAME" DIAL PLATE

Crowe "Change-O-Name" combined dia plates and selective nameplates are better looking and easier to attach than separate dials and nameplates. Ideal for either permanent or experimental construction. Name on any dial easily changed by turning name disc to new position. Special names can be lettered with show-card white in "Write-Your-Own" spaces on name discs. Beaded edges hold plates flat on panel.

No. 542-A—Calibrated 0-100 in 180°. 2⅞" dia. with name disc reading: Amplifier, Antenna, Buffer, Detector, Doubler, Grid, Neutralizer, Oscillator, Plate. "Write-Your-Own" space.

No. 542-B—Same as No. 542-A except name disc reads: Buffer Grid, Buffer Plate, Crystal Oscillator, Crystal Osc. Plate, Doubler Grid, Power Amp. Plate, Power Amp. Grid, Tripler Grid, Tritet Oscillator, "Write-Your-Own" space.
List Price.....**$0.60**

No. 541-A—"Change-O-Name" anodized dial. Calibrated 0-100 in 270°. 1¾" dia. Name disc reads: Fader, Gain, Selectivity, Tone, Volume, "Write-Your-Own" space.
List Price.....**$0.35**
No. 541-B—"Change-O-Name" same as No. 541-A except name disc reads: Master Volume, Micro 1, Micro 2, Radio Volume, Record Volume, "Write-Your-Own" space.
List Price.....**$0.35**

No. 540-A—"Change-O-Name' anodized dial. Calibrated 0-100 in 180°. 1⅞" dia. with name disc reading: Amplifier, Antenna, Crystal, Detector, Oscillator, "Write-Your-Own" space.
List Price.....**$0.35**
No. 543-A—"Change-O-Name" anodized dial. Calibrated 0-100 in 270°. 2¾" dia. with name disc reading: Fader, Gain, Master Volume, Micro 1, Micro 2, Radio Volume, Record Volume, Tone, Volume. "Write-Your-Own" space.
List Price.....**$0.60**

ETCHED DIAL PLATES

Size 1¾"

No. 27—"Osc. Cond." calibrated 0-100.
No. 28—"Det. Cond." calibrated 0-100.
No. 569—Plain dial calibrated 0-100.
No. 25—"Volume" with arrow.
No. 29—"Beat Osc., Off-On."
No. 26—"Tone Control."
No. 561—"Increase Sensitivity."
No. 560—"A. V. C. Off-On."
List, Each.....**$0.12**

Size 2¼x"1⅛"

No. 565—"Record" dial plate. 0-10 in 300°.
No. 566—"Microphone." 0-10 in 300°.
No. 276—"Gain." 0-10 in 300°.
No. 277—"Tone." 0-10 in 300°.
No. 570—"Master Gain." 0-10 in 300°.
No. 571—Plain dial plate. 0-10 in 300°.
List, Each...**$0.20**

Extra Quality BAKELITE KNOBS

These are genuine Bakelite knobs, accurately moulded and carefully finished. Hardened steel set screws included with all knobs.

No. 286—1¼" black Bakelite bar knob.
List Price.....**$0.15**
No. 285—2¼" black Bakelite bar knob.
List Price.....**$0.20**

No. 587—2¼" black Bakelite bar knob.
List Price.....**$0.20**
No. 588—1¼" black Bakelite bar knob.
List Price.....**$0.15**

BAKELITE KNOBS

Two-Speed Planetary Drives

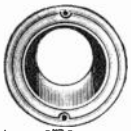
Large one of pair is 1¼" dia., drilled for standard ⅛". Smaller is ⅞" dia. drilled for ¼". Combined overall height is ⅞".

No. 288—Walnut
List Price, Pr., $0.20
No. 289—Black
List Price, Pr., $0.20

No. 586—1⅜" diameter, with ⅝" shoulder.
List Price.....**$0.20**
No. 287—1¾" with finger grip.
List Price.....**$0.15**
No. 589—2⅜" with pointer.
List Price.....**$0.60**

No. 280—2⅜" less pointer.
List Price.....**$0.50**
No. 591—1⅛" with pointer.
List Price.....**$0.40**

"MAGIC EYE" WINDOW PLATE for 6E5 TUBE



No.13554- Escutcheon to fit RCA type 6E5 resonance-indicating tube, Depth of window ⅜", with ¾" diameter opening.
List Price.....**$0.30**

TWO-SPEED CROWE PLANETARY UNIT

Used as auxiliary speed reducer on many types of controls. Mounts on condenser, on back of panel with shaft projecting through panel, on face of panel, or on the knob shaft of many dials. Slow ratio about 7 to 1 and fast ratio 1 to 1

No. 599—List Price.....**$1.50**

CIRCULAR SWITCH PLATES

No. 30—"Local-Distant." Dia. 1⅛".
No. 272—"Off-On". Dia. 1⅛".
No. 573—"Micro-Phono." Dia. 1⅛".
List Price.....**$0.12**

SEGMENT SWITCH PLATES

No. 274—"1—2." Size 1"x1¼".
No. 564—"1—2—3." Size 1x1¼".
No. 273—"On-Off." Size 1x1¼".
No. 279—"Broadcast-Short Wave."
List Price.....**$0.10**

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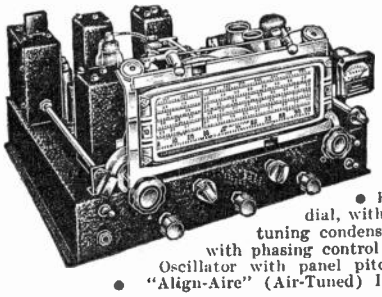
World Radio History

Meissner COMPLETE KITS

14 TUBES — **"TRAFFIC MASTER"** — **5 BANDS**



COMMUNICATIONS SUPER

The TRAFFIC MASTER has every major circuit improvement known to radio engineers. In sensitivity, selectivity and signal-to-noise ratio on the amateur bands it has no peer, even among the finest commercial receivers. The air-tuned, all-wave Tuning Unit is FACTORY ASSEMBLED, wired and precision aligned—ready to mount on the drilled chassis. This pre-aligned Tuning Unit covers 9.25 to 565 meters (530 KC to 32.4 MC) in five bands: 530-1575 kc., 1.51-4.6 mc., 4.18-12.5 mc., 7.3-18.5 mc., 11.2-32.4 mc. The built-in noise silencer circuit reduces QRN to a minimum.

OUTSTANDING FEATURES

● Better than 1 M.V. Sensitivity on all "Ham" Bands ● 5-Band Pre-Aligned Tuning Unit ● Electrical Band-Spread Condenser ● Band setting and Band spreading controls ● Large full-vision dial, with 9" linear scales ● Flywheel tuning on both Main and Band-spread controls ● 3-Gang precision tuning condenser—ceramic insulated ● Fully shielded switch assembly ● Mono-unit crystal-filter assembly with phasing control and shorting switch for panel operation ● Noise Silencer Circuit built in ● Beat Frequency Oscillator with panel pitch-control for CW Sigs—Air Tuned ● Two stages Ferrocart (Iron Core) I.F. Amplification ● "Align-Aire" (Air-Tuned) I.F. Transformers ● Full Automatic Volume Control ● 8.5 watts undistorted power output

Band Spread Specifications

Amateur Band	Range (MC)	Inches Travel
160 M Phone	1.72 to 2.0	45
80 M CW	3.5 to 3.9	7.2
80 M Phone	3.9 to 4.0	2.25
40 M CW	7.0 to 7.3	5.4
20 M Phone	14.0 to 14.4	4.5
10 M Phone	28.0 to 30.0	5.85

COMPLETE KIT OF PARTS—Includes the Following: Assembled and pre-aligned 5 band Tuning Unit with electrical band spread tuning condenser, dial and escutcheon; Punched and Drilled Chassis; "Align-Aire" Ferrocart (Iron Core) I. F. transformers; Mono-unit Crystal Filter with 456 KC crystal; Noise Silencer and B.F.O. transformers; "R" meter; volume and tone controls; switches; sockets; power transformer; electrolytic, paper and mica condensers; resistors; knobs; miscellaneous small parts; screws, nuts, washers, etc.; hookup wire; solder; complete pictorial and schematic diagrams as well as clearly written instructions for assembling, wiring and operating. (Parts Kit does not include Panel or Cabinet.)
Size: Chassis—13" x 17" x 3". Cabinet—14" x 19" x 10".

Tubes Required

1—6K7G R.F. Amplifier; 1—6K8 Mixer; 1—6J7G Oscillator; 1—6K7 1st I.F. Amplifier; 1—6J7 Noise Amplifier; 1—6H6 Noise Detector; 1—6L7 Noise Cut-off and 2nd I.F.; 1—6H6 2nd Detector; 1—6C8G Phase inv. and 1st Audio; 2—6V6 or 6V6G Output; 1—5Y4G Rectifier; 1—6C5 Beat Frequency Oscillator; 1—6C5 "R" Meter Control.

14 Tube TRAFFIC MASTER

COMPLETE KIT (less panel, cabinet and tubes). **NET $81.90**
No. 10-1115. List, $136.50

FRONT PANEL—Black crackle-finished steel—punched and drilled. **NET $2.40**
No. 11-8219. List, $4.00

CABINET—Black crackle-finished steel. **NET $5.10**
No 11-8224. List, $8.50

8 Tube "TRAFFIC SCOUT" COMMUNICATIONS SUPER

An unbeatable 8 Tube, 5 Band Communications Super. Has the new Meissner electrical bandspread and flywheel tuning. Coil assembly furnished fully wired and mounted on wave-change switch ready for use . . . completely air-tuned and pre-aligned. Frequency coverage continuous, 9.25 to 565 meters (530 kc. to 32.4 mc.). Connections provided for doublet antenna system. 3-Gang precision tuning condenser, ceramic insulated. Large full-vision dial, 9" linear scales. Automatic volume control, audio volume control, R.F. volume control, beat frequency oscillator with pitch control. Headphone jack automatically disconnects output stage. 6V6 Beam power output, Class A, 4.25 watts undistorted power output.

Tubes Required: 1—6K7G R.F. Amplifier; 1—6K8 Mixer; 1—6J7G Oscillator; 1—6K7 I.F. Amplifier; 1—6Q7 2nd Detector, 1st Audio; 1—6V6 or 6V6G Output; 1—6C5 Beat Frequency Oscillator; 1—5Y4G Rectifier.

Complete Kit of Parts includes the following: Pre-aligned 5-band Coil Assembly; 3-gang electrical band-spread tuning condenser; band-spread dial and escutcheon; punched and drilled chassis; Ferrocart (Iron Core) I.F. transformers; B.F.O. transformer; volume and tone controls; switches; sockets; power transformer; electrolytic, paper and mica condensers; resistors; miscellaneous small parts; screws, nuts, washers, etc.; hookup wire; solder; complete pictorial and schematic diagrams as well as clearly written instructions for assembling, wiring and operating. (Parts Kit does not include Panel or Cabinet.) Size: Chassis—9" x 13" x 4½". Cabinet—15" x 10¾" x 11½".

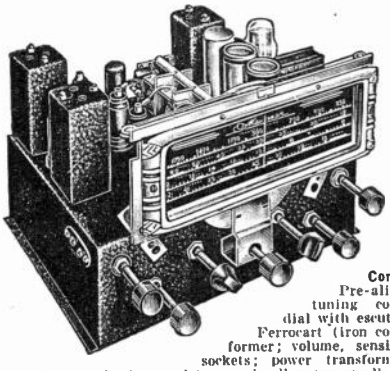
8 Tube "TRAFFIC SCOUT"

COMPLETE KIT (Less only tubes, panel and cabinet). **NET $52.50**
No. 10-1113. List, $87.50

CABINET—Black crackle-finish. **NET $4.50**
No. 11-8229. List, $7.50

FRONT PANEL—Black crackle-finish steel. **NET $2.10**
No. 11-8220. List, $3.50

8 Tube "COMBINATION" SUPER



4 Bands
7.1 to 555 Meters
(42.3 MC to 540 KC)

NOW! An 8 tube, all-wave Super at a price you can afford to pay. A beat-frequency oscillator for tuning in weak short-wave stations, or for copying CW signals, is incorporated—making it truly an "All-Purpose" receiver. RF coil assembly furnished fully wired and assembled on wave change switch ready for mounting—completely aligned—no testing apparatus or meters required.

Tubes required: 2—6K7, 1—6J7, 1—6L7, 1—6C5, 1—6Q7, 1—6V6, 1—5Y4G.

Complete Kit contains the following: Pre-aligned 4-band coil assembly; 3-gang tuning condenser; calibrated "Slide-Rule" dial with escutcheon; punched and drilled chassis; Ferrocart (iron core) I. F. transformers; BFO transformer; volume, sensitivity and tone controls; switches; sockets; power transformer; electrolytic, paper and mica condensers; knobs; resistors; miscellaneous small parts; screws, nuts, washers, etc.; hookup wire; solder; complete pictorial and wiring diagrams; full instructions for assembling, wiring and operating. (Parts Kit does not include Panel or Cabinet.)
SIZE: Chassis 9" x 13" x 4½". Cabinet 15" x 10¾" x 11½".

COMPLETE KIT (less tubes, panel and cabinet). **NET $34.50**
No. 10-1116. List, $57.50

FRONT PANEL—Punched and drilled. **NET $2.10**
No. 11-8228. List, $3.50

CABINET—Black crackle-finished steel. **NET $4.50**
No. 11-8229. List, $7.50

P. A. TUNER

A **super-sensitive** tuner which you can accurately construct yourself. Absence of oscillators makes this tuner absolutely non-interfering. Shape facilitates close grouping. Full broadcast band coverage 530 to 1600 kc. 4" airplane dial. Four tuned circuits using Ferrocart (iron core) shielded R.F. transformers. High-Q coils. Separate output channel for headphone monitoring. Measures 8⅜" wide, 3⅜" high, 12½" deep.

Tubes Required: 3—6K7, 1—6H6, 1—6F8G, 1—5Z4.

Complete Kit contains all coils, variable condenser, dial and escutcheon, punched and drilled chassis, power transformer, fixed condensers, resistors, knobs, sockets, miscellaneous small parts, hardware, pictorial and schematic diagrams, instructions for assembling, wiring and operating. (Does not include Panel, Cabinet, or Tubes.)

COMPLETE KIT. As above. **NET $23.25**
No. 10-1118. List, $38.75

FRONT PANEL. Black crystal finished steel. **NET 75c**
No. 11-8201. List, $1.25

CABINET. Black crystal finished steel. **NET $2.85**
No. 11-8200. List, $4.75

10 KC FILTER

Eliminates the 10 kc squeals and whistles so common on the Broadcast band. Connects in series with plate of power output tube of set or amplifier (a push-pull output stage requires two). Will operate with any of the standard tubes in common use—has current carrying capacity of 75 ma. Carefully pretuned.
No. 15-7520. List, $3.50 ..... **NET $2.10**

KIT GUARANTEE

When you build a radio receiver from a Meissner Kit of parts exactly in accordance with the Meissner Pictorial Diagram and Instructions, that receiver will either work satisfactorily, or you have the privilege of shipping it (prepaid) to the Meissner plant for inspection and mechanical or electrical adjustment! If the fault is due to a defective part, or to an error in instructions or diagram, no charge whatsoever will be made for putting that receiver in perfect operating condition. Before you ship, just write the Meissner Manufacturing Company, Mt. Carmel, Illinois, for instructions, thoroughly explaining your difficulty. We will even supply a shipping carton so that you will not have the burden of packing.

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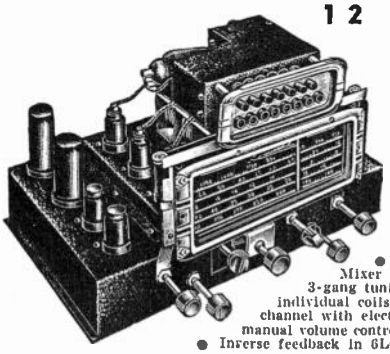
World Radio History

Meissner COMPLETE KITS

12 Tube "CUSTOM" SUPER



Covers from 7.1 to 2270 meters—the broadcast band, police band, every short-wave band and even the long wave band. Provides 'Round-the-World distance reception with high fidelity output. A real "CUSTOM" receiver, designed to have not only every engineering feature known to radio service, but to be very simple to assemble. A screw-driver, a pair of pliers and a soldering iron are all the tools you need! No instruments are required.

Available in two models, either with Push-Button Station Selector—or with a "Tuning Eye" instead. The automatic push-button control unit with 7 station-selectors operated on the Broadcast band only. It is permeability tuned, has a single front-of-panel adjustment for each station, and is absolutely free from drift.

NEW FEATURES

● Frequency coverage 132 KC to 42.3 MC (7.1 to 2270 Meters) ● 5-Band pre-aligned tuning unit embodies R.F. Mixer and Oscillator stages ● Large, full-vision, rectangular dial, 9-inch linear scales ● Vernier drive ● Precision 3-gang tuning condenser, low minimum capacity ● Provision for doublet antenna connection ● "Align-aire" (Air Tuned) individual coils for each band ● Fully shielded switch assembly; 6-pole—5 position ● Two-stage Ferrocart (iron core) I.F. channel with electrically variable band expansion, panel controlled ● Full automatic volume control, manual sensitivity control, manual volume control ● Phono pick-up jack and associated switch permits full audio system to be applied to record reproduction ● Inverse feedback in 6L6 push-pull output stage ● Undistorted power output, 15 watts

TUBES REQUIRED: 1—6K7 R.F. Amplifier; 1—6L7 Mixer; 1—6J7 Oscillator; 2—6K7 I.F. Amplifiers; 1—6H6 2nd Detector; 1—6C5 1st Audio and Bass Booster; 1—6C5 2nd Audio; 2—6L6 or 6L6G—P.P. Output; 1—5X4G Rectifier; 1—6G5 Tuning Eye or 1—6A7—Push-Button converter tube.

COMPLETE KIT—Contains the Following: Assembled and pre-aligned 5-band Tuning Unit, with condenser, dial and escutcheon; punched and drilled chassis base; Ferrocart (iron core) band expanding I.F. transformers; volume, tone, sensitivity controls; switches; sockets; power transformer; electrolytic, paper and mica condensers; knobs; resistors; miscellaneous small parts; tuning eye assembly or push button tuner assembly; screws, nuts, washers, etc.; hookup wire; solder; complete pictorial and schematic diagrams as well as full instruction for assembling, wiring and operating. (Parts Kit does not include Panel or Cabinet.)

SIZE: Chassis— 10" x 17" x 3".

12 Tube "CUSTOM" SUPER

COMPLETE KIT — Push-button Tuner Model, (less Panel, Cabinet and Tubes). **NET $59.70**
No. 10-1101. List, $99.50

COMPLETE KIT—Tuning Eye Model, (less Panel, Cabinet and Tubes). **NET $53.10**
No. 10-1100. List, $88.50

FRONT PANEL for Push-Button Tuner Model. Black crackle-finished steel, with all holes punched and drilled. Measures 21¾" x 10".
No. 11-8209. List, $3.50 ..... NET **$2.10**

FRONT PANEL for Tuning Eye Model. Measures 19¼" x 10".
No. 11-8210. List, $3.50 ..... NET **$2.10**

CABINET for Push-Button Tuner Model. Black crackle-finished steel. Measures 21¾" x 10" x 11½".
No. 11-8208. List, $8.50 ..... NET **$5.10**

CABINET for Tuning Eye Model. Measures 19¼" x 10" x 11½".
No. 11-8222. List, $7.50 ..... NET **$4.50**

9 Tube "CUSTOM" SUPER

Similar to 12 Tube "CUSTOM" Super described above. The ideal new or replacement chassis. Two kits available: one with cathode-ray tuning indicator ("tuning eye"), the other with automatic permeability-tuned push-button tuner with 7 station selectors. Covers 540 KC to 42.3 MC (7.1 to 555 meters). "Align-aire" (air tuned) individual coils for each band. 3-gang precision tuning condenser. Single stage, high gain Ferrocart (iron core) I.F. channel. Automatic volume control. Push-pull output stage with beam-power 6V6 tubes; undistorted power output 8.5 watts.

TUBES REQUIRED: 1—6K7 R.F. Amplifier; 1—6L7 Mixer; 1—6J7 Oscillator; 1—6K7 I.F. Amplifier; 1—6F8G 2nd Det. and 1st Audio; 2—6V6 or 6V6G P.P. Output; 1—5Y4G Rectifier; 1—6G5 Tuning Eye or 1—6A7 Push-button Converter.

Complete Kit of Parts Includes: Pre-aligned 4-band coil assembly; 3-gang tuning condenser; 4-band dial with 9 inch linear scales; drilled chassis; Ferrocart (iron core) I.F. transformers; volume, sensitivity and tone controls; switches; sockets; power transformer; electrolytic, paper and mica condensers; knobs; resistors; miscellaneous small parts; tuning eye assembly or push-button tuner assembly; screws; nuts, washers, etc.; hook-up wire; solder; complete pictorial and schematic diagrams; full instructions for assembling, wiring and operating. (Parts Kit does not include Panel or Cabinet.)

SIZE: Chassis—9" x 13" x 4½".

9 Tube "CUSTOM" SUPER

COMPLETE KIT—Push-button Tuner Model (less Tubes, Panel and Cabinet). **NET $44.10**
No. 10-1117. List, $73.50

COMPLETE KIT—Tuning Eye Model (less Tubes, Panel and Cabinet). **NET $35.70**
No. 10-1114. List, $59.50

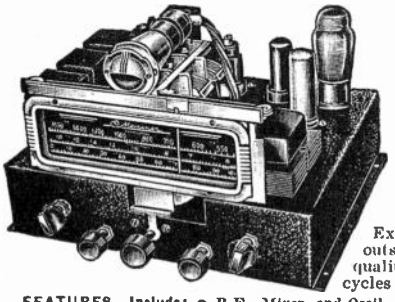
FRONT PANEL for Push-Button Tuner Model. Punched and drilled black crackle-finished steel.
No. 11-8227. List, $3.00 ..... NET **$1.80**

FRONT PANEL for Tuning Eye Model.
No. 11-8221. List, $3.00 ..... NET **$1.80**

CABINET for Push-Button Tuner Model. Black crackle-finished steel. Size, 21¾" x 10" x 11½" deep.
No. 11-8208. List, $8.50 ..... NET **$5.10**

CABINET for Tuning Eye Model. Size, 19½" x 10" x 11½" deep
No. 11-8222. List, $7.50 ..... NET **$4.50**

7 Tube AC "UTILITY" SUPER



4 MODELS

BROADCAST MODEL
530-1660 KC.
BROADCAST AND SHORT WAVE
530-1660 KC, 5.85-18.8 MC.
BROADCAST, POLICE AND SHORT WAVE
537-1770 KC, 1.75-5.4 MC, 5.2-18.5 MC.
BROADCAST, LONG WAVE AND SHORT WAVE
530-1580 KC, 135-370 KC, 5.8-18.5 MC.

Exceptional value; carefully designed to deliver outstanding performance. All components of finest quality. All models operate on 110 volts, 60 cycles AC.

FEATURES—Include: ● R.F., Mixer, and Oscillator stages on all bands ● 3-gang precision tuning condenser ● Full-vision, calibrated dial, 7¼" linear scales, vernier tuning ● Single stage, high-gain, Ferrocart (iron core) I.F. channel ● Automatic and audio volume controls on all models ● Diode second detector ● Single 6V6 output in class A; 4.25 watts undistorted output.

TUBES REQUIRED: 1—6K7 R.F. Amplifier; 1—6A8 Translator; 1—6K7 I.F. Amplifier; 1—6V6 or 6V6G Output; 1—6G5 Tuning Eye; 1—5Y4G Rectifier; 1—6Q7 2nd Det., 1st Audio.

Kits Contain All Parts Necessary to Construct the Receiver—Including: All coils, tuning condenser, dial, chassis, volume and tone controls, knobs, switches, resistors, condensers, transformers, screws, wire, etc. (Do not include panel, cabinet or tubes.) Complete pictorial and schematic diagrams are supplied, as well as detailed instructions.

SIZE: Chassis—10" x 12" x 3". Cabinet—11" x 14" x 10".

COMPLETE 7 TUBE AC "UTILITY" SUPER KITS

BROADCAST ONLY KIT.
No. 10-1103. List, $34.75 ..... NET **$20.85**

BROADCAST AND SHORT WAVE KIT.
No. 10-1104. List, $38.75 ..... NET **$23.25**

BROADCAST, POLICE AND SHORT WAVE KIT
No. 10-1110. List, $41.75 ..... NET **$25.05**

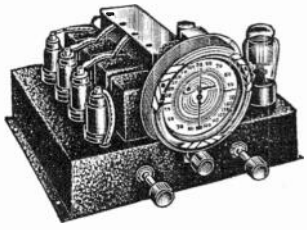
LONG WAVE, BROADCAST AND SHORT WAVE KIT.
No. 10-1111. List, $41.75 ..... NET **$25.05**

FRONT PANEL for "Broadcast Only" Kit. Punched and drilled black crackle-finished steel.
No. 11-8215. List, $1.85 ..... NET **$1.11**

FRONT PANEL or all other "Utility" Super Kits. Punched and drilled.
No. 11-8217. List, $1.85 ..... NET **$1.11**

CABINET for all above Kits. Black crackle-finished steel.
No. 11-8212. List, $4.50 ..... NET **$2.70**

6 Tube "JUNIOR" T.R.F.



Combines the selectivity and performance of a Super-Het with the tone quality and absence of background noise found only in T.R.F. receivers. Three stages of Ferrocart (Iron-core) tuned R.F. are used (4 tuned circuits). Other features include: full automatic volume control, diode second detector circuit, calibrated dial, volume and tone controls, single 6V6 delivers 4.25 watts output. Covers Broadcast band—530 to 1600 kc (187-565 meters). Requires 3—6K7, 1—6Q7, 1—6V6 or 6V6G, 1—5Y4G octal base tubes. Operates on 110 volts, 60 cycles. Chassis 10" x 12" x 3". Cabinet 11" x 14" x 10".

COMPLETE KIT—Includes: Coils, tuning condenser, dial and escutcheon, punched and drilled chassis, resistors, condensers, controls, knobs, hardware, wire, solder, etc., and complete pictorial and schematic diagrams. Detailed instructions are also furnished. (Kit does not include panel, cabinet or tubes.)

COMPLETE 6 TUBE FERROCART T.R.F. KIT.
No. T0-1102. List, $33.50 ..... NET **$20.10**

FRONT PANEL. Drilled. Black crystal-finished steel.
No. 11-8214. List, $1.85 ..... NET **$1.11**

CABINET. Black crystal-finished steel.
No. 11-8212. List, $4.50 ..... NET **$2.70**

Net

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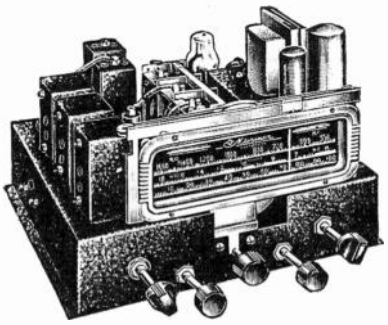
World Radio History

Meissner COMPLETE KITS

NEW 6 Tube "BATTERY" SUPER

Sensational, New Battery Operated Receiving Kits

MORE POWER! MORE DISTANCE! GREATER SELECTIVITY! LOWEST BATTERY DRAIN!



4 MODELS
- 6 Volt Broadcast Super
- 6 Volt Broadcast and Short Wave Super
- 2 Volt Broadcast Super
- 2 Volt Broadcast and Short Wave Super

COMPLETE KIT INCLUDES: Chassis, all coils, condensers, resistors, hardware, etc., necessary for construction. Complete diagrams and instructions for rapid, easy assembly included. Less only panel, cabinet and tubes. (6 volt kit includes vibrator, power transformer, condensers, etc., for built-in power supply.) Chassis 10" x 12" x 3". Cabinet 11" x 14" x 10".

6-VOLT BATTERY KITS

FEATURES: Broadcast only, 530 to 1660 kc.; Broadcast and Short Wave, 530 to 1660 kc., 5.85 to 18.8 mc.; Economical—Current Drain Less Than 4 Amperes Total; R.F. Stage on both BC and SW Bands; Built-in Power Supply—Operates entirely from 6 Volt Storage Battery; No "B" Batteries Required; 3-Gang Precision Tuning Condenser; Full Vision Rectangular Dial with 7¼" Scales, Calibrated in KC and MC; High-Gain Ferrocart (iron core) I.F. Channel; Diode Second Detector; Automatic Volume Control; Audio Gain Control (Volume) and Tone Control; 1.1 Watts Output.

TUBES REQUIRED: 1—6K7 R.F. Amplifier, 1—6A8 Translator, 1—6K7 I.F. Amplifier, 1—6Q7 2nd Detector and 1st Audio, 1—6G6G Output, 1—6X5 Rectifier.

6-VOLT BROADCAST KIT.
No. 10-1107. List, $38.75 ..... NET $23.25

6-VOLT BROADCAST AND SHORT WAVE KIT.
No. 10-1108. List, $45.75 ..... NET 27.45

FRONT PANEL for Broadcast Model.
Black crackle-finished steel.
No. 11-8216. List, $1.85 ..... NET 1.11

FRONT PANEL for Broadcast and Short Wave Model.
No. 11-8218. List, $1.85 ..... NET 1.11

CABINET for either model. Black crackle-finished steel.
No. 11-8212. List, $4.50 ..... NET 2.70

2-VOLT BATTERY KITS

FEATURES: Broadcast only, 530 to 1660 kc.; Broadcast and Short Wave, 530 to 1660 kc., 5.85 to 18.8 mc.; Low "B" Battery Drain—16 MA at 135 Volts; Air-cell, 2-Volt Storage cell, or Dry Batteries for "A" Battery; R.F. Stage on both Broadcast and Short Wave Bands; 3-Gang Precision Tuning Condenser; Full-Vision Rectangular Dial; 7¼" Scales Calibrated in KC and MC; High-Gain Ferrocart (iron core) I.F. Channel; Diode Second Detector; Automatic Volume Control; Audio Gain Control (Volume) and Tone Control; Output Better Than 1-Watt.

TUBES REQUIRED: 1—1D5G R.F. Amplifier, 1—1C7G Translator, 1—1D5G I.F. Amplifier, 1—1H6G 2nd Detector and 1st Audio, 1—1H4G Driver, 1—1J6G Output.

2-VOLT BROADCAST KIT.
No. 10-1112. List, $28.75 ..... NET $17.25

2-VOLT BROADCAST AND SHORT WAVE KIT.
No. 10-1109. List, $36.75 ..... NET 22.05

FRONT PANEL for Broadcast Model.
Black crackle-finished steel.
No. 11-8216. List, $1.85 ..... NET 1.11

FRONT PANEL for Broadcast and Short Wave Model.
No. 11-8218. List, $1.85 ..... NET 1.11

CABINET for either model. Black crackle-finished steel.
No. 11-8212. List, $4.50 ..... NET 2.70

4-Tube and 5-Tube "JUNIORS

5 TUBE AC T.R.F.

A low-cost easy-to-build kit which has exceptional sensitivity and selectivity. Uses T.R.F. circuit for good tone quality. Operates from 110 volt 60 cycle lines, and tunes the Broadcast band, 530-1600 kc (187-565 meters).

FEATURES: 2 stages of tuned R.F. (3 tuned circuits), 3-gang condenser, 4" dial, volume and tone controls, pentode output, etc.

TUBES REQUIRED: 2—6K7, 1—6J7, 1—6F6, 1—5Y4G.
SIZE: Chassis—7" x 9" x 2".

COMPLETE KIT INCLUDES: All coils, condensers, drilled chassis, resistors, wire, solder, hardware, etc., necessary for construction. Complete pictorial and schematic diagrams and instructions. (Kit does not include tubes.)

COMPLETE 5 TUBE AC T.R.F. KIT.
No. 10-1106. List, $21.50 ..... NET $12.90

4 TUBE AC-DC T.R.F.

A small, compact receiver with surprising sensitivity and tone quality may be constructed from this kit. Tunes the Broadcast band, 530 to 1600 kc. Operates from 110 volt line, either AC or DC.

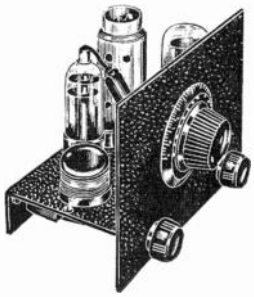
TUBES REQUIRED: 1—6K7, 1—6J7, 1—25A6, 1—25Z6.

COMPLETE KIT INCLUDES: All coils, condensers, resistors, controls, hardware, wire, solder, etc., necessary for construction, with pictorial and schematic diagrams and clear, concise instructions supplied. (Kit does not include chassis or tubes.)

COMPLETE 4 TUBE AC-DC T.R.F. Kit.
No. 10-1105. List, $12.25 ..... NET $7.35

Chassis—7" x 9" x 2". Punched and Drilled.
No. 11-8288. List, $2.25 ..... NET 1.35

The Meissner "MIDGET" Complete Kits



The new Meissner "Midget" 1, 2 and 3-Tube Battery Kits are remarkably efficient, and have been designed around the latest 1½ volt series of tubes for utmost economy in battery consumption.

These kits are complete in every detail and include all parts necessary for the construction of a complete receiver including panel, chassis, sockets, resistors, condensers, wire, hardware and a plug-in coil which covers the complete broadcast band from 200 to 545 meters. Additional coils are available to cover from 17 to 200 meters.

The new Meissner "Midget" Battery Kit has been just as carefully designed as the larger kits in the Meissner line. They really work. The plug-in coils are of the tapped two-winding type which gives considerably greater gain than the usual two winding coils.

The one and two Tube Kits have a regeneration control in addition to the bakelite tuning dial while the three tube kits have added to them an Audio Volume Control. The three tube kit has sufficient output to operate a magnetic or permanent magnet speaker with very excellent results.

These kits have been designed for the utmost utility. The purchaser of a one tube kit may, a bit later, purchase a few additional parts and make a two tube kit of it. He may also subsequently purchase a few additional parts and make a three tube kit. In no case, is it necessary to discard any of the parts used in the previous one or two tube receivers.

All of these kits operate on a single 1½ volt dry cell for "A" battery. The one tube kit requires in addition only a single 45 volt "B" battery, while the two and three tube kits require two 45 volt "B" batteries and one 7½ volt "C" battery.

The complete kits include all component parts necessary for construction but do not include tubes, batteries or head phones.

No.		List	NET
10-1121	1 tube "Midget" Battery Kit	$4.50	$2.70
10-1122	2 tube "Midget" Battery Kit	5.00	3.00
10-1123	3 tube "Midget" Battery Kit	6.25	3.75
18-2920	70 to 200 meter plug-in coil	.40	.24
18-2921	35 to 70 meter plug-in coil	.40	.24
18-2922	17 to 35 meter plug-in coil	.40	.24
26-1000	Single head phone with band, 3 ft. cord	1.50	.90

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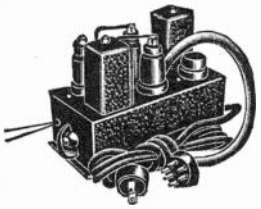
World Radio History

Meissner ADAPTER KITS

NOISE SILENCER



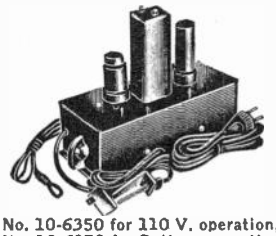
Based on the famous Lamb circuit this silencer is designed to greatly reduce static and man-made interference. Operates with any superheterodyne receiver without regard to number of I.F. stages.

Self-powered: Supplies its own filament current; takes but a few milliamperes from the receiver. Each kit is absolutely complete, with simple instructions and pictorial diagram. Operates on 110 volts, either AC or DC. Requires: 1—6J7, 1—6K7, 1—6L7, 1—6H6 tubes.

Supplied only for receivers having an intermediate frequency of 450 to 470 KC. Plugs into Receiver I.F. Socket. 8¼ x 5¾ x 3¼" over all.

No. 10-7516. List, $11.50 ..... **NET $6.90**

BEAT FREQUENCY OSCILLATOR



With the Meissner Beat Frequency Oscillator, DX is now easy, even for the inexperienced. It is not necessary to tamper with or unbalance the radio receiver. The unit is SELF-POWERED and completely self-contained. May be used with any set having 456 or 465 KC I.F. Supplied complete with detailed wiring instructions. Measures 8¼" x 6¾" x 3¼". Tubes required: 1 Type 6C5, 1 Type 25Z6.

No. 10-6350 for 110 V. operation, AC or DC. List, $11.50. **NET $6.90**

No. 10-6370 for Battery operation (requires 1 Type 30 tube and 2—4½ Volt "C" batteries; Self-powered).
List, $5.00. ..... **NET 3.00**

PHONOGRAPH OSCILLATOR

A completely self-contained unit. Has its own power supply. Connects a phonograph pickup to any radio without affecting its performance. Disconnects by the turn of a switch.

In performance, the Meissner Phonograph Oscillator acts as a miniature broadcast station; you tune your radio to its frequency just as you would do with a broadcast program. Furnished complete—all you do is the simple assembling and wiring.

Requires 1 Type 6F7 and 1 Type 25Z5 tube. Operates on 110 volts AC or DC. Measures 8¼" x 6¾" x 3¼".

No. 10-6360. List, $11.50 ..... **NET $6.90**

REMOTE CONTROL

Particularly suitable for use in restaurants, taverns, etc. Will tune any radio receiver on the market designed for broadcast reception. Extremely compact and light weight. SELF-POWERED; has its own volume control.

Furnished complete, ready to assemble and wire, with Meissner simplified wiring diagram. Operates on 110 volts AC or DC. Measures 8¼" x 6¼" x 3¼". Requires 1 Type 6A8 and 1 Type 25Z6 tube.

No. 10-7520. List, $11.50 ..... **NET $6.90**

Meissner PUSH-BUTTON TUNERS

PUSH-BUTTON REMOTE CONTROL
PERMEABILITY-TUNED

A new idea in Remote Control for any radio. Enables the listener to tune in his favorite Broadcast station at his bedside or chairside by pushing a button.

This permeability tuned push-button operated converter unit has 8 buttons; 7 for stations and 1 for "Dial Tuning." A turn of the fingers sets each button to a station—permanently. Has its own volume control, too. Simply connects to the aerial and ground posts of the receiver by means of special 15-foot cable supplied, and plugs into any 110 volt AC or DC receptacle. Completely wired and tested. Comes complete with tubes (1—6A7 and 1—1V), ready to install.

Housed in a handsome light walnut-finished cabinet, 5⅜" wide x 9 13/16" long x 4½" high; dull gold escutcheon.

No. 9-1000. For 110 Volts AC or DC.
No. 9-1003. For 220 Volts AC or DC
List, $26.50 ..... **NET EACH $15.90**

PUSH-BUTTON CONVERTER
PERMEABILITY-TUNED

A complete tuning unit! Can be installed in any AC Super-Het. with a 456 or 465 KC I.F. system regardless of the number of sections in the gang condenser. Has 8 buttons; seven station selectors and one "Manual Tuning." Connects into the I.F. system of the receiver. Will not disturb alignment or tracking of receiver in the least. A cable and plug connect the receiver and converter; the converter obtains its power from the receiver through the cable. Voltages required to operate the converter are 150 to 250 volts DC for plate supply and 2.5 or 6.3 volts for filament—NOT RECOMMENDED FOR AC-DC OPERATION. Requires 2A7 or 6A7 tube (6A7 tube for sets with 6.3 volt tubes or 2A7 for sets with 2.5 volt tubes). Handsome dull-gold escutcheon. Measures 6¼" x 7" x 2½" over all. Supplied with plug and cable, and complete instructions. (Less tube.)

No. 9-1004. List, $18.50 ..... **NET $11.10**

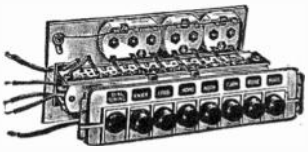
NEW! 120-PAGE COMPLETE INSTRUCTION BOOK

Detailed wiring instructions! Diagrams! Schematics! Pictorial Alignment Data! And operating instructions for all MEISSNER units!

A NEW book!—Page after page of invaluable information, both theory and technical data. With graphs and charts; contains pictorial diagrams, schematic diagrams, alignment data, constructional data and operating instructions for 20 of the new Meissner receiver kits; also adapters and converters.

NET PRICE — $0.50

PUSH-BUTTON TUNER



Now you can install a push-button tuner in any T.R.F. or Super-Het. receiver—AC or DC—quickly, easily and inexpensively.

The Meissner Tuner, by pressing a button, automatically selects any one of seven stations—a "release" button returns the set to manual tuning. Uses special low-drift mica-insulated trimmer condensers. Completely wired—ready to install. Comes complete with handsome escutcheon, and call letter sheets. Complete instructions are also furnished.

No. 10-7554. List, $7.50 ..... **NET $4.50**

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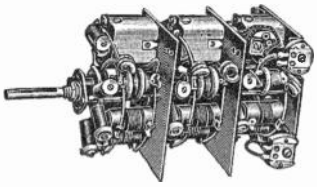
World Radio History

Meissner AMATEUR PARTS

MULTI WAVE COIL ASSEMBLY

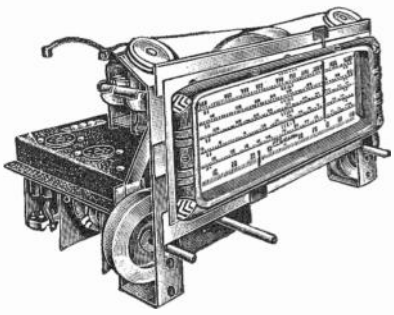


At last! An all-wave coil assembly that meets all modern requirements. Contains all coils, range switch, shunt trimmers, series padders, A.V.C. by-pass condensers and necessary shielding. 42.3 MC to 132 KC (7.1-2270 meters). Air Tuned. Individual Coils for Each Band. All coils, except the long wave (132 to 405 KC) are supported by their terminal lugs from switch. Align-aire (air dielectric) trimming condensers and high gain R.F stage on all bands except ultra high frequency (7.1-20.4 meters). Simple, three point mounting—compact. Factory tested, aligned and padded.

FOR USE WITH 410 mmf CONDENSER	
5 BAND	**4 BAND**
7.1 to 20.4 M (14.7–42.3 MC)	7.1 to 20.4 M
16.5 to 51.3 M (5.85–18.2 MC)	16.5 to 51.3 M
46.0 to 168. M (1.78–6.5 MC)	46.0 to 168. M
167. to 565. M (540–1800 KC)	167. to 565. M
740. to 2270. M (132–405 KC)	**Model 13-7602**
Model 13-7600	**List, $19.50**
List $23.50 NET $14.10	**NET $11.70**

FOR USE WITH 280 mmf CONDENSER	
9.25 to 26.8 M (11.2–32.4 MC)	9.25 to 26.8 M
16.2 to 41.0 M (7.3 –18.5 MC)	16.2 to 41.0 M
24.0 to 72.0 M (4.18–12.5 MC)	24.0 to 72.0 M
65.0 to 198. M (1.51– 4.6 MC)	65.0 to 198. M
190. to 565. M (530 –1575 KC)	
Model 13-7603	**Model 13-7605**
List, $23.50	**List, $19.50**
NET $14.10	**NET $11.70**

ALL WAVE TUNING UNITS
5 Bands — 2 Ranges



The entire "Front End" of a radio **completely wired**, accurately calibrated, aligned, padded, and checked for sensitivity. MEISSNER 5 band coil and switch assembly; individual coils for each band; low loss forms; Align-aire trimmers for permanence of adjustment; 6-gang shorting switch, fully shielded. Precision-built 3-gang variable tuning condenser—low loss insulation; low minimum capacity for wide frequency coverage. Meissner bakelite molded octal sockets. Compactly and rigidly mounted on black crackle-finished steel chassis; mounting flanges. Completely assembled, wired and tested, **ready for use.** Just 7 connections to make to feed into any 456 kc I. F. channel.

Unit No. 13-7606 (illustrated) with electrical bandspread—used in Meissner 14 tube Communications Kit. Tunes 9.25 to 565 meters. Dial has 5 scales calibrated 530 to 1575 KC, 151 to 4.6 MC, 4.18 to 12.5 MC, 7.3 to 18.5 MC and 11.2 to 32.4 MC. Added 0-100 scale at bottom for electrical Bandspread Pointer. Uses 280 mmf. electrical bandspread condenser with Ceramic insulation. 9 inch scale.

Unit No. 13-7601 (same as used in Meissner 12 Tube Kit tunes 7.1 to 2270 meters. Has "Slide Rule" dial with 5 scales calibrated 132 to 405 KC, 540 to 1800 KC, 1.78 to 6.5 MC, 5.85 to 18.2 MC and 14.7 to 42.3 MC; uses 410 mmf. condenser—low loss type, 9 inch scale.

No. 13-7606—List, $55.50.....NET $33.30

No. 13-7601—List, $45.50.....NET $27.30

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MEISSNER SIGNAL SHIFTER
A Variable Frequency Exciter Unit For Remote Operation

The last word in convenience and utility for the Amateur! A very carefully designed electron-coupled exciter unit—unbelievable frequency stability—variable, so you can cover any Amateur band right from operating position. For remote control operation of transmitter, just set Signal Shifter on desk and link-couple it to the 1st buffer (or low-powered final) stage. Can also be rack-mounted if you wish.

Oscillator and buffer stages are ganged together for single-dial control of signal. Buffer stage is arranged for keying, too—ideal for C.W. Operation. Has own power supply, which works from 110 Volt, 60 cycle line (also available less power supply). 3-position switch for "Automatic Stand-by", "Continuous Operation" and "Manual Stand-by". Requires 1—6F6, 1—6L6 and 1—80 tubes. Size: 9" h. x 11¼" w. x 11 9/16" d. Completely assembled, wired and adjusted, ready for use (except for tubes). Complete instructions furnished.

FEATURES: Instant change of frequency on any band. Remote control operation. Constant output over entire tuning range. Single control full bandspread on each band. Selective automatic operation. New "Stand-by" system. Keying terminals. Utmost frequency stability. Three plug-in coils for each band. Link Output.

PLUG-IN COILS FOR "SIGNAL SHIFTER"		
No.	**Description**	**Net**
	Complete set of	
18-2915	3 coils for 160-meter band.....	$2.50
18-2916	3 coils for 80-meter band.....	2.50
18-2917	3 coils for 40-meter band.....	2.50
18-2918	3 coils for 20-meter band.....	2.50
18-2919	3 coils for 10-meter band.....	2.50

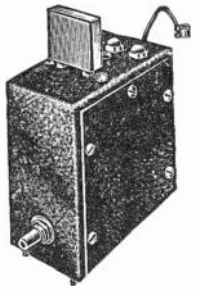
SIGNAL SHIFTER, with 110 Volt, 60 Cycle Supply. With set of coils for one band (Specify band.)

No. 9-1001.....NET PRICE $39.95

SIGNAL SHIFTER, Less Power Supply. (Requires 2 amps at 6.3V., and 80 ma. at 360 V.) With Coils for one band.

No. 9-1002.....NET PRICE $31.95

CRYSTAL FILTER
Complete Unit

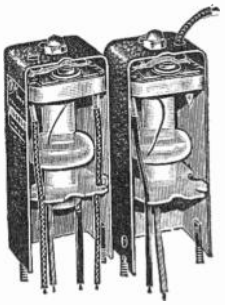


A new unit, incorporating a complete crystal filter system mounted in black crackle - finished shield can. Crystal plugs in at top of can. Completely assembled, wired and tested, ready to be mounted in any receiver having a 456 kc I. F. channel. Supplied with 456 kc mounted crystal and complete instructions. Can size: 4½" h. x 3⅜" l. x 2¼" w. with spade-lug mounting bolts

No. 9-1005

List $22.50 Net $13.50

Matched Pairs
CRYSTAL FILTER
I. F. Transformers



For Communications Receivers! Input transformer has a low-imp. primary winding and a high-imp. tuned secondary. Ceramic base—Mica-tuned units are furnished in black crackle-finished shields 1⅜" square and 3½" high, with spade-lug mounting-centers 1 5/16". Align-aire units are in same finish shields but 2" square and 4½" high, with spade-lug mounting centers 1 15/16".

CERAMIC BASE—MICA TRIMMERS				
Cat. No.	**Frequency Range (kc)**	**Peak Factory Setting (kc)**	**List Per Pr**	**NET Per Pr**
17-6450	150-260	175	$4.00	$2.40
17-7451	225-380	262	4.00	2.40
17-7452	350-525	370	4.00	2.40
17-7453	365-560	456	4.00	2.40
17-8183	1050-2000	1500	4.00	2.40
17-7454	2120-4300	3000	4.00	2.40
ALIGN-AIRE (AIR TUNED) TRIMMERS				
17-7455	160-200	175	$8.00	$4.80
17-7456	233-305	262	8.00	4.80
17-7457	338-443	370	8.00	4.80
17-7458	415-540	456	8.00	4.80
17-7459	2500-3300	3000	8.00	4.80

Net

BEAT FREQUENCY OSCILLATOR TRANSFORMERS

For use with standard I. F. transformers in super-het receivers. A necessity in the reception of CW signals with a "Ham" receiver. Shield cans finished in black crackle. Connection diagram with each unit. FIVE STANDARD FREQUENCIES AVAILABLE:

CERAMIC BASE MICA TRIMMER
Size 1⅜" x 1⅜" x 3½"

Cat. No.	Frequency Range (kc)	Peak Fact'y Setting (kc)
17-6747	112-260	175 KC
17-6749	101-400	262 KC
17-6751	255-550	370 KC
17-6753	290-650	456 KC
17-8175	1150-2100	1500 KC
17-3757	2540-5750	3000 KC

List, $1.75..NET, each, $1.05

ALIGN-AIRE (Air Tuned)
Size 2" x 2" x 4½"

17-6771	160-200	175 KC
17-6773	233-305	262 KC
17-6777	330-420	370 KC
17-6779	415-540	456 KC
17-8174	1325-1750	1500 KC
17-6793	2730-3570	3000 KC

List, $3.75..NET, each, $2.25

NOISE SILENCER I. F. TRANSFORMERS

Specially designed to work in the successful "Lamb" Noise Silencer Circuit. Tightly coupled, with a center tapped secondary. Black crackle finish shield cans. Connection diagram.

CERAMIC BASE MICA TRIMMER
Size 1⅜" x 1⅜" x 3½"

Cat. No.	Frequency Range (kc)	Peak Fact'y Setting (kc)
17-6849	205-400	262 KC
17-6851	275-525	370 KC
17-6762	290-650	456 KC
17-8177	1150-2100	1500 KC
17-6853	2340-4800	3000 KC

List, $1.75..NET, each, $1.05

ALIGN-AIRE (Air Tuned)
Size 2" x 2" x 4½"

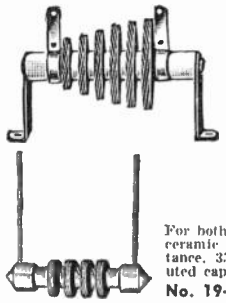
17-6857	160-200	175 KC
17-6759	233-305	262 KC
17-6857	338-443	370 KC
17-6869	415-540	456 KC
17-6881	2500-3300	3000 KC

List, $3.75..NET, each, $2.25

World Radio History

Meissner AMATEUR PARTS

TRANSMITTING CHOKES



Wound on ceramic forms with tapped holes at each end, making possible mounting direct to chassis or by means of special brackets provided. SIX continuous lateral wound tapered sections permit effective choking action on all high frequencies. Have low distributed capacity.

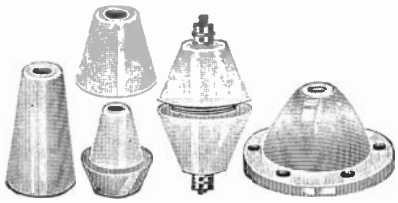
No.	Rating	Ind.	Res.	List	Net
19-3019	1000 MA	2.8 MH	5	$2.00	$1.20
19-3022	500 MA	5.5 MH	12.5	1.75	1.05
19-3025	200 MA	5.9 MH	34.9	1.75	1.05

"UNIVERSAL CHOKE"

For both transmitters and receivers, 4 pi type, wound on ceramic core. Inductance 2½ millihenries; D C resistance, 35 Ohms. Will carry 125 M.A. Very low distributed capacity.

No. 19-1996. List. $0.55.....**Net $0.33**

NEW STEATITE INSULATORS



For Amateur and Commercial transmitters. Low-loss. High dielectric strength high density ceramic insulators with glazed surfaces.

Conical Stand-Off Insulators
Both Ends Tapped for Screws

No.	Size Dia.-Ht.	Tap	List	Net
27-1001	1" x 1"	8-32	$0.25	$0.15
27-1002	1" x 1⅛"	8-32	.25	.15
27-1003	1⅛" x 2"	10-32	.45	.27
27-1004	1½" x 3"	10-32	.75	.45

"Button" Insul. with Shoulder

No.	Overall Diam.	Thick.	Shldr. Dia.	List	Net Ea.
27-1008	5/8"	3/16"	7/16"	$0.15	$0.09
27-1009	1 3/16"	5/16"	15/16"	.20	.12

Two-Piece Feed-Thru Insulators
Extra Long Leakage Path—Untapped

No.	Size	List	Net
27-1005	5/8" dia. x ¾" L.	$0.35	$0.21
27-1006	¾" dia. x 1" L.	.40	.24
27-1007	1 3/8" dia. x 1 5/8" L.	.55	.33

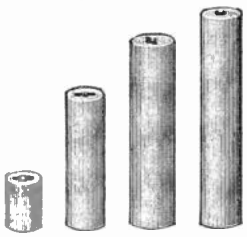
Conical Lead-In Assemblies with Hardware

No.	Size	List	Net
27-1010	1¼" diameter	$0.70	$0.42
27-1011	1¾" diameter	.85	.51

Lead-In Bowl (Flange Type)

No.	Size	List	Net Ea.
27-1012	5¼" dia. x 2⅝" h.	$6.50	$3.90

"Alsimag 35" Insulators

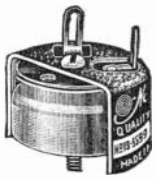


High quality ceramic. Excellent for use as stand-off insulators, as coil forms, etc. Unglazed. Both ends tapped for 6-32 screw.

No.	Size	List	Net
27-1013	3/8" d. x 5/8" h.	$0.10	$0.06
27-1014	3/8" d. x 1¼" h.	.15	.09
27-1015	3/8" d. x 2" h.	.15	.09
27-1016	1/2" d. x ¾" h.	.20	.12
27-1017	9/16" d. x 2" h.	.40	.24
27-1018	5/8" d. x 2¾" h.	.45	.27
27-1019	9/16" d. x 3½" h.	.50	.30

R.F. CHOKES

STANDARD AIR CORE
Shielded and Unshielded



Highest quality. Wound to accurate inductance and individually tested. Coils are wound on specially treated dowels and mounted on a bakelite base. Mounting of unshielded chokes is provided for by a hole in dowel for a No. 6 screw. Shielded chokes are mounted by means of screw extending below bottom of can. Shield can 1½" dia.

UNSHIELDED No.	Inductance	List	Net	SHIELDED No.	Inductance	List	Net
19-1994	2.5 MH	$0.45	$0.27	19-5582	2.5 MH	$0.65	$0.39
19-4551	5.5 MH	.45	.27	19-5584	5.5 MH	.65	.39
19-2078	8.0 MH	.50	.30	19-5588	8.0 MH	.70	.42
19-8770	10.0 MH	.55	.33	19-1900	10.0 MH	.75	.45
19-1995	16.0 MH	.60	.36	19-5590	16.0 MH	.80	.48
19-2330	30.0 MH	.65	.39	19-5592	30.0 MH	.85	.51
19-3247	60.0 MH	.75	.45	19-5594	60.0 MH	.95	.57
19-2709	80.0 MH	.80	.48	19-5596	80.0 MH	1.00	.60

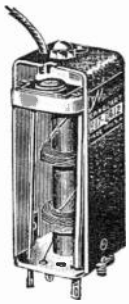
FERROCART (Iron Core)

Similar in all respects to the Air Core chokes listed above, but have Ferrocart (Iron Core) for better efficiency. All are individually tested.

UNSHIELDED No.	Inductance	List	Net	SHIELDED No.	Inductance	List	Net
19-6834	2.5 MH	$0.70	$0.42	19-1901	2.5 MH	$0.90	$0.54
19-6836	3.5 MH	.75	.45	19-1902	3.5 MH	.95	.57
19-6838	5.5 MH	.75	.45	19-1903	5.5 MH	.95	.57
19-6840	10.0 MH	.85	.51	19-1904	10.0 MH	1.05	.63
19-1910	16.0 MH	1.00	.60	19-1905	16.0 MH	1.20	.72
19-6842	30.0 MH	1.00	.60	19-1906	30.0 MH	1.20	.72
19-6844	60.0 MH	1.15	.69	19-1907	60.0 MH	1.35	.81
19-6846	80.0 MH	1.30	.78	19-1908	80.0 MH	1.50	.90
19-6848	125.0 MH	1.65	.99	19-1909	125.0 MH	1.85	1.11

Special Purpose I.F. Transformers

FERROCART (Iron Core) BAND EXPANDING I.F. TRANSFORMERS



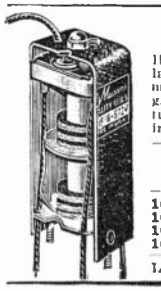
Designed to meet all requirements for variable selectivity, from razor-sharp for CW reception, to medium band-width for average reception, to broad band for high fidelity reproduction of local stations (in 3 position units). Band-width is electrically variable by means of a two or three position switch—no cams or levers are required. Two of these transformers in an I.F. amplifier will provide almost single-signal selectivity in the "sharp" position.

The use of Ferrocart (iron core) makes these transformers highly efficient, providing increased gain. The "Align-Aire" air-tuned units are exceptionally permanent in adjustment. They measure 2" x 2" x 1½", while the mica-tuned units are 1⅝" x 1⅜" x 3½".

Complete instructions and diagrams are supplied with each unit.

No.	Type Tuning	No. Pos.	Freq. Range	Peak Fact'y Setting	Pos.	Gain Fact'y Setting	Selectivity Band Width 2x	10x	20x	List	Net
17-7414	Align-Aire	2	415-540	456	Select. Hi Fi	83.0 47.0	8 23.6	19.4 42.5	28.7 60.0	$5.50	$3.30
17-7416	Align-Aire	3	415-540	456	Select. Med. Hi Fi	87.0 66.0 50.0	6.6 15.1 20.8	17.2 30.0 40.4	24.0 42.1 55.6	6.00	3.60
17-7410	Mica	2	340-640	456	Select. Hi Fi	71.3 54.0	7.8 17.2	19.6 33.3	27.0 46.1	3.00	1.80
17-7412	Mica	3	340-640	456	Select. Med. Hi Fi	66.6 55.5 40.0	7.3 16.2 23.0	18.1 31.8 41.7	27.0 46.6 60.5	3.50	2.10

TRIPLE PI I.F. TRANSFORMERS

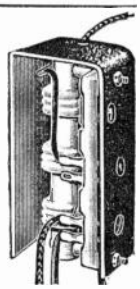


Highly efficient high-gain transformers designed particularly for use in single stage I.F. amplifiers. Not recommended for use in two-stage amplifiers, since excessive gain creates instability and oscillation. They are double-tuned with ceramic-base mica-insulated trimmers. Mounted in cans 1⅝" square x 3½".

No.	Frequency Range	Peak Fact. Set.	Gain Fact. Set.	Selectivity Band Width 2x	10x	20x	Position
16-5720	285-465	370	74	6.3	17.5	26.1	Input
16-5722	285-465	370	77	12.1	37.0	54.0	Output
16-5724	355-690	456	71	9.3	23.5	32.8	Input
16-5726	355-690	456	83	18.6	42.6	59.0	Output

List, $1.85.....**NET EACH $1.11**

TRIPLE TUNED I.F.



Provides flat-top tuning and severely attenuates adjacent channel interference. Delivers the ultimate in tone performance by not cutting sidebands. Equipped with side-mounted isolantite-base trimmers. Available only in 456 kc type. Mounted in shield cans 2" x 2" x 5".

No.	Frequency Range	Peak Fact. Set.	Gain Fact. Set.	Selectivity Band Width 2x	10x	20x	Use
16-6858	360-480	456	49.0	9.8	18.1	23.0	Input
16-6860	360-480	456	71.5	16.6	29.4	38.7	Output

List, $3.00.....**NET EACH $1.80**

"ALIGN-AIRE" AIR ELECTRIC CONDENSERS

Latest aligning condenser development for use in modern "all-wave" receivers. Features 3600 degrees of micrometer smooth tuning. Metal case ⅞" diameter x 1⅜" long. Dust-proof; not affected by moisture. Ceramic insulation; mounts by means of two 1-36 screws at top. Capacity easily adjusted by slotted screw head.

No. 22-5232—Range 5-25 mmf. List, $0.90.....**NET $0.54**
No. 22-5240—Range 25-50 mmf. List, 1.00.....**NET .60**
No. 22-5200—Range 40-100 mmf. List, 1.25.....**NET .75**

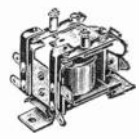
MIDGET "ALIGN-AIRE" CONDENSER—Similar in design to above units, but has bakelite body measuring only 7/16" in diameter x 1⅛" long. Combination metal cover and mounting bracket. Ideal as trimmer on short wave coils.
No. 22-5230—Range 1-12 mmf. List, $0.35.....**NET $0.21**

RELAYS

KEYING RELAY

Designed to break up to 1500 Volts at contacts, with only a few volts across key coil. Remarkably fast action. Thoroughly insulated. Coil operates on any 5 to 15 Volt AC source. Single "make circuit" type.
No. 28-1000—Keying Relay. List, $4.50.....**NET $2.70**

BREAK-IN RELAYS



Contacts designed to handle up to 15 amperes non-inductive AC load. Numerous other applications.
D.P.D.T. Type—110 Volts AC. Ideal "break-in" switch.
No. 28-1001. List. $5.50.....**NET $3.30**
S.P.S.T. Type. "Makes" one circuit; normally open. Similar in size and construction to Keying Relay described above, except that coil operates on 110 Volts AC.
No. 28-1002. List. $4.50.....**NET $2.70**

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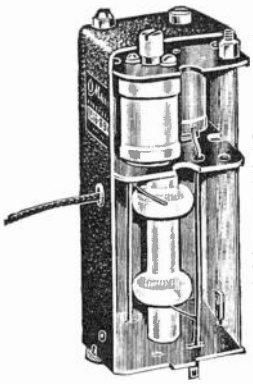
Net

World Radio History

Meissner AMATEUR PARTS

"ALIGN-AIRE" I.F. TRANSFORMERS



FEATURES: ● Align-Aire (Air Tuned) Trimmers ● Moisture-Proof ● Dust-Proof ● Temperature-Proof ● 3600 Degrees Smooth Tuning ● Permanently Stable ● Double Tuned ● Top Tuning ● Perma-Strut Construction ● No Drift.

NEW AIR TUNED UNITS—A great coil development. The combination of "Align-Aire" air tuning and exclusive Meissner construction methods eliminates drift and shifting, and permits permanently stable adjustment. Coil performance also improved by use of a special low-loss coil compound.

ALIGN-AIRE CONDENSERS—Easily and accurately you may, by means of the Align-Aire condensers, secure 3600 degrees of micrometer smooth tuning, substantially linear—enables service man or amateur to align the transformer permanently. Aligning remains stable regardless of temperature changes or violent vibrations. No microphonic noises—no chance of short circuit—no dust enters the trimmers.

BUS-BAR CONSTRUCTION—Eliminating the use of lead spacers and greatly improving mechanical assembly. Embodies rigid leads that cannot bend, prevents breakage of the fine Litz wire used in these high quality I.F. transformers, and provides a terminal for each coil-end placed in a position where it is unnecessary for flexible leads of one coil to lay across the other coil. Wires are permanently spaced away from all others insuring coupling capacities electrically equal because of geometrical similarity.

FERROCART (Iron Core)

Cat. No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-6631	155-195	175	125	5.5	13.0	18.5	Input
16-5977	155-195	175	28	5.5	13.0	18.0	Interstage
16-6633	155-195	175	150	7.3	22.3	32.8	Output
16-6635	233-305	262	70	4.5	11.0	16.5	Input
16-5967	233-305	262	29	6.0	17.0	22.5	Interstage
16-6637	233-305	262	110	7.5	23.5	36.0	Output
16-6639	338-443	370	72	4.5	11.5	17.5	Input
16-5993	338-443	370	30	6.5	17.5	24.0	Interstage
16-6641	338-443	370	120	8.0	22.5	33.5	Output
16-6643	415-540	456	77	7.0	16.0	22.0	Input
16-6123	415-540	456	29	7.0	18.0	24.4	Interstage
16-6645	415-540	456	105	9.0	25.6	36.2	Output
16-6139	415-540	456	100	9.5	23.2	33.5	Output C.T.
16-8089	1325-1750	1500	40	14.4	38.4	54.5	Input-Intstge.
16-8097	1325-1750	1500	55	19.2	48.0	73.5	Output
16-8101	1325-1750	1500	55	20.0	50.0	75.0	Output C.T.
16-6239	2500-3300	3000	50	40.0	80.0	125.0	Input-Intstge.
16-6241	2500-3300	3000	43	40.0	120.0	170.0	Output
16-8400	2500-3300	3000	42	42.0	125.0	175.0	Output C.T.
16-8115	4900-5600	5350	21	142.0	333.0	483.0	Television

LIST, $5.00 ..... NET EACH $3.00

AIR CORE

Cat. No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-6630	158-195	175	100	6.8	16.8	23.5	Input
16-6632	158-195	175	110	8.2	23.6	34.5	Output
16-6634	233-305	262	52	6.5	17.0	24.5	Input
16-5971	233-305	262	19	7.0	18.0	25.0	Interstage
16-6636	233-305	262	100	9.0	28.5	41.0	Output
16-6638	338-443	370	52	6.5	16.0	23.0	Input
16-6011	338-443	370	18	7.0	18.0	25.0	Interstage
16-6640	338-443	370	100	10.0	26.0	39.5	Output
16-6642	415-540	456	50	7.0	18.8	25.2	Input
16-6129	415-540	456	19	6.5	15.0	22.0	Interstage
16-6644	415-540	456	95	10.7	27.8	38.9	Output
16-6163	415-540	456	87	11.9	27.3	39.5	Output C.T.
16-8090	1325-1750	1500	27	17.6	46.3	68.7	Input-Intstge.
16-8098	1325-1750	1500	55	24.0	46.3	92.5	Output
16-8102	1325-1750	1500	55	25.0	48.0	95.0	Output C.T.
16-6243	2500-3300	3000	35	50.0	120.0	190.0	Input-Intstge.
16-6247	2500-3300	3000	40	81.0	190.0	250.0	Output

LIST, $4.50 ..... NET EACH $2.70

FERROCART (IRON CORE)
DOUBLE TUNED I.F. TRANSFORMERS

Years of research have produced FERROCART (microscopically fine particles of pure, soft iron) for the finest engineering requirements. Each particle is insulated from every other particle, making possible the development of an extremely low loss core of high permeability. This core improves selectivity, increases the gain and signal, and lowers set noise.

I.F. transformers using Ferrocart embody the latest in engineering design and manufacturing practice. Proper inductance of windings and accurate coupling between coils produce extreme uniformity of characteristics. Each transformer tested physically and electrically and peaked at the specified frequency.

The Mica trimmers are built on low-loss bases assuring minimum leakage. Spacers are used to assure uniform capacity coupling. In 1⅜" square x 3½" black crackle-finish cans.

LOW LOSS CERAMIC BASE-MICA TRIMMERS

Cat. No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	Use
16-5728	127-206	175	80	5.5	13.0	20.3	Input
16-5981	144-320	175	19	3.5	9.0	13.0	Interstage
16-5730	127-206	175	80	7.8	22.2	38.2	Output
16-5933	127-206	175	83	7.2	20.0	30.0	Output C.T.
16-5732	200-345	262	68	5.4	13.6	20.4	Input
16-5734	200-345	262	59	7.5	23.0	35.0	Output
16-5736	295-540	370	59	8.1	18.4	27.4	Input
16-5738	295-540	370	83.0	9.5	24.7	39.1	Output
16-6089	295-540	370	66.6	7.7	21.6	32.0	Output C.T.
16-5740	360-600	456	50.0	7.3	17.6	25.0	Input
16-6131	360-600	456	23.2	6.9	13.3	18.3	Interstage
16-5742	360-600	456	80.0	10.8	26.5	38.7	Output
16-6211	360-600	456	77.0	9.3	24.0	33.3	Output C.T.
16-8091	1050-2000	1500	30	16	34.4	59.3	Input Intstge.
16-8099	1050-2000	1500	47	19.1	52.7	80.0	Output
16-8103	1050-2000	1500	50.0	20.8	49.5	75	Output C.T.
16-6253	2300-3700	3000	50.0	70	140	210.0	Input-Intstge.
16-6257	2300-3700	3000	40.0	64	156	224	Output

LIST, $2.00 ..... NET EACH $1.20

STANDARD REPLACEMENT
DOUBLE TUNED I.F. TRANSFORMERS

The ideal replacement transformer for Servicemen and Experimenters who demand the utmost in I.F. transformer performance at low cost.

HIGH GAIN—WIDE RANGE—DOUBLE TUNED—with Meissner Low-Loss Ceramic Base Mica Di-electric trimmers. For increased efficiency and stability, a special moisture-proof treatment is accorded the base. All leads are color coded.

EFFICIENCY has not been sacrificed in making these transformers so compact they can fit into exceptionally small space. Size 1⅜" x 1⅜" x 3½". Cans are black crackle-finished.

LOW LOSS CERAMIC BASE-MICA TRIMMERS

Cat. No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2x	10x	20x	
16-5700	121-235	175	70.0	8.2	17.5	37.5	Input
16-5983	121-235	175	17.0	6.4	14.4	20.5	Interstage
16-5702	121-235	175	70.0	9.5	26.3	41.0	Output
16-3731	121-235	175	75.0	7.8	21.5	32.4	Output C.T.
16-5704	220-360	262	43.4	7.1	20.7	31.1	Input
16-5991	215-440	262	15.0	6.0	17.0	24.0	Interstage
16-5706	190-325	262	72.0	15.3	46.2	68.2	Output
16-6003	190-325	262	80	15.0	41.8	66.7	Output C.T.
16-5708	275-480	370	55	13.5	32.0	47.5	Input
16-6059	27 -650	370	22.7	9.4	24.7	35.5	Interstage
16-5710	275-480	370	80.0	17.5	47.7	72.0	Output
16-5712	425-650	456	50.0	14.7	31.3	45.6	Input
16-6133	435-1000	456	21.3	9.8	25.5	36.8	Interstage
16-5714	425-650	456	70	16.6	43.0	65.7	Output
16-3736	255-550	456	50	15.2	36.7	55.8	Output C.T.
16-8092	1050-2000	1500	21.5	17.5	51.2	73.5	Input-Intstge.
16-8100	1050-2000	1500	40.0	24.0	65.5	97.5	Output
16-8104	1050-2000	1500	40.0	24.0	65.5	97.5	Output C.T.
16-4260	2000-4000	3000	16.6	156	348	496	Input-Intstge.
16-4261	2000-4000	3000	23.3	180	390	750	Output

LIST, $1.50 ..... NET EACH $0.90

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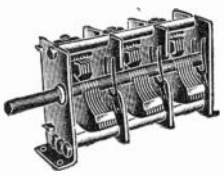
World Radio History

Meissner AMATEUR PARTS

VARIABLE CONDENSERS

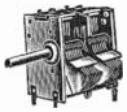
STANDARD TUNING CONDENSERS



Low loss; low minimum capacity; improved bakelite insulation; true bus-bar construction; spacing deliberately set far apart for efficient performance. All condensers have a ⅜" shaft and increase capacity clock-wise. End plates are 3 3/16" x 1 27/32". Each section 1½" and has separate tempered rotor-grounding wiper.

No.	Max. Cap.	List	Net
SINGLE GANG			
21-5218	140	$1.75	$1.05
21-5225	260	1.75	1.05
21-5224	365	2.00	1.20
21-5228	410	2.00	1.20
TWO GANG			
21-5220	140	$2.75	$1.65
21-5226	260	2.75	1.65
21-5221	365	3.00	1.80
21-5229	410	3.00	1.80
THREE GANG			
21-5219	140	$3.75	$2.25
21-5227	260	3.75	2.25
21-5222	365	4.00	2.40
21-5230	410	4.00	2.40
FOUR GANG			
21-5223	365	$5.00	$3.00

COMPACT VARIABLE CONDENSERS



Inexpensive condensers adaptable to many uses, especially AC-DC receivers and auto-radios. Due to their compact size a great saving is possible, without sacrificing quality.

All units supplied in ¼" shaft and clock-wise rotation for maximum capacity. End plates measure 1 9/16" x 2⅜". Size per section: 1 inch.

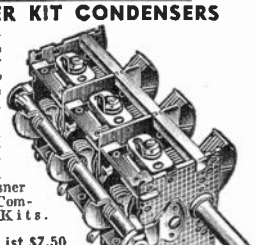
No.	Max. Cap.	List	Net
TWO GANG			
21-5210	140	$2.15	$1.29
21-5212	260	2.15	1.29
21-5214	365	2.25	1.35
21-5216	410	2.25	1.35
THREE GANG			
21-5211	140	$3.15	$1.89
21-5213	260	3.15	1.89
21-5215	365	3.25	1.95
21-5217	410	3.25	1.95

MIDGET VARIABLE CONDENSER

Universally applicable in high frequency apparatus. Single hole mounting on panels up to ¼" thick in ⅜" diameter hole. Nut provided for mounting.

No.	Plates	Capacity Range	List	Net
21-5163	3	3.0 to 15 mmf	$0.90	$0.54
21-5164	5	3.2 to 30 mmf	.95	.57
21-5165	7	3.5 to 45 mmf	1.00	.60
21-5166	9	3.7 to 60 mmf	1.10	.66
21-5167	11	4.0 to 80 mmf	1.20	.72
21-5168	14	4.3 to 100 mmf	1.25	.75
21-5169	18	4.5 to 125 mmf	1.36	.81
21-5170	20	5.0 to 140 mmf	1.45	.87

MEISSNER KIT CONDENSERS



Rigidly constructed to give highest quality performance. No trimmers used on any unit except No. 21-5140. 280 mmf electrical band-spread condenser. Ceramic insulation. Used in the new Meissner 14 and 8 tube Communications Kits. Clockwise close.

No. 21-5143B. List $7.50 NET $4.50

365 mmf. Used in Meissner 7 tube AC and 6 tube Battery Broadcast Kits; counter-clockwise close.

No. 21-5140. List, $4.00.....NET $2.40

365 mmf. Used in Meissner 7 tube AC and 6 volt Battery Two Band and in 7 tube LW-BC-SW Kit; counter-clockwise close.

No. 21-5140B. List $3.80.....NET $2.28

410 mmf. Used in 12 and 9 tube "Custom" Kits; counter-clockwise close.

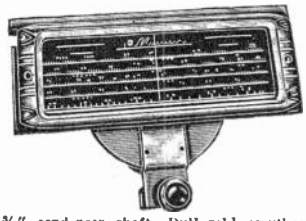
No. 21-5141B. List, $3.80.....NET $2.28

450 mmf. Used in 7 tube AC, BC, Pol & S.W. Kit; counter-clockwise close.

No. 51-5142B. List, $3.85.....NET $2.31

DIALS

NEW STANDARD "SLIDE RULE" DIALS



For ⅜" condenser shaft. Dull-gold escutcheon and pilot light sockets for bayonet type bulbs included.

9" "SLIDE RULE" DIALS

For Counter-Clock-Wise Condensers

Calibrated 132 KC to 42.3 MC in 5 bands.
No. 23-8206. List $7.00.....NET $4.20

Calibrated 540 KC to 42.3 MC in 4 bands.
No. 23-8212. List, $7.00.....NET $4.20

For Clock-Wise Condensers

Calibrated 132 KC to 42.3 MC in 5 bands.
No. 23-8214. List, $7.00.....NET $4.20

Calibrated 540 KC to 42.3 MC in 4 bands.
No. 23-8216. List, $7.00.....NET $4.20

7" "SLIDE RULE" DIALS

For Counter-Clock-Wise Condensers

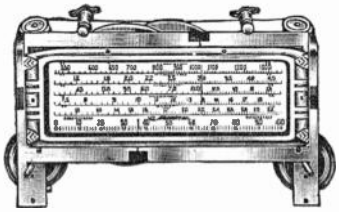
No. 23-8207. BC Band only. List, $5.00 NET $3.30

No. 23-8208. BC and SW Bands. List, $5.50 NET $3.30

No. 23-8209. BC, Pol. & SW Bands. List, $5.50 NET $3.30

No. 23-8210. LW, BC & SW Bands. List $5.50 NET $3.30

NEW ELECTRICAL BANDSPREAD "SLIDE RULE" DIAL



Latest improvements! 9" scale! One pointer for bandset and additional short pointer on 0-100 scale for bandspread section. Specially designed for use with Meissner electrical bandspread 280-mmf. 3-gang tuning condenser and 5-band multiwave coil assemblies. Scale black on white background with top illumination. French-design escutcheon with dull gold finish.

Calibrated 530 KC to 32.4 MC. 5 Bands.
No. 23-8211. List, $12.50.....NET $7.50

Calibrated 540 KC to 60 MC. 5 Bands.
No. 23-8219. List, $12.50.....NET $7.50

280 mmf. 3 gang electrical bandspread condenser.
No. 21-5143B. List, $7.50.....NET $4.50

MODERNIZING KIT FOR 7502—14 TUBE RECEIVER KIT

Change old mechanical bandspread to new electrical bandspread condenser and dial. New 3-gang 280 mmf. electrical bandspread condenser; new electrical bandspread dial calibrated in 5 bands from 530 KC to 60 MC; new sub-assembly chassis pan for tuning unit; knobs; shaft extenders, hardware, etc.; dial escutcheon; complete instructions. Takes only a few hours to make change-over.

No. 23-8213. List, $23.25.....NET $13.95

NEW 9" "SLIDE RULE" DIAL KIT FOR 7501 — 12 TUBE KIT

Same 9" Slide Rule Dial described above, especially designed to replace mechanical bandspread dial previously used. Calibrated 132 KC to 12.3 MC in 5 bands. For clockwise condenser. Dial, escutcheon, mounting brackets, knob, shaft extender, hardware, etc. Readily mounts in place of old dial.

No. 23-8218. List, $8.25.....NET $4.95

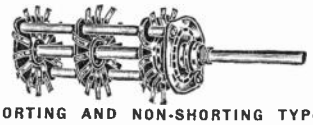
NEW 9" "SLIDE RULE" DIAL KIT FOR 7508A — 8 TUBE KIT

Replaces 8" mechanical bandspread dial. 4-band scale calibrated 540 KC to 42.3 MC; for clockwise condenser. Dial, escutcheon, mounting brackets, knob, shaft extender, dowls and screws.

No. 23-8215. List $9.25.....NET $5.55

SWITCHES

ROTARY TAP SWITCHES



SHORTING AND NON-SHORTING TYPES

Meet the demand of practically any circuit combination. Have adjustable stop, which permits the use of as many positions as desired. Newly developed positive contact assures noiseless reception at all times.

The two and three gang switches have extremely wide spacing to provide for the shortest leads from coils and sockets—giving maximum efficiency.

Switches can be dis-assembled and spacers cut down to meet desired lengths. Over-all diameter 1⅞"; mounts in ⅜" hole on any panel up to ¼" thick. Furnished with lock-nut.

No.	Gangs	Poles	Positions	List	Net
SHORTING					
24-8251	1	1	2 to 12	$1.15	$0.69
24-8253	1	2	2 to 5	1.25	.75
24-8255	2	2	2 to 12	1.75	1.05
24-8257	2	4	2 to 5	2.00	1.20
24-8259	3	3	2 to 12	2.35	1.41
24-8261	3	6	2 to 5	2.50	1.50
24-8263	1	4	2	1.25	.75
NON-SHORTING					
24-8252	1	1	2 to 12	$1.15	$0.69
24-8254	1	2	2 to 5	1.25	.75
24-8256	2	2	2 to 12	1.75	1.05
24-8258	2	4	2 to 5	2.00	1.20
24-8260	3	3	2 to 12	2.35	1.41
24-8262	3	6	2 to 5	2.50	1.50

COIL SHORTING ROTARY SWITCHES WITH ADJUSTABLE STOP

Shorting feature reduces absorption effects of unused coils in lower frequency bands, when operating on higher frequencies, by successively shorting them out. Eliminates weak areas and dead spots on tuning dial.

Permits all coils to be open when lowest frequency coil is in use.

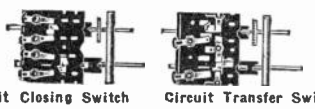
Adjustable stop permits the use of as many positions as desired. Do not confuse this switch with ordinary shorting switches that only short between contacts while the switch is rotated.

Separate-Section Coil-Shorting Switches

Separate wafers for primary and secondary switching reduce coupling capacity—eliminates crowded coil wiring and simplifies connections. Maximum Diameter 1⅞". Shaft Length 2". Shaft Diameter ¼".

No.	Gangs	Circuits	Positions	Depth	List	Net
24-9202	Two	Two	2 to 5	2⅛"	$1.50	$0.90
24-9203	Four	Four	2 to 5	4⅛"	2.50	1.50
24-9204	Six	Six	2 to 5	6⅛"	3.50	2.10
24-9205	Eight	Eight	2 to 5	8½"	4.50	2.70

PUSH-BUTTON SWITCHES



Circuit Closing Switch — Circuit Transfer Switch

MEISSNER engineered for utility. Meissner push-button switches are completely assembled and have sliding contact motion. All current carrying contacts are specially silver plated for low resistance. Insulation is of moisture-proof bakelite with exceptional low loss qualities.

Circuit Transfer Push-Button Switches may be used in: Communication Systems—Station Selectors, etc. Transfers 2 circuits each time a button is depressed. Circuit closing switches close 2 independent circuits on each button. May be used in Multimeters, Signal Generators, Set Analyzers, Transmitters, Tube Checkers, etc.

Escutcheon plate and blank name inserts included with each switch.

No.	Type	Buttons	List	Net
24-8266	Circuit closing	6	$4.50	$2.70
24-8267	Circuit closing	8	5.50	3.30
24-8268	Circuit transfer	6	4.50	2.70
24-8269	Circuit transfer	8	5.50	3.30

Net

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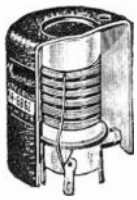
World Radio History

Meissner SERVICE PARTS

ANTENNA and R. F. COILS

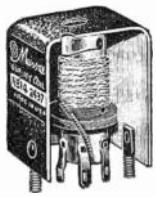


Designed to cover the Broadcast band—190 to 550 meters—with a 365 mmf condenser. Constructed for quality, not built down to a price. Recommended for use in any circuit where highest quality components are being used for maximum performance.
These coils will deliver good performance in any R. F. circuit, and are recommended for use in any type of receiver. Shielded coils are in cans 1⅞" diameter, 2½" high, with 1¾" mounting centers. Unshielded coils are wound on ⅞" diameter forms 2¼" long.

STANDARD SERIES

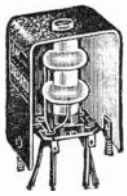
No.	Use	Description
SHIELDED		
14-1000	Ant.	Low Imp. Pri.—Ena. Sec.
14-1001	R.F.	Low Imp. Pri.—Ena. Sec
14-1002	Ant.	Low Imp. Pri.—Litz Sec.
14-1003	R.F.	Low Imp. Pri.—Litz Sec.
14-1004	Ant.	High Imp. Pri.—Litz Sec.
14-1005	R.F.	High Imp. Pri.—Litz Sec.
List, $0.90 ..... NET, Each, $0.54		
UNSHIELDED		
14-1006	Ant.	Low Imp. Pri.—Ena. Sec.
14-1007	R.F.	Low Imp. Pri.—Ena. Sec.
14-1008	Ant.	Low Imp. Pri.—Litz Sec.
14-1009	R.F.	Low Imp. Pri.—Litz Sec.
14-1010	Ant.	High Imp. Pri.—Litz Sec.
14-1011	R.F.	High Imp. Pri.—Litz Sec.
List, $0.70 ..... NET, Each, $0.42		

Midget Antenna and R. F. Coils



Entirely new design. Specially built for compact T.R.F. Super-Het and Auto Radio receivers. Wound on ½" bakelite form. Four bank windings with Litz wire. High impedance primaries. Shield cans 1⅜" x 1⅜" x 2". Spade bolt mountings. Cover 190 to 550 meters with 365 mmf. condenser.
No. 14-2436. Antenna Coil
No. 14-2437. R. F. Coil
List $1.00..Net Ea. $0.60

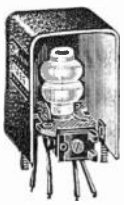
"UNIVERSAL-ADJUSTABLE" Antenna-R. F.-Oscillator Coils



New adjustable inductance Ferrocart (Iron Core) coils; will replace the Broadcast Band coils in practically any receiver. Continuously variable in inductance over a wide range. The oscillator coil is also arranged to provide complete adjustment for receivers having intermediate frequencies from 175 to 520 kc. All coils are compact in size and are mounted in black crackle-finished cans measuring only 1¾" x 1¾" x 2½" high—mounting centers are 1 11/16".

No.	Description	List	Net
14-7413	Universal Ant. Coil...	$2.00	$1.20
14-7558	Universal R.F. Coil...	2.00	1.20
14-7560	Universal Osc. Coil...	2.00	1.20

FERROCART (Iron Core) Antenna and R. F. Coils



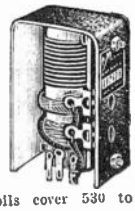
Latest development of Ferrocart Iron Cores adds substantial gain and increases selectivity of radio frequency transformers by improving "Q" of windings. High-impedance primary Antenna Coil designed for use with any type of aerial. Use high gain unit as detector coil in single or multi-stage R. F. amplifiers, use lower gain coil in intermediate stages of a multi-stage R. F. amplifier. Designed to cover broadcast band (540 to 1600 kc) with a 365 mmf condenser. Will work with any standard types of tubes, including metal and battery-operated 2-volt series. Furnished in non-magnetic cans—black crackle-finished. Shields 1¾" square by 2¼" high—spade lug mounting centers 1 11/16".

Ferrocart Ant. Coil No.	Type	Ferrocart R.F. Coils No.	Type
14-1496	Hi-imp. Pri.	14-1497	Detector
		14-7860	Interstage

List, $2.00 ..... NET EACH $1.20

DUAL AND 3-BAND COILS

Dual Band



Same as used in MEISSNER Kits; will give utmost in performance and stability. Both bands wound on same bakelite coil-form, ⅞" dia. Two mica-dielectric trimmers mounted in cans of shielded coils. All coils designed to be used with a 365 mmf. variable condenser and for operation with a 456 kc. I. F. channel. Wound on bakelite forms 2¾" long. Shielded coils in cans 1¾" x 1¾" x 3". Broadcast-and-Police coils cover 530 to 1550 kc and 1.5 to 4.48 kc. Broadcast-and-Short-Wave coils cover 530 to 1660 kc and 5.8 to 19 mc.

BROADCAST AND POLICE COILS

SHIELDED No.	Description	UNSHIELDED No.	Description
14-7467	Antenna Coil	14-7482	Antenna Coil
14-7471	R.F. Coil	14-7483	R.F. Coil
14-7475	Oscillator	14-7484	Oscillator
List, $2.70..NET $1.62		List, $1.85..NET $1.11	

22-5211 Dual Padder for above coils: List, $0.55 ..... NET $0.33
24-8265 3-gang 2-position Switch: List, $1.50 ..... NET $0.90

BROADCAST AND SHORT-WAVE COILS

SHIELDED No.	Description	UNSHIELDED No.	Description
14-7476	Antenna Coil	14-7477	Antenna Coil
14-7478	R.F. Coil	14-7479	R.F. Coil
14-7480	Oscillator	14-7481	Oscillator
List $2.70..NET $1.62		List, $1.85..NET $1.11	

22-5211 Dual Padder for above coils: List $0.55 ..... NET $0.33
24-8265 3-gang 2-position Switch: List, $1.50 ..... NET $0.90

3-Band

Similar to above, but offered only in shielded types, with trimmers built in. Broadcast-Police-Short-Wave coils are for use with a 150 mmf. condenser and cover 540 to 1770 kc, 1.75 to 5.35 mc, 5.2 to 18.5 mc. Long-Wave-Broadcast-Short-Wave coils are for use with a 365 mmf. condenser and cover 136 to 370 kc, 530 to 1580 kc, 5.8 to 18.6 mc. All coils mounted in shield cans 1¾" x 1¾" x 4⅛", and are designed for use with a 456 k. c. I. F. channel.

BROADCAST, POLICE AND SHORT-WAVE COILS

No.	Description	List	Net
14-1012	Shielded Antenna Coil...	$3.50	$2.10
14-1013	Shielded R.F. Coil	3.50	2.10
14-1014	Shielded Oscillator.....	3.50	2.10
22-5201	Padding Condenser Kit...	1.25	0.75
24-8264	3-gang 3-position Switch.	2.00	1.20

LONG WAVE, BROADCAST AND SHORT WAVE COILS

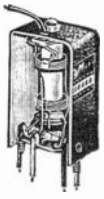
No.	Description	List	Net
14-1015	Shielded Antenna Coil...	$3.50	$2.10
14-1016	Shielded R.F. Coil	3.50	2.10
14-1017	Shielded Oscillator.....	3.50	2.10
22-5202	Padding Condenser Kit...	1.50	.90
24-8264	3-gang 3-position Switch.	2.00	1.20

OSCILLATOR COILS

For the Broadcast band—190 to 550 meters. Tune with 365 mmf TRF type condenser. Will operate in all types of oscillator circuits.
Mounted on special bakelite base, with tinned soldering lugs. Unshielded coils mount by means of screw in one end of dowel. Shielded coils are in cans 1½" diameter, 1¾" high, with spade bolt mountings. Proper value padder condensers must be used.

No.	Int. Freq.	Padder	List	Net
SHIELDED				
14-4242	175 kc	900 mmf.	$0.95	$0.57
14-7488	370 kc	500 mmf.	.95	.57
14-4243	456 kc	350 mmf.	.95	.57
UNSHIELDED				
14-3732	175 kc	900 mmf.	$0.75	$0.45
14-6590	262 kc	686 mmf.	.75	.45
14-6592	370 kc	500 mmf.	.75	.45
14-4034	456 kc	350 mmf.	.75	.45

SHIELDED PRE-SELECTOR COIL



Adds selectivity to any broadcast receiver! Three windings—a primary and two secondaries. Receivers without R. F. stage can be greatly improved in selectivity by addition of a preselector stage, using this coil. No additional tube required. Tunes 190 to 550 meters with a 365 mmf condenser. Shield can 1¾" x 1¾" x 3" Spade bolt mounting.

No. 14-6797 List $2.00 Net $1.20

INTERFERENCE FILTERS

DE LUXE DUAL UNIVERSAL WAVE TRAP

Tunes 400-475 to eliminate code signals, etc., entering receiver at intermediate frequency. Also tunes 550 to 1950 kc for interfering signals in Broadcast and low-frequency Police bands. Knob makes adjustment easy. Has Ferrocart (iron core) for greater efficiency.

No. 15-8048
List $2.65....Net $1.59

DUAL AMATEUR BAND WAVE TRAP

Eliminates interference simultaneously from either 40 and 80, or 40 and 160 meter bands. Similar in construction to above dual unit, but without knob. Has screwdriver adjustment for both bands. Tunes 1.5 to 7.5 mc.

No. 15-8148. List, $2.65.....Net $1.59

STANDARD SINGLE WAVE TRAPS

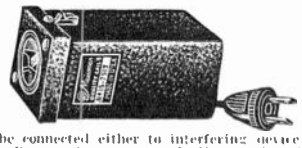
Each trap designed for a specific frequency coverage; has screwdriver adjustment for easy setting to interfering signal. Air core design.

No. 15-7518—456 kc I. F. Model.
No. 15-8479—For range 400 to 700 kc.
No. 15-8480—For range 650 to 1000 kc.
No. 15-8481—For range 950 to 1600 kc.
No. 15-8485—160 Meter and Police Band.
No. 15-8484—80 Meter Band.
No. 15-8483—40 Meter Band.
No. 15-8482—20 Meter Band.
Any Model. List $1.25.....Net Each $0.75

DeLuxe 456 I. F. Wave Trap. Similar to Standard units, but has Ferrocart (iron core) for greater efficiency. Permeability tuned.

No. 15-7523. List, $1.75..... ..Net $1.05

DE LUXE LINE FILTER



May be connected either to interfering device or to radio. Receptacle at one end, line cord and plug at other; grounding terminal mounted on case. For 110 volts, AC or DC, at 200 watts maximum.

No. 15-7519. List, $4.00.....Net $2.40

TRIMMING AND PADDING CONDENSERS

G

C — D

Low-loss ceramic base. Hot-tinned alloy plates. Cadmium-plated steel adjusting screw; extra-fine thread. Accurately threaded brass insert. Clear India Ruby mica dielectric.

No.	Type	Cap. Range	List	Net
22-7002	C	25- 100 mmf	$0.25	$0.15
22-7003	C	75- 225 mmf	.30	.18
22-7004	C	125- 350 mmf	.35	.21
22-7005	C	175- 500 mmf	.40	.24
22-7006	C	225- 650 mmf	.45	.37
22-7007	D	275- 825 mmf	.65	.39
22-7008	D	325-1000 mmf	.70	.42
22-7009	D	400-1200 mmf	.75	.45
22-7010	D	500-1400 mmf	.80	.48
22-7011	D	600-1600 mmf	.85	.51
22-7012	D	700-1800 mmf	.90	.54
22-3296	G	20- 90 mmf	.30	.18
22-3297	G	50- 180 mmf	.35	.21
22-3298	G	100- 300 mmf	.40	.24
22-5224	G	170- 410 mmf	.50	.30
22-5211	G	200- 600 mmf	.55	.33
22-5277	G	300- 675 mmf	.60	.36
22-5273	G	325- 850 mmf	.70	.42

REPLACEMENT PRIMARY WINDINGS

Economically replace burned out primaries on all types of Antenna and R. F. coils. High impedance type for improved performance.

No.	Size	List	Net
14-6850	For 1¼" O.D. Coil.....	$0.30	$0.18
14-6852	For 1" O.D. Coil.....	.25	.15
14-6854	For ⅞" O.D. Coil.....	.25	.15
14-6856	For ¾" O.D. Coil.....	.25	.15
14-8418	For ½" O.D. Coil.....	.20	.12

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World Radio History

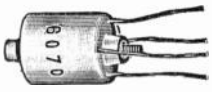
Meissner SERVICE PARTS

EXACT DUPLICATE MAJESTIC REPLACEMENT UNITS

Manufactured from the original Majestic blueprints, but Meissner-improved to eliminate the causes of failure. New construction insures satisfactory long life—mechanically and electrically perfect. Exactly replaces old units—requires practically no adjusting. Leads have original Majestic color-code.

Cat. No.	Application	List	Net
	Chassis No. 15-15B-150 Model 161-153-154-156		
20-2411	1st I.F. and Osc. Transf.	$3.50	$2.10
20-3864	2nd I.F. Transformer	1.50	.90
20-4051	1st R.F. Coil less Can	1.00	.60
20-4050	2nd R.F. Coil less Can	.75	.45
	Chassis 20—Model 21-22-23		
20-4052	1st I.F. Transformer	3.50	2.10
20-4053	2nd I.F. Transformer	5.00	3.00
	Chassis 25—Model 251-253-254		
20-4054	1st I.F. Transformer	1.75	1.05
20-4055	2nd I.F. Transformer	2.50	1.50
	Chas. 25-B—Model 251B-253B-254B		
20-4057	1st I.F. Transformer	2.00	1.20
20-4058	2nd I.F. Transformer	2.00	1.20
	Chassis 35—Model 351-353		
20-4435	1st I.F. Transformer	2.50	1.50
20-4436	2nd I.F. Transformer	1.50	.90
	Chassis 55—Model 56-57-58		
20-4042	1st I.F. and Osc. Transf.	2.75	1.65
20-3864	2nd I.F. Transformer	1.50	.90
20-4051	1st R.F. Coil less Can	1.00	.60
20-4050	2nd R.F. Coil less Can	.75	.45
	Chassis 60 & 160—Model 61-62-163		
20-4059	1st I.F. Transformer	3.00	1.80
20-4372	2nd I.F. Transf. Tapped	3.00	1.80
	Model 66		
20-4062	1st I.F. Transformer	2.00	1.20
20-4060	Ant. Coil less Can	.90	.54
20-4061	Osc. Coil less Can	.75	.45
20-4064	R.F. Choke	1.15	.69
	Model 110		
20-4066	Broad Band Transformer	1.75	1.05
	Model 114		
20-4444	1st I.F. Transformer	2.00	1.20
	Model 118		
20-4060	Ant. Coil less Can	.90	.54
20-4061	Osc. Coil less Can	.75	.45
	Model 120-121		
20-4439	1st I.F. Transformer	2.25	1.35
20-4440	2nd I.F. Transformer	2.25	1.35
	Chassis 120B—Model 123		
20-4363	1st I.F. Transformer	2.90	1.74
20-4389	2nd I.F. Transformer	2.50	1.50
	Chassis 200—Model 201-203-204		
20-3861	1st I.F. Transformer	2.00	1.20
20-3816	2nd I.F. Transformer	2.00	1.20
20-4067	Ant. Coil less Can	1.00	.60
20-4319	Osc. Coil less Can	.50	.30
20-3958	R.F. Coil less Can	1.25	.75
	Chassis 210—Model 211-214-215		
20-3915	1st I.F. Transformer	1.75	1.05
20-3944	2nd I.F. Transformer	1.50	.90
20-4454	Ant. Coil less Can	.65	.39
	Chassis 220—Model 221-223		
20-4432	1st I.F. Transformer	2.75	1.65
20-4433	2nd I.F. Transformer	2.50	1.50
	Chassis 290-300		
	Model 291-293-294-303-304-307		
20-4070	1st I.F. Transformer	1.75	1.05
20-4071	2nd I.F. Transformer	2.00	1.20
20-4069	Ant. Coil less Can	1.00	.60
20-4068	R.F. Coil less Can	1.00	.60
	Chassis 320—Model 324		
20-4430	1st I.F. Transformer	2.00	1.20
20-4431	2nd I.F. Transformer	2.50	1.50
	Chassis 310A-310B		
	Model 311-314-315		
	Chassis 330—Model 331-336-77		
	Chassis 390—Model 393		
20-4072	1st I.F. Transformer	1.50	.90
20-4427	Ant. Coil, less Can	1.25	.75
20-4064	R.F. Choke, less Can	1.15	.69
	Chassis 340—Model 344		
20-4072	1st I.F. Transformer	1.50	.90
20-4429	2nd I.F. Transformer	1.50	.90
20-4427	Ant. Coil, less Can	1.25	.65
	Chassis 360—Model 363		
20-4072	1st I.F. Transformer	1.50	.90
20-4427	Ant. Coil, less Can	1.25	.75
	Chassis 370—Model 371-373		
20-4074	1st I.F. & Osc. Transf.	1.50	.90
	Chassis 400—Model 411-413		
20-4076	1st I.F. Transformer	1.50	.90
20-4064	R.F. Choke, less Can	1.15	.69
	Chassis 440—Model 44-49-194		
20-1492	1st I.F. Transformer	2.00	1.20
20-1488	Ant. Coil, less Can	.75	.45
20-1489	Oscillator Coil, less Can	.60	.36
	Chassis 460—Model 461-463		
	Chassis 520—Model 95		
	Chassis 490—Model 491-493		
20-3499	1st I.F. Transformer	2.25	1.35
20-4012	R.F. Coil, less Can	.80	.48
20-4064	R.F. Choke, less Can	1.15	.69
20-4078	Oscillator Coil, less Can	.60	.36
	Chassis 500		
	Model 55-59-75-195-560-566		
20-4089	1st I.F. Transformer	$5.00	$3.00
20-4081	2nd I.F. Transformer	2.00	1.20
20-4090	3rd I.F. Transformer	4.00	2.40
20-1619	Antenna Coil, less Can	.80	.48
20-4079	Oscillator Coil, Low Freq.	.50	.30
20-4080	Osc. Coil, High Freq.	.60	.36
	Chassis 800—Model 85-86-998		
20-4072	1st I.F. Transformer	1.50	.90
20-4012	R.F. Coil, less Can	.80	.48
20-4064	R.F. Choke, less Can	1.15	.69

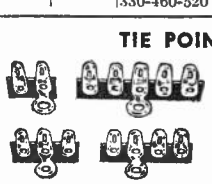
PAPER SECTION REPLACEMENT COILS



Exact duplicates of original assemblies. Coils only, without cans or trimmers. Exactly replace defective burned-out units. Improved units, in cans with trimmers, are listed at left.

Meissner No.	Majestic No.	Use	Model	List	Net
20-6070	4428	1st I.F.	15-15B-150	$0.60	$0.36
20-5310	8384 / 4429	2nd I.F.	15-15B-150	.70	.42
20-5311	5326	1st I.F.	25	.70	.42
20-5312	5337	2nd I.F.	25	.90	.54
20-5313	5601	1st I.F.	25B	.70	.42
20-5314	5602	2nd I.F.	25B	.90	.54
20-5317	5606	1st I.F.	55	.70	.42
20-5315	10589 / 10078 / 10591 / 10098	1st I.F.	66	.70	.42
20-5316		2nd I.F.	66	.70	.42
20-4445	7643	2nd I.F.	114	.70	.42
20-5318	9355	1st I.F.	116	.70	.42
20-5319	9361	2nd I.F.	116	.70	.42
20-5320	6987	2nd I.F.	120B	.70	.42
20-5321	6250	1st I.F.	200	.70	.42
20-5322	6254	2nd I.F.	200	.90	.54
20-6071	6119	1st I.F.	210	.70	.42
20-5323	6123	2nd I.F.	210	.70	.42
20-6072	6127	3rd I.F.	210	.70	.42
20-5324	6588	1st I.F.	220	1.00	.60
20-5325	6572	2nd I.F.	220	.70	.42
20-5326	6592	3rd I.F.	35-220	.80	.48
20-5327	7205	1st I.F.	290-300	.70	.42
20-5328	7230	2nd I.F.	290-300	.90	.54
20-5329	7821	1st I.F.	310A-310B-330-390	.70	.42
20-3906	7812	2nd I.F.	310A-310B-330-390	.80	.48
20-4428	9094	2nd I.F.	360	.70	.42
20-4075	9229 / 9668	2nd I.F.	370	.80	.48
20-5330	9669	1st I.F.	400	.70	.42
20-4075	9229 / 9668	2nd I.F.	400	.80	.48
20-1491	10528 / 10541	2nd I.F.	440	.75	.45
20-3500	10148 / 10149	1st I.F.	460	.70	.42
20-3457	10253 / 11014	2nd I.F.	460	.85	.51
20-5331	10843	1st I.F.	500	.70	.42
20-5332	11705	2nd I.F.	600	.70	.42
20-3457	10253	2nd I.F.	800	.85	.51
20-4204	7187	Primary coil used as R.F. Plate coil in Models 290-300-310-330-460-520 and 800.		.70	.42

TIE POINTS



Terminals are firmly locked in place on ⅛" bakelite strip, ⅝" wide; all lugs and mounting brackets cadmium plated. A soldering terminal is provided on bracket for convenient ground connection.

No.	Terminals	List Each	List Per 100	Net Per 100
25-5732	One	$0.025	$2.00	$1.20
25-5731	Two	0.030	2.65	1.59
25-6715	Three	0.050	4.15	2.49
25-6716	Four	0.060	5.30	3.18
25-6717	Five	0.070	6.00	3.60

ADJUSTMENT WRENCH

For adjusting I.F. Transformer trimmers. Tool-steel screw-driver bit on one end. ⅝" hexagon recess on opposite end. Hard fibre shank reduces hand-capacity effect when adjusting trimmers. A very handy tool.

No. 25-3557 ..... List $1.00 ..... Net $0.60

EXACT DUPLICATE REPLACEMENTS

Clarion I. F. Replacement Transformers and Coils

A carefully selected list of replacements for popular model Clarion sets. Exact duplicates with the addition of Meissner improvements to eliminate original defects.

Complete Coil Assembly

No.	Model	Position	List	Net
20-6938	480	Composite	$2.50	$1.50
20-6929	220	Composite	2.50	1.50
20-6936	320	Composite	2.50	1.50
20-4284	260	2nd I.F.	1.70	1.02
20-4293	300	3rd I.F.	2.20	1.32
20-4286	300	1st or 2nd I.F.	1.50	.90

Coil Sections Only

No.	Model	Position	List	Net
20-3478	100	2nd I.F.	$0.90	$0.54
20-6909	140	2nd I.F.	.90	.54
20-3152	220	1st I.F.	.90	.54
20-3478	220	2nd I.F.	.90	.54
20-6307	260	1st I.F.	.90	.54
20-6309	260	2nd I.F.	.90	.54
20-3153	320	2nd I.F.	.90	.54
20-6313	360	1st I.F.	.90	.54
20-6317	360	2nd I.F.	.90	.54

Belmont Replacement Composite I. F. and Oscillator Coil

For Models C19, 50C, Viking 51C, an exact Belmont duplicate both in physical and electrical characteristics. Complete coil assembly in shield can. May also be used in many Sears Roebuck receivers.

No.	List	Net
20-6792	$4.00	$2.40

CROSLEY UNTUNED I. F. COIL

For Models 122, 123, 124, 125, 126. Every serviceman should stock these special untuned I.F. Transformers. An efficient replacement for the many receivers now on the market. This unit is an exact duplicate both physical and electrically.

No.	List	Net
20-4297	$1.25	$0.75

R. C. A. Radiola I. F. Transformer Replacement Coils

Exact I.F. replacement coils for R.C.A.—Radiola—G.E.—Westinghouse and Graybar receivers.

No.	R.C.A.	Model	Position	List	Net
20-6301	8567	80-82-86-RAE68	1st I.F.	$0.90	$0.54
20-6299	8565	80-82-86-RAE68	2nd I.F.	.90	.54
20-6297	8566	80-82-86-RAE68	3rd I.F.	.90	.54
20-6289	2991	R4-R5-R5DC-R5X-R6-R7-R7A-R7DC-R9DC-R9-RE 16-RE16A	1st I.F.	.90	.54
20-6281	2992	R4-R5-R5DC-R5X-R6-R7-R7A-R7DC-R9DC-R9-RE16-RE16A	2nd I.F.	.90	.54
20-6273	8342	60-62-64	All I.F.	.90	.54

Molded Bakelite Socket—Octal Base

Molded from finest bakelite and firmly mounted in cadmium-plated steel saddle, providing universal mounting with 1½" centers. Phosphor-bronze contacts.

No. 25-8209—List, Each $0.15 ..... NET $0.09
No. 25-8438—Ctn. of 6—List, $0.85 ... NET $0.51

Steatite Socket—Octal Base—Low Loss

Meissner unique design; all advantages of ceramic insulation. Standard 1½" mounting centers; terminal clips phosphor-bronze. Four additional grounding lugs.

No. 25-8437—List, Each $0.40 ..... NET $0.24
No. 25-8439—Ctn. of 6—List, $2.25 ... NET $1.35

SOCKET PUNCH

Hardened steel. Will cut right-sized hole in sheet metal up to 14 gauge to fit either Steatite or Bakelite Meissner sockets. Cuts clean; 1½" hole; tempered to last.

No. 25-3558—List, $4.50 ..... NET $2.70

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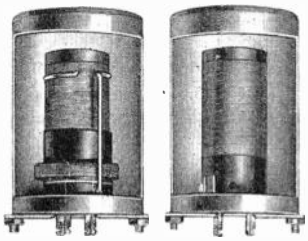
World Radio History

Miller RADIO PRODUCTS



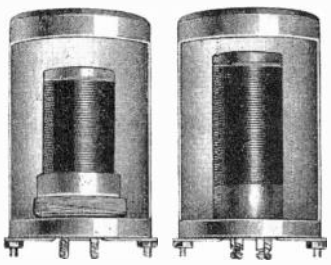
242-A 242-RF

Bank-Wound Litz Coils

For the designer or custom set builder who desires to employ the finest coils available, the bank-wound series coils are admirably suited.

Particular care has been taken in the design of these coils to produce the most efficient winding for use at broadcast frequencies. The coils are wound with Litzendraht wire in a two-layer bank, using a bakelite form as the winding base. Every precaution is taken to produce an excellent coil of consistently uniform quality, and with this end in view constant inspection during manufacturing and a final test upon completion assures the customer of a coil of unsurpassed quality. The RF coils provide uniform amplification over the broadcast band by the use of a combination of inductive and capacitive coupling in the primary circuit. Supplied with shields 1⅞" x 3". For use with a .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

		List Price
No. 242-A	Antenna Coil	$ .90
No. 242-BP	Band-Pass Coil	.75
No. 242-RF	RF Coil	.90
No. 277	Oscillator Coil (Available for all frequencies)	.75



472-A 472-RF

Threaded Solenoid Coils

High impedance coupled type antenna and RF coils wound with solid enameled wire on threaded bakelite tubing. Coupling turns are provided to prevent loss of energy at the high frequencies and to properly phase the antenna with the grid circuit. The RF coil primaries are also duo-lateral wound but are placed inside the secondary and are designed to match the impedance of the modern screen grid tubes. Adaptable for any TRF or superheterodyne receiver. Supplied with shield 2 1/16" x 3½" long. For use with .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

		List Price
No. 472-A	Antenna Coil	$ .85
No. 472-RF	RF Coil	.85
No. 472-BP	Band-Pass Coil	.80

Untuned RF Coil

To be used in wide range TRF receivers and diode detector circuits. Maximum gain is obtained at the low frequency end of the band. Frequency range 540-1700 KC. Complete with aluminum shield 1⅝" x 2½" long.

		List Price
No. 472-UT	Untuned RF Coil	$1.50

277-477

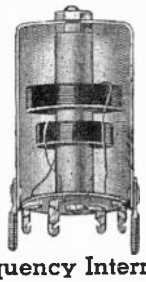
Solenoid Oscillator Coils

These oscillator coils are designed for use with pentagrid converter tubes or the 6L7 mixer. The 277 series is particularly designed for use with the No. 242 antenna and RF coils, while the 477 type are recommended for use with the 472 type coils. However, these units will track with any of our standard coils when the proper oscillator padding condenser is incorporated in the circuit. All the above coils are available for use with any of the popular intermediate frequency amplifiers and may be obtained for use either shielded or unshielded. However, it is important that you specify whether the shielded or unshielded coil is desired upon ordering. If no specifications are given, the shielded type coil will be shipped. The shielded coils are supplied with the proper shields as listed below:

277 Type.....1⅞" x 3" Shield
477 Type.....2 1/16" x 3½" Shield

For use with standard .000365 mfd. variable condenser to cover the band from 540 to 1600 KC. Available for use with the following intermediate frequency amplifiers.

	List Price Shielded	Unshielded
277 Series		
No. 277-M for 132½ KC.... Requires .0016 mfd. Series Pad.	$ .75	$ .50
No. 277-K for 175 KC..... Requires .001 mfd. Series Pad.	.75	.50
No. 277-H for 262½ KC..... Requires .0006 mfd. Series Pad.	.75	.50
No. 277-C for 465 KC..... Requires .0004 mfd. Series Pad.	.75	.50
477 Series		
No. 477-M for 132½ KC.... Requires .0016 mfd. Series Pad.	$ .85	$ .50
No. 477-K for 175 KC..... Requires .001 mfd. Series Pad.	.85	.50
No. 477-H for 262½ KC..... Requires .0006 mfd. Series Pad.	.85	.50
No. 477-C for 465 KC..... Requires .0004 mfd. Series Pad.	.85	.50



High Frequency Interrupter Coil

The ideal coil for super-regenerative 5 and 10 meter receivers. Carefully designed and tested to give the correct interrupter frequency. Assembled in aluminum shield 1¼" dia. x 2" long.

		List Price
No. 313	Interrupter Coil	$1.00

Untuned Antenna Coil

Designed for use in high fidelity TRF and midget receivers. Antenna is connected through series condenser of approximately 100 uuf. to tap near ground end of coil. Complete with aluminum shield 1⅝" diameter x 2½" long.

		List Price
No. 472-UA	Untuned Antenna Coil	$1.25

EL-58

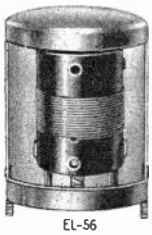
No. EL-58 10 KC Filter

(For Hi-Fidelity Receivers)

A shielded filter designed to eliminate the 10 KC whistle present in wide range broadcast receivers. It is a resonant filter to be used in the plate circuit of a triode A.F. amplifier or the diode load circuit. The attenuation to 10,000 cycles is approximately 30 db. The filter consists of a high inductance iron core winding shunted by a variable trimmer condenser operating at approximately 85 uuf.

The No. EL-58 filter is assembled in an aluminum shield 1½" square x 2½" long provided with spade bolts for mounting. This is an essential part for your high fidelity receiver.

		List Price
No. EL-58	10 KC Filter	$2.25



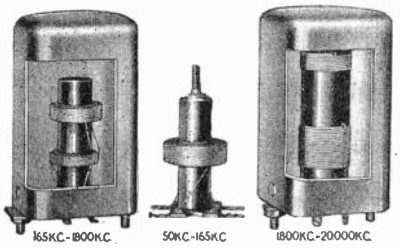
EL-56

Negative Mutual Coupling Coils

These coils were designed for use in band-pass circuits of wide range receivers. They may also be used for high fidelity monitors and air-check receivers as well as for the general high fidelity broadcast receiver. They are identical with those supplied with our No. EL-570 coil kit and may be used with either the 242 or 472 type RF coils.

The coils are bifilar wound on a ⅞" diameter x 1¼" long bakelite form, which is provided with two "L" brackets for mounting. They are sold complete with an aluminum shield 1⅞" diameter x 2" long.

		List Price
No. EL-56	Negative Mutual Coupling Coil	$ .75



165KC-1800KC 50KC-165KC 1800KC-20000KC

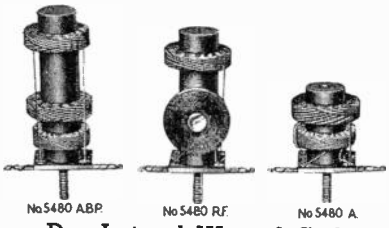
Test Oscillator Coils

Model 550 Test Oscillator Coils are for use in an electron coupled oscillator circuit of the high "C" type using a standard 2-gang variable condenser with the sections connected in parallel except for the highest frequency range. The frequency range is from 50 KC to 20,000 KC in five bands. Higher frequencies may be obtained by using the second harmonic.

		List Price
No. T-550	Test Oscillator Coils (Per Set)	$3.75

World Radio History

Miller RADIO PRODUCTS



Duo-Lateral Wound Coils

When the space for mounting coils is restricted yet efficiency must not be sacrificed, the No. 5480 type coil is recommended. Secondaries are duo-lateral wound with multi-strand Litzendraht wire upon a ½" diameter dowel, offering the most efficient type of winding of any coil of equal size. Supplied in all types including an antenna-band-pass consisting of an antenna primary and secondary and an additional secondary inductively coupled, providing a complete pre-selector stage in one unit. Photographs are approximately one-third the actual size.

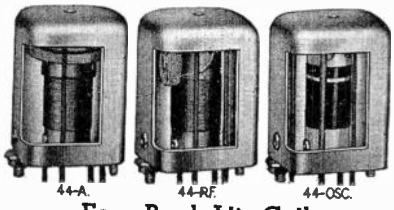
The 5480 series oscillator coils are recommended for use with these coils. For use with a .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

		List Price
No. 5480-A	Antenna Coil	$ .70
No. 5480-ABP	Ant.-Band-Pass Coil	1.00
No. 5480-RF	RF Coil	.80

No. 5480 Duo-Lateral Oscillator Coils

The following oscillator coils are designed for use with the 2A7, 6A7, 6A8, 6L7-6C5 type oscillator circuits and are available for use with any of the popular intermediate frequency amplifiers. They may be employed with any of our RF or antenna coils. The photograph is approximately one-third actual size. For use unshielded with .000365 mfd. variable condenser to cover the band from 540 to 1600 KC. Available for the following intermediate frequencies:

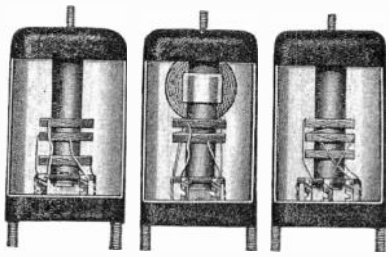
	List Price
No. 5480-K for 175 KC. Requires .001 mfd. Series Pad.	$ .60
No. 5480-H for 262½ KC. Requires .0006 mfd. Series Pad.	.60
No. 5480-C for 465 KC. Requires .0004 mfd. Series Pad.	.60



Four Bank Litz Coils

The Series 44 four-bank Litz wound broadcast band coils are especially recommended for use in auto receivers where a coil of maximum gain and small physical size is required. They may also be used in any broadcast band receiver. The RF coils are of the high impedance primary constant gain type. These coils are designed to be used with the standard .000365 mfd. variable condenser. The coils are supplied with aluminum shields 1½" square x 2½" long. Spade bolts are riveted to the shield for mounting to the chassis. Frequency range 540 to 1700 KC.

		List Price
No. 44-A	Antenna Coil	$ .85
No 44-RF	RF Coil	.85
No. 44-BP	Band-Pass Coil	.75
No 44-C	Oscillator Coil (465 KC I.F.—.0004 Pad.)	.75
No 44-H	Oscillator Coil (262 KC I.F.—.0006 Pad.)	.75

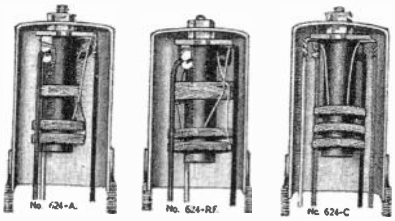


No. 73 Universal Replacement Coils

(535-1700 KC)

To meet the long felt need of the serviceman and experimenter we have developed a series of compact iron core variable inductance broadcast band RF transformers. By means of the adjustable iron core, the inductance may be adjusted for use with any variable condenser whose maximum capacity is between 250 and 410 uuf. The oscillator coil may be adjusted for use with any intermediate frequency amplifier between 100 and 550 KC. May be used as replacement coils for almost all receivers and for experimental work. Save time and give better service by keeping a stock of these coils on hand at all times. The coils are housed in black Kem-Art finished aluminum shields. Dimensions 1½" square x 2½" long, spade bolt mounting center 1 7/16". Complete instructions included with each coil.

		List Price
No. 73-A	Universal Antenna Coil	$2.00
No. 73-RF	Universal RF Coil	2.00
No. 73-O	Universal Oscillator Coil	2.00

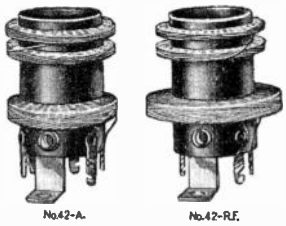


No. 624 Iron Core RF Coils

540 to 1700 KC

The No. 624 Series iron core coils are especially desirable for use in auto and other receivers where a high Q coil of small physical size is required. The secondaries are wound on Miller iron cores and No. 15/41 Litz wire is used. All coils are assembled in aluminum shields 1¼" x 2" long. Provided with spade bolts for mounting, 1⅛" centers. For use with .000365 uf. variable condenser.

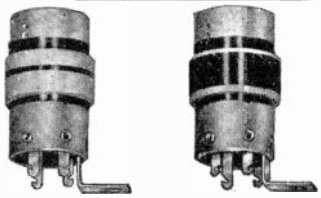
		List Price
No. 624-A	Antenna Coil	$1.50
No. 624-RF	RF Coil	1.50
No. 624-C	Oscillator Coil (Requires .0004 series pad.)	1.50
No. 624-H	Oscillator Coil (Requires .0006 series pad.)	1.50
No. 624-K	Oscillator Coil (Requires .001 series pad.)	1.50



High-Gain Midget Coils

We believe the Miller type 42 coils to be the finest available for TRF receivers where it is desired to use unshielded coils. They are particularly designed for the popular 4-tube midget TRF receivers and will give performance comparable to many four and five tube superheterodynes. They provide uniform high gain and sensitivity throughout the entire broadcast band. The antenna coil is adjusted to give maximum results when using the short indoor aerials generally used with this type of receiver. These coils use high impedance type coupling and are duo-lateral wound on ⅞" dia. x 1½" long bakelite tubing. The secondaries are wound very narrow to reduce distributed capacity and to decrease RF resistance. To further reduce RF resistance, No. 15/41 silk covered Litz wire is used in the secondaries. The primaries are designed to work efficiently with the pentode type of RF tubes. The coils are for use with the standard .000365 mfd. variable condenser to cover the band from 540 to 1600 KC.

		List Price
No. 42-A	Antenna Coil	$ .70
No. 42-RF	RF Coil	.70



20-A **20-RF**

Midget Type Solenoid Coils on Cardboard Forms

Pictured above are our No. 20 Antenna and RF coils, which are universally accepted as the standard of comparison in 4-tube TRF receivers. Wound with enameled wire on an especially impregnated Kraft tubing form, they offer a very inexpensive and efficient coil for use in receivers of this type where cost must be held to an absolute minimum. Both the antenna coupler and RF coil are of the transformer type, the primaries being wound on slip-over forms allowing easy adjustment of the coupling. The RF primaries have sufficient inductance to work efficiently with modern tubes. For use unshielded with .000365 mfd. variable condenser to cover the band from 550 to 1750 KC.

		List Price
No. 20-A	Antenna Coil	$ .35
No. 20-RF	RF Coil	.35
	Tapped for 2400 KC Police	
No. 20-T-A	Antenna Coil	.40
No. 20-T-RF	RF Coils	.40

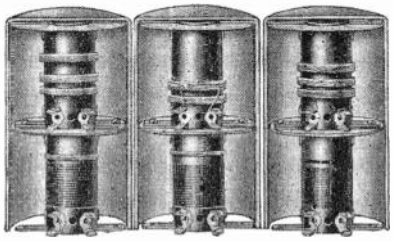
Peter Pan Type Coils

We can also supply coils in which the primary coupling is very tight, providing maximum gain at all frequencies. This is the same identical coil as used in the thousands of Peter Pan receivers marketed during the past few years.

		List Price
No. PP-A	Peter Pan Antenna Coil	$ .40
No. PP-RF	Peter Pan RF Coil	.40

World Radio History

Miller RADIO PRODUCTS



ALL WAVE COILS
Miller "Select-Ur-Band" Coils

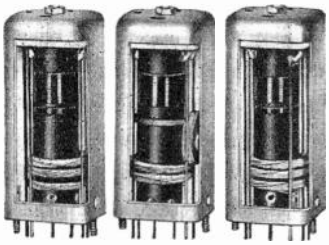
A new series and type of coil designed to meet the exacting demands of the experimenter and custom set builder for a high quality receiver covering one or more bands and using one or more RF stages or only a mixer stage. The Miller No. 727 "Select-Ur-Band" Coils are truly flexible in their application and may be assembled to suit your individual requirements. For a superheterodyne they are for use with a 465 KC intermediate frequency amplifier. Each coil of each band is a separate unit and all are so designed that any pair may be assembled in a single shield. All coils are wound on 7/8" dia. x 1 3/4" long bakelite tubing and are of correct form factor and of proper wire size to give maximum efficiency. The primaries are of the high impedance type designed for us with pentode type RF tubes. The use of the new Miller "Select-Ur-Brand" Coils enables the experimenter or constructor to modernize old receivers by utilizing the 465 KC intermediate frequency amplifier and audio on the old receiver and installing an all wave or skip-band tuner.

The range of the individual bands is as follows:

Band	Cat. No.	KC	Meters	Osc. Series Pad
X	X-727	140-425	2100-700	.00012 uf.
A	A-727	535-1500	560-200	.0004 uf.
B	B-727	1500-4500	200-67	.001 uf.
C	C-727	3750-11,000	80-27	.003 uf.
D	D-727	8500-23,000	35-13	.01 uf.
E	E-727	12,500-36,000	24-8	none
S	S-727	5800-19,000	51-16	.003 uf.

Any two coils may be assembled—easily, using only a screw driver—to provide the bands required in a single coil shield and, of course, groups of two bands each may be used. **Coils are not furnished assembled in shields.**

Cat. No.	Purpose	List Price
	BAND X	
X-727 A	—Antenna Coil	$1.25
X-727 RF	—RF Coil	1.25
X-727 C	—Oscillator Coil—465 KC-I.F.	1.25
	BAND A	
A-727 A	—Antenna Coil	1.00
A-727 RF	—RF Coil	1.00
A-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	BAND B	
B-727 A	—Antenna Coil	1.00
B-727 RF	—RF Coil	1.00
B-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	BAND C	
C-727 A	—Antenna Coil	1.00
C-727 RF	—RF Coil	1.00
C-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	BAND D	
D-727 A	—Antenna Coil	1.00
D-727 RF	—RF Coil	1.00
D-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	BAND E	
E-727 A	—Antenna Coil	1.00
E-727 RF	—RF Coil	1.00
E-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	BAND S	
S-727 A	—Antenna	1.00
S-727 RF	—RF Coil	1.00
S-727 C	—Oscillator Coil—465 KC-I.F.	1.00
	COIL SHIELDS	
L-727	2 1/16" Dia. x 4" Long Coil Shield	$ .40
S-727	2 1/16" Dia. x 2 1/2" Long Coil Shield	.25



Two-Band Coils

The ideal coil for the constructor who wishes to build an inexpensive 2-band receiver covering both the standard broadcast band and either of two short wave bands.

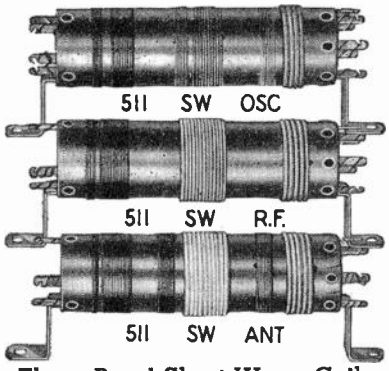
The coils are wound on high grade bakelite tubing 3/4" in diameter and are approximately 3" long. Assembled in shields 1 3/8" sq. by 3 1/2" with trimmer condensers. The Broadcast band coils are sectional duo-lateral wound and the short wave coils are solenoid wound. The coils are for use with a standard .000365 mfd. variable condenser. For 465 KC I.F.

Frequency range
540-1500 and 1500-4500 K.C.

	List Price
No. 3996-A 2-band Antenna Coil	$2.50
No. 3996-RF2-band RF Coil	2.50
No. 3996-C 2-band Oscillator Coil	2.50
Oscillator Series Pad Condensers	
Broadcast band	.0004 mfd.
Short wave band	.001

Frequency Range
540-1500 and 5500-18000 KC

	List Price
No. 3997-A 2-band Antenna Coil	$2.50
No. 3997-RF2-band RF Coil	2.50
No. 3997-C 2-band Oscillator Coil	2.50
Oscillator Series Pad Condensers	
Broadcast band	.0004 mfd.
Short wave band	.01

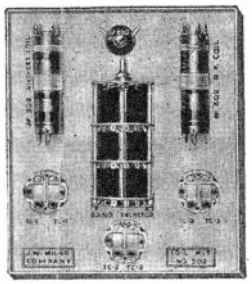


Three Band Short Wave Coils

(12 to 200 Meters.)

These coils are identical with those used in our No. 511 and No. 302 coil kits. The oscillator coil is designed for use with a 465 KC I.F. amplifier. Three separate coils are wound on a single high-grade bakelite form and the spacing between coils is great enough to prevent dead spots and excessive absorption effects. While not designed to be shielded, they may be used with partitions between coils providing that clearance of at least one inch from the partition or chassis to the coil is maintained. When used with a .000365 mfd. variable condenser the three bands are: 12 to 35 meters—35 to 75 meters—75 to 200 meters.

	List Price
No. 511-SW-ANT Antenna Coil	$1.75
No. 511-SW-RF RF Coil	1.75
No. 511-SW-OSC Oscillator Coil	1.75



No. 302 Short Wave Pre-Selector Coil Kit

The Miller No. 302 Pre-Selector Coil Kit enables you to construct a highly efficient unit using two stages of tuned radio frequency amplification to be used ahead of any short-wave or all-wave receiver. The Miller Pre-Selector will give a tremendous increase in sensitivity, and it will actually bring in stations which you are now unable to receive with your present set. By increasing the signal voltage to the mixer tube of superheterodyne type receivers, the pre-selector will materially reduce background noise when receiving weak stations. Regardless of the number of tubes or the type of receiver you are now using, the Miller Pre-Selector will positively bring in more DX reception. Provision has been made for the incorporation of coils for the broadcast band.

A self-contained power supply and an extra position on the band switch for shunting the antenna around the pre-selector directly to the receiver are among the many conveniences offered by the new Miller Pre-Selector. Complete detailed data may be yours for the asking.

The Miller No. 302 Pre-Selector Coil Kit contains the following parts

	List Price
1 No. 302 S.W. Antenna (12 to 200 Meters)	$1.75
1 No. 302 S.W. RF Coil (12 to 200 Meters)	1.75
1 No. 302 Output Choke Coil	.50
1 No. 605 Band Selector Switch	2.40
3 No. 35 Dual Trimmer Condensers (@ .50)	1.50
1 Blue Print and Complete Instruction Data	.25
Miller No. 302 Pre-Selector Coil Kit, List Price	**$8.00**

Complete Pre-Selector

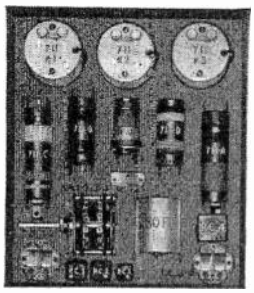
The Miller No. 302 Pre-Selector described above is also available completely wired and factory tested, housed in an attractive metal cabinet with airplane type dial. Complete with tubes and power supply. If you would prefer to buy your equipment "tail-or-made," here is a real opportunity.

	List Price
Model 302 Pre-Selector Complete—12 to 200 Meters	$40.00
Model 302 Pre-Selector Complete—12 to 540 Meters	44.00
Model 302 Pre-Selector Complete—8 to 200 Meters	44.00

World Radio History

Miller RADIO PRODUCTS

MILLER QUALITY PRODUCTS



No. 711 All-Wave Superheterodyne Coil Kit

12 to 550 Meters

Many new features are to be found in this design, including the use of high impedance coupled antenna coils on the short-wave and broadcast bands

If you have deferred the purchase of an All-Wave Kit because you have felt that construction of such a receiver would be too difficult or you have perhaps been prejudiced by the performance claims of cheap, inferior kits, using only three or four tubes in what is essentially a make-shift circuit, you need wait no longer. Just follow the simple, easy instructions included in the Miller No. 711 kit and you will be amazed at the remarkable performance of this all-wave receiver, which has been carefully designed and thoroughly tested to give the ultimate in short-wave reception.

The receiver you build, whether for yourself or for a customer, must be good, and such a receiver is easily constructed with the new, improved Miller Model 711 All-Wave Superheterodyne Coil Kit.

Additional information will gladly be supplied upon request. The following items are supplied in the Miller No. 711 Coil Kit:

	List Price
1 B.C. Antenna Coil No. 711-Ant.	$ .80
1 B.C. Translator Coil No. 711-A	1.75
1 75-200 Meter S.W. Coil No. 711-B	1.25
1 35-75 Meter S.W. Coil No. 711-C	1.50
1 12-35 Meter S.W. Coil No. 711-D	1.25
1 Input I.F. No. 711-1	1.60
1 Interstage I.F. No. 711-2	1.60
1 Output Stage I.F. No. 711-3	1.60
2 Dual Trimmers No. 35 (@ 50)	1.00
4 Accurate Osc. Pad. Condensers	1.35
1 Rectifier Plate Choke No. 80-F	1.00
1 Osc. Coup. Condenser No. C-14	.20
1 Band Selector Switch No. 404	1.60
1 Blue Print	.25
Complete Instructions and Data.	

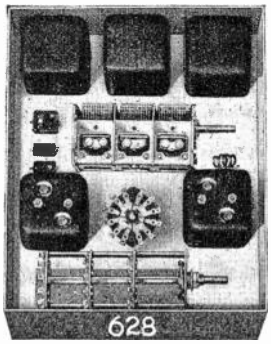
	List Price
Miller No. 711 All-Wave Kit	**$16.00**
Miller No. 711-B for 2 Volt Battery	**16.00**
Miller No. 711-M for Metal Tubes	**16.00**

No. 724 7-Tube Superheterodyne Coil Kit

540 to 1600 KC

The signal frequency coils are of Litz bank-wound construction offering a most selective coil for use at broadcast frequencies. The two stage intermediate frequency amplifier is extremely selective and provides for a sensitivity of approximately one microvolt per meter in the completed receiver. All coils and I.F. transformers in this kit are supplied in shields 1⅞" diameter x 3" long and are for 175 KC. Kit contains the following parts:

	List Price
1 No. 242-A Antenna Coil	$ .90
1 No. 242-RF RF Coil	.90
1 No. 242-K Oscillator Coil	.75
1 No. 412-K-1 Input I.F.	1.60
1 No. 412-K-2 Interstage I.F.	1.60
1 No. 412-K-4 Half Wave Output I.F.	1.60
1 .001 3% Mica Padding Condenser	.25
Miller No. 724 7-Tube Superheterodyne Coil Kit	**$7.50**

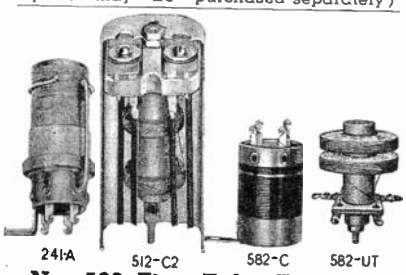


AIRCRAFT RADIO COIL KIT No. 628

A coil kit designed for constructing a highly efficient and compact 3-band receiver to meet the needs of the private flyer. Frequency range—140/425 KC—540/1600 KC—2.5/7.0 MC. 3-band signal frequency coils are assembled in 2" square by 4¼" long aluminum shields with built in high frequency trimmers. The antenna coil primaries are of the low impedance type for use with the short aircraft antenna. A single stage of iron-core air-tuned 465 KC I.F. is used. All windings are fully protected by a baked glyptal coating. The kit consists of the following parts:

	List Price
1 No. 628-A 3-Band Ant. Coil	$ 4.00
1 No. 628-RF 3-Band R.F. Coil	4.00
1 No. 628-C 3-Band Osc. Coil	4.00
1 No. 1112-C-2 Input I.F.	5.50
1 No. 1112-C-4 Output I.F.	5.50
1 No. 605 Band Switch	2.40
1 No. 402 Switch	1.00
1 No. 2103 3-Gang Var. Cond.	3.75
1 .00012 3% Tol. Osc. Pad Cond.	.25
1 .0004 3% Tol. Osc. Pad Cond.	.25
1 .0016 3% Tol. Osc. Pad Cond.	.25
1 Circuit Diagram and Chassis Layout Print	.25

No. 628 COIL KIT. LIST PRICE.....$31.00
(parts may be purchased separately)



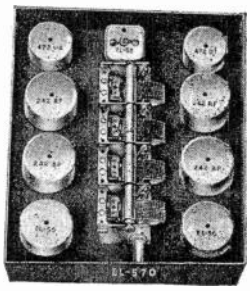
No. 582 Five Tube Economy Superheterodyne Coil Kit

(540 to 1700 KC.)

This coil kit may be utilized to construct a very economical and efficient five tube superheterodyne using the autodyne type oscillator circuit. The standard double tuned shielded I.F. transformer for the input stage and an untuned self-resonant I.F. transformer coil for the output stage provide maximum gain and selectivity. The intermediate frequency amplifier operates at 465 KC.

The coil kit consists of the following parts:

	List Price
1 No. 241-A Antenna Coil	$ .70
1 No. 582-C Oscillator Coil	.25
1 No. 512-C-2 Input I.F. Transformer	1.25
1 No. 582-UT Output I.F. Transformer	.75
1 .0004 3% Mica Padding Condenser	.25
1 No. 582 Blue Print	.25
Miller No. 582 Economy Super Coil Kit, List Price	**$3.25**



No. EL-570 HIGH FIDELITY TUNER COIL KIT

The new Miller EL-570 High Fidelity Coil Kit is without doubt the finest set of coils available for constructing a true fidelity RF tuner. In order to obtain the lowest possible inherent set noise level, a tuned radio frequency circuit has been employed rather than the more commonly used superheterodyne. The circuit arrangement is as follows: An untuned antenna coil, two stages of negative mutual coupled band-pass circuits followed by an untuned RF coil feeding the detector tube. A 10 KC audio whistle filter is included with the kit and is to be used in the detector load circuit to prevent heterodyning from adjacent channels. Included with the kit is a 4-gang condenser of the latest bar type low minimum capacity construction.

The over-all RF circuit has a flat top response curve of between 20 and 23 KC. Due to the construction of the RF band-pass coils, which have an exceptionally high Q, the sides of the response curve are quite steep. The curve is approximately 32 KC wide at a voltage input ten times the resonant input.

This coil kit is particularly recommended for constructing a tuner to be used in making high quality air check recordings and for the discriminating experimenter.

Complete constructional data is available on request for the construction of either a tuner or the entire receiver, which uses fixed bias 2A3's in the output stage. The frequency range of the coils is from 540 to 1600 KC.

	List Price
1 No. 472-UA Untuned Antenna Coil	$1.25
2 No. 242-RF Bank-Wound RF Coils @ .90	1.80
2 No. 242-BP Bank Wound Band-Pass Coils @ .75	1.50
1 No. 472-UT Untuned Detector Coil	1.50
2 EL-56 Negative Mutual Coupling Coils @ .75	1.50
1 EL-58 10 KC Audio Filter	2.25
1 No. 2104 4-Gang Variable Condenser	5.00
1 EL-570 Circuit Diagram Blue Print And Data Sheets	.25

	List Price
Miller No. EL-570 High Fidelity Coil Kit	$15.00

No. 924 9-Tube Superheterodyne Coil Kit

540 to 1600 KC

A coil kit for constructing a very fine broadcast band superheterodyne receiver using one stage of RF ahead of the mixer circuit and a two stage intermediate frequency amplifier followed by a push-pull Class AB pentode audio amplifier.

	List Price
1 No. 242-A Antenna Coil	$ .90
1 No. 242-RF RF Coil	.90
1 No. 242-K Oscillator Coil	.75
1 No. 412-K-1 Input I.F. Transformer	1.60
1 No. 412-K-2 Interstage I.F. Transformer	1.60
1 No. 412-K-4 Output I.F. Transformer	1.60
1 .001 3% Mica Padding Condenser	.25
1 No. 924 Blue Print	.25
Miller No. 924 9-Tube Superheterodyne Coil Kit	**$7.50**

World Radio History

Miller RADIO PRODUCTS

MILLER QUALITY PRODUCTS

INTERMEDIATE FREQUENCY TRANSFORMERS

CODE FOR ORDERING

We can supply from stock I.F. transformers in many popular intermediate frequencies and have adopted a code to facilitate ordering and identification of the various types as follows

Factory Adjusted to	Code Letter	Frequency Range
132½ KC	M	127 - 137 KC
175 KC	K	165 - 185 KC
262½ KC	H	250 - 275 KC
465 KC	C	450 - 475 KC
525 KC	Q	500 - 550 KC
1500 KC	W	1400 - 1600 KC
3000 KC	X	2800 - 3200 KC
5000 KC	Y	4700 - 5300 KC
8000 KC	Z	7500 - 8500 KC

(Special frequencies can be supplied on order.)

Intermediate frequency transformers require different degrees of coupling for various circuit applications, and these are coded as follows:

No. 1 Input Stage—Has coupling adjusted for maximum selectivity and is for use between the mixer and the first I.F. amplifier tube when two or more stages are used.

No. 2 Interstage—Designed to be used as the interstage transformer in a two stage amplifier or as the input stage for a single stage amplifier. Coupling is adjusted to the optimum degree. May also be used as the output transformer in an amplifier in which the second detector is a non-current consuming load, such as a bias detector of any type.

No. 3 Diode Transformer—For use as the output transformer to feed any full-wave diode detector circuit. The secondary is center tapped to provide equal voltage to both diode plates. Adjusted to provide over-coupling in order to prevent excessive selectivity, which would result in poor audio quality.

No. 4 Diode Transformer—This transformer is similar to the No. 3 type except that no center tap is provided.

No. 5 Beat Frequency Oscillator—An efficient electron-coupled type beat frequency oscillator transformer for CW use and for simplifying the logging of DX stations.

No. "CF" Crystal Filter Transformers — These transformers are sold in pairs for use in crystal filter circuits of amateur and commercial receivers. They replace the regular input transformer and are of the low impedance link coupled type.

Miller Intermediate Frequency Transformers are supplied in five standard shield sizes. Each size is available in types for use in any section of the intermediate frequency amplifier. Physical dimensions of the shields are as follows:

No. 212 Type—Outside dia. 2 1/16". Length 3½". Spade bolt mounting centers 2".

No. 312—Outside dia. 1⅝". Length 3". Spade bolt mounting centers 1 11/16".

No. 412 Type—Outside dia. 1⅞". Length 3". Spade bolt mounting centers 1 13/16".

No. 512, 612, and 712 Types—1½" square x 3½" long. Spade bolt mounting centers 1⅜".

No. 912, 1012 and 1112 Types—2" square x 4½" long. Spade bolt mounting centers 1⅞".

EXAMPLE OF THE USE OF PRECEDING CODE:

Suppose it is desired to order a set of intermediate frequency transformers to operate at 175 KC with a full-wave diode second detector. Should you desire to order the iron core air tuned type transformer, it is seen that the type number for this unit is No. 1112. As the frequency desired is 175 KC, by referring to the letter code you find 175 KC to be designated by the letter "K." As you desire three units, consisting of an input transformer, an interstage transformer, and an output transformer for a full-wave diode detector, you would order as follows:

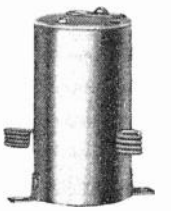
1 Only No. 1112-K-1
1 Only No. 1112-K-2
1 Only No. 1112-K-3

Variable Selectivity IF Transformer.

VARIABLE SELECTIVITY I. F. TRANSFORMERS

MILLER Variable Selectivity Intermediate Frequency Transformers have been designed to meet the combined demand for both the high degree of selectivity so necessary for good DX reception and for a band width great enough for the reception of high fidelity programs broadcast from nearby stations. This has been accomplished by a simple electrical method of changing coupling devised by Miller Engineers. It is the most simple and effective method available and does not require any form or type of mechanical adjusting control. A single pole double throw switch is all that is required with a single stage I.F. amplifier. The two positions of the switch provide for sharp and broad tuning. The "broad" position band width is approximately twice that of the "sharp" position for the particular type of I.F. transformer being used. Miller Variable Selectivity I.F. Transformers are available in several types and in all standard frequencies.

Type No.	Description	List Price
F#212	Air-Core Compression Trimmer. 2 1/16" dia. x 3½" Shield	$2.00
F#312	Air-Core Compression Trimmer. 1⅝" dia. x 3" Shield	2.00
F#412	Air-Core Compression Trimmer. 1⅞" dia. x 3" Shield	2.00
F#512	Air-Core Compression Trimmer. 1½" Sq. x 3½" Shield	2.00
F#612	Iron-Core Compression Trimmer. 1½" Sq. x 3½" Shield	2.50
F#1012	Air-Core Air-Dielectric Trimmer. 2" Sq. x 4¼" Shield	5.50
F#1112	Iron-Core Air-Dielectric Trimmer. 2" Sq. x 4¼" Shield	6.00



No 812

WAVE TRAPS

These units are designed to eliminate interference from amateur phone and CW stations and commercial transmitters in broadcast and short-wave receivers. They are also useful for reducing interference from powerful local broadcast stations. The Miller Wave Trap consists of a completely shielded high "Q" parallel resonant circuit and is compact and simple to install. The wave trap connects in series with the antenna, and if necessary several wave traps may be connected in series to eliminate interference from more than one station. Miller Wave Traps do not interfere with the normal operation of the receiver at frequencies other than that to which the wave trap is tuned. A screw driver adjustment is provided to tune the wave trap to the interfering frequency. Available for all standard frequencies and may be made on order for special frequencies. The dimensions of the unit are 1⅝" diameter x 3" long.

Type No.	Description	List Price
812-X-1	425 to 525 KC	$1.50
812-X-2	225 to 375 KC	1.50
812-X-3	150 to 225 KC	1.50
812-BC-1	1200 to 1800 KC Standard	1.50
812-BC-2	800 to 1200 KC Broadcast	1.50
812-BC-3	450 to 800 KC Band	1.50
812-A	160 Meter Amateur Band	1.50
812-B	80 Meter Amateur Band	1.50
812-C	40 Meter Amateur Band	1.50
812-D	20 Meter Amateur Band	1.50
812-E	10 Meter Amateur Band	1.50

DUAL WAVE TRAPS

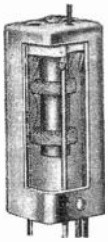
While the ordinary single-circuit wave trap, such as our type 812, is satisfactory for most installations, quite often conditions are encountered making it necessary to provide a much higher degree of attenuation and a sharper resonance curve than can be obtained from either the series or parallel resonant circuit. To provide a satisfactory wave trap to be used under these extreme conditions we have developed a dual wave trap consisting of both a series resonant and a parallel resonant circuit separately shielded and assembled in a twin unit. This trap provides almost infinite attenuation at the resonant frequency and has a sufficiently sharp resonance curve to provide minimum attenuation to frequencies other than resonance. A separate tuning knob for each circuit is provided, and the entire wave trap is completely shielded. Mounting brackets enable the unit to be attached directly to the chassis of the receiver. Attractively finished in black "Kem-Art" baked enamel. Shield dimensions 1⅜" wide x 2¾" long x 2" high.

	List Price
No. 813-BC-1 900-1600 KC Wave Trap	$3.50
No. 813-BC-2 500- 900 KC Wave Trap	3.50

World Radio History

Miller RADIO PRODUCTS

MILLER QUALITY PRODUCTS



No. 512

Standard Replacement I.F. Transformers

The wise serviceman will carry a stock of these transformers at all times. They may be used for almost all makes of receivers. Constructed of the finest materials including aluminum shields, heat-treated low drift trimmers and a special winding impregnation which prevents electrolysis in warm, humid climate. Dimensions: 1⅜" square x 3½" high. Spade bolts are provided for mounting.

The actual frequency range of these replacement transformers is considerably greater than indicated below. However, most standard receivers use intermediate frequencies that are within the range given.

450 to 475 KC

	List Price
Input for 2-stage amplifiers **No. 512-C-1**	$1.25
Interstage for 2-stage amplifiers **No. 512-C-2**	1.25
Input for single stage amplifiers **No. 512-C-2**	1.25
Output for full-wave diode **No. 512-C-3**	1.25
Output for half-wave diode **No. 512-C-4**	1.25

250 to 275 KC

Input for 2-stage amplifiers **No. 512-H-1**	1.25
Interstage for 2-stage amplifiers **No. 512-H-2**	1.25
Input for single stage amplifiers **No. 512-H-2**	1.25
Output for full-wave diode **No. 512-H-3**	1.25
Output for half-wave diode **No. 512-H-4**	1.25

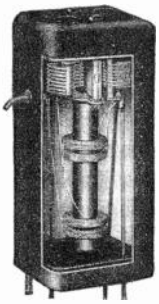
165 to 185 KC

Input for 2-stage amplifiers **No. 512-K-1**	1.25
Interstage for 2-stage amplifiers **No. 512-K-2**	1.25
Input for single stage amplifiers **No. 512-K-2**	1.25
Output for full-wave diode **No. 512-K-3**	1.25
Output for half-wave diode **No. 512-K-4**	1.25

Beat Frequency Oscillators

For use in communications type receivers for CW signals and in short wave receivers to assist in tuning weak signals. An adjustment knob is provided on the top of the shield. The winding is of the tapped type for cathode feed-back in electron coupled circuits. May be used with either a triode or screen-grid tube. A circuit diagram is included with each transformer.

	Air Core Type	List Price
No. 512-K-5	165- 185 KC	$1.75
No. 512-H-5	250- 275 KC	1.75
No. 512-C-5	450- 475 KC	1.75
No. 512-O-5	500- 550 KC	1.75
No. 512-W-5	1400-1600 KC	1.75
	Iron Core Type	
No. 612-K-5	165- 185 KC	$2.25
No. 612-H-5	250- 275 KC	2.25
No. 612-C-5	450- 475 KC	2.25
No. 612-Q-5	500- 550 KC	2.25
No. 612-W-5	1400-1600 KC	2.25



No. 1012

AIR TUNED TRANSFORMERS

Air Core and Iron Core

The air-dielectric condensers used in the MILLER Series 1012 and 1112 Intermediate Frequency Transformers are constructed on conventional time-proven principles and are not to be confused with some types using experimental and tricky designs. Soldered brass plates and ceramic construction is used throughout. A special tension shoe holds the rotor rigidly and permanently in adjustment when subjected to mechanical vibration and shocks. The condenser has an extremely low power factor and a "Q" approximately ten times as great as that of the ordinary mica compression type trimmer. In order to provide the utmost ease of adjustment the trimmer capacity is divided into two parts—approximately 70% of the total capacity being fixed and 30% variable. The entire capacity is, of course, air-dielectric. This method of construction gives the same effect as the use of parallel band spread used in Communication type receivers. Tuning adjustments are made from the top of the shield.

For UHF superheterodyne receivers our No. 1012 series high frequency I.F. transformers are the finest obtainable. The 1012 air-core series is available in the following stock frequencies: **K type for 175 KC, C type for 465 KC, W type for 1500 KC, X type for 3000 KC, Y type for 5000 KC.** The 1112 iron-core series is available in the following stock frequencies: **K type for 175 KC, H type for 262 KC, C type for 465 KC.**

Transformers for other frequencies are available on order.

MILLER Air-Tuned I.F. Transformers are assembled in attractive black "Kem-Art" finished aluminum shields 2" sq. x 4¼" long and are provided with 6/32 spade bolts for attaching to the chassis. The Series 1112 Transformers are the iron-core type.

Type No.	Description	List Price
	(Air-Core Air-Dielectric Condenser Tuned I.F. Transformers)	
	1012—Nos. 1, 2, 3, and 4	$5.00
	1012—No. 5 Beat Frequency Oscillator	5.25
F # 1012	—Variable Selectivity	5.50
	(Iron-Core Air-Dielectric Condenser Tuned I.F. Transformers)	
	1112—Nos. 1, 2, 3, and 4	$5.50
	1112—No. 5 Beat Frequency Oscillator	5.75
F # 1112	—Variable Selectivity	6.00

No. 612

Iron Core I.F. Transformers

Iron core intermediate frequency transformers give a great deal more gain and selectivity than can be obtained with the air core type. In many cases a single stage using iron core transformers will have the gain and selectivity of two stages of air core transformers and will have a lower noise level. In many cases an iron core transformer may be substituted for an air core unit in standard receivers to improve the performance.

1400 to 1600 KC

	List Price
Input for 2-stage amplifiers **No. 612-W-1**	$2.00
Interstage for 2-stage amplifiers **No. 612-W-2**	2.00
Input for single stage amplifiers **No. 612-W-2**	2.00
Output for full-wave diode **No. 612-W-3**	2.00
Output for half-wave diode **No. 612-W-4**	2.00

450 to 475 KC

Input for 2-stage amplifiers **No. 612-C-1**	$2.00
Interstage for 2-stage amplifiers **No. 612-C-2**	2.00
Input for single stage amplifiers **No. 612-C-2**	2.00
Output for full-wave diode **No. 612-C-3**	2.00
Output for half-wave diode **No. 612-C-4**	2.00

250 to 275 KC

Input for 2-stage amplifiers **No. 612-H-1**	2.00
Interstage for 2-stage amplifiers **No. 612-H-2**	2.00
Input for single stage amplifiers **No. 612-H-2**	2.00
Output for full-wave diode **No. 612-H-3**	2.00
Output for half-wave diode **No. 612-H-4**	2.00

165 to 185 KC

Input for 2-stage amplifiers **No. 612-K-1**	2.00
Interstage for 2-stage amplifiers **No. 612-K-2**	2.00
Input for single stage amplifiers **No. 612-K-2**	2.00
Output for full-wave diode **No. 612-K-3**	2.00
Output for half-wave diode **No. 612-K-4**	2.00

The mica compression trimmers used in Miller I.F. Transformers are treated with our exclusive automatic cycling heat treatment consisting of alternately heating to 200° F. and cooling to 90° F. through five complete cycles. This heat treatment results in a much higher degree of capacity stability, which in turn insures perfect alignment of the I.F. transformer under the conditions of varying temperatures encountered in the modern radio receiver.

World Radio History

Miller RADIO PRODUCTS

MILLER QUALITY PRODUCTS

REPLACEMENT COILS

Miller replacement coils and windings are carefully constructed to duplicate as nearly as possible the original coil which they are designed to replace. All windings are thoroughly impregnated against moisture absorption. Replacement coils most commonly needed are listed below. However, we carry in stock and add to our stock from time to time new replacement units as the need arises. Special replacement coils which are not carried in stock may be made to order at a reasonable cost. Merely ship us the defective unit and we will make necessary repairs or a duplicate

Majestic Replacement I.F. Windings

Model	Winding Only for	Majestic No.	Miller No.	List Price
15-15B-55-150-200	1st I.F.	4428-6250-6506	4570	$ .80
15-15B-150 55	2nd I.F.	8384-4429	4571	.80
25	1st I.F.	5326	4574	.80
25	2nd I.F.	5337	4575	1.00
25B	1st I.F.	5601	4576	.80
25B	2nd I.F.	5602	4577	1.00
66	1st I.F.	10589-10078	4579	.80
66	2nd I.F.	10098-10591	4580	.80
116	2nd I.F.	9361	4581	.80
200	2nd I.F.	6254	4583	1.00
210	1st I.F.	6119	4584	.80
210	2nd I.F.	6123	4585	.80
210	3rd I.F.	6127	4572	.80
310-A, 310-B 330-340-360-390	1st I.F.	7821	4586	.80
310A-310B-330-340-390	2nd I.F.	7812	4587	1.00
360	2nd I.F.	9094	4588	.80
460	1st I.F.	10149	4589	.80
500	1st I.F.	10843	4590	.80
500	2nd I.F.	11705	4591	.80
500	3rd I.F.	10852	4592	.80
86-460-490-461-462-463-491-493-520-800-105-95	2nd I.F.	10253 11014 11361	4573	1.00
290-300-310-330-340-390-460-490-520 800-320-280	RF Choke Coil	7187	8412	.50

Stewart-Warner Replacement I.F. Coils

Model	Winding Only for	S-W No.	Miller No.	List Price
R-123 R-123-A	2nd I.F.	83953	8395	$1.00

Zenith Replacement I.F. Coils

Chassis No.	Winding Only for	Zenith No.	Miller No.	List Price
1004-1203-5634-5635-5644-5709-5801	All I.F.	.....	8396	$1.25

Crosley Replacement I.F. Windings

Model	Winding Only for	Miller No.	List Price
124	Output I.F.	M-124	$1.25

Radiola Replacement I.F. Windings

Model	Winding Only for	Radiola No.	Miller No.	List Price
R80-R82-R86-RAE68	1st I.F.	8567	8567	$1.00
R80-R82-R86-RAE68	2nd I.F.	8565	8565	1.00
R80-R82-R86-RAE68	3rd I.F.	8566	8566	1.00

R7A-R9DC-RE16A-R10DC-R7-R4-R6-RE18A-R21-R11-R18-RAE-26-R55	1st I.F.	7266	7266	1.00
R7A-R9DC-RE16A-R10DC-R7-R4-R6-RE18A-R21-R11-R18-RAE-26-R55	2nd I.F.	7267	7267	1.00

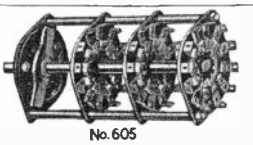
66-67	1st I.F.	8481	8481	1.00
66-67	2nd I.F.	8481	8481	1.00
66	3rd I.F.	8500	8500	1.00
67	3rd I.F.	8482	8482	1.00

RF Primary Choke	8197	8197	.50

Antenna Coil Replacement Primaries

A high impedance type duo-lateral antenna primary for replacing burnt-out primaries. Wound on specially treated impregnated cardboard tubing. Available in four sizes. Dimensions given are for outside diameter of antenna coil secondary winding.

	List Price
No. 125—For 3/4" Coils	$ .25
No. 150—For 7/8" Coils	.25
No. 250—For 1" Coils	.25
No. 300—For 1 1/4" Coils	.25


No. 605

Band Selector Switches

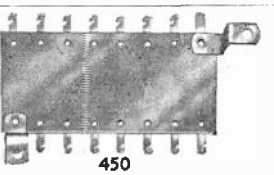
The successful operation of a multi-band receiver depends to no little degree upon the excellence of the switch used. These switches are of a positive self-cleaning type with silver plated contacts. 3/8" single hole mounting.

	List Price
No. 402—4 Pole, 2 Position Switch	$1.00
No. 205—2 Pole, 5 Position Switch	1.00
No. 404—4 Pole, 4 Position Switch	1.60
No. 405—4 Pole, 5 Position Switch	1.75
No. 605—6 Pole, 5 Position Switch	2.40
No. 806—8 Pole, 6 Position Switch	3.20

Tie Points

One of the handiest items the radio manufacturer or constructor can find for the termination of pigtail resistors and midget condensers and common leads in the receiver, amplifier, or transmitter. Extra heavy eyelet type terminal lugs are securely mounted in bakelite strips 1/16" thick, and are hot-dip tinned. The figure preceding the "C" indicates the number of insulated terminals.

Cat. No.	LIST PRICE Lots of 100 Per 100	Less than 100—Each
No. 1510—3/8" x 3/4"	$2.00	$ .025
No. 1520—3/8" x 1 1/8"	2.65	.030
No. 1530—3/8" x 1 7/8"	4.15	.050
No. 1540—3/8" x 2 1/4"	5.30	.060
No. 1550—3/8" x 2 5/8"	6.00	.070


450

Bakelite Terminal Plates

These terminal plates, provided with solder lugs, are particularly adaptable for the assembly of groups of resistors and midget condensers. They will greatly facilitate assembly and wiring of the chassis.

No. 420—Has six terminal lugs on each side for 1/2 watt resistors, spaced 7/16" apart. Made of 1/16" bakelite 1" x 3".

No. 430—Has five terminal lugs on each side for 1 watt resistors and midget condensers, spaced 7/16" apart. Made of 1/16" bakelite 2" x 2 1/2".

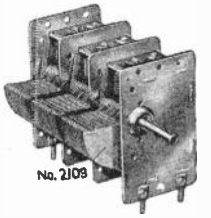
No. 440—Has fourteen terminal lugs on each side for 1/2 watt resistors, spaced 7/16" apart. Made of 1/16" bakelite 1" x 5 3/4".

No. 450—Has seven terminal lugs on each side for 1 watt resistors and midget condensers, spaced 7/16" apart. Supplied with "Z" brackets for 3/4" stand-off from chassis. Made of 1/16" bakelite 1 3/4" x 3 3/4".

No. 470—Similar to No. 450 except has 19 terminal lugs on each side.

	List Price
No. 420 Terminal Plate	$ .20
No. 430 Terminal Plate	.25
No. 440 Terminal Plate	.35
No. 450 Terminal Plate	.30
No. 470 Terminal Plate	.75

On Quantity Orders we can make up special terminal strips to your specifications. Submit sketch for quotation.


No. 2103

Variable Condensers

High quality variable condensers furnished with spade bolts for mounting. Individual trimmers on each section. The latest design low-minimum capacity type. 1/4" shaft. Maximum capacity .000365 uf.

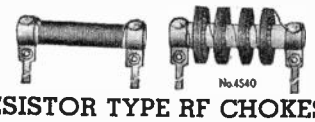
	List Price
No. 2102 2 Sections, 180° rotation	$2.50
No. 2102-G 2 Sections, geared to 270° shaft rotation	2.75
No. 2103 3 Sections, 180° rotation	3.75
No. 2104 4 Sections, 180° rotation	5.00

(No. 2104 has mounting brackets)

World Radio History

Miller RADIO PRODUCTS

MILLER QUALITY PRODUCTS


No. 4540

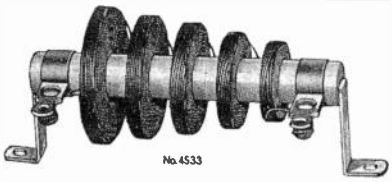
RESISTOR TYPE RF CHOKES
Pi Wound on Ceramic Forms

MILLER Resistor Type Radio Frequency Chokes are the result of careful research and design and offer advantages found in no other similar type. The terminals will not come off! This is due to an entirely new method of fastening the leads as well as a unique design. Soldering temperatures and end strain will not loosen the leads. The terminals are made of a special cadmium plated soft, flexible brass. The windings are of the multiple-section duo-lateral type wound on high grade ceramic forms 1/4" diameter x 1 1/2" long. All of these chokes have extremely low distributed capacity, less than 1.5 uuf. for most types. Maximum safe current capacity is 125 MA. Inductance tolerance three percent plus or minus.

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
4531	.5	11.5	$ .55
4532	1.5	21.0	.55
4537	2.5	26.0	.55
4538	5.0	40.0	.75
4539	7.5	79.0	.85
4540	10.0	95.0	1.00
4541	25.0	160.0	1.20

2 1/2 and 5 Meter RF Chokes

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
4528	2.5	.27	$ .45
4529	5.0	1.00	.45


No. 4533

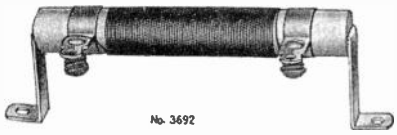
HEAVY DUTY NAVY TYPE CHOKES

The following Heavy Duty High Frequency Chokes are recommended for use in the high power transmitter. They are pi wound on Alsimag forms 1/2" in diameter x 3 1/2" long provided with snap-on brackets. Both ends of the form are tapped for 6/32 machine screws and the brackets may be removed for end mounting. All hardware is of cadmium plated brass.

Cat. No.	Inductance (Millihenries)	Current (Milliamperes)	DC Resistance Ohms	List Price
4534	1.0	1000	2.50	$1.50
4535	1.5	1000	3.65	1.60
4533	2.5	750	4.50	1.75
4536	4.0	750	5.50	2.00

High Frequency Chokes

3693	.40	1000	1.32	$1.25
3694	.60	1000	2.00	1.50


No. 3692

2 1/2 and 5 Meter RF Chokes

Cat. No.	Inductance (Microhenries)	DC Resistance (Ohms)	List Price
3691	10	.36	$ .75
3692	20	.50	.75

No. 650

Radio Frequency Chokes

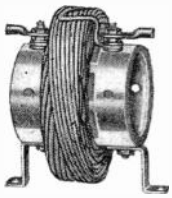
The following Miller Radio Frequency Chokes are wound on specially treated wooden dowels with bakelite terminal plates and tinned soldering lugs. They are for single hole mounting and are duo-lateral wound. The low distributed capacity of these units makes them very efficient in radio frequency circuits wherever these inductance values are satisfactory. They are quite small and compact, the bakelite terminal plate being only 1 1/8" in diameter.

		List Price
No. 610 RF Choke—	.166 MH	$ .25
No. 620 RF Choke—	.675 MH	.25
No. 630 RF Choke—	1.540 MH	.25
No. 640 RF Choke—	2.742 MH	.30
No. 650 RF Choke—	4.450 MH	.30
No. 660 RF Choke—	6.500 MH	.35
No. 670 RF Choke—	9.300 MH	.40
No. 680 RF Choke—	12.200 MH	.40
No. 690 RF Choke—	16.000 MH	.45
No. 1000 RF Choke—	20.000 MH	.50

No. 853

Iron Core Shielded Chokes

Cat. No.	Inductance (Millihenries)	DC Resistance (Ohms)	List Price
851	.5	8.6	$ .85
852	1.0	11.5	.90
853	2.5	22.0	.95
854	5.0	31.0	1.00
855	7.5	42.0	1.00
856	10.0	47.0	1.05
857	25.0	100.0	1.20
858	50.0	160.0	1.35
859	75.0	222.0	1.45
860	100.0	348.0	1.85
861	150.0	520.0	2.45



DUO-LATERAL LINE FILTER CHOKES

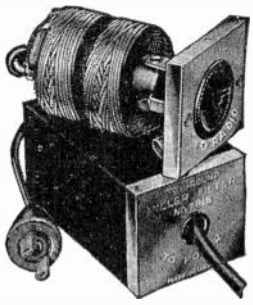
Miller Duo-Lateral Line Filter Chokes are recommended to manufacturers for use in farm lighting plants, sign flashers, signaling systems, oil burners, diathermy equipment, and all types of intermittant switching systems. Technicians and electrical contractors sometimes find it desirable to construct their own filters using Miller Chokes rather than to use the Miller Uni-Filter.

Single Chokes

Type No.	Max. Amps.	Inductance	DC Resistance	List Price
7825	2	.600	.75	$1.00
7826	5	.570	.28	2.50
7827	10	.370	.15	3.25
7828	20	.200	.085	4.00
7829	30	.135	.05	5.00

Double Chokes

Type No.	Max. Amps.	Inductance	DC Resistance	List Price
D-7826	5	.570	.28	$3.75
D-7827	10	.370	.15	5.00
D-7828	20	.200	.085	6.00
D-7829	30	.135	.05	7.50



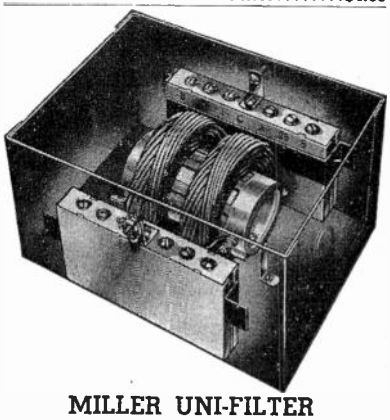
ALL-WAVE INTERFERENCE FILTERS

Underwriters' Laboratories Approved

The new Miller No. 7818 All-Wave Line Filter is an outstanding development for the elimination of radio interference from small electrical appliances, such as food mixers, juice extractors, hair dryers, drink mixers, vacuum cleaners, sewing machines, cash registers, small fans, dictating machines, comptometers, etc. **When used in the supply cord of the radio receiver it will prevent unwanted signal pickup and direct line noise pick-up from the house wiring system.**

The No. 7818 line filter may be used on either AC or DC voltages up to 220 volts. It is capable of filtering appliances and radios drawing up to 150 watts of power. Shipping weight approximately 1 pound.

	List Price
No. 7818—All-Wave Line Filter	$4.00



MILLER UNI-FILTER

As the name implies, the Miller Uni-Filter is a universal line filter. It may be used for any filter application by simply making the correct internal connections. It is no longer necessary to stock a special filter for each individual type of equipment—a Miller Uni-Filter will do the job!

The steel case with removable cover is finished in Kem-Art black baked "crackle" enamel. Knockouts are punched in each end for standard 1/2" or 3/4" conduit or flexible cable fittings. The dimensions of the Uni-Filter are 5" high x 8 3/4" long x 6 3/4" wide.

MILLER UNI-FILTERS

Uni-Filter No.	Current Capacity	List Price
7819	5 Amps.	$15.50
7820	10 "	16.75
7821	20 "	17.75
7822	30 "	19.25

MILLER UNI-FILTER BASE KIT

	List Price
7801—Uni-Filter Case	$4.00
7802—Uni-Filter Capacitor Blocks @ $3.75	7.50
7800—Uni-Filter Base Kit Complete	11.50

Select a Dual Choke of suitable capacity for use with the Base Kit.

World Radio History

Aladdin

ADJUSTABLE COUPLING, MICA TUNED I-F Transformers

Type	Frequency	Use	List Price
A185	115 kc	Converter	$3.00
A185	115 kc	Interstage	3.00
A285	115 kc	Diode	3.00
A175	175 kc	Converter	3.00
A175	175 kc	Interstage	3.00
A275	175 kc	Diode	3.00
A150	260 kc	Converter	3.00
A150	260 kc	Interstage	3.00
A250	260 kc	Diode	3.00
A125	370 kc	Converter	3.00
A125	370 kc	Interstage	3.00
A225	370 kc	Diode	3.00
A101	465 kc	Converter	3.00
A101M*	465 kc	Converter	3.00
A100	465 kc	Interstage	3.00
A201	465 kc	Diode	3.00
A200M*	465 kc	Diode	3.00
A100C	465 kc	XTAL Inp.	4.00
A200C	465 kc	F. W. Diode	4.00

Aluminum Shield 1½" D. x 3½" high, $1\frac{13}{32}$" Mtg. Centers

*To be used with metal tubes.

ADJUSTABLE COUPLING—TELEVISION Mica Tuned I-F Transformers

Type	Frequency	Use	List Price
A3500	3500 kc	Interstage	$4.00
A3502	3500 kc	Diode	4.00

Aluminum Shield 2" Sq., 4" high, $1\frac{15}{16}$" Mtg. Ctrs.

MIDGET Mica Tuned I-F Transformers

Type	Frequency	Use	List Price
C101M	465 kc	Converter	$2.50
C100M	465 kc	Interstage	2.50
C200M	465 kc	Diode	2.50
C350	465 kc	BFO	2.50
C3550	3500 kc	BFO	2.50

Copper Shield 1⅛" Sq., 2½" high, $1\frac{11}{16}$" Mtg. Ctrs.

CONVENTIONAL Mica Tuned I-F Transformers

Type	Frequency	Use	List Price
S175	175 kc	Converter	$2.50
S275	175 kc	Diode	2.50
S150	262 kc	Converter	2.50
S250	262 kc	Diode	2.50
S101	465 kc	Converter	2.50
S200	465 kc	Diode	2.50

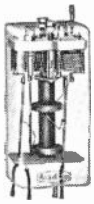
Aluminum Shield 1⅜" Sq., 3½" high, $1\frac{5}{16}$" Mtg. Centers

INDUCTANCE TUNED I-F Transformers

Type	Frequency	Use	List Price
L150	262 kc	Converter	$2.50
L250	262 kc	Diode	2.50
L101	465 kc	Converter	2.50
L200	465 kc	Diode	2.50

Aluminum Shield 1⅜" Sq., 3½" high, $1\frac{5}{16}$" Mtg. Centers

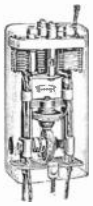
AIR TUNED I-F Transformers



Type	Frequency	Use	List Price
G175	175 kc	Converter	$5.50
G175	175 kc	Interstage	5.50
G275	175 kc	Diode	5.50
G101	465 kc	Converter	5.50
G101M	465 kc	Converter	5.50
G101A	465 kc	Interstage	5.50
G101A	465 kc	Interstage	5.50
G201	465 kc	Diode	5.50
G201M	465 kc	Diode	5.50
G208	465 kc	Silencer Diode	4.50
G101C	465 kc	XTAL Inp.	6.25
G1601	1600 kc	Converter	10.00
G1600	1600 kc	Interstage	10.00
G1604	1600 kc	Diode	10.00
G1605	1600 kc	Silencer	8.00

Aluminum shield $1\frac{7}{16}$"x1⅞"x4" high, $\frac{11}{32}$" Mtg. centers.

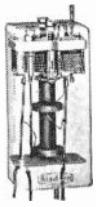
AIR TUNED—ADJUSTABLE COUPLING I-F Transformers



Type	Frequency	Use	List Price
GA101	465 kc	Converter	$6.50
GA101M	465 kc	Converter	6.50
GA101A	465 kc	Interstage	6.50
GA101A	465 kc	Interstage	6.50
GA201	465 kc	Diode	6.50
GA201M	465 kc	Diode	6.50
GA100C	465 kc	XTAL Inp.	7.25

Aluminum shield $1\frac{7}{16}$"x1⅞"x4" high, $\frac{11}{32}$" Mtg. centers.

AIR TUNED—BAND EXPANSION I-F Transformers



Type	Frequency	Use	List Price
GH103	465 kc	Converter	$ 6.50
GH1601	1600 kc	Converter	12.50
GH1600	1600 kc	Interstage	12.50

Use G1604 diode with GH1601 converter and GH1600 interstage

Aluminum Sheild $1\frac{7}{16}$" x 1⅞" x 4" high, $\frac{11}{32}$" Mtg. Centers

HI-FIDELITY—BAND EXPANSION Mica Tuned I-F Transformers

Type	Frequency	Use	List Price
H102*	465 kc	Converter	$4.00
H103†	465 kc	Converter	4.50
H200	465 kc	Diode	3.50

Aluminum Shield 2" x 2" x 4" * 2 position. † 3 position

CONTINUOUSLY VARIABLE BAND EXPANSION I-F Transformers

Type	Frequency	Use	List Price
D101	465 kc	Converter	$6.50
D200	465 kc	Diode	6.50

The Type D i-f transformer is triple mica tuned and supplied in aluminum shield 2" x 2" x 4".

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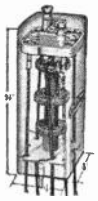
World Radio History

Aladdin

TRIPLE TUNED I-F TRANSFORMERS



Type	Frequency	Use	List Price
N150	262 kc.	Conv.	$3.50
N250	262 kc.	Diode	3.50
N101	465 kc.	Conv.	3.50
N200	465 kc.	Diode	3.50

Aluminum shield 1⅜" sq. x 3½" high, 1 5/16" Mtg. Centers.

TELEVISION I-F Transformers

Type	Frequency	Use	List Price
U100	13,250 kc.	Interstage	$2.00
U200	13,250 kc.	Diode	2.00

Aluminum Shield 1½" D., 2¾" H., 1 7/16" Mtg. Centers

ALADDIN RESONATOR

A flexible, time saving alignment tool. When used with a reliable oscillator and output meter, misaligned circuits are immediately indicated, showing whether an increase or decrease in capacity is needed to align the circuit. Inserting the Poolyiron end into a coil has the effect of adding capacity. Proper alignment is indicated when both ends, upon being separately placed in the field of the coil, decrease the output of the receiver. List price with instructions, $1.00.

WAVE TRAPS

Type	Frequency in kc	Size	List Price
R4563	440-510 Shielded	1¾x1½" sq.	$2.00
R4560	440-510 Unshielded	1¾x1x⅞"	1.50

CHOKE COILS

Type	Inductance range in millihenries (approx.)	Factory Setting	List Price
K250	2.1- 2.9	2.5 mh.	$ .90
K500	4.0- 6.0	5.0 mh.	1.00
K1000	8.0-12.0	10.0 mh.	1.10
K1500	12.5-17.5	15.0 mh.	1.20
K2500	20.0-30.0	25.0 mh.	1.25

ANTENNA COUPLERS

Type	Mtg.	For Use With	Ant. Cap. uuf.	Frequency Range in kc	At 1400 kc Band Gn.	At 1400 kc Band W.	At 600 kc Band Gn.	At 600 kc Band W.
500	u	§	200	530-1500	20.6	142	20.2	40
502	u	§	300	530-1500	25.0	141	27.2	42
503	s	§	300	530-1500	20.4	140	22.6	43
504	u	§	75	530-1500	19.3	140	17.6	41
505	s	§	75	530-1500	15.8	169	13.9	50
1501	r	*	200	530-1500	15.7	130	14.3	44
506	u	†	75	550-1725	20.4	135	18.1	39
507	s	†	75	550-1725	16.5	151	16.2	44

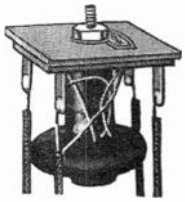
List Price $2.00

R-F COUPLERS

Type	Mtg.	For Use With	Frequency Range in kc	At 1400 kc Band Gn.	At 1400 kc Band W.	At 600 kc Band Gn.	At 600 kc Band W.
1001	s	§	530-1500	142.0	176	156.0	53
3001	r	*	530-1500	141.0	124	151.0	45
1006	u	†	550-1725	118.0	158	161.0	50
1007	s	†	550-1725	99.0	167	140.0	47

List Price $2.00

OSCILLATOR COILS



Type	Mtg.	For Use With	Frequency Range in kc
2000	u	§*	530-1500
2001	r	§*	530-1500
2006	u	†	550-1725
2007	s	†	550-1725

List Price $2.00

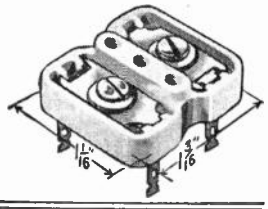
(For use with 465 kc. I-F in all types.) Oscillator coils track with coils of similar key designations.

In the above lists, those devices with special indicating marks may be used with r-f couplers and oscillator coils designated with similar markings.

The type mounting specified in column 2 of the tables above may be identified as follows:

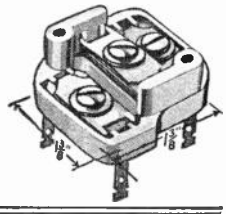
u indicates an unshielded coupler
s indicates a shield 2"x2"x3" h aluminum
r indicates a shield 1½"Dx2½" h aluminum.

TRIMMING CONDENSERS
Double Tuned



Type	Min. Cap.	Max. Cap.		List Price
CO-2	7 uuf.	50 uuf.	Double, 2 plates	$0.50
CO-3	31 uuf.	120 uuf.	Double, 3 plates	.55
CO-4	62 uuf.	160 uuf.	Double, 4 plates	.65
CO-5	88 uuf.	300 uuf.	Double, 5 plates	.75
CO-6	122 uuf.	420 uuf.	Double, 6 plates	.85

TRIMMING CONDENSERS
Triple Tuned



Type	Min. Cap.	Max. Cap.		List Price
CT-2	7 uuf.	50 uuf.	Triple, 2 plates	$0.65
CT-3	31 uuf.	120 uuf.	Triple, 3 plates	.75
CT-4	62 uuf.	160 uuf.	Triple, 4 plates	.90
CT-5	88 uuf.	300 uuf.	Triple, 5 plates	1.05
CT-6	122 uuf.	420 uuf.	Triple, 6 plates	1.20

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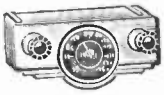
World Radio History

INCREASE YOUR PROFITS with CROWE Remote CONTROLS for

- **ALL CARS**
- **MOUNTING KITS**
- **MOST ALL RADIOS**

MOUNTING KITS

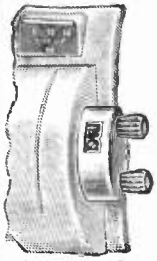
PORTHOLE OR AIRPLANE DIALS



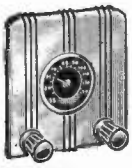
UNDER-DASH

CHEVROLET '38

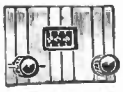
FORD '38



OLDSMOBILE '38



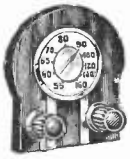
DeSOTO '38



PLYMOUTH '38

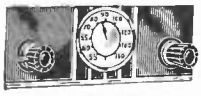
BUICK '36

PONTIAC '37 & 38



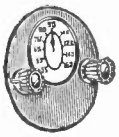
FORD '37

PLYMOUTH Deluxe '36



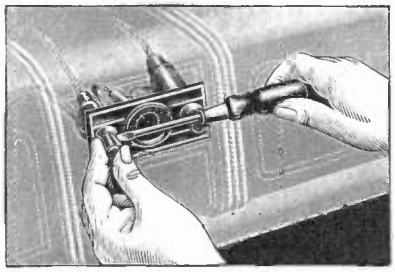
BUICK '37

PACKARD 120 '37



FORD '35 & '36 LINCOLN Zephyr '36

Crowe series 700 "Double Unit" controls are standard equipment with leading auto radios. The only interchangeable control that will meet with all car manufacturers' specifications, whether airplane or porthole type dial is required.



Easy to Install

Any of these Panel Kits can be used with any of the controls listed on the next page. Each kit contains a custom-styled escutcheon (when required), dial scale and bracket assembly, harmonizing colored knobs, nuts, etc.

HOW TO ORDER PANEL KITS:

1. Give part number of kit required.
2. State whether flexible shaft is turned to right or left to close condenser.

ONLY A PANEL KIT IS REQUIRED to change radio from car to car if set is already equipped with Crowe series 700 controls. **IF SET DOES NOT HAVE CROWE CONTROLS,** order kit from this page, controls from next page, and flexible shafts when needed.

PUSH-BUTTON TUNING FOR ANY AUTO RADIO

Croselector, an automatic motor-powered tuner, is quickly installed. Entire group of pre-selected stations can be changed from driver's seat even while car is in motion.

ASK FOR DESCRIPTIVE CROSELECTOR BULLETIN

PANEL KITS FOR 1938 '37 '36 & '35 Cars

(Order by part number)

A-14529 UNDER DASH IN MOST CARS.
A-14233 BUICK 40, 60, 80, 90, '38
A-11570 BUICK 40 and 60, '37
A-11571 BUICK 80 and 90, '37
A-11604 BUICK '36
A-14235 CADILLAC '38
LaSALLE '38
A-11572 CADILLAC '37 and '36
LaSALLE '37 and '36
A-14254 CHEVROLET '38
A-11573 CHEVROLET '37
A-11606 CHEVROLET '36
A-11627 CHEVROLET '35
A-14518 CHRYSLER '38
Imperial & Royal
A-15893 CHRYSLER New York Special '38
A-11574 CHRYSLER Airflow 8, '37
A-13070 CHRYSLER Imperial & Royal, '37
A-11608 CHRYSLER Airflow & Imp. '36
A-11607 CHRYSLER Airstr 6, '36
A-11609 CHRYSLER Airstream 8, '36
A-11628 CHRYSLER '35
A-14520 DeSOTO '38
A-13066 DeSOTO 37
A-11610 DeSOTO Airflow '36
DeSOTO Cust. Airstream '36
A-11611 DeSOTO Airstream DeLuxe '36
A-11629 DeSOTO '35
A-14239 DODGE '38
A-13064 DODGE '37
A-11612 DODGE '36
A-11630 DODGE '35
A-14703 GRAHAM '38
A-14241 LINCOLN Zephyr '38
A-11582 LINCOLN Zephyr '37
A-11613 LINCOLN Zephyr '36
FORD '35
FORD DeLuxe early '36
FORD Standard early '36
A-11614 FORD Standard late '36
A-11615 FORD DeLuxe late '36
A-11579 FORD DeLuxe '37
A-12068 FORD Standard '37
A-14451 FORD '38
A-11617 FORD '34
HUPMOBILE 8, '36 and '35
A-11618 HUPMOBILE 6, '36 and '35
A-14260 HUPMOBILE '38
A-14263 HUDSON '38, 83, 84, 85, 86 and 87
A-15926 HUDSON 112 '38
A-11616 HUDSON '36
A-12987 HUDSON 37
TERRAPLANE '37
A-14453 TERRAPLANE '38
A-11626 TERRAPLANE '36
A-11619 LaFAYETTE '36
A-13060 LaFAYETTE '37
NASH '37
A-11620 NASH '36
A-14244 NASH-Lafayette '38
A-14522 NASH-Ambassador '38
A-14262 OLDSMOBILE '38
A-11583 OLDSMOBILE '37
A-11621 OLDSMOBILE '36
A-11631 OLDSMOBILE '35
A-14258 PACKARD 6 and 8, '38
A-11584 PACKARD 115, '37
A-11585 PACKARD 120, '37
A-11622 PACKARD 120, '36
A-11639 PACKARD 120, '35
A-14237 PLYMOUTH DeLuxe '38
A-15928 PLYMOUTH Road King late '38 (with ash tray)
A-15966 PLYMOUTH Standard '38 and Road King early '38 (without ash tray)
A-13062 PLYMOUTH DeLuxe '37
A-11623 PLYMOUTH DeLuxe '36
A-11632 PLYMOUTH DeLuxe early '35
A-11633 PLYMOUTH DeLuxe late '35
A-14252 PONTIAC '38
A-11587 PONTIAC '37
A-11624 PONTIAC '36
A-11634 PONTIAC '35
A-14256 STUDEBAKER '38
A-11589 STUDEBAKER President '37
A-11588 STUDEBAKER Dictator '37
A-12017 STUDEBAKER Dictator Business Coupe '37
A-11625 STUDEBAKER Dictator '36
A-14642 WILLYS '37 and '38
OTHER CARS without panel openings

LIST PRICE

$2.45 ea.

FOR ANY KIT

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World Radio History

CROWE SERIES 700 DOUBLE-UNIT REMOTE CONTROLS

DOUBLE-UNIT INTERCHANGEABLE CONSTRUCTION

Double-Unit Controls are factory assembled for quick installation. **More Practical**—No reworking or readjusting necessary, each tuning unit is designed for a specific ratio—each volume adjusting unit is designed for a specific volume job.

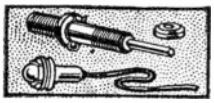
This double-unit construction permits **On-The-Panel** installation with any series 700 panel mounting kit or **Under-The-Dash** with kit No. A-14529, listed on preceding page.

CROWE CONTROLS EXCEL

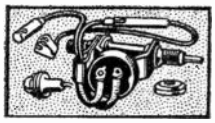
- **EXACT CUSTOM STYLING**
- **OFFICIAL CAR SPECIFICATIONS**
- **NEW NO-GLARE DIALS**
- **SAME CONTROLS FIT ALL CARS**
- **QUICKLY INSTALLED**
- **EASILY CHANGED FROM CAR TO CAR**

VOLUME CONTROL UNITS

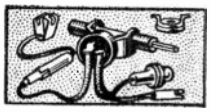
(One required for each installation.)



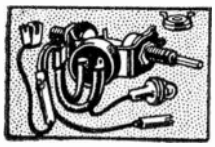
700-V1



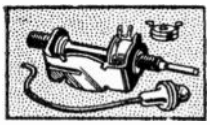
700-V2



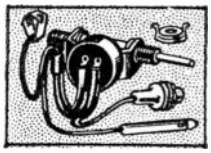
700-V3



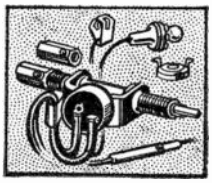
700-V6



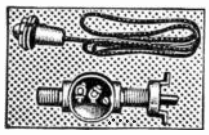
700-V7



700-V31



700-V33

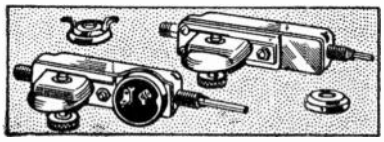


700-V34

Part No.	Description
700-V1	Volume control only. No switch, no tone control. List Price.....ea. $1.10
700-V2	Volume control with combination On-Off switch. Switch is operated by volume knob. List Price.....ea. $2.45
700-V3	Volume control with independent On-Off switch. Switch is operated by secondary wing knob back of volume knob. List Price.....ea. $2.75
700-V6	Volume control with On-Off switch and variable tone control (½ meg. linear taper). Switch is operated by volume knob; tone control is operated by secondary wing knob back of volume knob. List Price.....ea. $3.55
700-V7	Volume control with variable tone control. No switch. Tone control is operated by secondary wing knob back of volume knob. List Price.....ea. $2.35
700-V31	Same as 700-V3 above except special Philco lead arrangement and special fuse are supplied for use with Philco Models CT2, 805, 806, 807, 808, 809, 816, 817, 826, 827, 827-K, 828, 828-K, and 829. List Price.....ea. $2.65
700-V33	Same as 700-V3 above except for use with Philco models 818, 818-K and 819. Includes special push-pull arrangement for operating chassis tone control. Two adapters are furnished for use with standard Philco flexible shafts so that it is not necessary to replace shafts when using this unit. List Price.....ea. $3.55
700-V34	Volume control with 2-point switch for bass-treble tone selection. Switch is operated by secondary wing knob back of volume knob. List Price.....ea. $2.50

TUNING CONTROL UNITS

(One required for each installation.)



T-2 with switch **T-1 without switch**

Without Switch
$2.35 ea. List

Part No.	Ratio in 360°
706-T1	6 to 1
708-T1	8 to 1
710-T1	10 to 1
712-T2	12 to 1
716-T1	16 to 1
720-T1	20 to 1

With Switch*
$3.05 ea. List

Part No.	
706-T2	6 to 1
708-T2	8 to 1
710-T2	10 to 1
712-T2	12 to 1
716-T2	16 to 1
720-T2	20 to 1

* Supplied with soldering lugs for attaching leads. Switch on tuning control unit may be used as local-distance sensitivity switch or base-treble two-point tone control.

HOW TO ORDER CONTROLS

1. Specify part numbers of tuning control unit. (Note: Ratio is twice the number of flexible shaft revolutions required to open condenser. Example—8 revolutions x 2 equal 16 to 1 ratio.)
2. Specify part number of volume control unit.
3. Select panel mounting kit and other accessories as needed.

Note: In addition to one Tuning Unit and one Volume Adjuster Unit selected individually to fit your radio, you will need one of the Mounting Kits listed on the previous page, and a pair of flexible shafts. In many cases you will be able to use shafts on hand by reworking them to fit Crowe Controls.

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World Radio History

CROWE SERIES 600 SINGLE-UNIT REMOTE CONTROLS

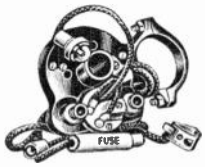
For steering column installation on any car. Conventional single-unit type of construction on all Series 600 controls. Volume shaft and tuning mechanism combined in a single die-cast case. If specified, these controls will be supplied with built-in on-off switch, operated by volume knob. Included with each control are pilot light bulb, socket with 24" leads and black Tenite knobs.

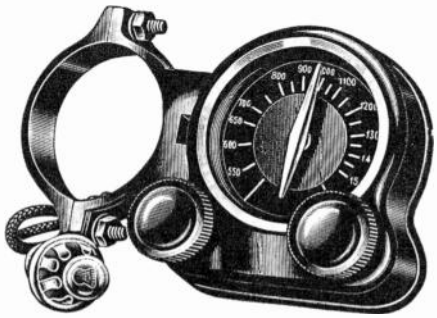
Each unit equipped with adjustable arm for attaching control on either right or left side of steering column. Glare-proof dials. Illuminated figures. Non-reflecting black finish. Series 600 controls are supplied in various ratios with or without switch, as listed.

WITH SWITCH

Part No.	Ratio in 360°	List Price
606-S	6 to 1	$5.15 ea.
608-S	8 to 1	5.15 ea.
610-S	10 to 1	5.15 ea.
612-S	12 to 1	5.15 ea.
616-S	16 to 1	5.15 ea.

Above prices include adjustable arm for mounting control on steering column.





WITHOUT SWITCH

Part No.	Ratio in 360°	List Price
606	6 to 1	$3.90 ea.
608	8 to 1	3.90 ea.
610	10 to 1	3.90 ea.
612	12 to 1	3.90 ea.
616	16 to 1	3.90 ea.

Above prices include adjustable arm for mounting control on steering column.

HOW TO ORDER SERIES 600 REMOTE CONTROLS

To determine gear ratio required, move condenser rotor, counting number of turns of flexible shaft required to move rotor from minimum to maximum position. Multiply this figure by two to secure ratio.

State whether approximate kilocycle or 0-100 calibration is wanted, and whether flexible shaft turns to left or right to close condenser. If flexible shafts, gear reduction couplings or other accessories needed, select from next page.

FLEXIBLE SHAFTS FOR SERIES 600 OR 700 CONTROLS

FLEXIBLE SHAFT AND CASING ASSEMBLIES WITH FITTINGS FOR CROWE CONTROLS

One end of each assembly listed below is supplied with 3/8-32 casing nut and spade tip to fit any Crowe control listed on these pages. The other end of each assembly is supplied in the variations noted below to fit various chassis connectors.

Each part number includes one flexible shaft with casing and end fittings as illustrated. Shafting is best quality, .130" diameter. Casing is .235" diameter to fit above shafting, and has bright zinc finish. Dimension given is length of casing; overall length of assembly depends on the end-fittings used.

GROUP A—Chassis end has 1/2-20 casing nut and shaft tip as listed. Control end fits Crowe controls.

Part No.	Shaft Tip on Chassis End	List Prices 18"	24"	30"
S-13001	Standard-spade tip	$1.10 ea.	$1.20 ea.	$1.30 ea.
S-13002	Standard-slot tip	1.10 ea.	1.20 ea.	1.30 ea.
S-13003	Medium-slot tip (G. M. Style)	1.10 ea.	1.20 ea.	1.30 ea.
S-13004	Narrow-slot tip (Philco Style)	1.10 ea.	1.20 ea.	1.30 ea.
S-13005	Standard-blunt tip	1.10 ea.	1.20 ea.	1.30 ea.
S-13006	No tip	1.00 ea.	1.10 ea.	1.20 ea.
S-13007	Long-spade tip (G. M. Style)	1.10 ea.	1.20 ea.	1.30 ea.

GROUP B—Chassis end has bell-type casing fitting and shaft tip as listed. Control end fits Crowe controls.

S-13009	Standard-spade tip	$1.10 ea.	$1.20 ea.	$1.30 ea.
S-13010	Standard-slot tip	1.10 ea.	1.20 ea.	1.30 ea.
S-13011	Medium-slot tip (G. M. Style)	1.10 ea.	1.20 ea.	1.30 ea.
S-13012	Narrow-slot tip (Philco Style)	1.10 ea.	1.20 ea.	1.30 ea.
S-13013	Standard-blunt tip	1.10 ea.	1.20 ea.	1.30 ea.
S-13014	No tip	1.00 ea.	1.10 ea.	1.20 ea.
S-13015	Long-spade tip (G. M. Style)	1.10 ea.	1.20 ea.	1.30 ea.

GROUP C—Chassis end has plain casing, with shaft tip as listed. Control end fits Crowe controls.

S-13017	Standard-spade tip	$0.90 ea.	$1.00 ea.	$1.10 ea.
S-13018	Standard-slot tip	.90 ea.	1.00 ea.	1.10 ea.
S-13019	Medium-slot tip (G. M. Style)	.90 ea.	1.00 ea.	1.10 ea.
S-13020	Narrow-slot tip (Philco Style)	.90 ea.	1.00 ea.	1.10 ea.
S-13021	Standard-blunt tip	.90 ea.	1.00 ea.	1.10 ea.
S-13022	No tip	.80 ea.	.90 ea.	1.00 ea.
S-13023	Long-spade tip (G. M. Style)	.90 ea.	1.00 ea.	1.10 ea.

SHAFT & CASING ASSEMBLIES WITHOUT FITTINGS

S-13072	No fittings on either end	$0.60 ea.	$0.70 ea.	$0.80 ea.

COLORED KNOBS for Service Replacements on Auto Radios and Other Equipment

Packed in boxes containing 10 knobs (all one color) or in counter displays containing 70 (assorted colors).

FOR 1/4" SHAFT—Fit 1/4" diameter round shaft. Outside diameter of knob is about 13/16". Order by number.

Part No.	Color	Part No.	Color
9520	Brown Iridescent	9525	Grey
9521	Pearl White	9526	Lavender Variegated
9522	Red Variegated	9527	Dark Mottled
9523	Rose Variegated	9528	Orange
9524	Peach Variegated		

List Price—Box of ten (all of one color) ..... $2.50 per box

A-9800 KNOB ASSORTMENT—For 1/4" round shaft—Contains 70 Knobs in assorted colors. Packed in attractive display box.
List price, per box of 70 ..... $17.50

FOR 3/16" SHAFT—Exactly as supplied with Series 700 panel mounting kits. Fits 3/16" diameter round shafts, having one flat side—outside diameter of knob is about 11/16". Order by number.

Part No.	Color	Part No.	Color
11756	Light Grey	11765	Dark Grey-Brown Variegated
11757	Black	11767	Dark Amber-Iridescent
11758	Dark Taupe-Variegated	11768	Pearl White
11759	Dark Grey	11769	Light Amber-Variegated
11760	Medium Taupe	11770	Copper Brown-Mottled
11761	Silver Grey-Iridescent	11771	Dark Peach-Variegated
11762	Wine Red-Translucent	11772	Dull Orange
11763	Medium Grey		

List Price—Box of ten (all of one color) ..... $2.50 per box

11685 Chrome-plated Knobs. Fit same shaft as above.
List price, per box of ten $4.50

A-13124 KNOB ASSORTMENT—For 3/16" round shaft with flat side.
These knobs fit Series 700 controls. Counter display box contains 70 knobs in assorted colors. List price, per box of 70 ..... $17.50

CHROME-PLATED WING KNOBS—Used on Series 700 controls having sleeve-operated switch or tone control.
List price, box of ten No. M-11356 ..... $2.50 per box

NOTE: Wing knobs are included in Replacement Parts Kit No. S-12634, but not in Knob Assortments A-9800 and A-13124.

World Radio History

CROWE FITTINGS, ACCESSORIES AND SERVICE PARTS

SERVICE PARTS FOR SERIES 700 CONTROLS & PANEL MOUNTING KITS

Supplied in standard packages as listed here or in "Service Parts Assortment" shown at bottom of this column.

FLEXIBLE DIAL SHAFTS‡

Part No.	Description	Pcs. Per Pkg.	List Price Per Pkg.
Without extension fitting:			
M-11860	2¾" Dial shaft	5	$1.00
M-11859	3¼" Dial shaft	5	1.00
M-11916	3¾" Dial shaft	5	1.00
M-11524	4¾" Dial shaft	5	1.00
With extension fitting: ‡‡			
S-11918	4⅛" Dial shaft	5	1.50
S-11881	4⅞" Dial shaft	5	1.50
S-11920	5⅝" Dial shaft	5	1.50

MACHINE SCREWS

P-2099	8-32x3/16" Headless Set Screw	50	1.10
P-2662	6-32x3/16" Round Head Screw	50	.15
P-2942	4-36x⅛" Round Head Screw	50	.15

NUTS

P-11371	Cable Clamp Nut	25	1.50
P-11636	⅜-32 Chuck Nut	25	2.25
P-11891	⅜-32 Flat Hex Nut	50	1.50

SWITCHES

P-11373	Switch for all series 700-T2 units and all series 700 volume control units except those with built-in variable tone controls	5	1.50
P-11642	Switch only for Series 700 volume control units with built-in variable tone controls	5	1.50

WASHERS

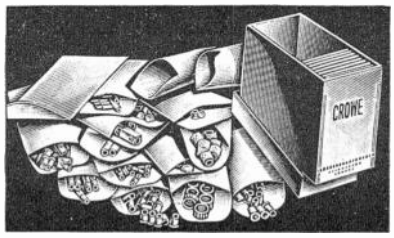
M-2202	⅜x9/16" Brass Washer	50	.70
M-2365	7/16x⅜" Brass Washer	50	.60
P-2787	No. 6 Shakeproof Washer	50	.25
M-4162	13/32x¾" Shakeproof Washer	50	.65
P-4884	⅜" Internal Shakeproof Washer	50	.40
P-5704	3/16x⅜" Black Felt Washer	50	.25
M-7486	13/32x¾" Nickel-plated Washer	50	.70
P-12699	Cup washer for Oldsmobile 1936	10	1.15

MISCELLANEOUS

M-11356	Wing Knob	10	2.50
M-11532	Shaft Cup	25	1.75
P-11685	Chrome Knob	10	4.50
P-11835	Fuse Insulator	50	.30

• • •

‡Used for connecting tuning control unit to dial scale assembly.
‡‡Length includes extension fitting.



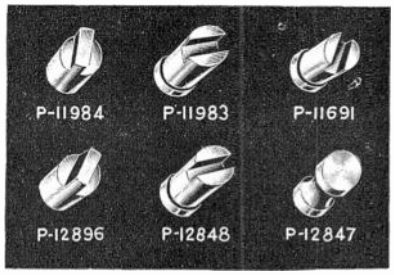
SERVICE PARTS ASSORTMENT

Contains some of each of the service parts listed above: totals over 200 pieces. Packed in handy stock box as illustrated, with each number in a separate envelope.

No. S-12634 Service Parts Asst.
List ..... $8.25 ea.

END FITTINGS FOR FLEXIBLE SHAFTS & CASINGS

Supplied in standard packages as listed here or in "End-Fittings Assortment" shown at bottom of this column. These parts are all illustrated below.



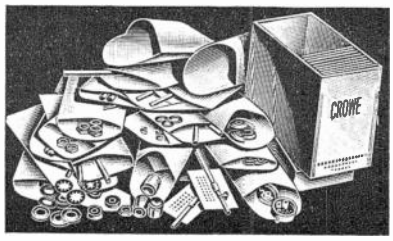
FITTINGS FOR FLEXIBLE SHAFTS

Part No.	Description	Pcs. Per Pkg.	List Price Per Pkg.
P-11691	Narrow-slot tip (Philco)	20	$1.20
P-11983	Standard-slot tip	20	1.20
P-11984	Standard-spade tip*	20	1.20
P-12847	Standard-blunt tip**	10	.60
P-12848	Medium-slot tip (G-M)	10	1.20
P-12896	Long-spade tip (G-M)	10	.60

FITTINGS FOR FLEXIBLE CASINGS

P-11394	⅜—32 casing nut*	20	1.00
P-11395	Ferrule for ⅜ casing nut*	20	.80
P-11692	Ferrule for ½—20 casing nut	20	1.20
P-11693	½—20 casing nut	20	1.40
S-12251	Casing adapter—For fastening plain - end casings to Crowe controls	4	1.60
P-12670	Ferrule with enlarged end	10	1.20

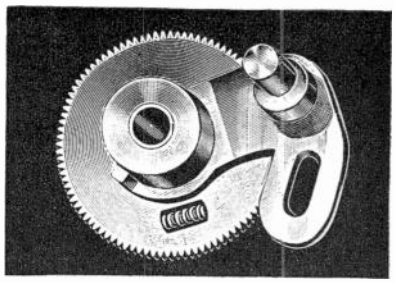
*Fits all controls listed in this bulletin.
**Fits P-4524 Coupler.



END-FITTINGS ASSORTMENT

Contains about 175 of the shaft and casings fittings as shown in column at right. Packed in handy stock box as illustrated, with each number in a separate envelope.

No. S-13073—End Fittings Asst.
List Price ..... $12.60 per box

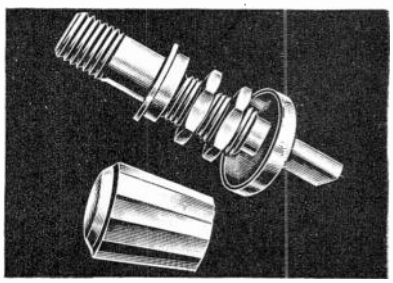


GEAR REDUCTION UNIT

Ratio 6 to 1 in 360°

For use on any condenser without built-in gearing. When this gear reduction is used, specify either No. 606 or No. 706 control. Has ¼" shaft to fit P-4524 Coupler. State whether hub is to fit ¼" or ⅜" diameter condenser shaft.

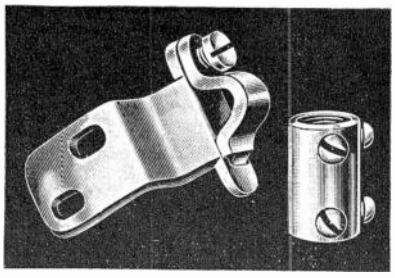
No. 104 Gear Reduction Unit.
List Price ..... 60c each



AUXILIARY CONTROL UNIT

For anchoring flexible shaft and casing to instrument panel or escutcheon plate. Used when third shaft is needed for chassis tone control or wave-band switch. Use P-11984 tip with P-11394 nut and P-11395 ferrule, or choice of flexible shaft and casing assembly S-13001, S-13009, or S-13017 as necessary.

No. A-12850 Auxiliary Control Unit.
List Price ..... $1.55 each



FLEXIBLE-CASING BRACKET

For anchoring plain-end flexible casing to chassis can. Dull black finish.

No. P-3119 Flexible-Casing Bracket.
List Price ..... 35c each

FLEXIBLE-SHAFT COUPLER

For connecting flexible shaft to ¼" diameter plain shaft of condenser, volume control etc. Flexible shaft or casing assembly. No. S-13021 or P-12847 standard-blunt tip, will fit this coupler.

P-4524 Flexible Shaft Coupler.
List Price ..... 35c each

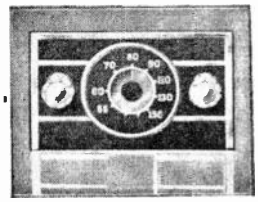
World Radio History

STAR AUTO RADIO CONTROLS

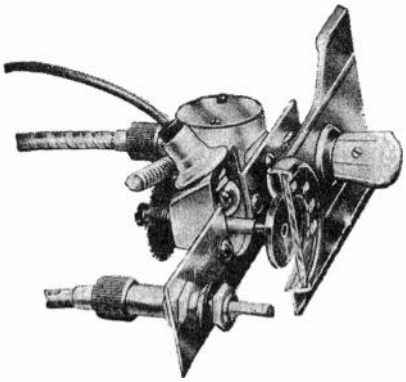
SIMPLEST UNIT TO INSTALL, 100% UNIVERSAL IN EVERY WAY

- FITS ALL AUTOMOBILE INSTRUMENT PANELS
- FITS ALL RADIOS—REGARDLESS OF RATIO, WITH ONE UNIT
- FITS ALL CONDENSERS, CLOCKWISE OR COUNTER-CLOCKWISE, WITH ONE DIAL.
- NO HOLES TO DRILL OR FILE—100% UNIVERSAL FOR ALL PANEL OPENINGS
- NO TROUBLE TO INSTALL — PRE-ASSEMBLE — SIMPLY BOLT IN PLACE
- FITS ALL PANEL THICKNESSES—WITH ADJUSTABLE INDICATOR AND ADJUSTABLE CONTROL SHAFTS
- NO ADJUSTMENTS NECESSARY — AUTOMATIC CALIBRATION
- NO EXCESSIVE STOCK—SAME UNIT FITS EVERY JOB
- CUSTOM MATCHED PLATES TO FIT ALL 1935-1936-1937-1938 AND 1939 CARS

THE ONLY CONTROL UNIT WITH ALL RATIOS SELF CONTAINED

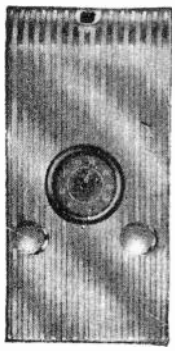


1937 Chevrolet

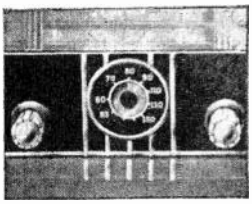


No. 3801 LIST PRICE $3.50

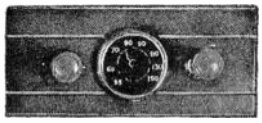
Star Control has every ratio self contained in one head, a turn of a screw gives (16 to 1), (12 to 1), (10 to 1), (8 to 1) or (6 to 1) .Control unit has provision for easily mounting ON-OFF switch where required. Plates are perfectly matched to harmonize with instrument panels of all 1935-36-37-38-39 cars. Knobs are colored to match panel design of all cars.



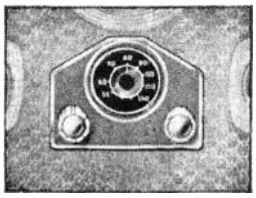
1938 Chrysler



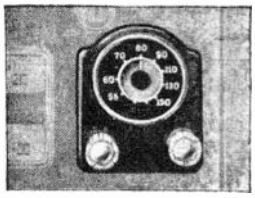
1937 Buick 40-60



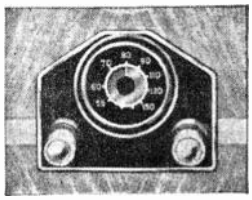
1938 Chevrolet



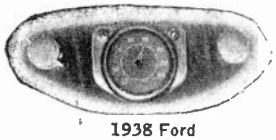
1937 Chrysler Royal



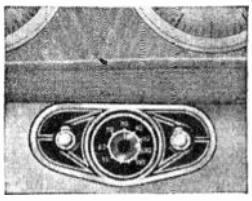
1937 Packard 115



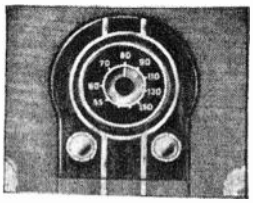
1937 Plymouth



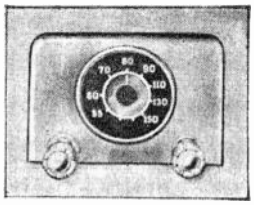
1938 Ford



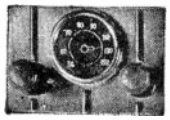
Under Panel or Steering Post Mount No. 1000



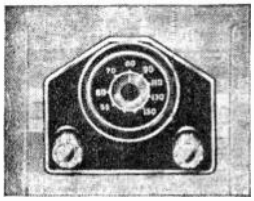
1937 Ford



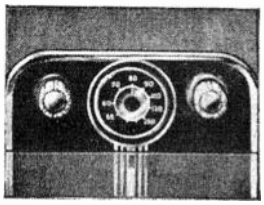
1937 Studebaker Dictator



1938 Dodge

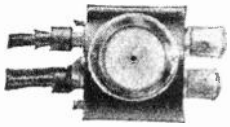


1937 Dodge



1937-38 Pontiac

1938 Plymouth



1938 Oldsmobile Complete Unit

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World Radio History

STAR Custom-Matched Escutcheon Plates

FOR 1934, 35, 36, 37, 38 AND 1939 CARS

KIT CONTAINS: ESCUTCHEON PLATE, KNOBS, SUB-PANEL MOUNTING PLATE, ETC.

ALL ESCUTCHEON PLATES LISTED BELOW—LIST PRICE $2.25 EACH

Make of Car	Year	Model	Kit No.
Buick	1936	All Models	361
Buick	1937	40-60	371A
Buick	1937	80-90	371B
Buick	1938	All Models	381
Buick	1939	All Models	391
Cadillac-LaSalle	1936-'37	All Models	372
Cadillac-LaSalle	1938	All Models	382
Cadillac-LaSalle	1939	All Models	392
Chevrolet	1935-'36	All Models	363
Chevrolet	1937	All Models	373
Chevrolet	1938	All Models	383
Chevrolet	1939	All Models	393
Chrysler	1934-'35	Airstream 6 and De Luxe 8	354A
Chrysler	1935	Airflow 8 and Imperial	354B
Chrysler	1936	Airstream 6	364A
Chrysler	1936	De Luxe 8	364B
Chrysler	1936	Airflow 8 and Imperial	364C
Chrysler	1937	Royal	374A
Chrysler	1937	Imperial	374B
Chrysler	1937	Airflow	374C
Chrysler	1938	All Models	384
Chrysler	1939	All Models	394
De Soto	1934	All Models	345
De Soto	1935	All Models	355
De Soto	1936	Airstream Custom Airflow	365A
De Soto	1936	De Luxe	365B
De Soto	1937	All Models	375
De Soto	1938	All Models	385
De Soto	1939	All Models	395
Dodge	1935	All Models	356
Dodge	1936	All Models	366
Dodge	1937	All Models	376
Dodge	1938	All Models	386
Dodge	1939	All Models	3 6
Ford	1934	Standard and De Luxe	347
Ford	1935	Standard	357A
Ford	1935	De Luxe	357B
Ford	1936	Standard Early	367A
Ford	1936	Standard Late	367B
Ford	1936	De Luxe Early	367C
Ford	1936	De Luxe Late	367D
Ford	1937	Standard	377A
Ford	1937	De Luxe	377B
Ford	1938	All Models	387
Ford	1939	All Models	397
Hudson	1934	All Models	348
Hudson	1935	All Models	358
Hudson	1936	All Models	368
Hudson	1937	All Models	378
Hudson	1938	All Models	388
Hudson	1939	All Models	398
Hupmobile	1934-'25-'36	All Models	369
Hupmobile	1939	All Models	399

Under-dash or Steering Post Mount for all Cars and All Radios ..... No. 1000

Make of Car	Year	Model	Kit No.
Lafayette	1936	All Models	3611
Lafayette	1937	All Models	3711
Lafayette	1938	All Models	3811
Lafayette	1939	All Models	3911
Lincoln Zephyr	1936	All Models	3612
Lincoln Zephyr	1937	All Models	3712
Lincoln Zephyr	1938	All Models	3812
Lincoln Zephyr	1939	All Models	3912
Nash	1935-'36	400 and Ambassador	3613
Nash-Lafayette	1937	400 Series	3713
Nash-Lafayette	1938	All Models	3813
Nash-Lafayette	1939	All Models	3913
Oldsmobile	1935	All Models	3514
Oldsmobile	1936	All Models	3614
Oldsmobile	1937	All Models	3714
Oldsmobile	1938*	All Models (see Footnote)	3814
Oldsmobile	1939	All Models	3914
Packard	1935	120	3515
Packard	1936	120B	3615
Packard	1937	120C	3715A
Packard	1937	115	3715B
Packard	1938	All Models	3815
Packard	1939	All Models	3915
Plymouth	1934	De Luxe	3416
Plymouth	1935	Standard	3516A
Plymouth	1935	De Luxe	3516B
Plymouth	1936	Standard	3616A
Plymouth	1936	De Luxe	3616B
Plymouth	1937	Standard	3716A
Plymouth	1937	De Luxe	3716B
Plymouth	1938	All Models	3816
Plymouth	1939	All Models	3916
Pontiac	1935-'36	All Models	3617
Pontiac	1937	All Models	3717
Pontiac	1938	All Models	3817
Pontiac	1939	All Models	3917
Studebaker	1934-'35	All Models	3518
Studebaker	1936	Dictator	3618A
Studebaker	1936	President	3618B
Studebaker	1937	Dictator Early	3718A
Studebaker	1937	Dictator Late	3718B
Studebaker	1937	President Early	3718C
Studebaker	1937	President Late	3718D
Studebaker	1938	All Models	3818
Studebaker	1939	All Models	3918
Terraplane	1934-'35	All Models	3519
Terraplane	1936	All Models	3619
Terraplane	1937	All Models	3719
Terraplane	1938	All Models	3819
Terraplane	1939	All Models	3919

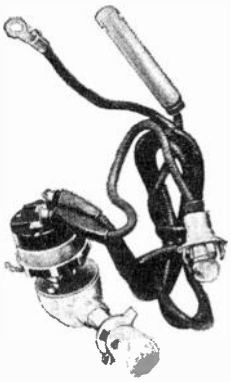
*1938 Oldsmobile. Complete unit with ON-OFF Switch with 12 to 1, 16 to 1, and 20 to 1 ratios only. Ready for installation.

List Price $6.75

No. S-1
On-Off Power Switch, wired as shown.
List Price $1.00

KNOBS
Same as supplied in STAR Escutcheon Kits, for 3/16" shafts.

No.	List Price
1—Black	$0.20
2—Brown	.20
3—Wheat Tenite	.20
4—Pearl Grey Tenite	.20
5—Chromium	.20
6—Package of 50 knobs—10 of each color	9.00



No. ST-1
Three stage tone control combined with On-Off switch, wired as shown.
List Price $3.00

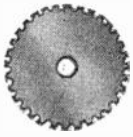
No. ST-2
Variable tone control (100,000-ohm) combined with On-Off switch, wired as shown.
List Price $3.00

No. T-1
Three stage tone control (without On-Off switch).
List Price $2.00

No. T-2
Variable tone control 100,000-ohm (without On-Off switch).
List Price $2.00

No. S-2
Two stage sensitivity switch (for local—distance).
List Price $0.50

No. PH37—FOR PHILCO 1937 RADIO
Set of two flexible shafts.
List Price, per set $1.95



20 to 1 RATIO GEAR
List price $0.15
No. G-6

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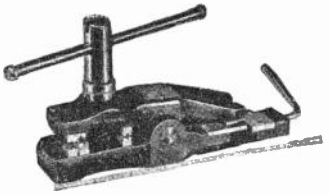
World Radio History

JFD AUTO RADIO ACCESSORIES



"REMOTE-O-CABLE" REPLACER

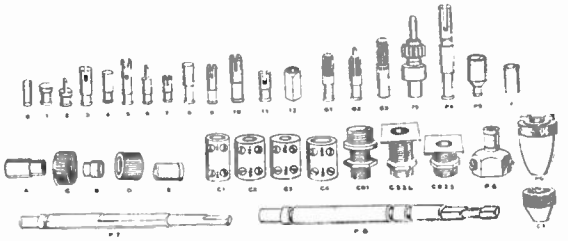
- REMOVES OLD FITTINGS
- SWEDGES CABLE TO PREVENT UNRAVELING
- CUTS CABLE TO EXACT LENGTH
- REPLACES OLD FITTINGS ON NEW CABLE

Any Job Promptly Done and Delivered

The "Remote-O-Cable" Replacer—50 feet of cable and housing—an assortment of fittings—and you are fully equipped. Length: 15 in.; Height: 7½ in.; Width: 5½ in.; Shpg. Wt.: 23 lbs.

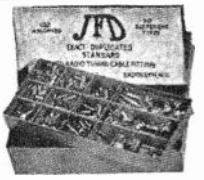
List Price (Replacer Only) $47.50*

CABLE FITTINGS AND GEARS



	List Price Each
Nos. 0, 1, 7, B, E	$0.06
Nos. C, D	.07
Nos. 2, 4, 8, 11, F	.08
Nos. 3, 5, A	.09
Nos. 6, 9, 10, 12, C1, C2, C3, C4	.10
Nos. C5	.15
Nos. CB1, CB2L, CB2S, P5, P6	.25
Nos. M0130, M0150	.30
Nos. P4, P7, P8, G1, G2, G3	.40
Nos. P9	.60

ASSORTED FITTINGS & GEARS



An attractive metal kit containing an assortment of 120 of the types shown above and used in Philco, Motorola, R.C.A., United Motors, Bosch, Crosley, Sparton, Atwater-Kent, Stewart Warner, Arvin, Zenith, Emerson and other automobile radios.

List Price, complete kit $13.50

CONTROL SHAFTING & CASING IN COILS

The same as originally used by the leading automobile radio set manufacturers—best quality procurable—parkerized—nothing better made.

Type CB—.130 gauge unswedged 'live' shafting or type HB casing.
50 ft. lengths, List Price $ 7.00
100 ft. lengths, List Price 13.50

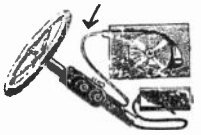
Type CA—.150 gauge unswedged 'live' shafting or type HA casing.
50 ft. lengths, List Price $ 9.50
100 ft. lengths, List Price 18.50

CONTROL SHAFTING & CASING CUT TO LENGTH

Length		Shafting Only	Casing Only	Shafting & Casing
18"		$0.40	$0.30	$0.65
20"		.45	.34	.75
24"		.50	.40	.85
30"	LIST	.62	.45	1.05
32"	PRICES	.67	.50	1.15
36"		.72	.54	1.25
42"		.82	.62	1.35
48"		.92	.70	1.45

BOWDEN REMOTE CONTROL PUSH PULL CABLE

As used in Majestic, A. K., Arvin and others.



No.	Sheath	Cable	List Price
1107	8 ft.	9 ft.	$2.25
1108	10 ft.	11 ft.	3.20
1109	12 ft.	13 ft.	3.90
1110	14 ft.	15 ft.	4.60
1111	16 ft.	17 ft.	5.25
1112	32 ft.	35 ft.	9.00

HUB SPRING STATIC ELIMINATOR

Used on all G.M.C. cars, and others.

Will eliminate static caused by wheels when placed under hub.

Not to be confused with the inferior imitations on the market.

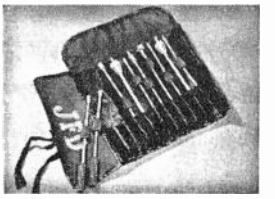
List Price, each $0.10

LOW LOSS AUTO ANTENNA SHIELDED LEAD CABLE

Heavy lacquered—protected by a shielded loom covered with processed braid. Packed in individual cartons.

	List Price, Each
3018—Motorola Lead—Antenna Coupler Only	$0.75
3018D—Motorola Lead—Set Plug-in and Antenna Coupler	.95
3019—Motorola Lead for Buick and Oldsmobile Cars	.75
3022—2 ft. male connector and ground lead	.55
3023—2 ft. male and female connectors	.55
3024—2 ft. both male connectors	.55
3025—4 ft. male connector and ground lead	.65
3026—6 ft. male connector and ground lead	.95
3027—8 ft. male connector and ground lead	1.30
3028—6 ft. No. 16 primary, lacquered, weatherproof, interconnecting lead, complete with mounting lugs	.40
3029—3 ft. male and swivel screw	.75

AUTO RADIO TUNING WRENCHES



- For Aligning and Tuning Set in Car
- For Aligning and Tuning Set on the Bench
- No Need to Remove Shaft and Head from Car
- Flexible Shaft and Adjustable Bushing
- Saves Time and Labor
- Needed by Every Serviceman
- Entirely New
- Low Priced

No. 4010
SET OF TEN COMPLETE IN LEATHERETTE ROLL

NET PRICE to Dealers and Servicemen . . $4.50 each

FUSE CONNECTOR

No. 4004—Quick changing fuse holder. Principally used on auto radio sets. Inside has a sleeve for taking the standard type fuse with two fibre bushings and strong spring contact. Made of brass, cadmium plated.

List Price ..... $0.14 each

AUTO FUSE HOLDER INSULATORS

No. 2060—Used on the inside of the fuse holder between the ignition system and the set, preventing short circuits.

List Price ..... Per Hundred $0.70

INSTANT ANTENNA CONNECTOR

No. 4002—For all makes of auto radios where a quick and easy connection is necessary. Made in two pieces with a turn lock on the side. Inside has two fibre bushings with a strong spring for contact. Made of brass, cadmium plated. List Price ..... $0.09 each

MALE END INSTANT ANTENNA CONNECTOR

No. 4003—This is the male end of No. 4002 to be attached to the lead-in ready to be inserted in the receptacle provided in the set. Complete with fibre bushing. Made of brass, cadmium plated.

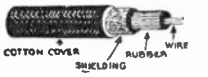
List Price ..... each $0.06

SECONDARY or HIGH TENSION 7 MILLIMETER WIRE

No. 1013—Used in automobile radios and aeroplanes. Tested under water with high voltage. Corona proof. Special rubber compound. Special braid and lacquer.

100 ft. spools. List Price..$7.50

THREE MILLIMETER SHIELDED WIRE



No. 1014—Covered with wax impregnated cotton over heavy rubber and tinned copper shielding.

100 ft. spools. List Price..$7.50

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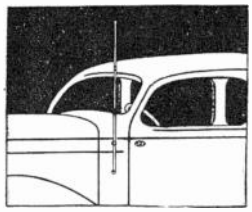
World Radio History

JFD AUTO RADIO ANTENNAS

COWL ANTENNAS

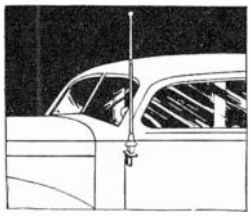


• Made of *Admiralty Metal* • Chromium plated with Stainless Steel Extensions • Absolutely Rust Proof •

★ Equipped with our one motion coupler attached to a 36" low loss lead-in, completely shielded to prevent motor noises. Makes a positive antenna and ground connection in a single motion. Moulded bakelite insulators easily attached to cowl.

250C—Two piece telescopic. Collapsed 30"—extended 50".
List Price, no lead ..... **$1.95 each**
★2B52C—Two piece telescopic. Collapsed 30"—extended 52".
List Price, complete with lead ..... **$3.50 each**
★3B60C—Three piece telescopic. Collapsed 20"—extended 60".
List Price, complete with lead ..... **$4.50 each**
★3B72C—Three piece telescopic. Collapsed 24"—extended 72".
List Price, complete with lead ..... **$5.00 each**
★4B72C—Four piece telescopic. Collapsed 18"—extended 72".
List Price, complete with lead ..... **$6.00 each**
★3B96C—Three piece telescopic. Collapsed 33"—extended 96".
List Price, complete with lead ..... **$5.50 each**
★4B96C—Four piece telescopic. Collapsed 24"—extended 96".
List Price, complete with lead ..... **$7.00 each**
★ Lead-in with Motorola connector supplied with any of the above antennas if specified "for Motorola."

HINGE ANTENNAS



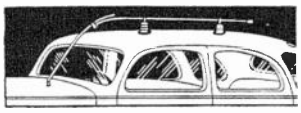
- **Made of ADMIRALTY METAL**
- **Chromium plated with Stainless Steel Extensions**
- **Absolutely Rust Proof**

Easily attached to any car by removing the hinge pin and replacing it through the antenna bracket and hinge. New umbrella type insulators.

No. 250H—Two piece telescopic. Collapsed 30"—extended 50"
List Price, complete with lead ..... **$1.95 each**
No. 250HB—"C" Clamp—two piece telescopic. Collapsed 30". extended 50". **List Price, no lead** ..... **$2.10 each**
No. 2B52H—Two piece telescopic. Collapsed 30"—extended 52".
List Price, complete with lead ..... **$2.50 each**
No. 3B60H—Three piece telescopic. Collapsed 20"—extended 60".
List Price, complete with lead ..... **$3.50 each**
No. 3B72H—Three piece telescopic. Collapsed 24"—extended 72".
List Price, complete with lead ..... **$4.00 each**
No. 4B72H—Four piece telescopic. Collapsed 18"—extended 72".
List Price, complete with lead ..... **$4.50 each**
No. 4B96H—Four piece telescopic. Collapsed 24"—extended 96".
List Price, complete with lead ..... **$5.50 each**

THE "TOWNER" TOPPER

Triple chromium plate on $\frac{3}{16}$" heavy seamless brass tubing—absolutely rust proof—no drilling on top—fits all cars.



No. 3057N—
For windshields that open.
List Price ..... **$5.00 each**

No. 3076N—For windshields that do not open.
List Price ..... **$5.00 each**

No. 3075GMC—To fasten to center windshield rib of all G.M.C. cars.
List Price ..... **$5.00 each**

THE "EIGHT" TELESCOPIC TOPPER

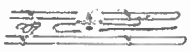
Solid Brass—triple chromium plate—absolutely rust proof—fits all cars—extends to 52".

No. 100N—
For windshields that open.
List Price ..... **$6.00 each**

No. 101N—For windshields that do not open.
List Price ..... **$6.00 each**
No. 102GMC—To fasten to center windshield rib of all G.M.C. cars.
List Price ..... **$6.00 each**

RUNNING BOARD ANTENNAS

DUO-LUXE ANTENNA



No. 3050—Completely sealed in rubber. Eliminates losses caused by moisture, snow or ice. Equipped with our new umbrella type insulators and double grip adjustable brackets. Complete with 72" low loss, waterproof, shielded loom lead-in and waterproof interconnecting lead. Supplied with various shaped brackets to fit all cars. Easily installed in any position. No drilling. Individual Cartons..... **List Price** ..... **$4.30 pair**

P. T. ANTENNA

No. 3050PT—Completely sealed in rubber. Eliminates losses caused by moisture, snow or ice. Equipped with our new umbrella type insulators and double grip adjustable brackets. Complete with 6 ft. No. 16 Primary waterproof lead-in and waterproof interconnecting lead. Superior to anything on the market at the price. Individual Cartons.
List Price ..... **$3.25 pair**

DOUBLE SEMI-RUBBER SHIELDED ANTENNA

No. 3065—¼" solid steel. Copper plated. Equipped with our our new umbrella type insulators and double grip adjustable brackets. Complete with 6 ft. No. 16 Primary waterproof lead-in and waterproof interconnecting lead. Individual Cartons.
List Price ..... **$3.00 pair**

TROMBONE ANTENNA

No. 1125 — ¾" tubular steel. Copper plated. 48" long. Equipped with adjustable brackets. Easily installed. No drilling. Fits all cars. Complete with 6 ft. No. 16 Primary waterproof lead-in.
Individual Cartons
List Price ..... **$2.00 each**

SEMI-RUBBER SHIELDED ANTENNA

No. 3060—¼" solid steel. Copper plated. Equipped with adjustable brackets. No drilling. Fits all cars.
Complete with 6 ft. No. 16 Primary waterproof lead-in.
Individual Cartons
List Price ..... **$1.50 each**

PLATE ANTENNA

No. 930—Sheet steel. Copper plated. 42" long. Equipped with our new umbrella type insulators and adjustable brackets. Complete with 6 ft. No. 16 primary waterproof lead-in. Easy to install. No drilling. Fits all cars.
Individual Cartons
List Price ..... **$2.00 each**

BUMPEROD ANTENNAS

No. 3040—Three piece telescopic. 8 ft. long extended. Tubular steel. Easily attached to front or rear bumpers. No drilling. Fits all cars. **List Price** ..... **$2.65 each**
Individual Cartons
No. 3040B—Three piece telescopic. First 2 sections Admiralty metal tempered seamless tubing, chromium plated—third section polished stainless steel. Extends to 96"
List Price ..... **$7.00 each**

WINDOW ANTENNA

No. 3070—Three piece telescopic. Eight feet long extended. Tubular steel. Easily attached to any window sill. Complete with mounting backets and screws.
Individual Cartons
List Price ..... **$2.65 each**

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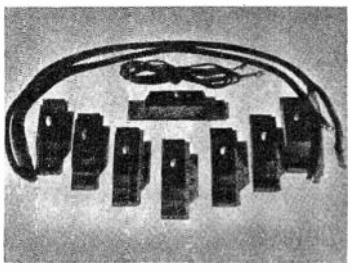
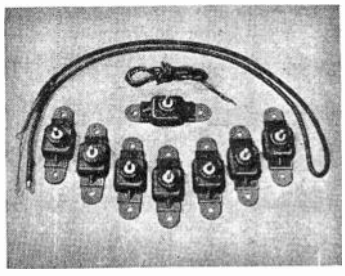
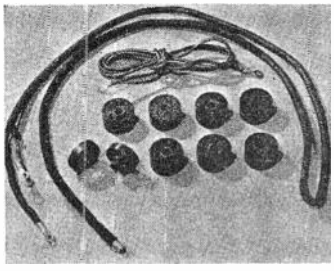
JFD AUTO RADIO ACCESSORIES

RUNNING BOARD ANTENNA INSULATORS







The running boards of the 1937 and 1938 Buick and Oldsmobile are used as antennas but they must be insulated from the step hangers before they will operate. Lead-in with Motorola connector supplied with these kits if specified "for Motorola."

BUICK 1937-1938

Square moulded rubber blocks.

No. 3000—Set of four for one running board
List Price $2.00

No. 3005—Set of eight for both running boards. List Price.....$4.00

No. 3010—Set of eight for both running boards complete with low loss, heavy lacquered lead-in, protected by a shielded loom covered with processed braid, 8 ft. long. Also 6 ft. waterproof interconnecting lead.
List Price, complete $5.50

BUICK 1937-1938

One piece steel frame. Spread head bolt moulded in rubber will not change position under any pressure or constant use. Guaranteed for the life of the car. Rubber used will not rot, get soft or spread, positive insulation, no chance for shorts.

No.	List Price
3000NB—Set of 4—one running board	$2.80
3005NB—Set of 8—both running boards..	5.45

DE LUXE PACKAGE

★No. 3010NB—Set of 8 for both running boards complete with low loss, heavy lacquered lead-in, protected by a shielded loom covered with processed braid, 8 ft. long. Also 6 ft. waterproof interconnecting lead.
List Price, complete.....$6.95

OLDSMOBILE 1937-1938

★No. 3020—Set of eight specially designed bakelite insulators complete with low loss, heavy lacquered lead-in protected by a shielded loom covered with processed braid 6 ft long. Also 6 ft. waterproof interconnecting lead.
List Price, complete $5.50

AUTO MOTOR SPARK NOISE SUPPRESSORS AND CONDENSERS

Maximum efficiency for both radio and motor is insured by the use of J.F.D. Suppressors. They are designed with long resistors, minimum capacity and have the best possible ratio of R.F. to D.C. resistance. Adequate noise suppression is given by a resistance of only 10,000 ohms and with this low D.C. resistance, full motor efficiency is assured. Very strong mechanically, they will withstand high voltage, vibration, heat and every weather condition. . . . With the exception of the Ford special, which has a resistance of 20,000 ohms, the standard resistance is 10,000 ohms.

SCREW ON PLUG TYPE

No. 280—Will fit most popular cars.
List Price.....$0.30 each

SNAP ON PLUG TYPE

No. 281—Snaps on plug at any angle.
List Price.....$0.30 each

SNAP ON PLUG CABLE END TYPE

No. 282—Replaces regular cable end.
List Price.....$0.30 each

DISTRIBUTOR TYPE

No. 283—Placed in series with center distributor cable. List Price.....$0.30 each

BRACKET TYPE

No. 284—For older types of cars.
List Price.....$0.30 each

CABLE TYPE

No. 285—To be inserted in spark cable near spark plug. List Price.....$0.30 each

SPECIAL RESISTOR BRUSH

No. 286—Replaces regular distributor brush on Ford 1936-37-38. List Price $0.30 each
No. 287—Replaces regular distributor brush on Ford '35 and previous. List Price $0.30 ea.

DESIGNED ESPECIALLY FOR FORD CARS

No. 288—Has a higher resistance required for this type of motor. List Price.....$0.30 each

DOME AND AMMETER CONDENSER

No. 290—Double spade tips aid in easy installation—capacity ½ mfd. List Price....$0.45 each

UNIVERSAL GENERATOR CONDENSER

No. 291—Double spade tips aid in easy installation—capacity ½ mfd. List Price $0.45 ea.
No. 292—Capacity 1 mfd. List Price $0.65 ea.

CONDENSER DESIGNED FOR 1937 FORD V8 DISTRIBUTOR HEAD

No. 293—Eliminates interference caused by brush sparking, etc. List Price .....$0.50 each
No. 294—Designed for 1936 Ford and previous distributor heads. List Price. .$0.50 each

GAS GAUGE FILTER CONDENSER

No. 295—Capacity .05 mfd.
List Price .....$0.50 each

WIRE WOUND SUPPRESSORS

LOW D. C. OHMAGE

Eliminate motor noises without affecting the efficiency of the ignition system.

MASTER SUPPRESSORS

For complete filteration

No. 70—Installed directly into the distributor head, only one master suppressor is required to completely eliminate ignition interference and insure consequent clear radio reception.
List Price.....$2.00 each

IGNITION SUPPRESSORS

No. 60—Bracket Plug Type
List Price.....$0.50 each

No. 62—Distributor Head Type
List Price.....$0.50 each

No. 64—Cable Type
List Price .....$0.50 each

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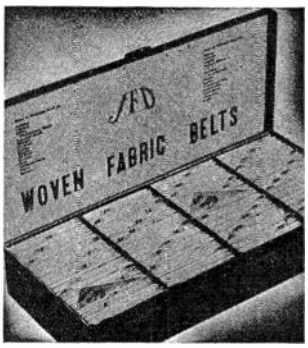
World Radio History

JFD RADIO ACCESSORIES

WOVEN FABRIC RADIO DIAL BELTS



J. F. D. Woven Fabric Radio Dial Belts are exactly the same as originally used on every popular set manufactured. Heat and moisture proof—will not stretch—surface specially prepared to give maximum friction and consequent accurate tuning. Packed in individual envelopes and put up in kits of 25, 100 and 300.

SINGLE BELTS . 25c ea.

SERVICEMEN'S KITS

Attractive enameled Steel Kit and Measurement Chart with each assortment FREE.

B100—Contains complete assortment of 100 belts, exactly the same as originally used on Zenith, Emerson, Crosly, Grunow, Sparton, R.C.A., Fada, Stromberg-Carlson, Detrola, Silvertone (Sears, Roebuck & Co.), Airline (Montgomery Ward) and every other popular set manufactured. List Price $25.00.
Net to Dealers.....$13.50

B25A—Contains 25 belts, one each of the most popular numbers. List Price $7.25
Net to Dealers.....$3.90

JOBBERS' KIT

300B—Lifetime fibreboard kit containing 300 assorted dial belts.

Prominently displayed on the counter, this kit will sell the belts.

List Price $75.00

Model No.	Belt No.
ACRATEST	
24 BH	8
24 BW	8
30 C	9
31 C	9
AM 29 C	9
AM 79 H	9
AM 111 G	9
ADMIRAL	
All Numbers	38
AIRLINE Montgomery Ward	
62-192	55
62-194	55
62-391	55
62-303	55
62-309	55
62-317	55
AMERICAN BOSCH	
600	29
670	15
680	15
BELMONT	
686	26
770	27
786	26
787	26
878	7
1070	27
1170	7
1174	7
CAPEHART CO.	
3650	57
CROSLEY	
All Numbers	58
DETROLA	
155	36
164	35
DEWALD	
901	41
1102	41
EMERSON	
A 130	4
A 132	4
A 148	4
B 131	3
C 134	18
C 136	18
C 138	18
C 139	18
C 140	18
C 142	18
D 134	18
D 136	18
D 138	18
D 139	18
D 140	18
D 142	18
D 146	18
F 117	3
F 122	3
F 133	3
F 135	3
F 141	3
G 127	3
H 130	4
H 137	4
J 106	5
K 116	2
K 121	2
K 123	2
L 117	3
EMERSON (cont'd)	
L 122	3
L 133	3
L 135	3
L 141	3
L 127 LW	3
L 122 LW	3
L 133 LW	3
L 135 LW	3
L 141 LW	3
S 147	59
S 151	59
AH 162	56
AL 149	4
AL 168	4
AM 131	3
AM 169	3
FADA	
211	30
212	38
216	38
270	10
271	10
290	30
311	30
312	38
316	58
FAIRBANKS-MORSE	
58	32
90	53
91	51
110	53
GAROD	
370	19
371	19
380	19
381	19
830	19
831	19
930	19
1240	20
1650	20
4110	20
5140	20
5240	20
GRUNOW	
573	31
631	31
643	31
711	31
723	31
731	31
733	31
735	31
823	32
831	32
833	32
835	32
941	32
1191	39
LAFAYETTE	
B 15	15
B 22	15
B 30	26
B 35	15
C 46	21
C 47	21
C 61	21
C 62	21
C 64	21
MB 3	40
MB 4	40
LAFAYETTE (cont'd)	
MB 5	40
MB 6	40
MAJESTIC	
17182	60
17203	61
NORTHERN ELECTRIC	
All Numbers	52
R.C.A.	
RC 278 A	11
RC 289 A	33
RC 290 A	42
RC 294	6
RC 294 B	12
RC 314	22
RC 314 C	13
RC 325	23
RC 326	48
RC 327	50
RC 328	43
SILVERTONE (Sears, Roebuck)	
1930	14
1940	14
1941	45
1956	14
1970	14
1970 A	14
1981	45
1981 C	45
7170	45
7170 A	45
SIMPLEX	
8 J	62
SPARTON	
517	47
518	46
527-2	46
528-2	46
537	46
538	46
547-X	46
548-X	46
557	47
558	46
567	47
568	46
577	46
578	46
587-2	46
588-2	46
617	46
628	46
637-6	46
638-6	46
667	46
668	46
678	46
687-6	46
688-6	46
727-X	34
727-XD	24
728-X	34
748-X	46
768	34
778	34
827-X	34
827-XD	34
867	34
877-X	34
928-X	34
SPARTON	
968	34
987	34
987-X	34
1068	34
1078	34
1167	34
1268	34
1288-P	34
1288-LXP	34
1567	34
1568	34
1867	34
STROMBERG-CARLSON	
All Numbers	51
WELLS-GARDNER	
8 X 35	63
8 X 36	64
8 X 57	31
WESTINGHOUSE	
1029 X	24
1029 Y	24
1230 X	21
WILCOX-GAY	
6 S 12	25
ZENITH	
5 S 29	1
5 S 29 A	1
5 S 56	1
5 S 56 A	1
5 S 119	17
5 S 126	17
5 S 127	17
5 S 150	17
5 S 151	17
5 S 161	17
6 S 27	16
6 S 27 A	16
6 S 52	16
6 S 52 A	16
6 V 27	16
6 V 62	16
7 D 119	17
7 D 126	17
7 D 127	17
7 D 138	17
7 D 148	17
7 D 151	17
7 D 162	17
7 D 168	17
7 S 28	28
7 S 30	28
7 S 53	28
8 S 129	37
8 S 154	37
9 S 30	28
9 S 54	28
9 S 55	28
10 S 130	37
10 S 147	37
10 S 153	37
10 S 155	37
10 S 156	37
10 S 157	37
10 S 160	37
12 A 57	44
12 U 158	49
12 U 159	49
16 A 61	44
16 A 63	44

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JFD RADIO ACCESSORIES

DIAL BANDS, BELTS, CORDS AND CABLES BY THE SPOOL

List per spool

901—No. 1A Cable—made of the finest 42 strand Phosphor Bronze—nothing to equal it on the market—obtainable only from us.

25 ft. Spools	$1.18
50 ft. Spools	2.25
100 ft. Spools	4.25

901—No. 1B Cable—a low priced cable 42 strand Phosphor Bronze equal in quality to any cable now offered with the exception of our No. 901—1A.

25 ft. Spools	$ .96
50 ft. Spools	1.80
100 ft. Spools	3.45

902—No. 2—Made of Phosphor Bronze, has 18 strands, knitted, and will afford good service.

25 ft. Spools	$ .80
50 ft. Spools	1.50
100 ft. Spools	2.90

903—No. 3 Heavy Cord—exactly as original used in Silver-Marshall, Philco, Brunswick, and other make sets, both as to texture and thickness. Made of the finest black linen, braided, with a breaking strength of 200 lbs. per foot.

25 ft. Spools	$1.30
50 ft. Spools	2.50
100 ft. Spools	4.75

904—No. 4 Light Cord—the most popular cord on the market. Made of the finest black linen, braided, with a breaking strength of 150 lbs. per foot.

25 ft. Spools	$1.18
50 ft. Spools	2.25
100 ft. Spools	4.25

905—No. 5 Special Heavy Grey Cord—Exactly as originally used in all Kolster and Grebe sets and where extra strong drive cord is required. Made of the finest linen, braided, with a breaking strength of 300 lbs. per foot.

25 ft. Spools	$2.00
50 ft. Spools	3.60
100 ft. Spools	7.00

906—Special Thin Phosphor Bronze Knitted Cable. Excellent quality. Made expressly to replace cables on R. C. A. and G. E.—1936-1937-1938 sets.

50 ft. Spools	$1.50
100 ft. Spools	2.90

907—.072 Gauge Heavy White Cord—Exactly the same as used in all Philco receivers. Highest quality—lowest price.

25 ft. Spools	$1.50
50 ft. Spools	2.69
100 ft. Spools	5.06

801—No. 1 Phosphor Bronze Belting—Exactly the same as used in Atwater Kent, Colonial, Crosley, Steinite and many other sets. 3/16" wide x .005 thick.

100 ft. Spools	$4.85

802—No. 2 Phosphor Bronze Belting—Used in Brunswick and Silver-Marshall sets. 5/16" wide x .006" thick.

100 ft. Spools	$7.00

DIAL BANDS, BELTS, CABLES AND CORDS (Made Up)

Make of Set	Model	Price
Atwater Kent	35, 37	$0.25
Atwater Kent	44	.40
Atwater Kent	46	.25
Bosch	48A	.25
Bosch	58, 60	.25
Brunswick	15, 22 Front	.40
Brunswick	15, 22 Rear	.40
Brunswick	14, 21	.25
Colonial	31, 32	.35
General Motors	All	.40
Kolster	6J	.40
Kolster	43, 44	.50
Majestic No. 1	70, 71, 72	.20
Majestic No. 2	70, 71, 72	.15
Majestic	15B, Lazyboy	.25
Majestic	52, 60	.25
Philco	71	.25
Philco	91	.25
R.C.A.	44, 46, 47	.30
R.C.A.	16, 17, 18, 33	.30
Sparton	All	.30
Steinite	All	.30

SERVICEMEN'S KITS, DIAL BELTS, CABLES and CORDS

Indispensable to every serviceman. Every type cable, belt or cord used in sets from 1927 to 1938 immediately available.

KITS OF 8 SPOOLS

Kit No. SK925—Contains one 25 foot spool of each Number 901, 902, 903, 904, 905, 906, 907 and 801.

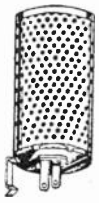
List Price	$11.32
Net Price to Servicemen	6.10

Kit No. SK950—Contains one 50 foot spool of each, Number 901, 902, 903, 904, 905, 906, 907 and 801.

List Price	$18.09
Net Price to Servicemen	9.76

Kit No. SK100—Contains one 100 foot spool of each, Number 901, 902, 903, 904, 905, 906, 907 and 801.

List Price	$35.95
Net Price to Servicemen	19.00



LINE BALLAST REPLACEMENTS

These ballasts will replace the originals in every respect. They are wound with a special alloy wire having a very high temperature coefficient of resistance which results in excellent self-regulating action. Ballast, not listed, can be furnished on request.

	Cat. No.
BALDWIN	5300
BELMONT	5400
BREMER-TULLY S81, S82	6000
BRUNSWICK	6100
CLARION 51, 53, 55	6150
GREBE SK4, HS5	6200
HAMMARLUND ROBERTS HIQ 30	6300
HIQ 31	6350
KENNEDY 426, 526, 626, 726, 826, 632, 1030	6400
KYLECTRON K-71, K-72	6500
MAJESTIC 70	5000
MAJESTIC 90	5100
MAJESTIC 180	5200
PEERLESS 71, 72	6600
SCOTT AC10	6650
SILVER-MARSHALL 30, 30B, 60, 60B, 75, 75B, 95	6700
SIMPLEX	6750
SONORA A30, A32, A40	6800
A36, A44, A46	6850
STEWART-WARNER 900	6900
950	7000
R100	7100
UNITED-REPRODUCER 21, 22, 23, 24, 25	7200

LIST PRICE, ANY ABOVE TYPES, EACH $2.00

RESISTANCE WIRE FOR ALL BALLASTS CUT TO EXACT SIZE AND PACKED IN INDIVIDUAL ENVELOPES.

List Price, Each $0.40

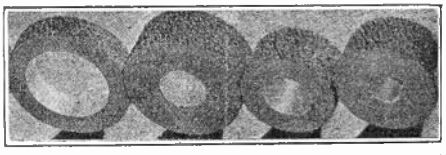
TYPE M SELF ADJUSTING A.C. LINE BALLASTS

Maintain steady voltage and prevent overload ● Made of metal in line with today's preference for metal tubes ● Practically indestructible, guaranteed for eighteen months ● Simple to install, no special socket required ● Every owner of a home radio set is a potential customer.

Cat. No.	For	List Price	Cat. No.	For	List Price
7300	5-6 tubes	$2.00	7450	11-12 tubes	$2.00
7350	7-8 tubes	2.00	7500	16-18 tubes	2.00
7400	9-10 tubes	2.00	7550	20-24 tubes	2.00

Packed in attractive individual cartons complete with convenient outlet.

DIAL DRIVE FRICTION RUBBERS



ATWATER KENT

No. 1 Small ..... Part No. 15631
No. 2 Large for gear .. Part No. 17961
No. 9 ..... Part No. 27332
No. 10 ..... Part No. 27333

R. C. A.

All numbers

STEWART WARNER

102—104
105—120 No. 1 small
105—120 No. 2 large
113—114 Converter
126

KENNEDY, OLSEN and others

List Price, Each 10c

24 ASSORTED

List Price $1.50

100 ASSORTED

List Price $5.75

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World Radio History

JFD RADIO ACCESSORIES

CELLENOID LIQUID CEMENT

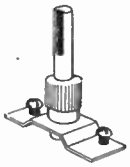
No. 2042—Cements Bakelite, Glass, Wood, metal parts, cloth, coils, radio speakers, tube bases, etc. Repairs anything requiring a rapid adhering cement 4 oz. cans.

List Price.....$0.60 each

"JEFDEE" DIAL DRIVE CEMENT

No. 2040—Expressly prepared to attach Dial Drive Friction Rubbers to Metal Dial Shafts. Just a drop of cement and the rubber will remain securely fastened until worn out. Packed in individual cartons.

List Price.....$0.60 each



DIAL DRIVE REPLACEMENT ASSEMBLY

No. 2030—Rubber friction roller moulded on shaft will never work loose. For RCA Models R-4, R-6, R-7A, R-8, R-9, R-10, R-11, RE-16A, RE-18, RE-26, R-43, etc. Also G. E. and Westinghouse. Replacement for RCA Part No. 2999. Packed in individual cartons.

List Price.....$0.40 each

"JEFDEE" DIAL LIGHT COLORING KIT

No. 2043—Consists of 5 wide mouth jar type vials containing ¼ oz. each color, red, blue, green and brown and one vial solvent.

List Price, Kit.....$0.50 each

"JEFDEE" SPEAKER CEMENT

No. 2041—Made expressly to repair speaker cones but may be used for many other purposes requiring a fast drying, quick adhesive cement. Packed in individual cartons.

List Price.....$0.42 each

COPPER SHIELDING OR COPPER BRAID

BARE COPPER	List per 100 ft.
No. 1005A—(24-13-36)—¼"	$3.25
No. 1006A—(48- 8-36)—⅜"	5.00
No. 1007A—(48-11-36)—½"	6.00

TINNED COPPER	List per 100 ft.
No. 1010A—(24-13-36)—¼"	$5.50
No. 1011A—(48- 8-36)—⅜"	7.25
No. 1012A—(48-11-36)—½"	8.50

No. 1009A—(24-18-36)—3/16" Special for Bonding Purposes
List per 100 ft.....$2.00

LINE RESISTOR A. C. - D. C. BALLAST TUBES

GLASS TYPES

No.	List	No.	List	No.	List	No.	List	No.	List	No.	List
100R8	$.80	140M8	$.80	185R4	$.80	250R8	$.80	270M8	$.80	K55BG	$.80
120R8	.80	165R	.80	185R8	.80	250L4	.80	300R4	.80	M17HG	.80
130R	.80	165R4	.80	185R44	.80	250L8	.80	320R4	.80	M27HG	.80
140R	.80	165R8	.80	185L4	.80	250M4	.80	60R30G	.80	M30HG	.80
140R4	.80	165R44	.80	185L8	.80	250M8	.80	878R48	1.00	M42HG	.80
140R8	.80	165L4	.80	185L44	.80	270R	.80	340	.80	M49HG	.80
140R44	.80	165L8	.80	185M4	.80	270R4	.80	03G	.80	M55HG	.80
140L4	.80	165L44	.80	185M8	.80	270R8	.80	33AG	.80	100-37	1.00
140L8	.80	165M4	.80	200R	.80	270L4	.80	K42CG	.80	100-38	1.00
140L44	.80	165M8	.80	250R	.80	270L8	.80	K49BG	.80	808-1	1.25
140M4	.80	185R	.80	250R4	.80	270M4	.80	K49CG	.80	808-2	1.25

METAL TYPES

No.	List	No.	List	No.	List	No.	List	No.	List	No.	List
K23B	$.80	42A2	$.80	M42C	$.80	L49D	$.80	L55CP	$1.00	K80F	$.80
K23C	.80	42B2	.80	M42D	.80	L49DJ	1.00	L55D	.80	K80H	.80
K23E	.80	K42B	.80	M42H	.80	L49E	.80	L55E	.80	L80B	.80
30A	.80	K42C	.80	49A	.80	L49S1	1.00	L55F	.80	L80C	.80
36A	.80	K42D	.80	49A1	.80	L49S2	1.00	L55S1	1.00	M80B	.80
K36B	.80	K42E	.80	49A2	.80	L49S3	1.00	L55S2	1.00	M80C	.80
K36C	.80	L42B	.80	49B2	.80	M49B	.80	L55S3	1.00	K87B	.80
K36D	.80	L42BX	1.25	KZ49A	.80	M49C	.80	M55B	.80	92A	.80
K36E	.80	L42C	.80	K49B	.80	55A	.80	M55C	.80	K92B	.80
K36H	.80	L42CJ	1.00	KZ49B	.80	55A1	.80	M55D	.80	K92C	.80
L36B	.80	L42CS4	.80	K49C	.80	55A2	.80	M55E	.80	K92F	.80
L36C	.80	L42D	.80	KZ49C	.80	55B2	.80	M55H	.80	K95B2	1.00
L36D	.80	L42DJ	1.00	K49D	.80	K55B	.80	67A	.80	L99D	.80
L36DJ	1.00	L42DX	1.25	K49E	.80	K55C	.80	K67B	.80	100-37	1.00
L36E	.80	L42E	.80	L49B	.80	K55CP	1.00	K74B	.80	100-38	1.00
M36C	.80	L42S1	1.00	L49BJ	1.00	K55D	.80	K74C	.80	808-4	1.25
M36H	.80	L42S2	1.00	L49BX	1.25	K55H	.80	80A	.80	2UR224	.80
42A	.80	L42S3	1.00	L49C	.80	L55B	.80	K80B	.80	3CR241	.80
42A1	.80	M42B	.80	L49CJ	1.00	L55C	.80	K80C	.80	2VR215	.80
										3ER248	1.00

A. C. - D. C. ADJUSTABLE BALLASTS

YOU NEED BUT TWO TYPES OF J.F.D. ADJUSTABLE BALLASTS IN STOCK TO REPLACE 90% OF THE A.C.-D.C. BALLAST TUBES YOU MAY HAVE CALLS FOR.

NO TOOLS REQUIRED • NO EXPERIENCE NECESSARY

Send for Samples and Complete Chart Showing How It's Done.

TYPE A, LIST PRICE.....$1.10 EACH
TYPE B, LIST PRICE.....$1.10 EACH

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World Radio History

GORDON PARTS AND ACCESSORIES

GORDON WORLD DX CLOCK

No guesswork. No charts. This professionally styled lifetime instrument tells you **instantly** GMT or Local time of stations you contact—in any one of the 24 time zones around the world! A practical necessity for every station owner.

Genuine Waltham self-starting synchronous movement. Available for 110 or 220 volts; 25, 40, 50 or 60 cycle AC. 24 hour colored dials plainly marked for direct reading. Information included for telling time in locations not shown on clock. Base removable for mounting flush in a panel.

List Price **$15.00** Amateur Net **$9.00**
Shipping wt. 4 lbs. State electrical requirements

GORDON NAME PLATES—Two Sizes

DE LUXE LINE - 2½" x ½"
List Each 15c - **Amateur Net 10c**

STANDARD LINE - 1½" x ⅜"
List Each 10c - **Amateur Net 6c**

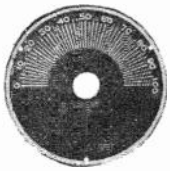
For transmitters, sound and test equipment. Most complete line. **Brass stock** first nickel-plated, then finished in satin chrome. Back-ground **etched** dull black. Everlasting, corrosion resistant finish. Complete with self-tapping mounting screws. Also De Luxe or Standard Nameplates specially engraved to your specifications. Write for information and prices.

ACTUAL SIZE DE LUXE NAMEPLATE

Oscillator	2nd Buf. Gr. Tank	Amplifier	Bias Voltage
Oscillator Tank	3rd Buffer Plate	Power Amp. Plate	Send
Crystal	3rd Buf. Pl. Tank	P. A. Plate Tank	Receive
Crystal Osc. Plate	3rd Buffer Grid	Power Amp. Grid	Send—Receive
Crystal Osc. Grid	3rd Buf. Gr. Tank	P. A. Grid Tank	Phones
Tritet Osc.	1st Buf. Dblr. Plate	Antenna	Receiver
Tripler Plate	1st Buf. Dblr. Pl. Tank	Antenna Cur.	Telegraph or CW
Tripler Grid	1st Buf. Dblr. Grid	Antenna Tuning	Telephone
Cathode Tun. Cond.	1st Buf. Dblr. Gr. Tank	Beam Antenna	Speech Amplifier
Transmitter	2nd Buf. Dblr. Plate	Ground	Modulator Plate
Buffer	2nd Buf. Dblr. Pl. Tank	Neut. Condenser	Modulator Grid
1st Buffer Plate	2nd Buf. Dblr. Grid	Plate Voltage	Class B Modulator
1st Buf. Pl. Tank	2nd Buf. Dblr. Gr. Tank	Filament Voltage	Class A Modulator
1st Buffer Grid	3rd Buf. Dblr. Plate	Key	Sp. Amp. Dvr. Plate
1st Buf. Gr. Tank	3rd Buf. Dblr. Pl. Tank	Screen Current	Microphone
2nd Buffer Plate	3rd Buf. Dblr. Grid	Phone—CW	Microphone Cur.
2nd Buf. Pl. Tank	3rd Buf. Dblr. Gr. Tank	Off—On	Gain Control
2nd Buffer Grid	Doubler	Rectifier	Volume

% Modulation	Mixer No. 1	125 Ohm Input	
Transceiver	Mixer No. 2	125 Ohm Output	
Monitor	Mixer No. 3	56 Mc Band	
Heater Voltage	Fader	28 Mc Band	
Generator	Power	14 Mc Band	
Battery Charge	Field	7 Mc Band	
Battery Discharge	Speaker	3.5 Mc Band	
Beat Oscillator	Radio	1.7 Mc Band	
Plate No. 1	Record	Oscilloscope	
Plate No. 2	Tone	Up—Spot—Down	
Coupling	Input	Left—Spot—Right	
Excitation	Output	Focus	
D. C. Input	200 Ohm Input	Off—Intensity	
D. C. Output	200 Ohm Output	Vertical Plates	
A. C. Input	500 Ohm Input	Horizontal Plates	
A. C. Output	500 Ohm Output	60 Cycle Sweep	
Regeneration	50 Ohm Input	Linear Sweep	
Pre-Selector	50 Ohm Output		

GORDON DIAL PLATES AND MARKERS



No. 260. Dia. 3". **Brass Stock**, etched black. Raised markings **chrome plated.** 180° scale.
No. 261. Same except scale covers 270°.
List Each 60c. **Amateur Net 36c**
No. 262. Same as No. 260, but Dia. is 1⅞ in.
No. 263. Same as No. 261, but Dia. is 1⅞".
List Each 35c. **Amateur Net 21c**

No. 264. Dia. 2¼". **Brass stock**, etched black. Raised markings **chrome plated.** One separation between numerals. Plate marked "GAIN."
No. 578. Same, but marked "MASTER GAIN."
No. 568. "TONE." Has 3 separations between numerals.
List Each 40c. **Amateur Net 24c**

Raised aluminum markings, on black. 2¼"x1 11/16".
No. 276. "GAIN" **No. 566.** "MICROPHONE"
No. 277. "TONE" **No. 570.** "MASTER GAIN"
No. 565. "RECORD" **No. 571.** scale only—no marking
List Each 20c. **Amateur Net 12c**

Raised aluminum markings, on black. 1¾" Diameter.
No. 25. "VOLUME" **No. 225.** "1-2"
No. 26. "TONE CONTROL" and "OFF-ON"
No. 29. "BEAT. OSC." and "OFF-ON"
No. 560. "AVC" and "OFF-ON"
List Each 12c. **Amateur Net 7c**

"OFF-ON" PLATES. TWO STYLES
Raised Aluminum Markings
No. 278 (left) 1 1/16 x 1 11/16". **No. 273** (right) 1x1¼".
List Each 10c. **Amateur Net 6c**

GORDON JACK MARKERS
Similar to No. 273 above, but without mounting screw holes.
No. 219. "PHONES" **No. 222.** "PHONOGRAPH"
No. 220. "MICROPHONE" **No. 223.** "PLATE CUR."
No. 221. "MICROPHONE CUR." **No. 224.** "GRID CUR."
List Each 12c. **Amateur Net 7c**

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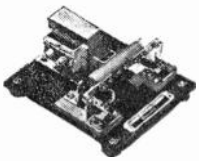
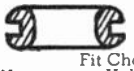
GORDON HEAVY DUTY RF RELAY

FOR ANTENNA CHANGE-OVER, MULTI-BAND TRANSMITTER TANK SWITCHING AND 60 CYCLE POWER SWITCHING.



Takes 1 Kw. easily. Big ⅜" silver contacts, ½" spacing. Alsimag 196 RF insulation. For freq. up to 100 Mc. Powerful hum-free solenoid. Positive action. Double pole-double throw. Low Power consumption—about 5 Watts. For 110v., 50-60 cycle AC. Size: 4¾" x 5 9/16" x 3" high.
No. 1000. List $15.00. **Amateur Net $9.00**

GORDON LICENSE CARD HOLDER
Swivel mounting permits easy access to either side of license card, calibration chart or curve sheets held between transparent pyrolin. Overall frame size: 4½" x 3". Black wrinkle finish.
No. 150. with base. **No. 151.** With Bracket for panel mounting.
List Each $1.25. **Amateur Net 75c**



RUBBER GROMMETS—High Dielectric Strength
Insulate holes in metal sheets up to 1/16" or 14 ga.

No.	Fit Chasis Hole	Inside Dia.	Per Doz.	Per 100
901	¼"	⅛"	15c	$0.85
903	5/16"	11/64"	25c	1.00
905	⅜"	9/32"	30c	1.10
907	7/16"	13/32"	35c	1.20
909	11/32"	15/32"	35c	1.70
911	½"	19/32"	37c	1.50

Amateurs Allowed 40% off these list prices

RUBBER BUMPER FEET

No.	Dia.	Height	Per Doz.	Per 100
111	13/32"	¼"	20c	$1.00
511	⅜"	5/16"	25c	1.50
112	5/16"	⅜"	27c	1.60
113	23/32"	½"	30c	2.00

For 6/32 or 8/32 machine screws or No. 6 or No. 8 wood screws.

Amateurs allowed 40% off these list prices

World Radio History

GORDON TUNING CONTROLS

Here is the only complete line of tuning controls available that are especially suited for all kinds of equipment—transmitters, receivers, and testing apparatus. If you prefer hand wheel controls you can have them with scales and pointers or dials and vernier markers—all made of heavy gauge brass; chromium-plated, finished in a soft grain satin. The list of 126 markings of GORDON Standard size or Deluxe size name plates are especially recommended for use with both these scale type and dial type tuning controls. For other circuits where scales or dials are not necessary, such as volume controls, tone controls, selector switches, etc., bakelite hand wheels or flanged knobs are available with or without metal pointers.

HAND WHEEL, SCALE and POINTER

No. 300. 3¼" hand wheel and 5¼" scale.
List $2.40. **Amateur Net $1.44**

No. 301. 2¼" hand wheel and 3⅝" scale.
List $1.90. **Amateur Net $1.14**

FLANGED KNOB SCALE and POINTER

No. 304. 3" flanged knob with 5¼" scale.
List $2.00. **Amateur Net $1.20**

No. 305. 2 1/16" flanged knob and 3⅝" scale.
List $1.50. **Amateur Net $0.90**

HAND WHEEL, DIAL and VERNIER MARKER

No. 302. 3¼" hand wheel and 4" dial. 0-100 scale covers 180°.
List $3.00. **Amateur Net. $1.80**

No. 303. 2¼" hand wheel and 2¾" dial. 0-100 scale covers 180°.
List $2.10 **Amateur Net $1.26**

FLANGED KNOB, DIAL and VERNIER MARKER

No. 292. 3" flanged knob with 4" dial. 0-100 scale covers 180°.
List $2.50. **Amateur Net $1.50**

No. 296. Same as No. 292 except 5 to 1 ratio planetary type.
List $6.50. **Amateur Net $3.90**

No. 293. 3" flanged knob with 4" dial. 0-100 scale covers 270 degree arc.
List $2.50 **Amateur Net $1.50**

No. 297. Same as No. 293 except 5 to 1 ratio planetary type.
List $6.50. **Amateur Net $3.90**

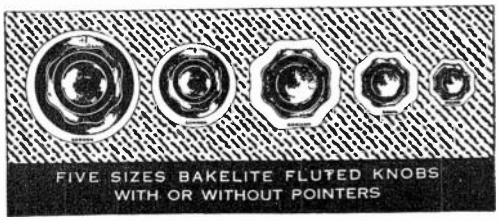
No. 294. 2 1/16" flanged knob with 2¾" dial. 0-100 scale covers 180°.
List $1.65. **Amateur Net $0.99**

No. 295. Same as No. 294 except 0-100 scale covers 270 degree arc.
List $1.65. **Amateur Net $0.99**

FOUR SIZES BAKELITE HAND WHEELS WITH OR WITHOUT POINTERS

No.	Size	Metal Pointer	List	Amateur Net
308	3¼"	yes	$ 2.00	$ 1.20
309	3¼"	no	1.90	1.14
310	2¼"	yes	1.50	0.90
311	2¼"	no	1.40	0.84
312	1⅝"	yes	0.50	0.30
313	1⅝"	no	0.40	0.24
314	1⅛"	yes	0.40	0.24
315	1⅛"	no	0.30	0.18

Above have brass bushings for ¼" shafts.
⅜" holes on special order.



FIVE SIZES BAKELITE FLUTED KNOBS WITH OR WITHOUT POINTERS

No.	Size	Flange	Metal Pointer	List	Amateur Net
587	3"	yes	yes	$ 0.75	$ 0.45
281	3"	yes	no	0.65	0.39
588	2 1/16"	yes	yes	0.60	0.36
283	2 1/16"	yes	no	0.50	0.30
589	2⅜"	no	yes	0.60	0.36
280	2⅜"	no	no	0.50	0.30
590	1⅝"	no	yes	0.50	0.30
282	1⅝"	no	no	0.40	0.24
591	1⅛"	no	yes	0.40	0.24
284	1⅛"	no	no	0.30	0.18

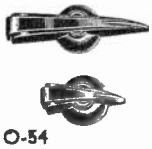
Above have brass bushings for ¼" shafts.
⅜" holes on special order.

GORDON AIRPLANE DIAL with VERNIER DRIVE and VERNIER INDICATOR

Highly efficient Micrometer control. Easy reading decimal indicator permits adjustment, both plus and minus, to 1/10 of one division. Ratio of anti-backlash vernier is 14-1 in 360°. Scale calibrated 0-100 or 100-0 in 268°. Can be mounted on metal panel. Visible diameter of scale 2⅞". Complete with knob and chrome plated escutcheon.

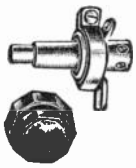
No. 371 (0 at left) List Price $4.50. **Amateur Net $2.70**
No. 372 (100 at left) List Price $4.50. **Amateur Net $2.70**

FINE QUALITY BAR KNOBS



Genuine Black Bakelite—White Pointer Stripe
No. 285. Length 2¼". List Price 20c.
Amateur Net 12c
No. 286. Length 1¼". List Price 15c.
Amateur Net 9c

VERNIER DRIVE PLANETARY UNIT



Dual ratio, 7 to 1 vernier and 1-1 direct, each drive with separate knob. Mounts on control shaft behind panel. Drive shaft projects thru panel.
No. 599. List Price $2.25. **Amateur Net $1.35**
No. 289. Black Bakelite knobs for above, per pair. List Price 20c. **Amateur Net 12c.**

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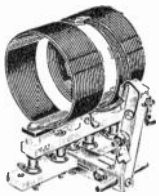
World Radio History

VARIABLE LINK AIR INDUCTORS

B&W

BARKER & WILLIAMSON • ARDMORE, PA.

SWINGING LINK ASSEMBLIES



NEW! TYPE BVL

100 WATTS RATING

A small, unusually compact, highly efficient Assembly designed for direct mounting on condenser. Ideal for low powered transmitters and exciter stages or in conjunction with B & W Type BL coils in interstage coupling. Six interchangeable plug-in coils provide a complete range, from 5 to 160 meters.

Type	*Capacity MMfd.	Inductance Microhenrys	Net Price
160BVL	150	55	$2.10
80BVL	70	30	1.90
40BVL	40	13	1.65
20BVL	40	3.1	1.45
10BVL	35	1.0	1.40
5BVL	25	0.5	1.35

BVL ASSEMBLY—includes swinging link and jack bar $2.50

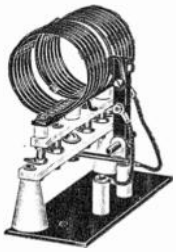
Unquestionably the finest variable link units on the market today! Pioneered by B & W to provide accurate, positive control of loading and excitation in the final stages of transmitters. B & W Variable Link Coils are available in three sizes—for high, medium and low power. They are supplied with four plugs and are split to provide twin metering in the plate circuits of push-pull stages.

Their exclusive B & W design allows convenient front-of-panel coupling control. Make-shift means of control are no longer necessary.

B & W Swinging Link Assemblies are scientifically designed . . . precision-built for highest efficiency under all operating conditions . . . you can expect—and get—better results with B & W AIR INDUCTORS than you ever experienced with any other coils.

TYPE TVL

250 WATTS RATING

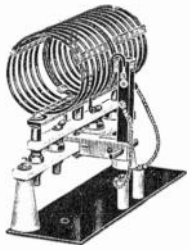


The Type TVL AIR INDUCTOR is an outstanding example of the B & W policy—to design every AIR INDUCTOR to do a specific job . . . better than it was ever done before! You'll find Type TVL Coils and Assemblies practical . . . efficient . . . exceptionally dependable for medium power applications—even under extreme operating conditions.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Dia.	Outside Plug Centers	Net Price
160TVL	130.0	65	18	2½"	5"	$2.25
80TVL	38.0	55	14	2½"	5"	2.15
40TVL	15.0	34	12	2½"	5"	1.90
20TVL	4.6	28	12	2½"	5"	1.65
10TVL	1.5	22	6	2 11/16"	5"	1.60
TV Base Assembly						4.00
TA Antenna Matching Coil						1.75

TYPE HDVL

1 K.W. RATING

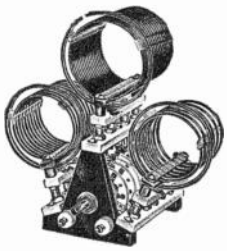


Here is the "King of Swing"! For all around dependability and exceptional performance in high power transmitters the heavy duty Type HDVL Swinging Link Assembly is undeniably superior, both electrically and mechanically, to any other type of coil on the market. As in all B & W Swinging Link units, an independent link and base assembly permits panel control of coupling.

Type	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Dia.	Outside Plug Centers	Net Price
160HDVL	94.0	90	14	3½"	7½"	$5.25
80HDVL	47.0	44	10	3½"	7½"	4.50
40HDVL	18.0	28	8	3½"	7½"	4.00
20HDVL	5.2	25	8	3½"	7½"	3.75
10HDVL	1.3	25	4	2⅝"	7½"	3.25
HDV Base Assembly						5.00
HDA Antenna Matching Coil						4.00

* TOTAL EFFECTIVE CAPACITY REQUIRED TO EFFECT RESONANCE ON LOW FREQUENCY END OF SPECIFIED BAND

B & W Model "B" Band Switching Turret



- **PANEL CONTROL**
- **POSITIVE ACTION SWITCH**
- **PLUG-IN COILS**
- **3 BAND SELECTION**

Quick, efficient band-switching is a reality when a B & W Model "B" Turret is used. By means of a positive action wiping contact switch rapid selection of any one of three bands is obtained. The plug-in feature provides a means of selecting any three band combination of coils (160 to 10 meters) most desirable at the time of operation. Five jacks are provided so that single ended, center tapped, end linked, or center linked type "B" coils may be accommodated.

The Model "B" Turret is ideal for use in crystal controlled or electron coupled oscillators as well as buffer, doubler, or final amplifier stages where power inputs of 100 watts and 1,000 volts are not exceeded.

Spot frequency operation in any band may be obtained by incorporating small air-padding condensers on the individual coils. A flick of the switch and the band is changed and tuned "on the nose"!

MODEL "B" TURRET—Less coils..... NET **$7.50**

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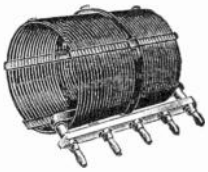
World Radio History

FIXED LINK AIR INDUCTORS

B&W

BARKER & WILLIAMSON • ARDMORE, PA.

• MINIMUM DIELECTRIC IN THE FIELD OF THE COIL • EXTREMELY LOW LOSSES • RUGGED CONSTUCTION • EXCELLENT APPEARANCE • LOW COST



Type HDL
(Fixed Link)

Each AIR INDUCTOR is a completely finished unit in every respect. All coils are center tapped and equipped with three banana type plugs.

The "B" series is for use in oscillator and buffer—doubler stages developing up to 100 Watts of power.

The "BX" series of coils are suitable for neutralized buffer and final tank stages with inputs up to 250 Watts.

The "T" line is especially well suited for high powered neutralized buffer and final tank stages where powers of 500 Watts are developed.

For the Amateur who wishes to use the maximum amount of power, our "HD" series of inductors are unquestionably the finest coils of their type on the market today. These inductors are capable of handling a kilowatt with ease. Equipped with oversized plugs of ample current carrying capacity.

Standard Type	Net Price	Linked Type	Net Price	Inductance Microhenrys	*Capacity MMfd.	Wire Size	Diameter	Outside Plug Centers
TYPE B and BL • 100 WATTS RATING								
160B	$1.75	160BL	$2.50	78.0	110	18	2½"	3⅛"
80B	1.55	80BL	2.30	39.0	52	16	2½"	3⅛"
40B	1.30	40BL	2.05	12.0	43	14	2"	3⅛"
20B	1.05	20BL	1.80	3.0	40	14	2"	3⅛"
10B	1.00	10BL	1.75	1.1	28	12	2"	3⅛"
TYPE BX and BXL • 250 WATTS RATING								
160BX	$1.80	160BXL	$2.80	84.0	100	14	4"	4"
80BX	1.60	80BXL	2.60	37.0	54	14	3"	4"
40BX	1.35	40BXL	2.35	10.0	51	14	2½"	4"
20BX	1.10	20BXL	2.10	2.8	45	14	2"	4"
10BX	1.05	10BXL	2.05	1.0	35	12	2"	4"
TYPE T and TL • 500 WATTS RATING								
160T	$1.85	160TL	$2.85	74.0	115	12	5"	5"
80T	1.65	80TL	2.65	35.0	60	12	3½"	5"
40T	1.40	40TL	2.40	13.5	38	12	2½"	5"
20T	1.15	20TL	2.15	4.3	30	12	2½"	5"
10T	1.10	10TL	2.10	1.3	25	12	2"	5"
TYPE HD and HDL • 1 K.W. RATING								
160HD	$4.25	160HDL	$6.25	94.0	90	10	5"	7½"
80HD	3.50	80HDL	5.50	40.0	50	10	3½"	7½"
40HD	3.00	40HDL	5.00	15.0	35	8	3½"	7½"
20HD	2.75	20HDL	4.75	4.2	29	8	3"	7½"
10HD	2.25	10HDL	4 25	1.3	25	4	2"	7½"

* CAPACITY REQUIRED TO EFFECT RESONANCE ON LOW FREQUENCY END OF SPECIFIED BAND.

A68-P1—Network Coil—Complete with clip $1.85

B & W UNMOUNTED COILS

For the experimenter who likes to "roll his own," B & W make three unmounted coils which may be cut as desired.

					Net Price
No. 1	2½" Dia.	10" Length	6 turns per inch	No. 12	$1.50
No. 2	2½" Dia.	10" Length	8 turns per inch	No. 14	1.50
No. 3	2" Dia.	10" Length	10 turns per inch	No. 16	1.50

SPECIAL COILS and ASSEMBLIES

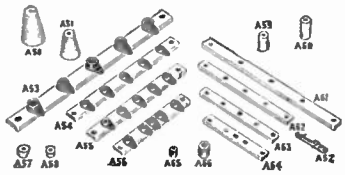
Let B & W solve your special inductance problems! Years of experience in the design and manufacture of inductors of every conceivable type—for amateur and commercial applications throughout the world—is your guarantee of complete satisfaction.

Call upon B & W engineers . . . they will be glad to study your problem and design the proper inductance unit for your particular need.

CUSTOM BUILT TRANSMITTERS

B & W will build a complete transmitter to your specifications—or work with you in designing a unit to fill your individual requirements. No job is too small—nor too large—to receive full benefit of the comprehensive technical experience of B & W engineers.

B & W ACCESSORIES



All Ceramic material shown are ALSIMAG 196.

	Net Price
A50—Cone Insulator 2" High, Tapped 10-32 Both Ends	$0.30
A51—Cone Insulator 1½" High, Tapped 8-32 Both Ends	.20
A52—Inductance Clip for "Air Inductor"—Tinned Phosphor Bronze	.10
A53—HD Jack Bar—For All Type HD-HDL-HDVL Coils	1.75
Less Jacks	1.25
A54—T Jack Bar—For All Type T-TL-TVL Coils	1.25
Less Jacks	1.00
A55—BX Jack Bar—For All Type BX-BXL Coils	1.15
Less Jacks	.90
A56—B Jack Bar—For All Type B-BL-BVL Coils	.85
Less Jacks	.60
A57—Steatite Bushing ½" Dia.—⅜" Long—Drilled 6-32 Clearance	.03
A58—Steatite Bushing ⅜" Dia.—⅜" Long—Drilled 6-32 Clearance	.02
A59—Steatite Post Insulator ½" Dia.—1" Long—Tapped 8-32 Both Ends	.15
A60—Steatite Post Insulator ½" Dia.—1½" Long—Tapped 8-32 Both Ends	.18
A61—HD Plug Bar, for All Type HD-HDL-HDVL Coils, Less Plugs	1.10
A62—T Plug Bar, for All Type T-TL-TVL Coils, Less Plugs	.30
A63—BX Plug Bar, for All Type BX-BXL Coils, Less Plugs	.25
A64—B Plug Bar, for All Type B-BL-BVL Coils, Less Plugs	.20
A65—Hexagon Nickeled Brass Post 5/16"x⅜" Long—Drilled 6-32 Clearance	.03
A66—Hexagon Nickeled Brass Post 7/16"x⅝" Long—Tapped 10-32	.06
A67—Special Transmitting Band Change Switch—5 Section—3 Position —100 Watt Rating	3.65

Net

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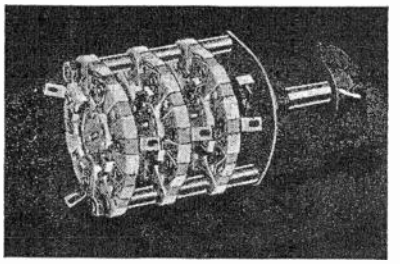
Centralab

Quality Controls • Resistors • Selector Switches

SELECTOR SWITCHES TO CHANGE CIRCUITS IN EVERY TYPE OF APPARATUS



THE heart of any switch is good contact. This is particularly true in radio circuit and meter selector switches. The slightest variation in contact resistance in radio tuner or amplifier circuits means amplified noise. In meter selector circuits poor contact resistance affects the meter calibration, especially on high current measurements, where small shunt resistance changes result in large errors.

Centralab selector switches employ a double jawed "biting" clip that maintains low contact resistance after standing for months in any reasonable temperature, humidity, or corrosive atmosphere as well as on the original life test.

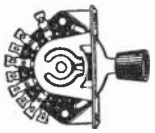
Mechanical specifications are identical for selector switches with either bakelite or Isolantite insulation. All sections 1-9/16" between mounting centers One inch spacers between sections for 3 and 4 gang switches. ½" ½" in all switches. ¼" diameter spacers for 2 gang. Index spacers aluminum shaft extends 1⅞" from ⅜" brass bushing. Mounting nut and lockwasher on bushing. All switches have adjustable stop index permitting choice of from two to maximum positions for any type. Attractive bar knob included with all assembled switches.

● ISOLANTITE OR BAKELITE?

Centralab Selector Switches are available with either bakelite or Isolantite insulation. Isolantite is recommended for high frequency applications because of its low power factor and good dielectric loss factor. Bakelite insulation is perfectly satisfactory for low frequency and direct current applications.

A very complete line of bakelite switches is listed on page nine. The more popular numbers are duplicated in Isolantite.

● TOGGLE SWITCH



A new design to conserve panel space in intercommunicators and allied equipment. Available with 3 positions. Positive locking index or spring return to mid-position available. Attractive knob included with switch.

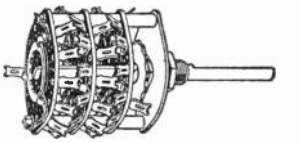
No. 1452 — 2 poles 3 positions positive locking index. Price $1.00.

No. 1453 — 2 poles 3 positions spring return from each side to mid-position. Price $1.00.

● UNIVERSAL FLAT SWITCH

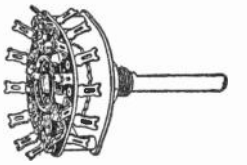
A compact inexpensive switch for many circuit applications. May be used as single pole single throw, single pole double throw, double pole single throw, double pole double throw, three pole single throw, three pole double throw, four pole single throw, four pole double throw. Non-shorting teeth. Flat construction requires only ⅝ inch overall back of mounting surface. Supplied with aluminum shaft 2¼" overall. Standard bar knob included. Catalog No. 1450. Price $0.75.

● CIRCUIT OPENING SWITCH



Twelve positions, continuous rotation. Inserts millammeter in any one of twelve different circuits, keeping remaining eleven circuits closed. Easily wired in circuit—only two connections to solder for each circuit. Aluminum shaft 2¼" long. ⅜" brass bushing. Bar knob included with each switch. Complete wiring instructions included. Catalog No. 1442. Price $4.50.

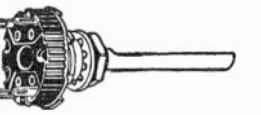
● 23 POSITION SWITCH



For test instruments and laboratory use. One common terminal contacts twenty-three clips mounted on one section. Double wiping low capacity contact insures long life. Furnished with shorting type contact only. Non-shorting contact cannot be supplied. ¼" aluminum shaft 2¼" long can be easily cut to length required. ⅜" brass bushing. Bar knob furnished with each switch. Switch cannot be supplied with adjustable stop. Catalog No. 1443. Price each $2.50.

DIAL PLATE numbered 1-23 for above Switch. Catalog No. K-173. Price each $0.20.

● ROTARY LINE AND TONE SWITCH



A compact rotary switch in molded bakelite case. Rated 3 amp. at 125 V. available in types listed below:

Tone Switch has three positions. One pole for A.C. line operates off-on-on. Second pole for tone control operates off-on-off.

Catalog No.	Type	Price Each
1447	S.P.S.T.	$ .50
1448	D.P.S.T.	.60
1449	Tone Switch	.60

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CENTRALAB ASSEMBLED SELECTOR SWITCHES

WITH BAKELITE INSULATION

Part Number		Description			Price
Shorting	Non-Shorting	Gangs	Poles	Positions	Each
1400	1401	1	1	2 to 6	$1.00
1402	1403	1	1	2 to 11	1.15
1404	1405	1	2	2 to 5	1.25
1406	1407	1	3	2 to 3	1.35
1408	1409	1	4	2	1.45
1410	1411	2	2	2 to 6	$1.60
1412	1413	2	2	2 to 11	1.75
1414	1415	2	4	2 to 5	2.00
1416	1417	2	6	2 to 3	2.10
1418	1419	2	8	2	2.25
1420	1421	3	3	2 to 6	$2.20
1422	1423	3	3	2 to 11	2.35
1424	1425	3	6	2 to 5	2.50
1426	1427	4	4	2 to 6	$2.75
1428	1429	4	4	2 to 11	3.00
1430	1431	4	8	2 to 5	3.50

WITH ISOLANTITE INSULATION

Part No.	Gangs	Poles	Positions	Price Each
2501	1	1	2 to 6	$1.70
2503	1	1	2 to 11	1.70
2505	1	2	2 to 5	1.70
2507	1	3	2 to 3	1.70
2511	2	2	2 to 6	$2.70
2513	2	2	2 to 11	2.70
2515	2	4	2 to 5	2.70
2517	2	6	2 to 3	2.70
2521	3	3	2 to 6	$3.90
2523	3	3	2 to 11	3.90
2525	3	6	2 to 5	3.90

Any bakelite or Isolantite selector switch can be assembled from SWITCHKIT parts. See page 10 for complete list of parts to assemble these and similar switches.

● CENTRALAB TONE SWITCHES

Tone Switches are so called because their chief application is in step type tone control circuits. Actually, they find use in many circuits.

Available in three types. All have brass bushing ⅜" diameter x ⅜" long. Steel shaft ¼" diameter x 2¼" long, milled flat for push-on or set-screw type knob. May be cut to required length. Positive "saw tooth" index action. All teeth are of the shorting type to minimize clicks when rotated. Shaft insulated from all terminals in all types.

Limited to low voltage-current applications. Maximum recommended current, 1 amp. at 6 volts.

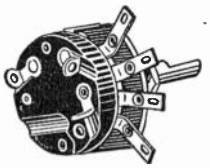
Available in circuit combinations listed below. Chief uses are:

No. 1460: S.P.D.T. use as tone control, phonograph-radio switch, sensitivity control. Price $0.50.

No. 1461: Single pole three positions. Use as tone control, selector switch, P. A. channel selector. Price $0.50.

No. 1462: D.P.D.T. May also be used as S.P.S.T., S.P.D.T., or D.P.S.T. Chiefly used as inexpensive wave band switch. Other uses: Inter-office communication talk-back, meter reversing, P. A. Channel switching. Price $0.60.

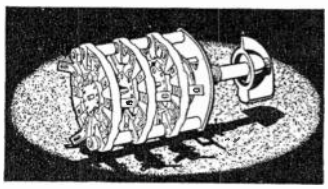
● TONE SWITCH WITH A.C. LINE SWITCH



Similar to 1461, but with S.P.S.T. A.C. Line Switch attached. Switch throws at most counter-clockwise position. Four positions: "off" and three active positions. Similar to tone switches used in Philco, R. C. A., G. E. and other late model receivers. Long shaft that can be cut to length.

Cat. No. 1465 1 Pole 4 position Price $1.00.

● TRANSMITTER SWITCHES FOR AMATEURS



These switches are designed exclusively for band switching in low and medium power transmitters. Isolantite insulation throughout for circuit stability and high efficiency.

All types have four positions, 90 degrees apart for greater spacing between contacts. Adjustable stop will limit rotation to 2 or 3 positions if required. Contact will operate in transmitters rated up to 100 watts and at potentials up to 1000 volts D.C. One pole per section in all types, ½" spacing between sections. 2¼" aluminum shaft can be easily cut to length required. Attractive bar knob included with each switch.

Cat. No.	Poles	Positions	Sections	List Price
2542	1	2 to 4	1	$1.70
2543	2	2 to 4	2	2.70
2544	3	2 to 4	3	3.90
2545	4	2 to 4	4	4.90
2546	5	2 to 4	5	6.10

Dial Plate . . . Special, numbered 1 - 4 to agree with 90 degree index on switches listed above. Cat. No. K-162. Price each $0.20.

● SPRING RETURN SWITCHES

Replacements for intercommunicator talk-back switches. All are two position. Shaft returns to original position when knob is released. Rotation against spring in clockwise position. Normal position is counter-clockwise. All have long shaft that can be cut to length.

Cat. No. 1463 1 Pole 2 position. Price $0.65
Cat. No. 1464 2 Pole 2 position. Price .75
Cat. No. 1451 4 Pole 2 position. Price 1.00

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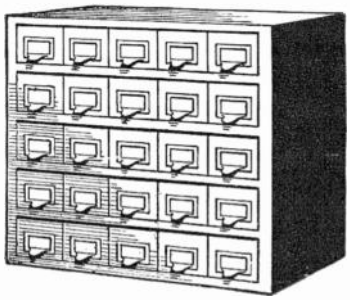
THE CENTRALAB SWITCHKIT PROVIDES COUNTLESS SWITCH ASSEMBLIES



THE demand for selector switches includes so many different types that it is virtually impossible to maintain a complete stock of assembled switches. Selector switches are usually assembled with standard sections. The difficulty arises from the number of different ways that a small group of sections can be put together. To simplify stocking selector switches, Centralab has two switchkit assortments of sections, hardware, and accessories available. One of these includes bakelite sections and hardware; the other Isolantite sections and hardware. The parts included in each are tabulated below.

Each switchkit assortment is packed in an attractive sturdy steel cabinet identified with a Centralab decalcomania. Drawer pulls include identification cards to show location of parts.

Cabinet contains 25 drawers, 3" x 2½" x 8" inside. Cabinet 19" wide, 17¾" high, 9¼" deep overall. Finished in neutral green lacquer. Cabinet supplied FREE with either assortment listed below. Shipped F.O.B. Milwaukee, Wisconsin.

• • •

No. 414 KIT — includes assortment of bakelite sections, index assemblies and accessories listed below. Price $100.00.

• • •

No. 419 KIT — includes assortment of Isolantite sections, index assemblies and accessories listed below. Price $100.00.

PARTS INCLUDED IN BAKELITE SWITCHKIT

SECTIONS WITH BAKELITE INSULATION

Quantity	Catalog Number	Poles	Positions	Contact	Price Each
12	A	1	6	Shorting	.40
17	B	1	11	Shorting	.55
4	C	2	5	Shorting	.65
4	D	3	3	Shorting	.75
4	E	4	2	Shorting	.85
4	F*	1	5	Shorting	.60
4	G**	1	10	Shorting	.75
12	H	1	6	N. S.	.40
17	J	1	11	N. S.	.55
4	K	2	5	N. S.	.65
4	L	3	3	N. S.	.75
4	M	4	2	N. S.	.85
3	N	Use Together in			.50
3	P	Resistance Decade			.50
3	Q	Condenser Decade			.60
5	R***	2	5	Shorting	1.00
4	S***	3	3	Shorting	1.00

*Unused contacts shorted out on one side of common
**All unused contacts shorted out.
***Isolantite Insulation.

INDEX ASSEMBLIES — COMPLETE WITH HARDWARE

Quantity	Catalog Number	Description	Price Each
20	K-121	To assemble 1 or 2 gang switches	$.55
10	K-122	To assemble 3 or 4 gang switches	.75
5	K-123	To assemble 5 or 6 gang switches	.95

DIAL PLATES AND KNOBS

25	K-120	Bar Knob	$.15
10	K-119	Arrow Knob	.15
10	K-115	Dial Plate: 1-5	.15
10	K-116	Dial Plate: 1-6	.15
10	K-117	Dial Plate: 1-10	.15
10	K-118	Dial Plate: 1-11	.15

PARTS INCLUDED IN ISOLANTITE SWITCHKIT

SECTIONS WITH ISOLANTITE INSULATION

Quantity	Catalog Number	Poles	Positions	Contact	Price Each
5	T	1	6	Shorting	$1.00
10	U	1	11	Shorting	1.00
4	R	2	5	Shorting	1.00
4	S	3	3	Shorting	1.00
4	V	4	2	Shorting	1.00
4	X	1	6	N. S.	1.00
4	Y	1	11	N. S.	1.00
4	RR	2	5	N. S.	1.00
4	SS	3	3	N. S.	1.00
4	Z	4	2	N. S.	1.00
6	GG*	1	10	Shorting	1.00
15	XX**	1	4	N. S.	1.00

*All unused contacts shorted out.
**90 Degrees between positions—for transmitter switches.

INDEX ASSEMBLIES — COMPLETE WITH HARDWARE

Quantity	Catalog Number	Description	Price Each
10	K-121	For 1 or 2 Gang Selector Sw.	$.55
10	K-170	For 1 or 2 Gang Trans. Sw.	.55
5	K-122	For 3 or 4 Gang Selector Sw.	.75
5	K-171	For 3 or 4 Gang Trans. Sw.	.75
3	K-123	For 5 or 6 Gang Selector Sw.	.95
3	K-172	For 5 or 6 Gang Trans. Sw.	.95

DIAL PLATES AND KNOBS

25	K-120	Bar Knob	.15
10	K-119	Bar Knob	.15
5	K-115	Dial Plate: 1-5	.15
10	K-117	Dial Plate: 1-10	.15
5	K-118	Dial Plate: 1-11	.15
12	K-162	1-4 Dial: 90 degree Index	.20

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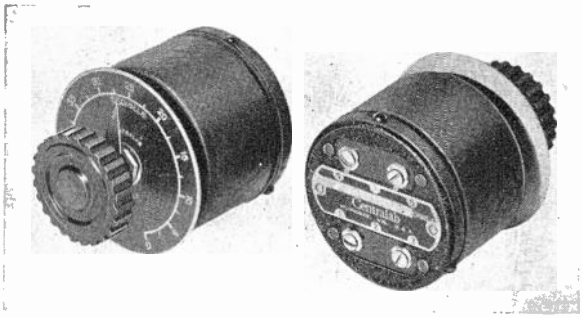
Centralab

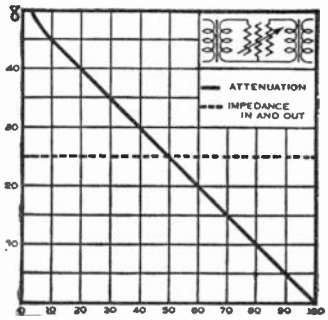
Quality Controls • Resistors • Selector Switches

SOUND PROJECTION CONTROLS FOR EVERY APPLICATION



● CENTRALAB SERIES II

Controls are the finest for input circuits in broadcast stations, public address systems, and recording apparatus of new or old design. Will prove faultless in the most critical service.



The curve chart shows the change in impedance and attenuation plotted against clockwise rotation for a "T" pad attenuator. The impedance characteristic (dotted line) is substantially the same at any setting. The attenuation curve (solid line) varies from infinity at zero rotation to zero Db. at full rotation. No insertion loss.

Electrostatic and electromagnetic shielding provided by a black finished steel case. Bakelite screw type terminal strip on back of case. All resistance elements insulated from shaft and bushing. Single hole mounting. Mounting bushing ¾" long with 2 locknuts and lockwashers. Case diameter 2¾". Depth back of panel "T" Pad — 2⅜"; Gain Control — 1⅜". Maximum load dissipation 1 watt.

For detailed information, write for technical booklet.

	Line Impedance	Resistance	Resistance Each Side of Center	Part Number	Price*
"T" Pad Attenuator	500 Ohms	Constant Impedance to Both Input and Output		7-010-852	$10.00
	200 Ohms			7-010-851	10.00
	50 Ohms			7-010-850	10.00
"T" Pad Fader	500 Ohms	Two Constant Impedance Legs on Both Sides		7-210-852	$15.00
	200 Ohms			7-210-851	15.00
	50 Ohms			7-210-850	15.00
"L" Pad Attenuator	500 Ohms	Constant Impedance to One Side Only		4-010-852	$ 5.00
	200 Ohms			4-010-851	5.00
	50 Ohms			4-010-850	5.00
Gain Control	Attenuation 50 Decibels for Each Control	250MOhms	———	1-010-852	$ 4.00
		500MOhms	———	1-010-851	4.00
		1 Megohm	———	1-010-850	4.00
Straight Fader	For Crystal or High Impedance Pickups		500,000	1-210-852	$ 5.00
			100,000	1-210-851	5.00
			50,000	1-210-850	5.00

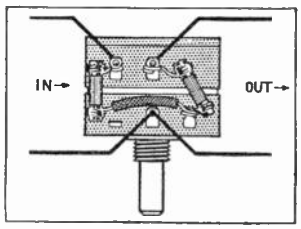
● KNOBS AND DIALS

All controls listed above are furnished with knobs and dials. When additional knobs and dials are required, order from list below:

K-112 Dial "T" and "L" Pad, Gain control.....$0.75
K-113 Dial "T" Pad Fader..... .75
K-114 Knob All Series II Controls..... .75

● ECONOMY P/A CONTROLS

These controls are intermediate to the Series II line and the older Series I types. As their name implies, they are economy controls, designed primarily for inexpensive sound equipment, where original cost is a limiting factor. They are designed for all types of fading and mixing systems.



All units have ⅜" diam. brass bushing, ⅜" long, ¼" aluminum shaft 2¼" long — no mill. Two mounting nuts and lock-washers supplied on bushing. Small diameter bakelite case same dimensions as Standard Radiohm. Non-rubbing contact for smooth, quiet operation. Limited to input applications. Maximum power rating for all units 1 watt.

Sketch illustrates connections to "Delta T" Pad. Resistance listed for these units is line impedance.

Catalog No.	Description	Resistance Ohms	Price Each
M-140	Gain Control	250M	$1.75
M-141	Gain Control	500M	1.75
M-142	Gain Control	1 Meg.	1.75
M-143	Gain Control	2 Meg.	1.75
MT-144	Straight Fader	500M	2.00
MT-145	Straight Fader	1 Meg.	2.00
MX-146	"Delta-T" Pad	50	3.50
MX-147	"Delta-T" Pad	200	3.50
MX-148	"Delta-T" Pad	500	3.50

● KNOBS AND DIALS

For Economy P/A Controls:
K-120 Bar Knob, all controls.....$0.15
K-117 Dial, Gain Controls and Attenuators..... .15
K-160 Dial, Faders..... .15

● CENTRALAB SERIES I

Constant impedance attenuators that are wire wound in the 10 watt or 50 watt "L" Pads, wire for the series and carbon for the shunt resistors in the 1 watt "T" Pad and C.I. Faders, also 4 watt "L" Pads. All carbon resistance in the 1 watt "L" Pad. Bakelite housing 3½" x 1¾" deep single or 3 hole mounting for 10 watt "L" Pad, 1 watt "T" Pad, and C.I. Fader. 4 watt "L" Pad bakelite housing 2¼" x ⅞" deep. All furnished with insulating washers for bushings. One watt "L" Pad mounted in bakelite case 1⅜" x 1-1/16" deep. Priced without knob or dial.

Impedance Matching Resistance	1 Watt "L" Pad $3.00 Part No.	4 Watt "L" Pad $4.00 Part No.	10 Watt "L" Pad $5.00 Part No.	50 Watt "L" Pad $5.00 Part No.	1 Watt "T" Pad $7.00 Part No.	1 Watt C.I.Fader $8.00 Part No.
10,000 Ohms	74-544	96-003	———	———	———	———
5,000 "	74-543	96-002	94-006	———	93-008	83-006
1,500 "	———	———	———	———	93-001	83-002
500 "	———	96-007	94-005	———	93-002	83-003
200 "	———	96-006	94-004	———	93-003	83-004
100 "	———	———	94-003	———	93-004	———
50 "	———	96-005	94-002	47-209	93-005	83-005
15 "	———	96-001	94-001	47-208	93-006	———
8 "	———	———	94-007	47-900	———	———

● KNOBS AND DIALS

K-109 Dial—All series I controls except 1 watt "L" Pad and C. I. Fader.....$0.50
K-110 Dial—I Watt "L" Pad..... .50
K-111 Knob—All Series I controls..... .25

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World Radio History

Approved PRECISION PRODUCTS

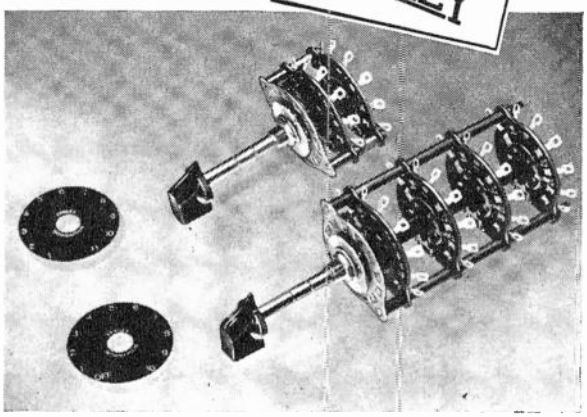
P. R. MALLORY & CO. INC. MALLORY YAXLEY

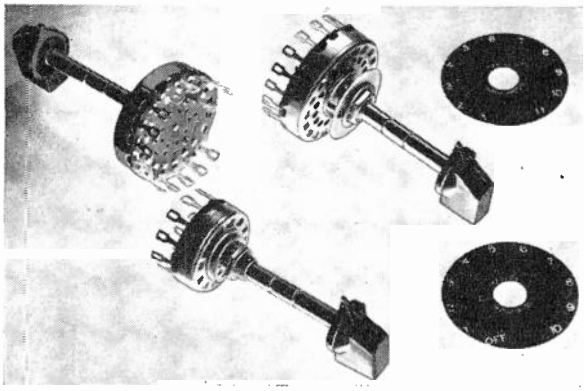
Multi-Gang Circuit Selector and All-Wave Switches —TYPES 1200L SERIES and 1300L SERIES

No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Points or Contacts per Circuit	No. of Sections or Gangs per Switch	Shorting Type Catalog No.	Non-Shorting Type Catalog No.	List Price
One	One	6	One	1216L	1316L	$1.00
One	One	11	One	1211L	1311L	1.15
Two	Two	5	One	1215L	1315L	1.25
Three	Three	3	One	1213L	1313L	1.35
Four	Four	2	One	1212L	1312L	1.45
One	Two	6	Two	1226L	1326L	1.60
One	Two	11	Two	1221L	1321L	1.75
Two	Four	5	Two	1225L	1325L	2.00
Three	Six	3	Two	1223L	1323L	2.10
Four	Eight	2	Two	1222L	1322L	2.25
One	Three	6	Three	1236L	1336L	2.20
One	Three	11	Three	1231L	1331L	2.35
Two	Six	5	Three	1235L	1335L	2.50
One	Four	6	Four	1246L	1346L	2.75
One	Four	11	Four	1241L	1341L	3.00
Two	Eight	5	Four	1245L	1345L	3.50
One	Five	11	Five	1251L	1351L	3.75
Two	Ten	6	Five	1256L	1356L	4.60
One	Six	11	Six	1261L	1361L	4.40
Two	Twelve	6	Six	1266L	1366L	5.60

Universal Mounting Bracket RB254

Universal Mounting Bracket No. RB254 packed five to the carton. List Price $0.20 each.





Single-Gang Circuit Selector Switches —TYPES 3100J SERIES and 3200J SERIES

● The value of Mallory-Yaxley's experience in manufacturing and selling over 7,000,000 all-wave switches is best demonstrated by the Type 3100J Switch. This switch, engineered for short-wave, tone control and tap switch applications, provides small size and compactness—extreme flexibility in circuit and coil combinations—low capacity—low resistance.

Number of Circuits	Number of Contacts per Circuit	Diameter of Base	Adjustable Stop	Shorting Type Catalog No.	Non-Shorting Type Catalog No.	List Price
One	5	1⅛"	No	3115J	3215J	$0.75
One	12	1⅛"	No	31112J	32112J	.75
Two	2	1⅛"	No		3222J	.75
Two	3	1⅛"	No		3223J	.75
Two	6	1⅛"	No	3126J	3226J	.75
Three	4	1⅛"	No	3134J	3234J	.90
Four	2	1⅛"	No	3142J	*3242J	.85
Four	3	1⅛"	No	3143J	3243J	.90
One	17	1 11/16"	Yes	31417J	32117J	1.35
Two	9	1 11/16"	Yes	3129J	3229J	1.35
Three	6	1 11/16"	Yes	3136J	3236J	1.50
Six	3	1 11/16"	Yes	3163J	†3263J	1.50

*Replaces No. 2742. †Replaces No. 2762 by using adjustable stop.

Etched Dial Plates

For Mallory-Yaxley Circuit Selector, Tap and All-Wave Switches.

Neat-appearing Dial Plates with easy-to-read aluminum figures clearly etched on solid black background. Dimensions are 1 13/16" in diameter with 7/16" hole, with figures 7/64" high. .020" aluminum stock.

Marking	For all Switch types 1200L, 1300L and 1¼" base 3100J, 3200J. 30 degree spacing between numerals.	For all type 3100J, 3200J Switches with 1 11/16" base. 20 degree spacing between numerals.	List Price
	Cat. No.	Cat. No.	
1 to 2	372		$0.15
1 to 3	373	453	.15
1 to 4	374	454	.15
1 to 5	375	455	.15
1 to 6	376	456	.15
1 to 7	377	457	.15
1 to 8	378	458	.15
1 to 9	379	459	.15
1 to 10	380	460	.15
1 to 11	381	461	.15
1 to 12	382	462	.15
1 to 13		463	.15
1 to 14		464	.15
1 to 15		465	.15
1 to 15		466	.15
1 to 17		467	.15
1 to 18		468	.15
Off 1 to 2		472	.15
Off 1 to 3	383	473	.15
Off 1 to 4	384	474	.15
Off 1 to 5	385	475	.15
Off 1 to 6	386	476	.15
Off 1 to 7	387	477	.15
Off 1 to 8	388	478	.15
Off 1 to 9	389	479	.15
Off 1 to 10	390	480	.15
Off 1 to 11		481	.15
Off 1 to 12		482	.15
Off 1 to 13		483	.15
Off 1 to 14		484	.15
Off 1 to 15		485	.15
Off 1 to 16		486	.15
1 to 24	394 Special		.15
	15° Spacing Be	tween Numerals	

"Hamswitch" No. 151L

This Mallory-Yaxley "Hamswitch" provides a simple method of using a single meter to measure currents or voltages up to and including five circuits of an Amateur Transmitter. It is less expensive, more reliable, compact and convenient than the conventional cord, plug and jack system. It finds wide use in diversified application.

Designed similarly to famous Mallory-Yaxley circuit selector switches, it is of two-gang construction with 2¼" spacing between sections. This space permits multiplying resistors to be soldered directly to switch terminals when wired into the circuit.

The five complete circuits may be used in many combinations such as oscillator plate current, buffer plate current, final grid current, final plate current and plate voltage.

High insulating qualities and low loss construction permit a conservative rating of 1000 volts RMS AC or 1500 volts DC.

"Hamswitch" No. 151L. List Price.....$1.80

"Hamswitch" No. 152L

The 152L "Hamswitch" is a special unit built to specifications provided by the American Radio Relay League for use in the "Two-Tube, Coil Switching Receiver" described on pages 108 to 111 of "The Radio Amateurs Handbook," fifteenth edition.

Supplied complete with universal threaded bushing, two-inch notched shaft, No. 232 nut, No. 225 lockwasher and No. 366 Bar knob, but does not include dial plate. Provided with adjustable stop.

"Hamswitch" No. 152L. List Price.....$2.25

Circuit Opening Switch No. 1400L

● Mallory-Yaxley No. 1400L Switch will "open" any one of twelve "lines" for the insertion of a current reading meter and maintain a "Through" circuit on the other eleven lines. This switch has found wide application in the construction of test sets, tube checkers, analyzers, and other apparatus where it is desirable to use only one meter.

Special Circuit Opening Switch complete with Mallory-Yaxley Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory-Yaxley Etched Dial Plate No. 382—No. 1400L. List Price.....$4.50

15-Point Tap Switch No. 150J

● An improved special switch—shorting type, single-gang only. Has 2-inch notched shaft and shakeproof washer. Special 15-Point Tap Switch, complete with Mallory-Yaxley Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher and Mallory-Yaxley Dial Plate No. 465—No. 150J. List Price.....$1.50

24-Point Tap Switch No. 13124

● A special single circuit, 24-point non-shorting switch with notched shaft and other quality features found in the 1300L Series. Particularly useful in test equipment applications.

Special 24-Point Tap Switch, complete with Mallory-Yaxley Bar Type Knob No. 366, one No. 232 Nut, one No. 227 Lockwasher, and Mallory-Yaxley Dial Plate No. 394—No. 13124 List Price.....$3.25

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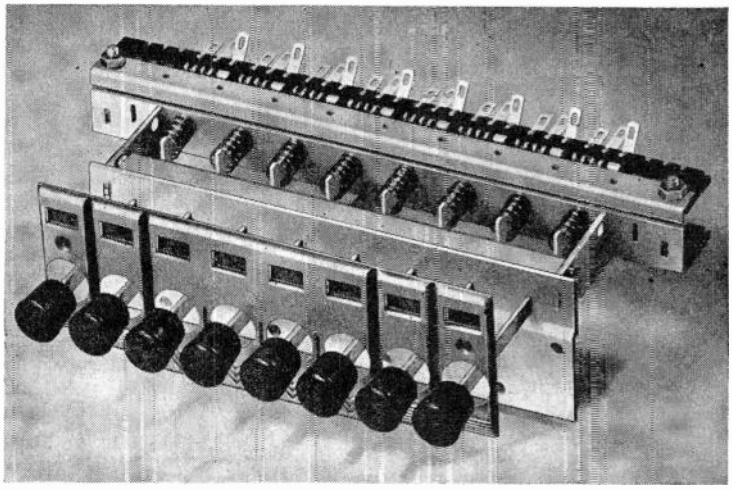
World Radio History

MALLORY YAXLEY

Approved PRECISION PRODUCTS

Multiple Push Button Selector Switches



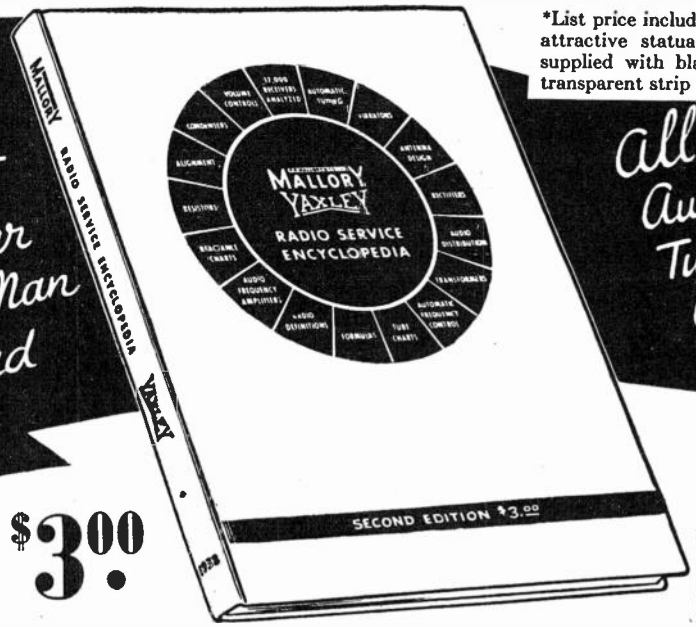
Mallory-Yaxley has fulfilled a very definite requirement of the radio service engineer, amateur, and experimenter with a line of switches unique in design and universal in application, for such fields as:

Automatic Station Selector Tuning, Inter-Office Communication Systems, Telephone and Annunciator Systems, Signal Generator Frequency Selection, Set Analyzers, Tube Checkers, Multimeters, Transmitter Crystal Switching, or the many applications requiring a device for making, breaking, or transferring multiple circuits in any desired sequence.

Type	Number of Buttons	Cat. No.	*List Price
Circuit Closing	4	2164	$4.00
Circuit Closing	6	2166	5.00
Circuit Closing	8	2168	6.00
Circuit Transfer	4	2184	4.00
Circuit Transfer	6	2186	5.00
Circuit Transfer	8	2188	6.00

*List price includes brown bakelite knobs, one attractive statuary bronze escutcheon plate supplied with blank designation inserts, and transparent strip for windows.

The Greatest Time-Saver a Service Man ever had



All Automatic Tuning Systems Completely Analyzed

LIST PRICE $3.00

17,000 RECEIVERS ANALYZED
TUBE CHARTS
AUDIO AMPLIFIER DESIGN & USE
ALIGNMENT
RESISTORS
ANTENNA DESIGN
VOLUME CONTROLS
CONDENSERS

17,000 receivers analyzed (5000 more than in the First Edition). 336 pages of handy, concise information. (There were 216 in the First Edition.) Chuck full of substantiated radio service data never available before.

It gives the answer to EVERYTHING a service man wants to know "in one book . . . on one page . . . on one line"

Vibrators . . . Transformers . . . Audio Distribution . . . Condensers . . . Rectifiers . . . Antenna Design . . . Resistors . . . Formulas . . . plus the last word on radio's newest and most vital subjects.

Complete Automatic Tuning Information

With over 100 illustrations . . . with schematics . . . trouble shooting charts. Audio degeneration . . . the new profit avenue modernizing old type receivers. Alignment and the use of the Oscilloscope

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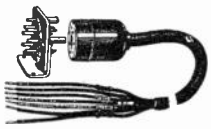
Approved PRECISION PRODUCTS

MALLORY YAXLEY

Cable

	List Price
7 Conductor, 5-foot length	$1.00
Extra Lengths, 7 Conductors over 5 feet, per foot	.15
12 Conductor, 4-foot length	1.75
Extra Lengths, 12 Conductor over 4 feet, per foot	.40



No. 660

Cable Connectors

	List Price
7 Conductor Cable Connector Plug with 5-foot cable, receptacle plug and mounting plate—No. 660	$3.00
12 Conductor Cable Connector Plug with 4-foot cable, receptacle plug and mounting plate—No. 612	5.00
Pin Plate, 7 conductor—No. 680	.75
Pin Plate, 12 conductor—No. 682	1.00

No. 635 No. 631

Pin Plugs

Pin Plug, with cover, 7 conductor—No. 635	$1.00
Pin Plug, with cover, 12 conductor—No. 625	1.25
Pin Plug, with mounting ring, 7 conductor—No. 631	1.00
Pin Plug, with mounting ring, 12 conductor—No. 617	1.25

Note—For mounting on panels up to ⅛" thick.

No. 645 No. 644

Receptacle Plugs

Receptacle Plug, with cover, 7 conductor—No. 645	$1.00
Receptacle Plug, with cover, 12 conductor—No. 615	1.25
Receptacle Plug, with mounting ring, 7 conductor—No. 644	1.00
Receptacle Plug, with mounting ring, 12 conductor—No. 614	1.25

Note—For mounting on panels up to ⅛" thick.

Receptacle Plug with Radio Convenience Outlet Mounting Bracket, 7 conductor—No. 139	1.50
Receptacle Plug with Radio Convenience Outlet Mounting Bracket, 12 conductor—No. 141	2.00

Multiple Connection Plug Outlet

● There has been a considerable call for a multiple connection Plug with more than 12 contacts. To meet this demand, the Mallory-Yaxley No. 122 Radio Outlet with 22 conductors is available. This Outlet will find a wide application in remote control service and wherever a many-contact receptacle is required.

The Outlet presents a neat appearance. The Pin Plug, which is furnished with each Outlet, is equipped with a convenient handle. The receptacle and pin plug go together and come apart with ease and they cannot be used incorrectly as the plug is polarized.

Brass—No. 122 ..... $5.00

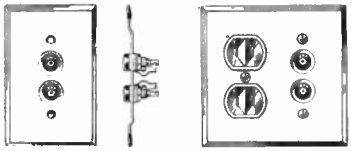
This Outlet is available with brass plate only.

Radio Convenience Outlets

No. 156—Single-Gang Radio Outlet for Antenna and Ground Connections

Receptacles are of polished Bakelite marked ANT. and GND. Complete with two plugs for antenna and ground wires. Suitable for homes, apartments, hotels or wherever a radio set is installed.

	List Price
Brass—No. 156	$1.00
Bakelite—No. 156-B	1.00



No. 156 No. 256

No. 256—Two-Gang Outlet for Antenna and Ground and Duplex Electrical Connections

The serviceability and attractiveness of this reasonably priced outlet have made it especially popular for houses and apartments. It is also widely used in rewire jobs. Furnished complete with two tip plugs.

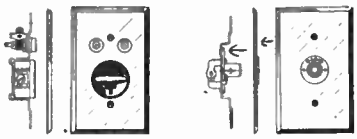
	List Price
Brass—No. 256	$1.50
Bakelite—No. 256-B	1.50

No. A-256—Two-Gang Radio Outlet for Antenna and Ground and Duplex AC Connections with Outlet Box

This unit is the same as No. 256 except for the addition of the special Yaxley Outlet Box.

Brass—No. A-256	$2.00
Bakelite—No. A-256-B	2.00

(Box listed as Standard by Underwriters' Laboratories.)



No. 133 No. 135

No. 133—Single-Gang Outlet for Antenna, Ground and AC Connections

A very useful number and popular seller. Its compact assembly of antenna and ground with a single AC outlet, makes it desirable wherever ANT. and GND. are required. Used extensively in homes, apartments, hotels, in rewire jobs and adaptable to any place where a radio set is in operation. Two tip plugs included.

Brass—No. 133	$1.35
Bakelite—No. 133-B	1.35

No. 135—Loud Speaker Connections

A well-designed, exceptionally popular number. Provides for loud speaker reception for any room in the house, apartment, hotels, and other installations.

Brass—No. 135	$0.90
Bakelite—No. 135-B	.90

No. 116—Single-Gang Radio Outlet for Antenna and Ground Connections

Receptacles are of Brass or Bakelite, marked ANT. and GND. Complete with two plugs, for antenna and ground wires.

	List Price
Brass—No. 116	$0.70
Bakelite—No. 116-B	.70

No. 216—Two-Gang Outlet for Antenna and Ground and Duplex AC Connections

Receptacles are of Brass or Bakelite, marked ANT. and GND. Complete with two plugs.

Brass—No. 216	$1.10
Bakelite—No. 216-B	1.10

No. 16C3 No. 16C3B

REPLACEMENT RECTIFIERS

For Chargers, Boosters, Eliminators, Pin Game Power Packs and Speakers

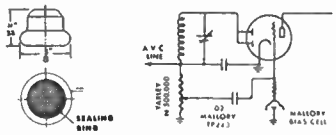
Because of their efficiency, long life, compactness and low cost, Mallory Magnesium-Copper Sulphide Rectifiers are widely used in a variety of devices ranging from battery chargers, "A" eliminators, motion picture exciter lamp and arc power supplies to heavy-duty electroplating equipment requiring thousands of amperes. Information on special or heavy-duty rectifiers will be supplied on request. Address Rectifier Application Division.

See the Mallory-Yaxley Radio Service Encyclopedia, 2nd Edition, for complete list of recommended rectifier replacements.

New Catalog No.	Replaces Old Type Number	List Price
4A1B (set of 3)	XB4	$4.00
B8C3M	8A3, 4A3, W8A3	3.20
F12G1Y	12A1BY, XP12, UP8	4.00
IB12C1M*	12C1, X112, X12, U12	4.40
F16C3M	16C3, X116, X16, ME16	5.10
F16C3MB	16C3B, XB16, M16	6.55
F16CB3	16CD3	5.50
F16G1	W16A1	4.65
F20G1	20A1, W20A1, X20	5.80
F24G1	W24A1	6.40
IF16CB7M*		6.50

*The IF16CB7M Rectifier is the correct replacement for the new Mallory 5535A Battery Charger. The IB12C1M Rectifier is the correct replacement for the new Mallory 3C Battery Booster, as well as the majority of other Battery Boosters. Has universal mounting features.

Grid Bias Cell



Mallory Grid Bias Cells, 1-volt type (Packed 10 to the box)	$0.30 per cell
Mallory Grid Bias Cells, 1½-volt type (Packed 10 to the box)	.30 per cell
Mallory Grid Bias Cell Holder, Cat. No. GB1A, 1-cell capacity	.10 each
Mallory Grid Bias Cell Holder, Cat. No. GB2, 1-cell capacity	.15 each
Mallory Grid Bias Cell Holder, Cat. No. GB1B, 2-cell capacity	.20 each
Mallory Grid Bias Cell Holder, Cat. No. GB3, 3-cell capacity	.25 each
Mallory Grid Bias Cell Holder, Cat. No. GB4, 4-cell capacity	.35 each

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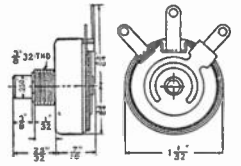
MALLORY YAXLEY — *Approved* PRECISION PRODUCTS

"C" Type Variable Resistor

Dissipates 2 Watts—Grounded Contact Arm

The Yaxley "C" Type Variable Resistor is the smallest wire wound control manufactured, finding its greatest application where space is at a premium. The contact arm is grounded to the shaft.



"C" TYPE POTENTIOMETERS
Prices do not include Knobs.

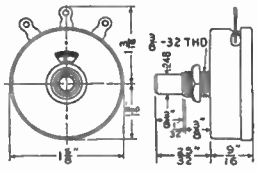
Ohms Resistance	Carrying Capacity in Amperes	Catalog Number	List Price
6	.58	C6P	$1.00
10	.45	C10P	1.00
15	.36	C15P	1.00
20	.3	C20P	1.00
30	.25	C30P	1.00
40	.22	C40P	1.00
50	.2	C50P	1.00
100	.14	C100P	1.00
200	.1	C200P	1.00
400	.07	C400P	1.00
1M	.045	C1MP	1.25
3M	.025	C3MP	1.25
5M	.02	C5MP	1.50
6M	.018	C6MP	1.50
10M	.014	C10MP	1.50
15M	.011	C15MP	1.50

"C" TYPE RHEOSTATS
Prices do not include Knobs.

Ohms Resistance	Carrying Capacity in Amperes	Catalog Number	List Price
6	.58	C6R	$0.75
10	.45	C10R	.75
15	.36	C15R	.75
20	.3	C20R	.75
30	.25	C30R	.75
40	.22	C40R	.75
50	.2	C50R	.75
100	.14	C100R	.75

"M" Type Variable Resistor

Dissipates 4 Watts—Insulated Contact Arm



"M" TYPE POTENTIOMETERS
Prices do not include Knobs

Ohms Resistance	Carrying Capacity in Amperes	Catalog Number	List Price
15	.57	M15P	$1.00
20	.50	M20P	1.00
25	.45	M25P	1.00
30	.4	M30P	1.00
40	.35	M40P	1.00
50	.32	M50P	1.00
60	.29	M60P	1.00
75	.25	M75P	1.00
100	.22	M100P	1.00
200	.15	M200P	1.00
400	.11	M400P	1.00
600	.09	M600P	1.00
1M	.07	M1MP	1.25
2M	.05	M2MP	1.25
3M	.04	M3MP	1.25
4M	.035	M4MP	1.25
5M	.03	M5MP	1.25
10M	.02	M10MP	1.50
15M	.017	M15MP	1.50
20M	.015	M20MP	1.50
25M	.014	M25MP	1.50
50M	.01	M50MP	2.00
70M	.0085	M70MP	2.00

"M" TYPE RHEOSTATS
Prices do not include Knobs.

Ohms Resistance	Carrying Capacity in Amperes	Catalog Number	List Price
½	2.75	M05R	$0.75
1	2.2	M1R	.75
2	1.5	M2R	.75
3	1.3	M3R	.75
4	1.1	M4R	.75
6	.9	M6R	.75
10	.7	M10R	.75
15	.6	M15R	.75
20	.5	M20R	.75
25	.45	M25R	.75
30	.40	M30R	.75
40	.35	M40R	.75
50	.32	M50R	.75
60	.29	M60R	.75
75	.25	M75R	.75

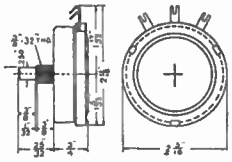
Yaxley Etched Dial Plates

for Rheostats and Potentiometers

Marking	Diameter	Cat. No.	Price
0 to 100	2¼"	369	$0 .25
Increase Volume	1½"	391	.15

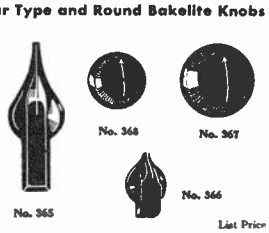
"E" Type Potentiometers

Dissipates 9 Watts—Contact Arm Grounded



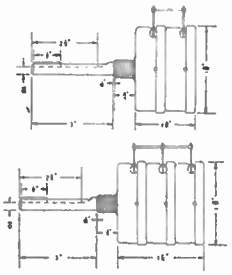
Ohms Resistance	Carrying Capacity in Amperes	Catalog Number	List Price
5M	.042	E5MP	$2.50
10M	.03	E10MP	2.50
20M	.021	E20MP	2.50
25M	.019	E25MP	2.75
50M	.0135	E50MP	2.75
75M	.011	E75MP	2.75
100M	.0095	E100MP	2.75
125M	.0085	E125MP	2.75
150M	.008	E150MP	2.75

Bar Type and Round Bakelite Knobs



	List Price
2¼" Bar Type Knob, Black....No. 365	$0.20
2¼" Bar Type Knob, Brown...No. 365-B	.20
1¼" Bar Type Knob, Black....No. 366	.15
1¼" Bar Type Knob, Brown...No. 366-B	.15
1½" Dia. Round Knob, Black..No. 367	.20
1½" Dia. Round Knob, Brown..No. 367-B	.20
1⅛" Dia. Round Knob, Black..No. 368	.15
1⅛" Dia. Round Knob, Brown..No. 368-B	.15

"T" and "L" Pad Attenuators



Specially designed to provide a convenient and simple method of controlling the level of low impedance audio circuits, and for volume control of microphones, electrical phonographs, talking picture amplifiers, and many varied sound amplifying and audio distribution systems.

Individually cartoned complete with No. 366 Bar Knob, No. 395 Dial Plate with matched rotation, two No. 232 Mounting Nuts, and one No. 225 Washer.

"T" PAD ATTENUATORS

Ohms Impedance	Catalog Number	List Price
6	T6	$5.00
8	T8	5.00
15	T15	5.00
50	T50	5.00
200	T200	5.00
500	T500	5.00
2000	T2000	5.00

"L" PAD ATTENUATORS

Ohms Impedance	Catalog Number	List Price
6	L6	$3.50
15	L15	3.50
50	L50	3.50
200	L200	3.50
500	L500	3.50
2000	L2000	3.50

No. 112-E

Terminal Clip

● A convenient and substantial clip. Hot tin dipped for easy soldering. Used as Antenna and Ground connections and power terminals. Furnished complete with two screws.

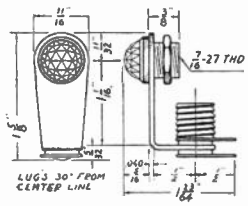
Envelope of Five—No. 112-E.....$0.25

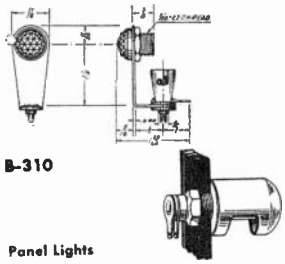
Pilot and Dial Light Brackets and Sockets

Description	Screw Base Types: With 2 Lug Terminals Cat. No.	Screw Base Types: With 1 Lug Terminal and 1 Rivet Terminal Cat. No.	Bayonet Base Types: With 1 Lug Terminal and 1 Rivet Terminal Cat. No.	Bayonet Base Types: With 1 Lug Terminal and 1—6" Flex. Lead Cat. No.	List Price
*Pilot Light Bracket, Amber Jewel	310A	.....	B310AR	.....	$0.30
*Pilot Light Bracket, Clear Jewel	310C	.....	B310CR	.....	.30
*Pilot Light Bracket, Green Jewel	310G	.....	B310GR	.....	.30
*Pilot Light Bracket Red Jewel	310R	.....	B310RR	.....	.30
Dial Light Slip-on Bracket	303AH	303AR	B303AR	.....	.10
Dial Light Slip-on Bracket	.....	.....	.....	B303AL	.15
Dial Light Slip-on Bracket (Inverted Type)	304CH	304CR	B304CR	.....	.10
Shell Assemblies	†317E	317R	B317R	.....	.10
Shell Assemblies	‡317H	.....	.....	.....	.10
Shell Assemblies	.....	.....	.....	B317L	.15
Rubber Sleeves for Insulating All Dial Light Base Assemblies	Cat. No.	300	Per Env.	of 10	.50

*Both terminals are insulated from bracket. †Lugs at 60° angle. ‡Lugs at 180° angle.

310





B-310

Jewels Only

	Cat. No.	List Price
Clear Jewel and Mounting Nut	311-C	$0.15
Red Jewel and Mounting Nut	311-R	.15
Green Jewel and Mounting Nut	311-G	.15
Amber Jewel and Mounting Nut	311-A	.15
Clear Jewel with Clamping Ears	312-C	.15
Red Jewel with Clamping Ears	312-R	.15
Green Jewel with Clamping Ears	312-G	.15
Amber Jewel with Clamping Ears	312-A	.15

Panel Lights

A convenient reflector for panel mounting. Mounts in single ½" hole. Panel Light Catalog No. 330. List Price.....$0.50

Pilot and Dial Light Bulbs

	Cat. No.	List Price
2.5 V. Screw Base Type	170	$0.15
6.3 V. Screw Base Type	171	.15
6.3 V. Bayonet Base Type	172	.15

Insulating Washers

Description and Dimensions	Cat. No.	List Price Per 10
Extruded Washer—Fiber—1 O.D. x 3/8 I. D. x 1/16; Extruded 1/2 x 1/32 For Set See No. 212 Flat Washer.	202	$0.25
Extruded Washer—Fiber—3/4 O. D. x 3/8 I. D. x 1/16; Extruded 1/2 x 1/32 For Set See No. 212 Flat Washer.	203	.25
Extruded Washer—Fiber—1/2 O. D. x 5/16 I. D. x 3/32; Extruded 3/8 x 1/32 For Set See No. 211 Flat Washer.	204	.25
Extruded Washer—Fiber—1/2 O. D. x 1/4 I. D. x 3/64; Extruded 3/8 x 1/32 For Set See No. 213 Flat Washer.	205	.25
Extruded Washer—Fiber—7/16 O. D. x 1/4 I. D. x 1/16; Extruded 1/2 x 1/32	1139	.25
Flat Washer—3/8 O. D. x 3/8 I. D. x 1/32; Bakelite	212	.15
Flat Washer—1/2 O. D. x 1/4 I. D. x 1/64; Bakelite	213	.15
Flat Washer—1/2 O. D. x 5/16 I. D. x 1/32; Bakelite	214	.15
Metal Washer—Nickel Finish—5/8 O. D. x 3/8 I. D. .040 Brass	225	.15
Metal Washer—Nickel Finish—5/8 O. D. x 7/16 I. D. .040 Brass	226	.15
Lock Washer—Cadmium Plated Steel—11/16 O. D. x 25/64 I. D.	227	.15

Hexagon Head Mounting Nuts

Description	Thread	Dimension	Catalog No.	List Price
Flat Hex Mounting Nut	3/8-32	1/2x3/32	232	$0.15 per pkg. of 10
Flat Hex Mounting Nut	5/16-40	7/16x3/32	233	.10 per pkg. of 10
Flat Hex Mounting Nut	1/4-32	3/8x3/32	234	.10 per pkg. of 10
Hex Mounting Nut	3/8-32	1/2x7/16x7/64 shoulder nut	255	.10 each
Hex Mounting Nut	3/8-32	1/2x7/16x15/32 shoulder nut	A-11260-2	.20 each
Hex Mounting Nut	3/8-32	1/2x7/16x7/32 shoulder nut	A-11260-12	.15 each

For Volume Controls, Jacks, Jack Switches, Junior Jacks, Tap and Selector Switches, use No. 232 flat hex nuts or Catalog Nos. 255, A-11260-2 or A-11260-12 shoulder nuts.

For 417 Tip Jacks use No. 234 Flat Hex Nut.

For 416, 418, 419 Tip Jacks use No. 233 Flat Hex Nut.

Nos. 232, 233 and 234 are packed in standard packages of 10.

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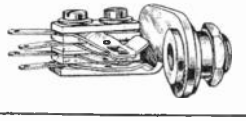
World Radio History

Approved PRECISION PRODUCTS

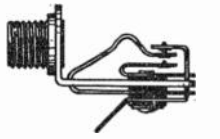
P. R. MALLORY & CO. INC.
MALLORY YAXLEY

LONG FRAME

JUNIOR



MIDGET



"X" TYPE

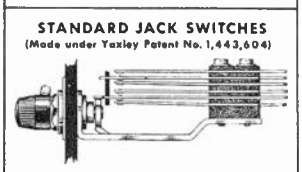
No. 75

No. 100

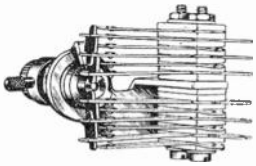
No. 75 A

No. 100 A

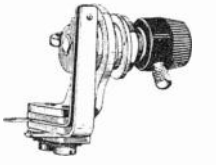
STANDARD JACK SWITCHES
(Made under Yaxley Patent No. 1,443,604)



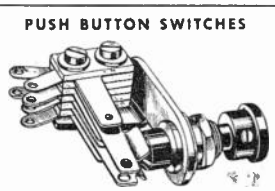
JUNIOR JACK SWITCHES



MIDGET JACK SWITCHES



PUSH BUTTON SWITCHES



Long Frame, Junior, Midget, "X" Type Jacks

● Mallory-Yaxley experience in the manufacture of Jacks and Jack Switches dates back to the early days of the telephone. The excellent design of these parts assures years of constant service. Special metals selected for these spring qualities, supplied to our own specifications, provide uniform tension and superior action of the contacts in all spring connections. Contacts are made of pure silver and are furnished in all spring connections except where special alloys are required to meet individual specifications. Bakelite separators, ground to uniform thickness, give a well-balanced assembly regardless of the number of springs required.

The "X" Type Jack incorporates a special short jack for Frame connection common to telephone applications and gives full use of special equipment like same high-quality springs and contacts used in Mallory-Yaxley Long Frame Jack, and fits the standard line of Mallory-Yaxley Phone Plugs.

Circuit Arrangement	Long Frame Types		Junior Jacks		Infant and Midget Jacks		"X" Types	
	No.	List Price	No.	List Price	No.	List Price	No.	List Price
Open Circuit	1	$0.50	701	$0.40	A-1	$0.35	XP1	$0.65
Closed Circuit	2	.60	702	.55	A-2	.50		
Two Circuit	2A	.60	702A	.55	A-2A	.50	XP2B	.75
Open Circuit Microphone	2B	.60	702B	.55				
Single Circuit Filament Control	4	.70	704	.65				
Circuit Reversing	3A	.70	703A	.65	A-3A	.60		
Single Circuit Make Before Break							XP2B	1.00
Three Circuit Microphone, One Circuit Closing	3B	.70	703B	.65				
Double Circuit	3C	.70	703C	.65				
Interrupter	4	.80	704	.75				
Two Circuit Filament Control	4A	.80	704A	.75				
Three Circuit Microphone, Two Circuits Closing	4B	.80	704B	.75			*Comparably adapted to "Infant" Jack.	
Two Circuit Filament Lightning	5	.90	705	.85				
Interstage Filament Control	6	1.00	706	.95				

Spring combinations are illustrated at the right. All Long Frame and Junior Jacks are supplied with one mark No. 275 Red and No. 276 Yellow. All Infant Jacks are supplied with one mark No. 222 Red and No. 223 Yellow. All Midget Jacks have two No. 222 Red and one No. 223 Yellow.

Phone Plugs, Microphone Plugs and Extension Jacks

● Yaxley Phone Plugs, Microphone Plugs and Extension Jacks can in no way be compared with imitations or inferior products. Yaxley exclusive design insulation of Bakelite positively prevents current leakage. Patented feature—insulating tip from sleeve prevents shorting between these parts.

	List Price
Two-Way Phone Plug (Bakelite Shell)—No. 75	$0.50
Two-Way Phone Plug (Bakelite Shell) (Tie Cord Type)—No. 75TC	.60
Two-Way Phone Plug (Shielded Nickel Shell)—No. 75A	2.25
Three-Way Microphone Plug (Bakelite Shell)—No. 76	1.00
Three-Way Microphone Plug (Shielded Nickel Shell)—No. 76A	2.50
Two-Way Extension Jack (Fiber Shell) for No. 75, 75TC Phone Plugs—No. 100	.75
Two-Way Extension Jack (Shielded Nickel Shell) for No. 75A Phone Plug—No. 100A	2.50
Three-Way Extension Jack (Fiber Shell) for No. 76 Microphone Plug—No. 101	1.50
Three-Way Extension Jack (Shielded Nickel Shell) for No. 76A Microphone Plug—No. 101A	2.75
Universal Phone Plug Shield 77S	.25

Standard and Junior Jack Switches

(Made under Yaxley Patent No. 1,443,604)

Circuit Arrangement	Two Position			
	Standard		Junior	
	No.	List Price	No.	List Price
Single Pole, Single Throw	20	$0.75	720	$0.70
Single Pole, Double Throw	30	.90	730	.85
Double Pole, Single Throw	40	1.00	740	.95
Five Springs, Two make and one break	45	1.15	745	1.10
Double Pole, Double Throw	60	1.25	760	1.25
Three Pole, Single Throw	73	1.25	733	1.25
Four Pole, Single Throw	74	1.60	744	1.60
Circuit Arrangement	**Three Position**			
Single Pole, Double Throw Center off Position	32	.90	732	.85
Double Pole, Double Throw Center off Position	62	1.25	762	1.20
Three Pole, Double Throw Center off Position	63	1.60	763	1.55
Four Pole, Double Throw Center off Position	64	2.00	764	1.95

Yaxley Jack Switches and Junior Jack Switches are furnished complete with Black Knob, Pointer and Off-On Name Plate. Mount in a single hole, $\frac{7}{8}$" diameter, on panels up to $\frac{1}{4}$" thick.

Yaxley Junior Jack Switches are especially desirable for mounting in a small space. The Switch lies parallel with the panel and has a depth of $1\frac{1}{4}$".

Midget Jack Switches

Yaxley Midget Jack Switches are of the same general construction as the Junior types but require less space.

Furnished complete with Black Knob and Pointer. Mount in single hole, $\frac{7}{8}$" diameter on panels up to $\frac{1}{4}$" thick.

	List Price
Single Pole, Single Throw, with "On-Off" Plate—No. 10	$0.50
Single Pole, Double Throw, for long and short antenna switch. Furnished with "L and S" Plate—No. 11	.65

Push Button Switches

Yaxley Push Button Switches are made in locking and non-locking types. Especially adapted for use in laboratories, test panels, meter circuits and where permanent or momentary contact is desired.

The non-locking switch operates only when the button is pushed in and releases on removal of the pressure. The locking type maintains its position when the button is pushed in and is released when button is pulled out.

Furnished with polished black Bakelite Knob. Mounts in single hole $\frac{7}{8}$" diameter on panels up to $\frac{1}{4}$" thick.

	List Price
S. P. Make contact—Non-locking type—No. 2001	$0.90
S. P. Make contact—Locking type—No. 2001-L	.90
S. P. Break contact—Non-locking type—No. 2002	.90
S. P. Break contact—Locking type—No. 2002-L	.90
S. P. Double Throw—Non-locking type—No. 2003	1.00
S. P. Double Throw—Locking type—No. 2003-L	1.00
2-Pole—Make two contacts—Non-locking type—No. 2004	1.20
2 Pole—Make two contacts—Locking type—No. 2004-L	1.20
2 Pole—Break two contacts—Non-locking type—No. 2005	1.20
2 Pole—Break two contacts—Locking type—No. 2005-L	1.20
2 Pole—Double Throw—Non-locking type—No. 2006	1.50
2 Pole—Double Throw—Locking type—No. 2006-L	1.50
2 Pole—Make two—Break one—Non-locking type—No. 2007	1.30
2 Pole—Make two—Break one—Locking type—No. 2007-L	1.30
Double Throw—Make before break—Non-locking type—No. 2008	1.65
2 Pole—Double Throw—Make before break—Locking type—No. 2008-L	1.65

Hexagon Head Type Tip Jacks

(Supplied with insulating washers.) With Hexagon Bakelite Top for mounting in $\frac{1}{4}$" hole. (U.S. Letters Patent No. 1,586,279—May 26, 1926).

	List Price
Red—No. 420	$0.15
Black—No. 421	.15
Pair (1 Black, 1 Red) in envelope—No. 422	.25
Dark Green—No. 423	.15
Brown—No. 424	.15
Light Blue—No. 425	.15
Orange—No. 426	.15
Yellow—No. 427	.15
Light Green—No. 428	.15
Dark Blue—No. 429	.15

When using insulating washers, mount in $\frac{3}{8}$" hole.

No. 421

No. 418

Round Bakelite Head Type Tip Jacks

(Supplied with insulating washers.) Mounts in $\frac{3}{16}$" hole in panel up to $\frac{3}{8}$" thick.

Pair (1 No. 419 Black, 1 No. 418 Red) in envelope—No. 407	$0.35
Green—No. 413	.20
Red—No. 418	.20
Black—No. 419	.20

When using insulating washers, mount in $\frac{3}{8}$" hole.

No. 416

Round Insulated Head Type Tip Jacks

(Supplied with insulating washers.) Mounts in $\frac{1}{4}$" hole in panel up to $\frac{3}{8}$" thick.

Red—No. 520	$0.15
Black—No. 521	.15
Green—No. 522	.15
Pair (1 Black—1 Red) in Envelope—No. 523	.25
Brown—No. 524	.15
Light Blue—No. 525	.15
Orange—No. 526	.15
Yellow—No. 527	.15
Light Green—No. 528	.15
Dark Blue—No. 529	.15

When using insulating washers mount in $\frac{3}{8}$" hole.

No. 417

No. 16

Metal Type Tip Jacks

Round and Hexagon Heads. (Supplied with insulating washers).

	List Price
Round Head Type Tip Jack mounts in a $\frac{5}{16}$" hole. When using insulating washers, mount in $\frac{3}{8}$" hole—No. 416	$0.10
Envelope of two No. 416—No. 414	.20
Hexagon Head Type Tip Jack mounts in $\frac{1}{4}$" hole. When using insulating washers, mount in $\frac{3}{8}$" hole—No. 417	.10
Round Head Type Tip Jack mounts in $\frac{3}{8}$" hole. When using insulating washers, mount in $\frac{1}{2}$" hole—No. 16	.30

No. 415

No. 15

Tip Plugs

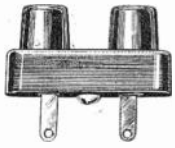
Designed especially for use with Tip Jacks and to serve as a Phone Tip without soldering.

No. 415	$0.08

For use with Yaxley Tip Jacks Nos. 416, 417, 413, 418, 419, 520 to 529 inclusive.

No. 15	.10

Same construction as No. 415 except has longer tip. To be used with Yaxley Tip Jacks Nos. 16, 420, 421, 423, 424, 425, 426, 427, 428, 429, 432, and all 401 Types.



No. 432

Moulded Twin Tip Jacks

Mounting Holes—$\frac{7}{8}$"—Centers. No. 401 is a Twin Tip Jack. No. 432 is a circuit closing twin tip jack which closes circuit automatically when tips are removed.

Blank—No. 401B	$0.30
Marked "Speaker"—No. 401S	.30
Marked "Phono"—No. 401P	.30
Marked "+ −"—No. 401PM	.30
Marked "AG"—No. 401AG	.30
Shorting Type (Black)—No. 432	.30
Shorting Type (Red)—No. 433	.30

No. 401

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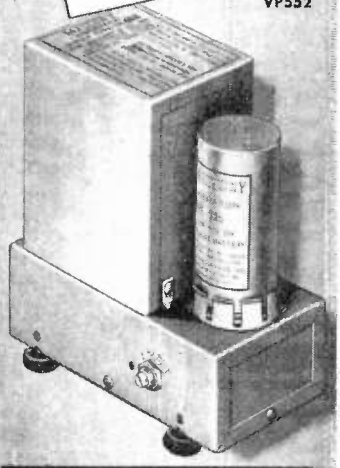
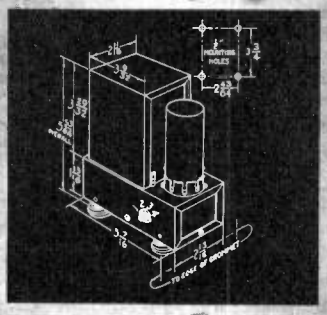
World Radio History

P. R. MALLORY & CO. INC.
MALLORY YAXLEY

Approved PRECISION PRODUCTS

VP552





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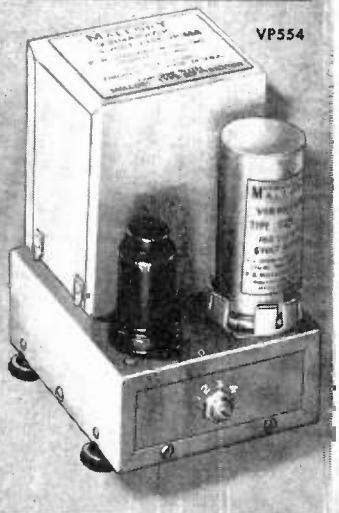

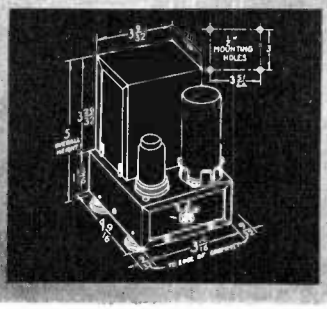

Vibrapacks

● Mallory Vibrapacks are flexible, HEAVY-DUTY vibrator power supplies designed to provide the most dependable and low cost method of obtaining "B" voltage from a 6-volt storage battery. They are specially designed for supplying high voltage direct current normally used in the plate circuits of vacuum tubes in radio communication, public address equipment and other laboratory and commercial apparatus. Mallory Vibrapacks also may be used for the conversion of 110-volt AC receivers for 6-volt battery operation.

Catalog No.	Type	Nominal Output Voltage	List Price
VP-551	Self-Rectifying	125-150-175-200	$15.00
VP-552	Self-Rectifying	225-250-275-300	18.50
VP-553*	Tube Rectifier	125-150-175-200	16.50
VP-554*	Tube Rectifier	225-250-275-300	20.00
VP-G556	Self-Rectifying	225-250-275-300	20.00

*Tube rectifier types required only for applications where B— cannot be at ground potential.

Vibrapacks are supplied complete with special Mallory vibrator. Rectifier tubes are included in the interrupter type Models VP-553 and VP-554. Model VP-G556 is designed for operation with a 12-volt storage battery. It is especially adapted for airplane, bus and boat service. Similar in design and appearance to VP-552.

Purchasers are urged to discuss special applications and uses of Mallory Vibrapacks with our Engineering and Development Laboratories. Address communications to Application Engineering Section, Wholesale Division, P. R. Mallory & Co., Inc., Indianapolis, Ind.

Battery Chargers

Mallory 5535A Battery Charger

Beautiful black wrinkle finish—chromium plated handle for easy carrying—clean cut, business-like in appearance and in performance. Meter on front indicates battery is being charged. Special oversize transformer provides taper charging. High charging rate for a dead battery—just the proper amount for a half-charged battery. Automatic care regardless of the battery's condition —CANNOT INJURE BATTERY.

Compact in size—to hang on garage wall—place on window sill—bench—floor—running board of car. Can be conveniently carried in car. Economical—effective—foolproof.

Specifications—Mechanical

Approximate dimensions, height, 7¾"; width, 4¼"; depth, 4½". Approximate shipping weight, 9¼ lbs. "Chimney" type construction of charger, and perforations in top and bottom, permit maximum flow of air through the rectifier. The handle also safeguards against shutting off air flow by accidentally laying objects on top of Charger. Equipped with keyhole slot and feet which permits mounting on wall of garage or setting in convenient place. Equipped with 6-ft. cord leading from Charger to light socket; a 12-ft. cord leading from Charger to receptacle on dash; Clamp-on receptacle to be attached to dash . . . wires for connecting to ammeter and complete instructions.

Specifications—Electrical

INPUT: 115 volts, 50-60 cycle AC on primary of the transformer.

OUTPUT (DC): Under above conditions output of unit charging battery tapers from 6 to 3 amperes.

Transformer designed to automatically regulate output to take care of variations in battery conditions and variations in line voltage.

List Price

Mallory 5535A Charger.....$11.50
Complete with 652 Dash Receptacle and extra fuse.

No. 3C Battery Booster

Specifications—Mechanical

Approximate dimensions, height, 5¾"; width 3⅞"; depth, 3⅛". Approximate shipping weight, 4¾ lbs. Equipped with keyhole slot and feet which permits mounting on wall of garage or setting in convenient place. Top and bottom perforated to afford maximum ventilation. Equipped with 9-ft. cord leading from Booster to light socket; a 4-ft. cord leading from Booster to receptacle on dash; Clamp-on receptacle to be attached to dash . . . wires for connecting to ammeter and complete instructions. FINISH—Black Wrinkle.

Specifications—Electrical

INPUT: 115 volts, 50-60 cycle AC on primary of the transformer.

OUTPUT (DC): Under above conditions output of unit charging battery tapers from 4 to 2 amperes.

Transformer designed to automatically regulate output to take care of variations in battery conditions and variations in line voltage.

List Price

Mallory No. 3C Battery Booster.....$7.45
Complete with 652 Dash Receptacle and extra fuse.

ACCESSORIES

Extra Dash Receptable and Plug No. 652—For Mallory 5535A Charger and No. 3C Booster....$1.50
Extra Dash Receptable and Plug No. 651—For old style Mallory 5535 Charger and No. 3 Booster... 1.50
Type SFE 9—9-ampere fuse for 5535A Charger.... .15
Type SFE 6—6-ampere fuse for 3C Booster..... .15

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World Radio History

Philmore Crystal Radio Receivers

SELECTIVE

Designed to give most efficient results and possessing unusual selectivity. Built with a tapped coil matched with a .00035 Mfd. variable condenser. The reception on this set is loud and clear without distortion or other noises. On the panel is a dial for tuning and logging stations, two double posts to take two pairs of headphones, and a dust-proof glass-enclosed crystal detector which includes the Philmore Supersensitive Crystal.

Code: "Yaguc"

List Price.....$5.00 ea.

BLACK BIRD

An efficient receiving set which will receive broadcasting loud and clear and will bring happiness to all its listeners. Housed in crystalline finish metal cabinet, with attractive front panel. This set has eye appeal and can back up its good appearance with equally good results.

Code: "Yagye"

List Price.....$3.00 ea.

DE LUXE

This set is housed in bakelite cabinets of pastel shades of red and blue and is equipped with a fixed detector. To operate this set requires only turning of the dial to locate the desired station. The detector is set on the most sensitive spot and permanently sealed. This makes a very attractive and efficient set easily operated by young and old. Two pairs of headphones can be attached so that two persons may listen in at one time.

Code: "Yoeck"

List Price.....$3.50 ea.

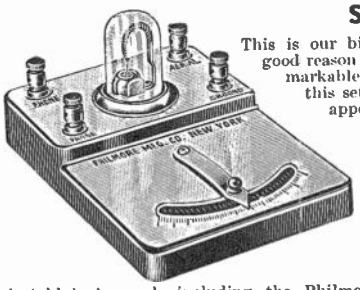
POCKET RADIO

"A Practical Receiving Set"—This set is one of the smallest radio sets ever built and is so portable that it can be carried in a vest pocket. Equipped with a fixed detector permanently sealed on the most sensitive spot. This is an efficient little set which will meet with popular favor amongst travelers and other users of crystal sets.

Code: "Yodle"

List Price (without Headphones).....$1.00 ea.

SUPERTONE



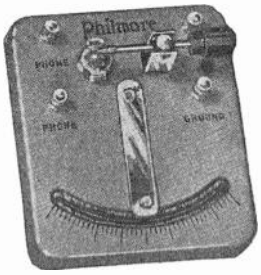
This is our biggest seller and there is good reason for its popularity. The remarkable results obtained from this set together with its general appearance and its scientific construction has placed this model in the unique position of being the largest selling crystal set in the world. Reception is loud and clear no distortion of any kind. The Philmore Glass Enclosed dust proof fixed detector adjustable) is used, including the Philmore Supersensitive Crystal. Manufactured in bakelite in four beautiful colors: red, rose, green and orange.

Code: "Yagwa." List Price.....$1.50 ea.

LITTLE WONDER Crystal Set

Compact in size but big in results. This set will receive broadcasting within 25 miles of a station. The open type detector permits adjustments to be made to the finest degree. This set includes the Philmore Supersensitive Crystal, which assures quick results when "looking" for a station, because the entire surface of the crystal is sensitive. Manufactured in bakelite in four beautiful colors: Green, Red, Orange and Rose. Code: "Yahoc."

List Price.....$1.00 ea.



KOMPAKT RADIO

"The Economical Set"

Here is the radio set everyone has been waiting for. A real compact little set that has everything in it, complete with earphone and headband and equipped with both aerial and ground clips so as to be easily attached to a ground and for an aerial attached to house or telephone line or else an outdoor aerial of wire stretched between trees or buildings. Equipped with a fixed detector, permanently sealed and operated by a knob on a graduated dial. This little set will accomplish a great deal and will bring a lot of happiness to the owner. Code: "Yoels."

List Price (complete with Headphone).....$3.25 ea.

Glass Enclosed Crystal Detector

Ideal for Crystal Reflex circuits. Dust proof. Fixed at factory but delicately adjustable at all times. Includes Supersensitive Crystal. Code: "Yahib."

List Price.....40c ea.

Open Type Crystal Detector

Universal Joint on swivel arm provides quick, accurate adjustment on any point of crystal. Handsome polished metal finish. Complete with crystal. Code: "Yahco."

List Price.....25c ea.

HEADPHONES

Accurately matched set of headphones, each unit consisting of high flux magnets surrounded by field windings of 2000 ohms resistance. Ruggedly constructed of light weight metal, highly polished bakelite ear caps.

Code: "Yahya."

List Price.....$2.75 ea.

SINGLE PHONE—1000 ohm, with cord and head band. Code: "Yodup."

List Price.....$1.75 ea.

FIXED CRYSTAL DETECTOR

Will give renewed action to reflex or crystal sets. The sensitivity of the mineral is determined by laboratory methods and is fixed permanently. Made to withstand high voltage. Small and enclosed in a bakelite case. Code: "Yahez."

List Price.....80c ea.

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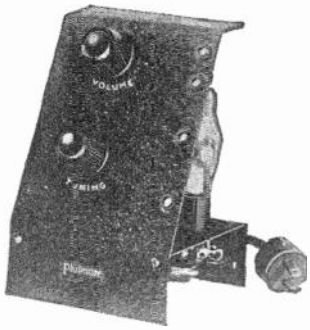
World Radio History

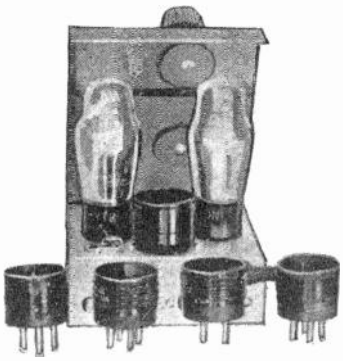
Philmore all Wave Radio Sets

AC - DC and BATTERY OPERATED — 1 and 2 TUBE SETS and KITS



Front View

THESE are all wave sets 15 to 600 meters which includes Police Calls, amateurs, aircraft, code, transoceanic short-wave telephone conversations as well as regular broadcasting. Has amazing volume and clearness. Very portable for use in camp or farm. The one-tube Battery model uses one A Battery 1½ volts, and one B Battery 45 volts, and one type 30 tube. The two tube Battery model uses one A Battery 1½ volts, two B Batteries 45 volts each, and two Type 30 tubes, which lasts for months. The kits are easy to wire. Every part for the entire receiver is mounted on an attractive panel and chassis. Large, clear picture diagram makes errors almost impossible. These sets are powerful enough to operate several headsets at one time. The AC-DC Kit and Set operates with two Type 76 tubes and can be plugged into any 110-volt AC or DC main. Prices quoted are for the set wired or in kit form and includes the broadcast coil less batteries, tubes and headsets. Four short-wave coils, tubes and headset for AC-DC Sets, and batteries as well as short-wave coils, tubes and headset for Battery sets are extra equipment.



Rear View

Code	Description	List Price
YOGEN	1 Tube Battery Kit	$2.25
YOGIP	1 Tube Battery Set—Wired	3.15
YOGMA	2 Tube Battery Kit	2.75
YOGNE	2 Tube Battery Set—Wired	3.75
YOGSY	2 Tube AC-DC Kit	4.00
YOGUR	2 Tube AC-DC Set—Wired	5.00

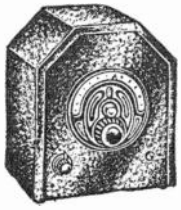
BATTERY and AC-DC COILS

The coil supplied covers the broadcast band from 200 to 530 meters, which is the most useful portion of the band. Code: "Mrx."
Additional coils can be supplied as listed below.
13 to 30 meters which tunes transatlantic stations and some amateur phone and code stations. Code: "Arx."
25 to 60 meters which tunes some foreign stations and amateurs phone and code. Code: "Brx."
50 to 120 meters which tunes some amateurs and code stations. Code: "Crx."
100 to 240 meters which tunes some amateur stations, police calls and a portion of the broadcast band. Code: "Hrx."
For one and two tube Battery Set Coils, use code letters as shown above with exception of letter "X." Meter wavelengths are the same.
List Price—All Types ..... $.35 ea.

BATTERY RADIO SETS

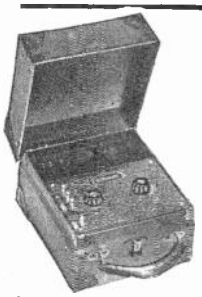
Using new type DC X230 and X231 Tubes. Operation by these tubes is very economical, batteries lasting twice as long as usual and at the same time giving more than double the power. The following batteries are required:

1 Tube Set—
1 dry cell and one 22½ volt battery
2 Tube Set—
2 dry cells and one 45 volt battery
3 Tube Set—
2 dry cells, two 45 volt batteries and one 22½ volt C battery



Code	Type Sets	List Price
YAANF	1 Tube Receiving Sets	$7.50
YAARJ	2 Tube Receiving Sets	9.00
YAASK	3 Tube Receiving Sets	13.00

All Prices Less Equipment



PORTABLE BATTERY SET

Two Tube Model

A specially developed circuit with a High "Q" coil system gives remarkable sensitivity and selectivity. Used with a short aerial and ground, excellent volume and distance are assured. A single tuning control and a volume control make for simplicity of tuning. B Battery consumption less than one milliampere, which ensures long battery life. Batteries required: 2 small dry cells and 3 small 4½ volt C batteries. Uses 1 Type 30 Detector Amplifier Tube and 1 Type 49 Double Grid Amplifier Tube.

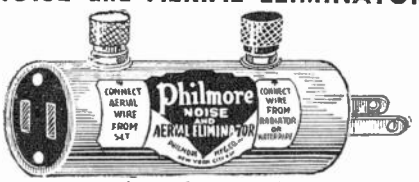
Code: "Yodak"—List Price ..... $11.00 ea.
Also available in Kit form, not wired:
Code: "Yoegn"—List Price ..... $9.00 ea.
Price does not include Headphones, Tubes or Batteries

HAND MICROPHONE

This microphone for home broadcasting will operate efficiently from any radio set. Finished in chromium and black lacquer, with a jet black highly polished handle. This makes a beautiful instrument which will bring joy and happiness to the operator as well as to listeners. It will help turn any dull house party into hilarious, enjoyable entertainment. Equipped with an on and off switch for cutting off radio programs and bringing in the home broadcaster's voice very clearly. This microphone is sensitive, has excellent volume, and is shock-proof. It is easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.

Code: "Yofla"—List Price ..... $1.90 ea.

NOISE and AERIAL ELIMINATOR

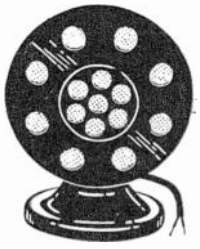


Greatly improves reception and tone quality of any receiver. Reduces line and static noises to an absolute minimum. Compact in size and very simple to install. Operates on either AC or DC current. Complete with bakelite knobs or fahnestock clips. Available in two models.

Code		List Price
YAAU	With Bakelite Knobs	$ .65 ea.
YODEL	With Fahnestock Clips	.40 ea.

JR. TABLE MICROPHONE

A real microphone for home and broadcasting. Not a toy. Very easily attached to your radio. Will not interfere with its operation. Has push button to cut microphone in and out of the circuit. Attractively finished.



Code: "Yakab"—List Price ..... $1.00 ea.

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AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

110 Volts—A.C. Sets

AMPERITE IS A REAL REGULATOR—Its resistance automatically varies to compensate for supply voltage variations. It should not be confused with ordinary resistors.

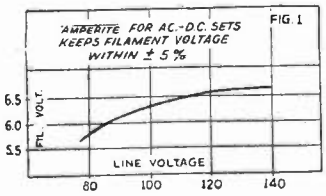
For 110-V. A.C. Sets—The proper Amperite is determined by the line current. A set drawing 0.7A requires Amperite 7A5, 1.2A requires Amperite 12A5, etc. Depending upon the line voltage, the voltage drop across an Amperite of — A5 series will vary from 8 to 30 volts and will control line voltages of 100 to 140 volts.

The line current drain of most 110 Volt A.C. Sets — except those using 6L6 or '50 tubes—average approximately 0.1 amp. per tube. A 7-tube set will draw 0.7A—use Amperite 7A5, etc. 220 Volt A.C. sets have half the current drain of similar 110 A.C. sets. For proper Amperite see Chart at left.

HOW TO DETERMINE PROPER AMPERITE FOR A.C. SETS

Line Voltage	110 V	220 V
No. of Tubes in Set	Use Amperite No.	Use Amperite No.
4 or 5	5-A-5	2H-5
6 or 7	7-A-5	3H-5
8, 9 or 10	9-A-5	4H-5
11 or 12	11-A-5	5H-5

A. C. - D. C. SETS

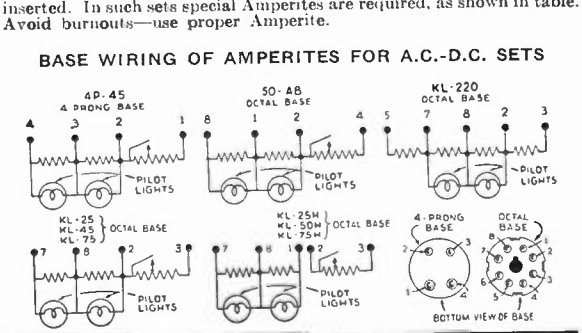


For A.C.-D.C. Sets

The Amperite Regulators are designed to pass only 0.3A through tube filaments. Filament voltages will be kept within ± 5% with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prongs and 2 with octal bases will replace 150—90% of all—so-called ballasts or resistors used in A.C.-D.C. sets. No extra resistor required.

Pilot Lights—None, one or two of either 0.150A or 0.250A can be used with same Amperite. Should a pilot light burn out, the set will continue to operate properly without any damage to the Amperite, tubes or other parts. The patented starting resistor in the Amperite prevents overloading and premature burning-out of tubes and pilot lights.
In some sets the ballast socket is purposely wired in such a way that the Pilot Light Resistors of standard ballasts would be burned out if inserted. In such sets special Amperites are required, as shown in table. Avoid burnouts—use proper Amperite.

BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



AMPERITES FOR 2-VOLT BATTERY SETS

Two-volt tube filaments are delicate and easily overloaded. Keeping the tube filaments at their proper voltage with a real regulator like Amperite invariably results in considerably more battery and tube life. The same Amperite can be used for dry cell, air cell, or 2 volt storage battery operation. The proper Amperite is determined by the total filament-current drain of the set. e.g.—for 0.5A use Amperite 5E1, etc.

AMPERITES FOR 110V. A. C. SETS, A-5 SERIES.. **List $2.25**
e.g., Amperite 5A5, 7A5, 9A5, 20A5, etc.

AMPERITE REPLACEMENTS—A.C. SETS..... **List $1.25**

Brunswick 14, 21, 31	9-20	Majestic 90, 91, 92	90
Bremer Tully S81, S82	9-20	Peerless 21 to 25	11-20
G. E. B-86	5-16	RCA 876—$2.50 net	876
Hamm. Roberts H1 Q31	10-10	RCA R-223	5-16
Hamm. Roberts H1 Q30	11-20	Scott Raider	12-20
Kylectrol K71, K72	11-20	Victor R32, 52	10V10
Majestic 70, 71, 72	70	Victor R35, 39	9V10, 10-610

REPLACEMENT REGULATORS—A.C.-D.C. SETS. **List $1.00**

Amperite No.	Amperite Numbers Shown Replace All A.C.-D.C. Ballasts		
	Starting With Letter	With Numbers From	Ending In
KL.25 #		10 to 36	A, B, C, or D
KL.45	K, L, M or BK	36 " 67	"
KL.75	BL or BM	67 " 105	"
KL.25H	K, L, M, or BK	11 to 26	F, G, or H
KL.50H	"	36 " 67	"
KL.75H	"	67 " 105	"
KL.50S1	K or L	40 to 100	S1
KL.50S2	"	"	S2
KL.50S3	"	"	S3
KL.50E	"	36 " 67	E

Except K18B, use Amperite K18B—4-Prong Base.

AMPERITE KL-45 OCTAL BASE will replace all ballasts shown in table above and also

K36A, B, C, or D	L36A, B, C, or D	W43357	333-4A	8593
K42A, B, C, or D	L42A, B, C, or D	X35-35	3326	8595
K49A, B, C, or D	L49A, B, C, or D	2VR-215	3613	8598
K55A, B, C, or D	L55A, B, C, or D	2UR-224	55A	92K2
K61A, B, C, or D	L75CC	2CR-241	69.2033	115.22
K67A, B, C, or D		3CR-241	69.2037	3614

AMPERITE 4P-45, 4-PRONG BASE will replace

40A2	50W	140L4	165KC	165R44	185R44	K49X
40B2	50X3	140L44	165LB	185KC	185R8	K49Y
40X300	50X300	140L8	165LC	185L4	245A	KX42B
45W	6B	140R8	165L4	185L44	250A	KX42C
50	140A	160KB	165L44	185L8	300R4	
50A2	140KB	165KB	165L8	185R4	K40X	
50B2	140KC		165R4		K40Y	

AMPERITE 50-AB OCTAL BASE will replace

42B2	42A1	49A1	49B2	55A2
2LR212	42A2	49A2	55A1	55B2
K38B2	K42B2	K49B2	K55B2	

AMPERITE 3-40, 4-PRONG BASE, will replace

5B	40W	69.2027	165R	KX42A	KX55A
40	40X300	140R	185R	KX49A	

SPECIAL A.C.-D.C. BALLASTS replaceable by Amperite with similar number—e.g., 200R by Amperite 200R, etc.

200R	115-25	11520	K55CP	50A2MG
250R	115-26	C8064D *	K55CPR	KZ49C
2NR253	115-27		L55CP *	KL50S2
46A1		115-18 *	L55CPR	
46B1	115-14 *	C8064B		KL-45J
320R4	KL-75		X55B	6-126
1916		32 *	8600 *	6-129
3271	115-17	KL50H	KL-25	6-133
81963	115-17S *			3ER-248 *
K18B	C8064A	60R30	50B2MG	100-37
L42BX	68064A	60R30C	KZ49A	100-38
L49BJ		KX23B	KZ49B	100-70
W42520	115-19		KL-50S1	L36DJ
W40655	C8064C	878R48 *		L42CJ
		KX23R		L49CJ

* Interchangeable with any type in same bracket.

220V. LINE A.C.-D.C. REGULATORS..... **List $2.25**

KL220	3-220	220SX *	L49BSX *
85L75CC	692028	L42DSX	L49DSX

* Interchangeable with any type in same bracket.

AMPERITES—BATTERY SETS..... **List $1.25**

		Ia			Ia		Ia	
# 1A1	(5E1)	.5	# 1J1	(6-1)	.62	1L1	.36	# 1A2
# 1B1	(3H1)	.36	# 1K1	(5H1)	.54	1N1	.48	# 1B2
# 1C1	(7H1)	.76	# 1V1	(5H1)	.56	1P1	.42	# 1C2
# 1D1	(2H1)	.24	# 10AB	(5H1)	.56	1Q1	.72	1D2
# 1E1	(5E1)	.48	# 6AA	(5E1)	.5	1R1	.54	100-52
# 1F1	(7-1)	.72	5-1	(5E1)	.5	1S1	.66	1E2
# 1G1	(4-1)	.42	(LLL225)		.5	1U1	.74	100-53
			6	(7-1)	.7	1T1	.56	

# denotes 4-prong base — others use octal.
Ia denotes total filament current drain of set.

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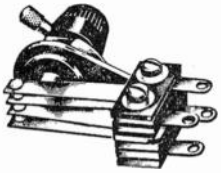
World Radio History

Utah Spring Jack and Push Button Switches

Locking . . . Non-locking . . . Long and Short Types

SHORT SPRING JACK SWITCHES



Short Spring Jack Switches

Small and compact. Mount in single 3/8" hole on Panels up to 5/16 inch. Project back of panel only 5/8". Frames are insulated. Furnished with small bakelite knobs and metal pointers and "off" and "On" name plate

LONG SPRING JACK SWITCHES

Each switch comes with black moulded knob and "On" and "Off" nameplate. Mounts in single 3/8" hole on panels 1/8" to 3/16" thick. Insulation for Mounting on Metal Panels.

Long Spring Jack Switches

TWO POSITION SWITCHES

Short Spring Jack Switches

No. 322
Single Pole
Single Throw
70c

No. 333
Single Pole
Double Throw
85c

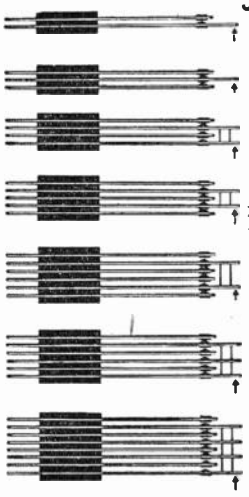
No. 344
Double Pole
Single Throw
95c

No. 355
Five Springs, Two Make and One break
$1.10

No. 366
Double Pole
Double Throw
$1.25

No. 306
Three Pole
Single Throw
$1.25

No. 388
Four Pole
Single Throw
$1.60



Long Spring Jack Switches

No. 3
Single Pole
Single Throw
75c

No. 3
Single Pole
Double Throw
90c

No. 4
Double Pole
Single Throw
$1.00

No. 55
Five Springs, Two Make and One break
$1.15

No. 6
Double Pole
Double Throw
$1.25

No. 66
Three Pole
Single Throw
$1.25

No. 88
Four Pole
Single Throw
$1.60

THREE POSITION SWITCHES

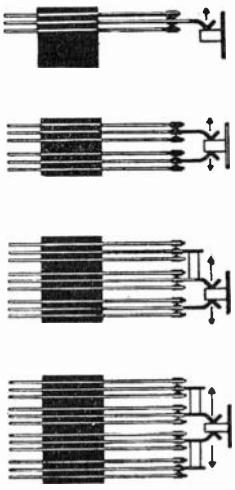
Short Spring Jack Switches

No. 333-B
Single Pole
Double Throw
Center Off Position
85c

No. 366-B
Double Pole
Double Throw
Center Off Position
$1.20

No. 399-B
Three Pole
Double Throw
Center Off Position
$1.55

No. 313-B
Four Pole
Double Throw
Center Off Position
$1.95



Long Spring Jack Switches

No. 7
Single Pole
Double Throw
Center Off Position
90c

No. 8
Double Pole
Double Throw
Center Off Position
$1.25

No. 9
Three Pole
Double Throw
Center Off Position
$1.60

No. 12
Four Pole
Double Throw
Center Off Position
$2.00

Uniformly tempered steel. Cadmium plated springs that retain their tension permanently.

Positive contacts, non-corrosive. Bakelite knobs. Fully insulated. Mount in a single 3/8" hole on panels up to 5/16".

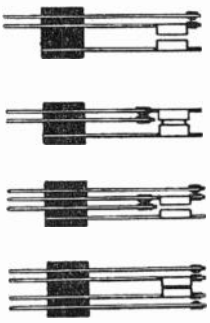
PUSH BUTTON SWITCHES

Non-Locking Type
No. 422-M
Single Pole
Make Contact
List Price.....90c

No. 422-B
Single Pole
Break Contact
List Price.....90c

No. 433
Single Pole
Double Throw
List Price.....$1.00

No. 444-M
Two Pole
Make Two Circuits
List Price.....$1.20



Locking Type
No. 422-AM
Single Pole
Make Contact
List Price.....90c

No. 422-AB
Single Pole
Break Contact
List Price.....90c

No. 433-A
Single Pole
Double Throw
List Price.....$1.00

No. 444-AM
Two Pole
Make Two Circuits
List Price.....$1.20

Non-Locking Type
No. 444-B
Two Pole
Break Two Circuits
List Price.....$1.20

No. 666
Double Pole
Double Throw
List Price.....$1.50

No. 555
Make Two Circuits
Break one circuit on Push
List Price.....$1.30

No. 676
Double Pole
Double Throw
Make before break
List Price.....$1.65

Locking Type
No. 444-AB
Two Pole
Break Two Circuits
List Price.....$1.20

No. 666-A
Double Pole
Double Throw
List Price.....$1.50

No. 555-A
Make Two Circuits
Break one circuit on Push
List Price.....$1.30

No. 676-A
Double Pole
Double Throw
Make before break
List Price.....$1.65

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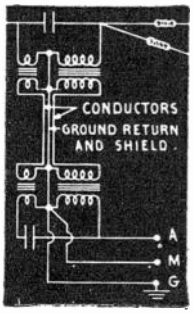
World Radio History

THE RADIO WIRING LINE

BELDEN

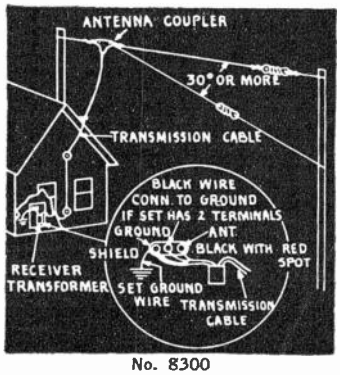
Clear Channel
All-Wave Antenna Systems

A unique principle in antenna design is incorporated in the Belden Clear Channel Antenna Systems involving the use of the newly developed Belden iron core transformer couplers. Low loss transmission lines and maximum coupling features produce clear channel reception with maximum efficiency in all frequencies

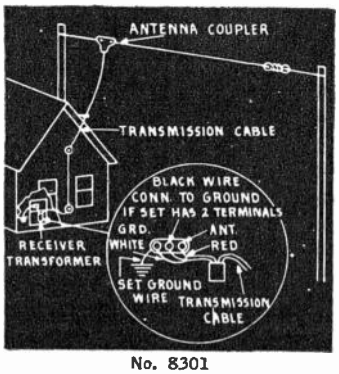


from 400 to 22,000 kilocycles with no dead spots.

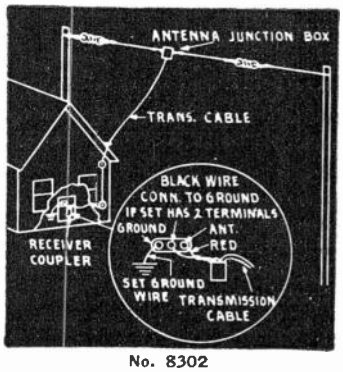
Engineered to operate efficiently with lengths of transmission cable No. 8209 up to 200 feet. The large conductors of No. 8209 are covered with a low loss insulation. Surge impedance is 37 ohms. Simple to erect.



No. 8300



No. 8301



No. 8302

No. 8300—Twisted Pair Shielded Transmission Line Type—"L" antenna plus additional half doublet antenna for maximum short wave response. Shielding on transmission line also provides ground for "L" antenna and eliminates need for lightning arrester. Assembled in display carton.

Contents: 1—60′ Coil 7 x 22 Beldenamel Aerial Wire 8005; 1—25′ Coil 7 x 22 Beldenamel Aerial Wire 8005; 1—50′ Coil Shielded Twisted Pair Transmission Cable 8209; 1—Double Iron Core Antenna Coupler; 1—Double Iron Core Receiver Transformer; 1—25′ Coil 18 Stranded Ground Wire 8200; 2—Porcelain Nail-on Knobs; 1—6″ Stand-off Insulator; 2—Porcelain Insulators; 1—Ground Clamp 8897; 1—Instruction Sheet. **List Price** $6.90

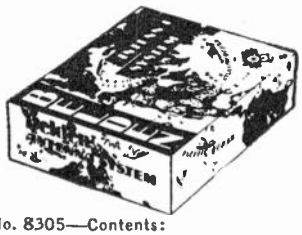
No. 8301—3-Wire Transmission Line Type—with iron core transformers for broadcast band and air core for short wave band. One wire of 3-wire transmission line functions as ground and eliminates need for lightning arrester. Assembled in display carton.

Contents: 1—60′ Coil 7 x 22 Beldenamel Aerial Wire 8005; 1—45′ Coil 3-conductor Transmission Cable; 1—Antenna Coupler; 1—Receiver Transformer; 1—Porcelain Insulator; 2—Nail-on Knobs; 1—6″ Stand-off Insulator; 1—Ground Clamp 8897; 1—Instruction Sheet. **List Price**.....$5.25

No. 8302—Standard Doublet Type—with iron core receiver coupler. Completely assembled in attractive display carton.

Contents: 2—30′ Coils 7 x 24 Bare Copper Aerial Wire 8002; 1—45′ Coil Twisted Pair Transmission Wire 8205; 1—Antenna Junction Box; 2—Porcelain Insulators; 1—Receiver Impedance Matching Coupler; 1—25′ Coil Ground Wire 8200; 1—6″ Stand-off Insulator; 2—Porcelain Nail-on Knobs; 1—Instruction Sheet. **List Price** ...$3.50

Broadcast Aerial Kits



No. 8304—Contents:
1—75′ Coil 7 x 22 Beldenamel 8005
1—35′ Coil Size 16 Stranded Lead-in 8201
1—Arrester 8896
1—12″ Lead-in Strip 8890
1—Type "C" Ground Clamp 8897
2—3″ Glass Insulators 8814
2—Porcelain Nail-on Knobs
2—Galvanized Screw-eyes
1—Instruction Sheet

List Price **$1.65**

No. 8305—Contents:
1—75′ Coil 7 x 22 Bare Copper Aerial 8000; otherwise same as 8304.

List Price **$1.45**

No. 8306—Contents:
1—75′ Coil 7 x 22 Bare Copper Aerial 8000
1—25′ Coil Size 18 Stranded Lead-in 8200
1—Arrester 8896
1—Type "C" Ground Clamp 8897
1—12″ Lead-in Strip 8890
2—Porcelain Insulators
2—Porcelain Nail-on Knobs
1—Instruction Sheet

List Price **$1.30**

No. 8307—Contents:
1—75′ Coil 7 x 24 Bare Copper Aerial 8002; otherwise same as 8306.

List Price **$1.10**

No. 8308—Contents:
1—75′ Coil 7 x 26 Bare Copper Aerial 8003
1—25′ Coil 18 Stranded Lead-in 8200
1—Arrestor 8896
1—Type "C" Ground Clamp 8897
2—Porcelain Insulators
2—Porcelain Nail-on Knobs
1—Instruction Sheet

List Price **$1.00**

No. 8309—Contents:
1—50′ Coil 7 x 26 Bare Copper Aerial 8003
1—25′ Coil 18 Stranded Lead-in 8200
1—Arrester 8896
1—Type "C" Ground Clamp 8897
2—Porcelain Nail-on Knobs
2—Porcelain Insulators
1—Instruction Sheet

List Price **$0.80**

8100—Power Line Filter

To prevent "Back Door" interference. Highly efficient. Has two dual condenser sections and two dual high "Q" choke coils. The noise rejection characteristics in both broadcast and short wave bands take care of man-made static. Efficient with all types of receivers **List Price**.....$6.45

8101
Belden Clear Channel

Double Iron Core Receiver Coupler as furnished with 8300 Antenna System. As many as four receivers will operate off of one of these systems without noticeable decrease in signal strength. One of the couplers should be used at each set. Connect with Belden 8209 shielded transmission line in parallel at incoming posts of original coupler. **List Price**.....$1.70

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40 (Full Unit Quantity)

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World Radio History

ANTENNA SYSTEMS

Belden

WIRE and CABLE

All Rubber Lead-in Wire

Easy stripping—easy soldering. All made of 7 strands of tinned copper wire with heavy rubber sheath as indicated. 1/32" = .031".

No.	Length in Ft. on Spool	Size	Thickness Rubber	O.D. of Wire	List Price
8200	100	18	.040"	.129"	$0.007 ft.
8200	500	18	.040"	.129"	.007 ft.
8200	1000	18	.040"	.129"	.007 ft.
8201	50	16	.040"	.140"	.46 ea.
8201	100	16	.040"	.140"	.008 ft.
8201	250	16	.040"	.140"	.008 ft.
8201	500	16	.040"	.140"	.008 ft.
8201	1000	16	.040"	.140"	.008 ft.
8202	50	14	.047"	.174"	.015 ft.
8202	250	14	.047"	.171"	.015 ft.

Neoprene Sheathed Lead-in Wire

7 Strands of tinned copper wire, a wrap of moisture-proof "Cellophane" and sheath of Neoprene—the sun and weather-resisting synthetic rubber compound.

8203	100	16	.040"	.143"	.015 ft.
8203	500	16	.040"	.143"	.015 ft.

Auto-Radio Wires & Cables

Shielding

Tinned Copper Shielding—8661 fits over 7 mm spark plug wires.

No.	Length in Ft. on Spool	Inside Diameter	List Price
8661	50	3/8"	$0.05 ft.
8661	250	3/8"	.05 ft.
8660	50	13/64"	.03 ft.
8660	250	13/64"	.03 ft.
8662	50	25/32"	.125 ft.
8662	250	25/32"	.125 ft.

Motor Grounding Cable

No. 8659—14" Extra flexible braided copper strap ..... $0.24 ea.

Auto-Radio Shielded Low Capacitance Lead-in Wire

No. 8663—100 ft. 20 (10 x 30 tinned) low capacity rubber, tinned copper shield over all O. D.—.225". Maximum capacity between conductor and shield 27 mmf..... $0.045 ft.
No. 8664—100 ft. same as 8663 with rubber sheath over all. O. D.—.290"..... .06 ft.

Shielded Spark Plug Wires

No. 8665—7 mm Belden Pyro-Glaze spark plug wire with tinned copper shield..... .11 ft.
No. 8666—7 mm commercial grade spark plug wire with tinned copper shield..... .075 ft.

Unshielded Primary Wires

On 100-Ft. Spools

No. 8650—12 (19 x 25 tinned), wrap colored "Cellophane," .031" rubber, glazed cotton braid lacquered. Color: orange..... $0.045 ft.
No. 8651—14 (19 x 27 tinned), wrap colored "Cellophane," .027" rubber, glazed cotton braid lacquered. Colors: black or red..... .035 ft.
No. 8652—16 (19 x 29 tinned), wrap colored "Cellophane," .022" rubber, glazed cotton braid lacquered. Colors: black or red..... .025 ft.
No. 8653—18 (16 x 30 tinned), wrap colored "Cellophane," .015" rubber, glazed cotton braid lacquered. Color: orange..... .02 ft.

Shielded Primary Wires

On 100-Ft. Spools

No. 8654—12 (19 x 25 tinned), wrap colored "Cellophane," .031" rubber, glazed cotton braid lacquered, over-all tinned copper shield .05 ft.
No. 8655—14 (19 x 17 tinned) wrap colored "Cellophane," .027" rubber, glazed cotton braid lacquered, over-all tinned copper shield .04 ft.
No. 8656—16 (19 x 29 tinned), wrap colored "Cellophane," .022" rubber, glazed cotton braid lacquered, over-all tinned copper shield .035 ft.

TRANSMISSION LINE CABLE

Single Conductor Shielded

For line matching or auto transformers between antenna and receiver.

Number	Length in Feet	Frequency (Kilocycles)	Surge Impedance (Ohms)	Power Factor (Per Cent)	Maximum Capacity per Ft. Between Condr. and Shield	Between Conductors	List Price
8206	50' spool	100	33.0	2.0	64.5 mmf		$0.025 ft.
8206	250' spool	1500	33.5	1.78	63.0 mmf		.025 ft.
		10000	33.8	1.52	62.0 mmf		.025 ft.
Description—16 stranded 4/64" rubber, over-all tinned copper shield.							
8207	250' spool	100	68.9	2.88	57.5 mmf		.03 ft.
		1500	70.0	2.44	55.0 mmf		.03 ft.
		10000	73.2	2.12	50.5 mmf		.03 ft.
Description—14 stranded 4/64" rubber, over-all tinned copper shield.							
8208	50' spool	100	31.5	2.54	77.0 mmf		.035 ft.
8208	250' spool	1500	3222	2.17	73.5 mmf		.035 ft.
		10000	32.9	1.74	69.5 mmf		.035 ft.
Description—14 stranded 4/64" rubber, over-all tinned copper shield.							

Twisted Pair Transmission Cable

FOR IMPEDANCE MATCHING

For the majority of all-wave receivers and of any half-wave di-pole antenna.

8204	75' coil	100	66.4	1.29	31.5 mmf	$1.00 ea.
8204	500' spool†	1500	67.7	1.42	33.5 mmf	.025 ft.
		10000	68.4	1.93	32.5 mmf	.025 ft.

Description—18 stranded, cotton wrap, rubber covered, color coded, twisted pair over-all cotton braid, weather-proofed.

Commercial Type Twisted Pair

8205	500' spool†	100	92.5	5.74	23.8 mmf	.03 ft.
		1500	95.8	3.88	22.3 mmf	.03 ft.
		10000	96.0	3.63	21.3 mmf	.03 ft.

Description—22 (7 x 30 tinned) paper wrap, .022" rubber, twisted pair, color coded, over-all cotton braid, weather-proofed

Shielded Twisted Pair

8209	75' coil	100	75.5	1.29	24.2 mmf	$3.60 ea.
8209	500' spool†	1500	76.8	1.42	23.4 mmf	.05 ft.
		10000	77.7	1.93	22.7 mmf	.05 ft.

As dual transmission line using shield as common conductor, the surge impedance is one-half the above.
Description—18 stranded, cotton wrap, rubber covered, color coded, twisted pair; paper wrap and tinned copper shield over twisted pair over-all cotton braid, weather-proofed.

Transmitting Line Cable

Ample carrying capacity for output as high as 2000 watts.

8210	100' coil	100	72.0	3.08	31.3 mmf	$0.05 ft.
8210	500' spool†	1500	73.7	2.16	29.7 mmf	.05 ft.
		10000	73.7	2.53	29.7 mmf	.05 ft.

Description—12 solid, 3/64" rubber, twisted pair, over-all cotton braid, weather-proofed.

Signal Generator Cable

8211	50' spool	100	25.4	2.2	93.5 mmf	$0.04 ft.
		1500	25.6	1.96	91.5 mmf	.04 ft.
		10000	25.7	2.8	90.7 mmf	.04 ft.

Description—15 stranded, low capacity rubber, rayon braid, tinned copper shield, over-all glazed cotton braid lacquered.
† Length may vary ± 10%

AERIAL WIRE

Belden Aerial Wire Is Full Gauge and Weight

Stranded Bare Copper

No.	Length	Size	List
8000	50 ft.	7 x 22	$0.31
8000	75 ft.	7 x 22	.46
8000	100 ft.	7 x 22	.60
8000	1000 ft.	7 x 22 on spool	5.80
8001	50 ft.	7 x 23	.26
8001	75 ft.	7 x 23	.38
8001	100 ft.	7 x 23	.50
8001	1000 ft.	7 x 23 on spool	4.75
8002	50 ft.	7 x 24	.21
8002	75 ft.	7 x 24	.31
8002	100 ft.	7 x 24	.41
8002	1000 ft.	7 x 24 on spool	3.88
8003	50 ft.	7 x 26	.15
8003	75 ft.	7 x 26	.21
8003	1000 ft.	7 x 26 on spool	2.60
8004	500 ft.	7 x 20 on spool	5.50

Stranded Tinned Copper

8010	100 ft.	7 x 22	.71
8010	1000 ft.	7 x 22 on spool	6.90

Stranded Beldenamel

No.	Length	Size	List
8005	75 ft.	7 x 22 in carton	$0.63
8005	100 ft.	7 x 22 in carton	.82
8005	150 ft.	7 x 22 in carton	1.23
8005	1000 ft.	7 x 22 on spool	7.90
8006	100 ft.	7 x 20 in carton	1.30
8006	1000 ft.	7 x 20 on spool	13.00

Solid Beldenamel

8007	1000 ft.	10 on spool	16.20
8008	100 ft.	12 in carton	.93
8008	1000 ft.	12 on spool	8.64
8009	100 ft.	14 in carton	.65
8009	1000 ft.	14 on spool	6.16

Solid Tinned Copper

8011	500 ft.	12 on spool	5.95
8012	500 ft.	14 on spool	4.00
8013	500 ft.	16 on spool	3.05

Shielded Fabric Loom

	List Price
No. 8657—3/16" I.D.—50 ft. in carton.....	$0.075 ft.
No. 8658—5/16" I.D.—50 ft. in carton.....	.10 ft.

40 (Full Unit Quantity)

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PLEASE INDICATE LENGTH DESIRED, IMMEDIATELY FOLLOWING TRADE NUMBER, WHEN MORE THAN ONE LENGTH IS LISTED UNDER THE SAME NUMBER.

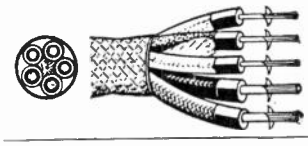
World Radio History

ANTENNA SYSTEMS

Belden

WIRE and CABLE

MULTIPLE CONDUCTOR CABLE



Glazed Cotton

WITH ABRASION-PROOF "BASKET-WEAVE" BRAID

For permanent installation of speakers, remote control equipment, and multiple circuit, 500-ohm transmission lines.

Number	Length in Ft. on Spool	Conductors	Description	Outside Diameter	List Price
8443	100	3	20 (10 x 30 tinned)	.225"	$0.035 ft.
8443	500†	3	paper wrap 1/64"	.225"	.035 ft.
8444	100	4	rubber, color coded	.260"	.05 ft.
8444	500†	4	glazed cotton braid	.260"	.06 ft.
8445	100	5	lacquered — over-all	.310"	.06 ft.
8445	500†	5	brown braid.	.310"	.06 ft.

For use where high current must be carried with a low potential drop.

8446	100	6	2—16 (26x30 tinned)	.330"	.08 ft.
8447	100	7	balance — 20 (10 x	.380"	.10 ft.
8448	100	8	30 tinned) paper	.400"	.115 ft.
8449	100	9	wrap, 1/64" rubber, color coded glazed cotton braid lacquered over-all brown braid.	.415"	.125 ft.

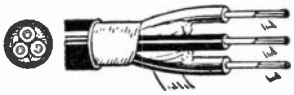
Rubber Sheathed

Two Conductor

For permanent magnet dynamic speakers, and general power supply cable.

8452	100	2	18 (41 x 34) cotton	.245"	.035 ft.
8452	500†	2	wrap, 1/64" rubber, color coded, conductors cabled with fillers, cotton wrap — .037" over-all rubber sheath.	.245"	.035 ft.

Three Conductor



For electro-dynamic speakers in which one audio circuit serves also as the return lead of the field supply and for speakers with a center-tapped input transformer requiring a three conductor cable. (Thickness outer rubber sheath—.040".)

8453	100	3	Same as 8452	.265"	.045 ft.
8453	500†	3	Same as 8452	.265"	.045 ft.

Four Conductor

For four conductor a-c or electro-dynamic speaker lines.

8454	100	4	2—18 (41 x 34) bal-	.280"	.055 ft.
8454	500†	4	ance 20 (10 x 30) cotton wrap, 1/64" rubber, color coded, cotton wrap — .045" over-all rubber sheath.	.280"	.055 ft.

Five Conductor

For center-tapped push-pull dynamic speakers requiring an independent field supply circuit. (Thickness outer rubber sheath—.055".)

8455	100	5	Same as 8454	.335"	.07 ft.
8455	250†	5	Same as 8454	.335"	.07 ft.

Communicating System Cables

Individual conductors are 20 (10 x 30 tinned) heavy wrap of cellulose acetate, color coded cotton braid, waxed with an over-all, outer "Basket-Weave" abrasion-proof brown glazed cotton braid. All on 250 ft. spools.

Twisted Pair Type

For two wire connections to each station.

8792

8767

No.	No. of Condrs.		O.D.	List Price	No.	No. of Condrs.		O.D.	List Price
8792†	2	(1 pr.)	.146"	$0.025 ft.	8798†	8	(4 pr.)	.295"	$0.085 ft.
8794†	4	(2 pr.)	.225"	.045 ft.	8769†	12	(6 pr.)	.355"	.135 ft.
8796†	6	(3 pr.)	.260"	.06 ft.	8770†	20	(10 pr.)	.460"	.22 ft.
8767†	2	(1 plain 1 shielded)	.150"	.035 ft.	8766†	2	(shield over tw. pr.)	.170"	.035 ft.

Single Line Type

For systems employing a single wire to each station with a common return.

8793†	3	(2 plain, 1 shielded)	.170"	.045 ft.	8797†	1	(all plain)	.230"	.065 ft.
8795†	5	(all plain)	.205"	.05 ft.	8768†	11	(all plain)	.300"	.11 ft.

Armored Speaker Cable

8212†—18 (41 x 34) cotton wrap, 2 conductors parallel, 1/64" rubber, paper wrap, over-all galvanized steel armor O.D. .190" x .220" on 250 ft. spools.....$0.04 ft.

† Length may vary ±10%

MICROPHONE CABLE

SHIELDED — RUBBER SHEATHED

Single Conductor Size 26

For ribbon or crystal and single button carbon microphones — or low impedance transmission lines. Belden-developed low capacity rubber core and combination stranding of tinned copper and phosphor bronze wire give extra flexibility plus unusual tensile strength. Use 8411 for lapel microphones or phonograph pick-ups.

MAXIMUM CAPACITY PER FT.

No.	Length in ft. on Spool	Bet. Cond and Shield	Between Conductors	Thickness Outer Jacket	O.D.	List Price
8400	100	26 mmf		.020"	.215"	$0.055 ft.
8400	500†	26 mmf		.020"	.215"	.055 ft.
8401	100	24 mmf		.025"	.245"	.065 ft.
8401	500†	24 mmf		.025"	.245"	.065 ft.
8411	100	36 mmf		.020"	.155"	.04 ft.

Two Conductor—Size 26—Crystal Microphone

For single or multiple cell microphones, photo-electric cells and dual carbon microphone circuits wherein the shield may be employed as a common conductor, usually at ground potential.

8402	100	30 mmf.	15 mmf	.020"	.245"	.085 ft.
8402	500†	30 mmf	15 mmf	.020"	.245"	.085 ft.

Two Conductor—Size 20—Carbon Microphone

For double-button carbon microphone circuits using the shield as the grounded connection and for low impedance, 50 to 500 ohm transmission lines—or for coupling a pre-amplifier to a power amplifier, employing the shield as a ground.

8422	100	70 mmf	37 mmf	.035"	.280"	.06 ft.
8422	500†	70 mmf	37 mmf	.035"	.280"	.06 ft.
8422	1000†	70 mmf	37 mmf	.035"	.280"	.06 ft.

Three Conductor Size 20

For double-button carbon microphones feeding a mixer panel or circuits in which the diaphragm of the microphone must be above ground potential, yet shielded from transient fields.

8423	100	65 mmf	37 mmf	.035"	.280"	.065 ft.
8423	500†	65 mmf	37 mmf	.035"	.280"	.065 ft.

Four Conductor—Size 20

For double-button carbon microphone circuits in which an attenuation control is located at the microphone and employs two of the four conductors of the cable.

8424	100	67 mmf	35 mmf	.055"	.335"	.085 ft.

Five Conductor—Size 20

For condenser microphone transmission line and power supply to microphone head amplifier.

8425	100	58 mmf	30 mmf	.063"	.380"	.11 ft.

Six Conductor—Size 20

For condenser microphone circuit with remote control switch at the microphone or pilot light at microphone.

8426	100	60 mmf	27 mmf	.063"	.410"	.125 ft.

Seven Conductor—Size 20

For auto-radio test instruments and acid resisting analyzer cable.

8427	100	56 mmf	26 mmf	.070"	.430"	.135 ft.

Shielded Multiple Conductor Cable

For temporary indoor installations of low impedance or carbon microphone transmission circuits. 20 (10 x 30 tinned), paper wrap, 1/64" rubber, color coded glazed cotton braid lacquered, cabled with tinned copper shield over all.

8432	100	61 mmf	33 mmf	.215"	.045 ft.
8432	500†	61 mmf	33 mmf	.215"	.045 ft.
8433	100	55 mmf	30 mmf	.240"	.055 ft.
8433	500†	55 mmf	30 mmf	.240"	.055 ft.
8434	100	48 mmf	25 mmf	.270"	.065 ft.

AI Rubber Lamp Cord

Brown parallel all-rubber lamp cord for test equipment requiring power line connection.

8462—18 (41 x 34) cotton wrap, 2 conductors parallel, 1/64" rubber O.D. .120" x .230" on 100 ft. spools.....List Price $0.02 ft.

† Length may vary ± 10%

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40 (Full Unit Quantity)

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PLEASE INDICATE LENGTH DESIRED, IMMEDIATELY FOLLOWING TRADE NUMBER, WHEN MORE THAN ONE LENGTH IS LISTED UNDER THE SAME NUMBER.

World Radio History

ANTENNA SYSTEMS

Belden

WIRE and CABLE

HOOK-UP WIRE

Size 20 special stranded tinned conductors have true concentric lay giving desirable features of solid wire—yet retaining flexibility. Other stranded constructions are Size 18 (16 x 30); Size 14 (41 x 30).

Push-Back—Double Braid—Waxed

Tinned conductor. Colors: green, blue, red, yellow, and black.

Solid No.	Stranded No.	Length on Spool	Size	Puncturing Voltage	D-C Insulation Resistance	List Price Solid	List Price Stranded
8830	8831	25′(coil)	20	1100	.9 meg.*	.19 ea.	.205 ea.
8830	8831	1000	20	1100	.9 meg.*	.007 ft.	.008 ft.

Rubber Push-Back "Basket-Weave" Rayon Braid

Tinned conductor, cotton wrap, .010″ rubber, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black.

8837	8838	25	20	6900	1000 meg.*	.34 ea.	.34 ea.
8837	8838	100	20	6900	1000 meg.*	.009 ft.	.01 ft.
8837	8838	1000	20	6900	1000 meg.*	.009 ft.	.01 ft.

Cellulose Acetate Push-Back "Basket-Weave" Rayon Braid

Tinned conductor, heavy wrap cellulose acetate, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black.

8941	8943	25	20	1550	325 meg.*	.31 ea.	.33 ea.
8941	8943	100	20	1550	325 meg.*	.009 ft.	.01 ft.
8941	8943	1000	20	1550	325 meg.*	.009 ft.	.01 ft.
8945	8947	25	18	1550	325 meg.*	.325 ea.	.36 ea.
8945	8947	100	18	1550	325 meg.*	.01 ft.	.012 ft.
8945	8947	1000	18	1550	325 meg.*	.01 ft.	.012 ft.
	8938	25	14	1550	325 meg.*		.56 ea.
	8938	100	14	1550	325 meg.*		.02 ft.
	8938	1000	14	1550	325 meg.*		.02 ft.

Colorubber

Tinned conductor, .025″ colored rubber, waxed. Colors: green, blue, red, yellow, black, and brown. 1000 Ft. spools in black, brown, and red only.

8880	25	18	9000	1000 meg.*	.285 ea.
8880	100	18	9000	1000 meg.*	.007 ft.
8880	1000	18	9000	1000 meg.*	.007 ft.

Varnished Cambric "Basket-Weave" Rayon Braid

Tinned conductor, two wraps varnished cambric tape, "basket-weave" abrasion-proof rayon braid lacquered. Colors: green, blue, red, yellow, and black.

8982	25	20	4650	1.8 meg.*	.48 ea.
8982	100	20	4650	1.8 meg.*	.015 ft.
8982	1000	20	4650	1.8 meg.*	.015 ft.

Shielded Grid Wire

Tinned conductor, .025″ rubber, over-all fine tinned copper shield.

8885	100	18	.02 ft.

*DC Insulation Resistance after 24 hours at 100°F—90% relative humidity on 6″ twisted pair.

ARRESTERS, LEAD-IN STRIPS GROUND CLAMPS

List Price

No. 8890—12″ Single lead-in strip—rubber insulation—clips both ends ..... $0.07 ea.
No. 8811—15″ Single lead-in strip—rubber insulation—clips both ends ..... .12 ea.
No. 8812—12″ Single lead-in strip. Lacquered braid—clips both ends ..... .085 ea.
No. 8813—12″ Double lead-in strip. Lacquered braid—clips both ends ..... .24 ea.
No. 8814—Glass insulators—3″ over-all length ..... .17 pr.
No. 8892—Bifer type ground clamp—8¼″ long ..... .11 ea.
No. 8897—"C" type ground clamp. Fits pipe up to 1¾″ ..... .10 ea.
No. 8950—Doublet air gap type porcelain arrester ..... .31 ea.
No. 8896—Belden standard size bakelite resistor type arrester dissipates destructive charges induced in the aerial system. Listed as standard by Underwriters. Furnished with $100.00 guarantee ..... .19 ea.
No. 8891—Belden large size arrester; otherwise same as 8896 ..... .36 ea.

MAGNET WIRE

Beldenamel

Size	Turns per Linear Inch	Turns per Square Inch	⅛ lb. Approx. Length	⅛ lb. Spool List Price	¼ lb. Approx. Length	¼ lb. Spool List Price	½ lb. Approx. Length	½ lb. Spool List Price
14	11.7	217			19′	$0.29	39′	$0.48
16	18.6	345			30′	.29	60′	.48
18	23.2	540			50′	.29	100′	.48
20	29.2	851			80′	.29	160′	.48
22	36.5	1330	63′	$0.21	125′	.29	250′	.48
24	45.7	2090	100′	.24	200′	.31	400′	.50
26	57.8	3340	157′	.24	315′	.33	835′	.57
28	71.9	5170	252′	.26	505′	.36	1010′	.62
30	89.0	7920	402′	.29	805′	.40	1610′	.69
32	110.7	12260	637′	.29	1275′	.43	2550′	.76
34	140.2	18650	1015′	.36	2030′	.52		
36	175.6	30840	1610′	.43	3220′	.64		
38	219.0	47970	2560′	.55	5120′	.88		
40	282.5	79810	4070′	.74	8140′	1.21		

Double Cotton Covered

14	13.3	176			19′	$0.40	39′	$0.52
16	16.2	262			30′	.40	60′	.52
18	19.6	386			50′	.42	95′	.57
20	23.6	556			75′	.45	150′	.62
22	29.0	840	57′	$0.29	115′	.50	235′	.67
24	34.3	1175	90′	.29	180′	.53	360′	.79
26	40.2	1620	140′	.33	280′	.52		
28	46.6	2170	215′	.38	430′	.62		
30	53.2	2835	322′	.43	645′	.69		
32	59.7	3570	482′	.55	965′	.90		
34	67.2	4510	675′	.62	1350′	1.07		
36	76.1	5700	837′	.81	1675′	1.36		

Double Silk Covered

18	22.1	490			50′	$0.53	100′	$0.81
20	27.3	745			80′	.56	160′	.86
22	31.0	1153	62′	$0.31	125′	.56	250′	.93
24	41.5	1719	97′	.36	195′	.57	395′	1.07
26	50.8	2576	155′	.40	310′	.69	620′	1.26
28	62.1	3855	215′	.48	430′	.81		
30	75.0	5620	382′	.52	765′	.90		
32	87.8	7710	595′	.67	1190′	1.17		
34	100.5	10095	892′	.88	1785′	1.59		
36	113.3	12842	1342′	1.17	2685′	2.17		

Replacement Wires for Test Prods

Extra flexible Size 18. Stranded tinned, 3/64″ rubber.

List Price

No. 8899—100 Feet, red or black on spool ..... $0.015 ft.
No. 8809—Seven feet each color, red and black (total 14 feet) wound parallel on spool ..... .36 ea.

LITZ WIRE

For rewinding antenna primaries and for band wound amateur r-f coils up to 30 megacycles.

List Price

No. 8817—100 Ft. spool 7 x 41 Beldenamel with 2 wraps of tram silk .36 ea.
No. 8818—100 Ft. spool 10 x 41 Beldenamel with 2 wraps of tram silk .39 ea.

INDOOR AERIAL WIRE

Extra Flexible

No.	Length in Ft. on Spool	Description	List Price
8015	60	20 (65 x 38) double wrap of brown cotton	$0.41 ea.
8015	1000	Same	.005 ft.
8016	25	20 (65 x 38) wrap of cellulose acetate, brown rayon braid	0.36 ea.
8016	100	Same	.01 ft.
8016	1000	Same	.01 ft.

Non-Kinking—for AC-DC Sets

8014	25	23 (20 x 36) special double wrap of brown cotton	0.24 ea.
8014	1000	Same	.004 ft.

HEAD PHONE CORDS

5 Foot cords of extra flexible tinsel conductors, over-all durable mercerized brown botton braid. "Y" arm sections additional 15″, coupled in series.

List Price

No. 8872—Head phone set pin tips all ends ..... $0.75 ea.
No. 8873—Head phone set spade tips—4 phone ends, pin tips plug end ..... .87 ea.
No. 8870—Magnetic speaker cord—pin tips both ends ..... .55 ea.
No. 8871—Magnetic speaker cord—pin tips 1 end, spade tips opposite end ..... .55 ea.

TERMINALS

Tinned—easy to solder—packed in cartons that are easy to stock and handle.

No.	Screw Size	List Price
8995	8	$0.36 C
8996	10	.36 C
8997	8	.50 C
8998	7	.25 C
8999	8	.25 C

40 (Full Unit Quantity)

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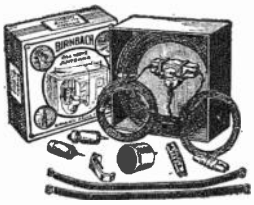
World Radio History

Birnbach Products

NO. 375—ALL-WAVE ANTENNA

Pat. No. 99911 and other Pats. Pending



Factory connected and soldered assembly which eliminates the possibility of incorrect and poor connections. Every unit is designed to give the utmost in service and durability and greatly reduces man-made interference and background noises. The Antenna Transformer matches the impedance of the Transmission Line. The noise reducing transmission cable conveys the signal without loss to the Receiver Coupler which automatically adjusts itself to the frequency tuned in by the receiver. No switching is required for either shortwave or broadcast reception.

Contents: 1 Complete Antenna Soldered Assembly consisting of: 2 coils Aerial Wire, 1 No. 467 Antenna Transformer, 1 coil Transmission Cable. 1 No. 905 Receiver Coupler. 2 No. 666 Porcelain Insulators White. 2 No. 669 Porcelain Nail-It Knobs. 2 No. 617 Self-locking Screw Terminal Window Lead-in Strips. 1 No. 615 Ground Clamp. 1 Instruction Sheet.

List Price

No. 375—All-Wave Antenna.....each **$4.25**

No. 376—All-Wave Antenna for sets with built-in serial selectors (Contents same as above, **less coupler**) each **3.50**

NO. 150—ALL-WAVE ANTENNA

All-Wave reception depends upon an efficient noise reducing antenna.

Birnbach engineers have contributed greatly with the newly designed Navy type Insulators, Center Insulators, All - Wave Coupler, and Transmission Cable. The All-Wave Coupler does not require a switching device for reception of broadcast and short wave stations.

List of Parts: 2 50-ft. Coils No. 14 Solid Enamel Wire. 1 50-ft. Coil Stranded Transmission Cable. 1 Birnbach All-Wave Coupler. 1 Birnbach Center Insulator. 2 Birnbach New Navy-Type Insulators. 2 Birnbach All-Wave Leadin Strips. 1 7" Screw Eye Insulator. 1 Ground Clamp. 2 Nailit Knobs. Complete instructions.

No. 150—Birnbach All-Wave Antenna.....**List Price $3.00**

No. 152—Does Not Include Coupler.

The Birnbach No. 152 All-Wave Antenna possesses all the efficient noise reducing qualities of the No. 150 All-Wave Antenna, and is intended for use with All-Wave Receivers having terminals for doublet antennas.

List of Parts: 2 40-ft. Coils 7/24 Stranded Bare Aerial Wire. 1 50-ft. Coil Stranded Transmission Cable. 1 Birnbach Center Insulator. 2 Birnbach Navy Type Insulators. 2 Birnbach All-Wave Lead-in Strips. 2 Nailit Knobs. 1 7" Screw Eye Insulator. 1 Ground Clamp. Complete Instructions.

No. 152—Birnbach All-Wave Antenna.....**List Price $2.50**

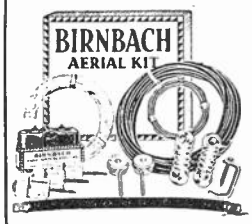
Receiver Coupler

Increased signal strength and reduction of noises are the marked characteristics of the No. 905 Birnbach All-Wave Coupler. It permits the prope coupling of the doublet antenna and the all-wave receiver, without disturbing the wiring of the receiver. Comes complete with instructions and has one hole mounting.

No. 905—Receiver Coupler

List, Each $1.00

ANTENNA KITS



No. 555—Aerial Kit..... each **$0.70**
50 ft. 7-Strand Cop. Aerial Wire
25 ft. R.C. Lead-in Wire
2 No. 666 Porcelain Insulators
2 No. 669 Nail-It Knobs
1 No. 600 Ground Clamp
1 No. 611 Lead-in Strip
Std. Pkg. 24 Weight 38 lbs.

No. 505—Aerial Kit.....each **$0.90**
75 ft. 7-Strand Cop. Aerial Wire
25 ft. R.C. Lead-in Wire
1 No. 65 Lightning Arrester
2 No. 666 Porcelain Insulators
2 No. 669 Nail-It Knobs
1 No. 600 Ground Clamp
1 No. 611 Lead-in Strip
Std. Pkg. 24 Weight 48 lbs.

No. 501—Aerial Kit...each **$1.60**
75 ft. 7/24 Copper Aerial Wire
40 ft. R.C. Lead-in Wire
15 ft. Birnbach Flexible R.C. Wire
1 No. 611 Lead-in Strip
1 No. 650 Lightning Arrester
1 No. 630 Ground Clamp
2 No. 666 Porcelain Insulators
2 No. 669 Nail-It Knobs
2 No. 665 Galvanized Screw Eyes
6 Insulated Staples
Std. Pkg. 24 Weight 65 lbs.

No. 500—Aerial Kit...each **$1.10**
75 ft. 7/26 Copper Aerial Wire
25 ft. R.C. Lead-in Wire
1 No. 650 Lightning Arrester
1 No. 611 Lead-in Strip
1 No. 600 Ground Clamp
2 No. 666 Porcelain Insulators
2 No. 669 Nail-It Knobs
2 No. 665 Galvanized Screw Eyes
Std. Pkg. 24 Weight 50 lbs.

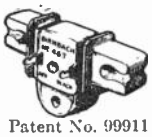
All-Wave Coupler

Increased signal strength and reduction of noises are the marked characteristics of the No. 904 Birnbach All-Wave Coupler. It permits the proper coupling of the doublet antenna and the all-wave receiver, without disturbing the wiring of the receiver. Comes complete with instructions and has one hole mounting.

No. 904—All-Wave Coupler

List, Each $1.0

Antenna Transformer



The No. 467 Antenna Transformer is ideal for replacement on all antenna systems as it matches the transmission line impedance through the antenna. It is made of a high tensile strength ceramic body with a cavity for the antenna transformer. The Antenna Transformer matches the antenna to the transmission line impedance without loss of signal strength. The broadcast and short-waves automatically choose the proper circuit when the receiver is tuned.

Patent No. 99911

No.	List Price
467—Birnbach Antenna Transformer.....	$1.25

Glass Insulators

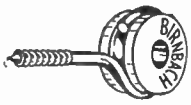
Made of crystal clear glass. Have a smooth surface which prevents dirt or ice to collect.

No.	Length		List Price
00	—3".....per 100		$5.00
660	—3⅝".....per 100		8.00
661	—3¾" Flat Type..per 100		8.00
662	—3¾".....per 100		8.50
659	—4½".....per 100		12.00

Lightning Arrester

A low price Lightning Arrester designed for easy installation. Comes complete with nickel-plated hardware and instructional

No.	Each
65—Std. Pkg. 100.....	$0.15



Porcelain Screw Eyes

No.		List Price
663— 3".....per 100		$6.00
664— 7".....per 100		8.00
667—12".....per 100		20.00

Bakelite Eyes

963—3".....per 100		$6.00
964—7".....per 100		8.00

Antenode

Birnbach Antenode is designed for use as an indoor aerial. The use of the Antenode instead of the regular noisy aerial gives better selectivity, reduction of static, and a better tone quality. Easily installed by the layman. Put up in an attractive box with simple instructions included.

No.	List Price each
755—Birnbach Antenode..	$0.75

Doublet Arrester

This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

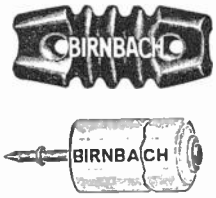
No.	Each
2650—Std. Pkg. 25.....	$0.35

Lightning Arrester

Made of brown glazed porcelain body with nickel-plated hardware. Suitable for outdoor or indoor use. Complete with mounting screws and instructions.

No. 650—Std. Pkg. 50. **$0.25 Each**

Porcelain Insulator Nail-It Knobs



No.	List Price
669—Porcelain Nail-It Knobs...per 100	$4.00
666—Brown Porcelain Insulators..per 100	4.00

Q-13

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World Radio History

Birnbach Products

Stranded Bare Wire

No.		List Price
	7/20	
493—	100-ft. coil	$1.50
	7/22	
640—	75-ft. coil	.70
670—	100-ft. coil	.90
639—	1000-ft. spool	9.00
	7/22 (14 B&S)	
1640—	75-ft. coil	.65
1670—	100-ft. coil	.85
1639—	1000-ft. spool	8.50
	7/23 (15 B&S)	
1643—	75-ft. coil	.55
1673—	100-ft. coil	.75
1634—	1000-ft. spool	7.50
	7/24 (16 B&S)	
1646—	75-ft. coil	.45
1680—	100-ft. coil	.60
1647—	1000-ft. spool	6.00
	7/26	
647—	75-ft. coil	.35
681—	100-ft. coil	.45
1648—	1000-ft. spool	4.50
	7/27	
740—	75-ft. coil	.30
700—	100-ft. coil	.40
1741—	1000-ft. spool	4.00

Solid Enamel Wire

	No. 10	
497—	100-ft. coil	$2.25
1497—	1000-ft. spool	22.50
	No. 12	
492—	100-ft. coil	1.40
492A—	150-ft. coil	2.10
492B—	200-ft. coil	2.80
1492—	1000-ft. spool	14.00
	No. 14	
490—	100-ft. coil	.90
490A—	150-ft. coil	1.35
490B—	200-ft. coil	1.80
1490—	1000-ft. spool	9.00
	No. 15	
498—	100-ft. coil	.75

Phosphor Bronze

	7/18	
499—	100-ft.	4.50

Copper Aerial Wire

Stranded Enamel Wire

No.		List Price
	7/20	
494—	100-ft. coil	$2.20
	7/22	
642—	75-ft. coil	.90
672—	100-ft. coil	1.15
637—	1000-ft. spool	11.50
	7/22 (14 B&S)	
1642—	75-ft. coil	.80
1672—	100-ft. coil	1.05
1637—	1000-ft. spool	10.50
	7/23 (15 B&S)	
1645—	75-ft. coil	.70
1675—	100-ft. coil	.90
1631—	1000-ft. spool	9.00
	7/24 (16 B&S)	
1683—	75-ft. coil	.60
1682—	100-ft. coil	.75
1627—	1000-ft. spool	7.50

Stranded Tinned Wire

	7/20	
495—	100-ft. coil	1.80
	7/22	
641—	75-ft. coil	.80
671—	100-ft. coil	1.05
638—	1000-ft. spool	10.50
	7/22 (14 B&S)	
1641—	75-ft. coil	.75
1671—	100-ft. coil	.95
1638—	1000-ft. spool	9.50
	7/23 (15 B&S)	
1644—	75-ft. coil	.65
1674—	100-ft. coil	.85
1633—	1000-ft. spool	8.50
	7/24 (16 B&S)	
1697—	75-ft. coil	.55
1696—	100-ft. coil	.70
1628—	1000-ft. spool	7.00

Solid Tinned Wire

	No. 10	
1402—	100-ft. coil	2.20
	No. 12	
1406—	100-ft. coil	1.20
2407—	1000-ft. spool	12.00
	No. 14	
1410—	100-ft. coil	.80
2411—	1000-ft. spool	8.00
	No. 16	
1414—	100-ft. coil	.60
2415—	1000-ft. spool	6.00

Solid Bare Wire

	No. 10	
1562—	100-ft. coil	2.15
	No. 12	
1566—	100-ft. coil	1.15
1567—	1000-ft. spool	11.50
	No. 14	
1570—	100-ft. coil	.75
1571—	1000-ft. spool	7.50
	No. 15	
496—	100-ft. coil	.60

Copperweld Enamel Antenna Wire

(Stretchless)

Has a steel core covered with copper and heavily enameled. It will not elongate because of its high tensile strength. Low R.F. resistance and is ideal for transmitting doublet and directional antenna systems.

No. 12 Gauge	List Price	No. 14 Gauge	List Price
100-ft.	$1.80	100-ft.	$1.25
250-ft.	4.40	250-ft.	3.00
500-ft.	8.80	500-ft.	5.90
1000-ft.	17.50	1000-ft.	11.50
2500-ft.	44.50	2500-ft.	28.50

Special Lengths Available

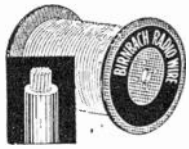
Saddle Ground Clamps

Has a hard pointed screw which digs through all rust and makes a positive contact. Fits a ⅜" to 2" pipe and up to 5" with the No. 626.

Standard Package—50

No.		List Price each
625—	Hvy. Saddle Gnd. Clamp	$.10
626—	⅜" to 5" Saddle Clamp	.15
630—	Lt. Saddle Gnd. Clamp	.07

Stranded Rubber Lead-In and Ground Wire



It is constructed of a stranded tinned copper conductor with a heavy wall of special rubber compound for outdoor use. Strips cleanly and easily leaving the surface ready for splicing and soldering.

No.	Ft.	Size		List Price	No.	Ft.	Size		List Price
2331	100	18—1/32"	spool	$1.00	1552	25	18—3/64"	coil	$0.35
2330	500	18—1/32"	spool	4.25	1551	50	18—3/64"	coil	.65
1541	50	16—1/32"	coil	.60	1550	100	18—3/64"	spool	1.20
1543	250	16—1/32"	spool	2.80	1549	500	18—3/64"	spool	5.40
1544	500	16—1/32"	spool	5.50	1548	500	16—3/64"	spool	6.00

Solid Plain Lead-In and Ground Wire

It is constructed of a pure tinned copper solid conductor with a special grade of live rubber compound for outdoor use. Rubber strips easily and leaves the wire clean and bright, and ready for splicing and soldering.

No. 18—3/64

No.	Ft.		Price
1525	25	coil	$0.25
1526	50	coil	.45
1527	100	coil	.85
1528	500	spool	4.00

No. 16—3/64

No.	Ft.		Price
517	25	coil	$0.35
516	50	coil	.65
519	100	coil	1.25
518	500	spool	5.25

No. 14—3/64

No.	Ft.		List Price	No.	Ft.		List Price
521	25	coil	$0.40	522	100	coil	$1.45
520	50	coil	.75	523	500	spool	7.00

Shielded Lead-In Wire

Consists of a stranded tinned copper conductor with a wall of live rubber over which a tinned copper braid is woven.

No. 18 Shielded

No.	Ft.		List Price
807	25	coil	$0.70
808	50	coil	1.40
809	100	spool	2.75
803	250	spool	6.75

No. 16 Shielded

No.			List Price
825	25	coil	$0.80
850	50	coil	1.55
851	100	spool	3.10
802	250	spool	7.50

No. 14 Shielded

No.	Ft.		List Price	No.	Ft.		List Price
804	25	coil	$1.15	806	100	spool	$4.40
805	50	coil	2.20	801	250	spool	11.00

No. 617—All-Wave Lead-In Strip

Is constructed with a screw terminal that locks the wire together with the strip in a firm and secure connection assuring perfect contact under all weather conditions. Has weather-proof covering over a copper strip. Available in white or black.

No.	Std. Pkg.	List Price
617	50	each $0.10

No. 2611 Doublet Lead-In Strip

Two strips covered with a heavy cotton braid which is weather-proofed with numerous coats of Duco lacquer. Available in black or white.

Standard Package—25

No.	List Price
2611	Each $0.16

No. 615—Ground Clamp

The cone-pointed screw cuts through and makes a positive contact. Cadmium finish prevents rusting.

No.	Std. Pkg.	List Price each
615	25	$0.09

Weatherproof Lead-In Strips

Covered with a heavy cotton braid, weather-proofed. Birnbach Clips are riveted and soldered at both ends.

No.	Lgth.	Std. Pkg.	List Price each
611—Black	12"	50	$0.08
612—Black	16"	25	.12
613—White	12"	50	.08

No. 765—Aerial Spring Adjuster

Prevents swinging and swaying of antennas and eliminates the resultant fading of signals. Cadmium plated throughout.

No.	List Price
765	each $0.50

No. 600—Copper Strap Clamp

Will take ⅜" to 2" Pipe. Made of copper with Birnbach clip riveted and soldered to strap.

Standard Package—50

No.		List Price
600—	Copper Strap Clamp	$0.07

All list prices subject to change with copper market.

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World Radio History

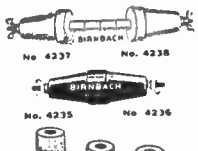
Birnbach Products

ULTRA-HIGH FREQUENCY ANTENNAS

They cover all requirements for stationary or portable use. The Nos. 156 and 157—¼-wave antennas can be used on 2½ meters as a ½-wave antenna. The Nos. 153, 154 and 155—½-wave antennas can be used as a ¼-wave 10-meter antenna. Operation on a wavelength from 2½ to 10 meters is possible by the proper choice of antenna. Two types of mountings are available:—standoff mounting, having ¼-20 threaded bushing on No. 154 and 10-32 threaded bushing on No. 157, and binding post mounting, consisting of a reinforced flattened end with two holes drilled 1" between centers. Constructed of Hard Drawn Aluminum Tubing.

No.		List Price
153	—3 Section, 36" closed, 102" open with No. 4450 Insulator	$2.50
154	—3 Section, 36" closed, 102" open without standoff mounting	2.00
155	—3 Section, 36" closed, 102" open, binding post mounting	2.00
156	—2 Section, 26" closed, 50" open binding post mounting	1.00
157	—2 Section, 26" closed, 50" open, 10-32 threaded bushing	1.10
164	—Taper Lock Bushings, brass N. P. for ⅜" or 5/16" dia. Tubes	.10

TRANS. LEAD-IN INSULATORS



Cone is 2¾" high and made of low absorption, highly vitrified glazed porcelain. All lead-in insulators come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal to be made both indoors and outdoors. Highly vitrified, unglazed porcelain bushings are available in three sizes, 1", ½" and ¼" high by ¾" diameter with a 11/64" diameter hole.

No.		List Price
4235	—Lead-in Insulator, 10" rod	each $0.90
4236	—Lead-in Insulator, 15" rod	each 1.00
4237	—Lead-in Insulator, 10" rod with bushings	each 1.20
4238	—Lead-in Insulator, 15" rod with bushings	each 1.50
4240	—Bushing, 1" long, ¾" diameter	each .05
4241	—Bushing, ½" long, ¾" diameter	each .05
4242	—Bushing, ¼" long, ¾" diameter	each .05

STEATITE ANTENNA INSULATORS

Steatite gives the required physical strength and insulation value to withstand strains up to 1500 lbs. and powers up to 1 Kw. when 2-12" Insulators are connected in series. The leakage path is long and the cross section as small as consistent with the strength required.

No.		List Price
470	—Steatite Antenna Insulator, 7" long	each $0.50
471	—Steatite Antenna Insulator, 12" long	.70

FEEDER SPREADERS

They are available in 2", 4", and 6" lengths. Highly vitrified, low absorption, high tensile strength porcelain is used with a smooth white glaze overall.

No.		List Price
462	—Feeder Line Spreader, 2" long	each $0.12
464	—Feeder Line Spreader, 4" long	.15
469	—Feeder Line Spreader, 6" long	.20

AIRPLANE INSULATOR

2" Long

The Airplane Insulator is useful where heavy compression loads are applied on an insulator. It is ideal for use on all mobile antenna installtions, particularly on aircraft, as it is shaped for the least air resistance.

No.	Std. Pkg.	List Price
473	100	each $0.07

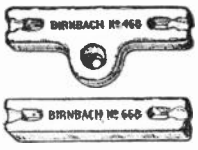
TRANSPOSITION BLOCKS

It is constructed of high tensile ceramic, glazed over its entire surface, making it smooth and increasing the surface insulation which is a necessity at high frequencies where the insulation must be of the best.

Standard Package (25)

No.		List Price
456	—Transposition Block ea.	$0.12

DOUBLET TRANSMITTING AND RECEIVING INSULATORS



Birnbach Antenna Insulators possess high insulation value and a long leakage path.

The No. 468 and No. 668 Insulators can be used on transmitting antennas up to 50 watts when used singly and up to 100 watts when two are used in series. They will withstand a pull of 500 lbs.

No. 468—Center Insulator
Standard Package (10)
List Price, each $0.25

No. 668—Navy Type Insulator
Standard Package (25)
List Price, each $0.15

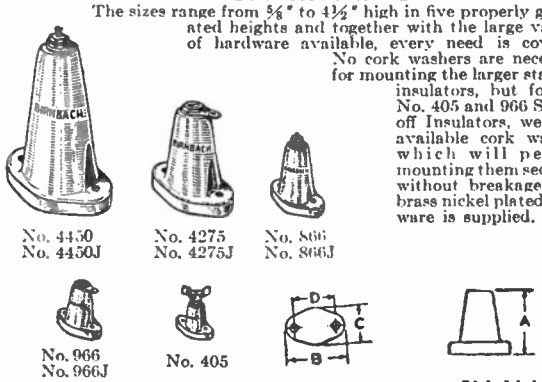
STEATITE CONE STANDOFF INSULATORS

A complete range of heights having threaded holes and jacks is available. Condenser, coils, tube sockets and high frequency apparatus can be mounted on them with a minimum of labor and expense. They are available only in a white glaze Steatite.

No.	A	B	C	D Threaded Holes	E Threaded Holes	Mtg. Hole	Std. Pkg.	List Price each
430	⅝	⅝	7/16	6-32	6-32	11/32"	100	$0.10
431	1	11/16	½	8-32	8-32	¾"	50	.15
431J	1	11/16	½	8-32	¼-28	⅜"	50	.20
432	1½	⅞	⅝	10-32	10-32	11/32"	50	.20
432J	1½	⅞	⅝	10-32	¼-28	11/32"	50	.25
433	2¾	1¼	¾	¼-20	¼-20	11/32"	25	.25
433J	2¾	1¼	¾	¼-20	3/16-24	11/32"	25	.50

STANDOFF INSULATORS

The sizes range from ⅝" to 4½" high in five properly graduated heights and together with the large variety of hardware available, every need is covered. No cork washers are necessary for mounting the larger standoff insulators, but for the No. 405 and 966 Standoff Insulators, we have available cork washers which will permit mounting them securely without breakage. All brass nickel plated hardware is supplied.

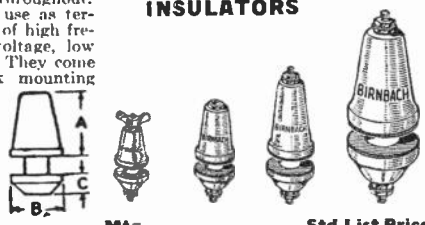


No.	A	B	C	D	Mtg. Hole	Hardware	Std. Pkg.	List Price each
405	⅝	11/16	½	11/32	¼"	6-32	100	$0.06½
966	1	13/8	⅞	1	3/32"	8-32	50	.07½
966J	1	13/8	⅞	1	3/32"	No. 403 Jack	50	.10
866	1½	1¾	1⅛	1¼	3/32"	10-32	25	.12
866J	1½	1¾	1⅛	1¼	3/32"	No. 403 Jack	25	.15
866SJ	1½	1¾	1⅛	1¼	3/32"	No. 395 Jack	10	.35
4275	2¾	2¾	2	2⅛	¼"	¼-20	10	.30
4275J	2¾	2¾	2	2⅛	¼"	No. 399 Jack	10	.55
4450	4½	3⅝	2½	2⅝	3/32"	¼-20	5	.50
4450J	4½	3⅝	2½	2⅝	3/32"	No. 399 Jack	5	.75

For Stand-off Insulators with Wing Nuts add $0.05 to List Price.
Specify White or Brown Glaze.

FEEDTHRU STANDOFF INSULATORS

Highly vitrified, low absorption porcelain is used throughout. They are ideal for use as terminals on all kinds of high frequency and high voltage, low frequency devices. They come supplied with cork mounting washers which permit a secure and shakefree installation to be made with a minimum breakage. Brass nickel-plated hardware is supplied.



No.	A	B	C	Mtg. Hole	Hardware	Std. Pkg.	List Price each
458	⅝	11/16	¾	7/16"	6-32	25	$0.12
478	1	13/16	⅝	7/16"	10-32	25	.20
478J	1	13/16	⅝	7/16"	No. 403 Jack	25	.25
4125	1¼	⅞	⅝	7/16"	10-32	25	.25
4125J	1¼	⅞	⅝	7/16"	No. 403 Jack	25	.30
4234	2¾	2	1	¾"	¼-20	10	.55
4234J	2¾	2	1	¾"	No. 399 Jack	10	.80

For Stand-off Insulators with Wing Nuts add $0.05 to List Price.
Specify White or Brown Glaze

CORK WASHERS

No.		Standard Package	List Price
12	—For No. 405 Insulator	1000	$3.75
13	—For No. 458 Insulator	1000	3.75
14	—For No. 478 or No. 4125 Insulator	1000	3.75
15	—For No. 4234 or No. 766 Insulator	1000	10.00
	Cork Washers for No. 966 Insulator	1000	4.25

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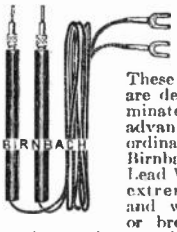
World Radio History

Birnbach Products



Kinkless Test Leads

These Test Leads are designed to eliminate all the disadvantages found in ordinary test leads. Birnbach Kinkless Lead Wire, which is extremely flexible and will not kink or break down in service under rough usage and repeated bendings, is used throughout.

No.		List Price
21	—Needlepoints and Lugs..	$0.60
21	—Needlepoints and Pin Tips	.60
21	—Pin Tips and Lugs.....	.60
21	—Pin Tips and Pins.....	.60
22	—Needlepoints and Alligator Clips.....	.85
22	—Solderless Pin Tips and Alligator Clips.....	.85
22	—Solderless Pin Tips and Solderless Pin Tips...	.85

Kinkless Test Lead Wire for Replacement
Red and Black

No.		List Price
64	— 25-ft. package.....	$0.75
66	—100-ft. Spool.....	2.50
67	—500-ft. Spool.....	11.25

Headset Phone Cords

These cords are closely woven and are very durable and strong.

No.		List Price each
104	— 5-ft., Pin Tips on both ends.....	$0.60
105	— 5-ft., Pin & Spade Tips	.60
107	— 5-ft., Pin & Eye Tips	.60
108	— 8-ft., Pin & Eye Tips	.75
109	—10-ft., Pin & Eye Tips	1.00

Speaker Cords

Made of stranded wire, insulated with rubber, with a closely woven brown mercerized cotton overall.

No.		List Price each
102	— 5-ft., Pin Tips on both ends.....	$0.35
103	— 5-ft., Pin & Spade Tips	.35
106	— 5-ft., Pin & Eye Tips	.35
413	—10-ft., Pin & Eye Tips	.55
414	—20-ft., Pin & Eye Tips	.75
701	— 5-ft., 4-wire Crosley Pin & Eye Tips.....	.60

Speaker Extension Cords

These Extension Cords are constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

No.		List Price
166	—10-ft.....each	$0.75
120	—20-ft.....each	1.00
121	—30-ft.....each	1.35
122	—40-ft.....each	1.55
123	—50-ft.....each	1.75
124	—100-ft.....each	3.25
151	—Bakelite Extension Cord Connector, only.....each	.30

Magnet Wire

Birnbach Magnet Wire is made of thoroughly annealed pure copper wire. Genuine Italian silk is used for silk insulated wire and unbleached cotton for cotton insulated wire. The enameled wire has a coating of extra flexible enamel of high dielectric strength All wires come in continuous lengths.

List Prices per Spool

Gauge (B&S)	D'ble. Cotton Cov'd ¼ lb. Spool	½ lb. Spool	1 lb. Spool	Plain Enameled ¼ lb. Spool	½ lb. Spool	1 lb. Spool	Double Silk Covered ¼ lb. Spool	½ lb. Spool	1 lb. Spool
14	$0.33	$0.57	$1.04	$0.28	$0.52	$0.88	$0.48	$0.92	$1.72
16	.34	.59	1.07	.29	.53	.90	.52	1.00	1.82
18	.35	.65	1.10	.30	.54	.93	.58	1.05	2.00
20	.39	.72	1.23	.32	.55	.97	.67	1.30	2.44
22	.44	.82	1.40	.33	.58	1.02	.77	1.50	2.68
24	.51	.97	1.70	.35	.62	1.07	.85	1.65	3.20
26	.62	1.15	2.03	.42	.74	1.33	1.03	2.00	3.92
28	.73	1.40	2.38	.44	.78	1.40	1.15	2.25	4.25
30	.87	1.65	2.83	.48	.88	1.60	1.30	2.50	5.00
32	1.07	2.04	3.88	.53	.95	1.75	1.75	3.40	6.80
34	1.53	2.88	5.45	.60	1.09	2.03	2.25	4.40	8.50
36	2.10	3.98	7.48	.70	1.28	2.39	3.50	6.80	13.00
38	6.25	11.25	21.88	.80	1.48	2.78	5.00	9.50	18.00

Radex Slipback Hookup Wires

Available in either stranded or solid tinned copper conductor. It has a covering of rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into paraffin.

***25-ft. Coils**

Size	Solid No.	List Price	Stranded No.	List Price
20	280	$0.30	281	$0.35
18	282	.35	283	.40
16	284	.45	285	.50
14	286	.60	287	.70

*Coils without cartons, deduct 2c from list price.

Size	100-ft. Spools Solid No.	List Price	Stranded No.	List Price	500-ft. Spools Solid No.	List Price	Stranded No.	List Price	1000-ft. Spools Solid No.	List Price	Stranded No.	List Price
20	380	$1.00	381	$1.20	480	$4.75	481	$5.50	580	$9.00	581	$10.50
18	382	1.25	383	1.45	482	6.00	483	6.75	582	11.50	583	13.25
16	384	1.60	385	1.90	484	7.50	485	8.75	584	14.50	585	17.00
14	386	2.35	387	2.50	486	9.75	487	11.75	586	19.00	587	23.00

Colors: Black, Red, Blue, Yellow, Green

Birntex Slipback Wire

Either solid or stranded tinned copper conductor insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin. It recommends itself for hooking-up of Radio Receivers, Public Address Systems, Sound Systems, etc.

Size	*25-ft. Coils Solid No.	List Price	Stranded No.	List Price	100-ft. Spools Solid No.	List Price	Stranded No.	List Price
20	80	$0.25	81	$0.30	84	$0.95	85	$1.10
18	82	.30	83	.35	86	1.10	87	1.25
		500-ft. Spools				1000-ft. Spools		
20	88	$4.50	89	$5.00	92	$8.25	93	$9.50
18	90	5.00	91	6.00	94	9.50	95	11.25

* Coils without cartons, deduct 2c. from list price.

Colors: Red, Black, Green, Blue, Yellow

AC-DC Antenna Wire

It is ideal as an indoor antenna of AC-DC Universal Receivers, loopantennas, and flexible leads.

No.		List Price
2125	— 25-ft. hank....each	$0.25
2100	— 100-ft. spool....each	.85
2500	— 500-ft. spool....each	4.00
2000	—1000-ft. spool....each	7.50

Ground Rods

Radiator or water pipe grounds do not always give a low resistant ground which is so necessary for the reduction of man-made static. These Ground Rods, driven into the ground, will afford a highly efficient permanent ground. Copper plated.

No.		Std.Pkg.		List Price
616	—4-ft.....	12.....	each	$0.60
618	—6-ft.....	12.....	each	.85

Stranded Colored Rubber Wire

It is constructed of carefully annealed stranded tin-copper conductors with a cotton wrap, and insulated with a special grade of non-cracking live colored rubber compound. It strips readily and is available in various colors for easy identification.

No. 18—1-64
16 Strands No. 30 B&S Current Carrying Capacity 3 Amperes

No.		25-Ft. Coil List Price		1000-ft. Spool List Price
Black	225	—$0.30	1225	—$10.00
Red	226	— .30	1226	— 10.00
Green	227	— .30	1227	— 10.00
White	228	— .30	1228	— 10.00
Brown	229	— .30	1229	— 10.00
Yellow	230	— .30	1230	— 10.00

No. 16 1-32
26 Strands No. 30 B&S Current Carrying Capacity 6 Amperes

Color	25-ft. Coil No.	List Price	100-ft. Coil No.	List Price
Black	425	—$0.50	1440	—$1.75
Red	426	— .50	1441	— 1.75
Green	427	— .50	1442	— 1.75
White	428	— .50	1443	— 1.75
Brown	429	— .50	1444	— 1.75

Color	50-ft. Coil No.	List Price	500-ft. Spool No.	List Price
Red	440	—$0.90	2440	—$8.00
Black	441	— .90	2441	— 8.00
Green	442	— .90	2442	— 8.00
White	443	— .90	2443	— 8.00
Brown	444	— .90	2444	— 8.00

Filament and Colored Hookup Wire

No. 14
26 Strands No. 28 B&S Current Carrying Capacity 15 Amperes

No.	Stranded	Price each
782	— 25-ft., No. 14. 1/32" Red.	$0.70
783	— 25-ft., No. 14. 1/32" Black	.70
786	—500-ft., Spool, No. 14. 1/32" Red or Black.....	$14.00

No. 12
41 Strands No. 28 B&S Current Carrying Capacity 20 Amperes

No.	Stranded	Price each
784	— 25-ft., No. 12. 3/64" Red.	$0.95
785	— 25-ft., No. 12. 3/64" Black	.95
787	—500-ft. Spool, No. 12. 3/64" Red or Black.....	$19.00

Lamp Cord

All our Lamp Cord is constructed of cotton wrapped stranded copper wire and insulated with the best grade of live rubber. Birnbach Zip Cord is an all rubber covered insulated parallel cord which has a cotton strip imbedded between conductors, which can be separated by starting with a knife and pulling the cotton strip down the center. Connects easily and cannot fray. Sanitary and neat.

No. 564—List Price, each $16.50
1000-ft. No. 20 Parallel Silk Braid
No. 571—List Price, each $14.00
500-ft. No. 18 P. O. Silk Braid
No. 572—List Price, each $10.00
500-ft. No. 18 P. L. Silk Braid
No. 573—List Price, each $15.00
500-ft. Zip Cord, Ivory, Brown, Black.
No. 574—List Price, Each $30.00
500-ft. S. J. Rubber Covered Cord

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Birnbach Products

RUBBER SHIELDED MICROPHONE CABLE

A tinned copper shield is woven over all conductors, and then cotton-wrapped. A heavy wall of tough polished **rubber** is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

No.		List Price
772—2 Conductor	100-ft. spool, each	**$8.00**
1772—2 Conductor	250-ft. spool, each	**19.00**
773—3 Conductor	100-ft. spool, each	**9.50**
1773—3 Conductor	250-ft. spool, each	**23.50**
774—4 Conductor	100-ft. spool, each	**11.25**
1774—4 Conductor	250-ft. spool, each	**27.50**
775—5 Conductor	100-ft. spool, each	**13.25**
1775—5 Conductor	250-ft. spool, each	**32.25**
776—6 Conductor	100-ft. spool, each	**15.00**
1776—6 Conductor	250-ft. spool, each	**36.75**

Cotton-Covered Shielded Microphone Cable

780—3 Conductor	100-ft. spool, each	**$8.00**
1780—3 Conductor	250-ft. spool, each	**19.00**

CRYSTAL MICROPHONE CABLE

871—100-ft. Spool, 2 Braid	each	**$4.40**
1871—250-ft. Spool, 2 Braid	each	**10.00**
874—100-ft. Spool, 4 Braid	each	**6.62½**
1874—250-ft. Spool, 4 Braid	each	**15.62½**

RUBBER MICROPHONE CABLE UNSHIELDED

Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A heavy wall of tough polished **rubber** is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

No.		List Price
788—2 Conductor	100-ft. spool, each	**$6.00**
789—2 Conductor	250-ft. spool, each	**13.50**
790—3 Conductor	100-ft. spool, each	**7.00**
791—3 Conductor	250-ft. spool, each	**16.00**
792—4 Conductor	100-ft. spool, each	**8.00**
793—4 Conductor	250-ft. spool, each	**18.50**

FIXTURE WIRE

A flexible stranded rubber insulated wire with a closely woven cotton braid overall.

No.		List Price
565-1000 ft. No. 20 Single Conductor	ea.	**$8.50**
566-1000 ft. No. 18 Single Conductor	ea.	**10.00**
569- 500 ft. No. 20 Twisted Pair	ea.	**9.00**
568- 500 ft. No. 18 Twisted Pair	ea.	**10.00**

Colors: White or Brown.

VARNISHED TUBING (Spaghetti)

A quality Varnished Tubing with a high dielectric strength. Used to cover and insulate Bus Wire.

No.		List Price
300-Varnished Tubing, 30" length,	ea.,	**$0.12½**

Colors: Black, Red, Yellow, Green, Brown.

BUS BAR WIRE

No.	Cut to 2-ft. lengths.	List Price
2010-No. 10 Round Tinned	per 100 lgths	**$5.50**
2012-No. 12 Square Tinned	per 100 lgths	**4.25**
2013-No. 12 Round Tinned	per 100 lgths	**3.75**
2014-No. 14 Square Tinned	per 100 lgths	**3.25**
2015-No. 14 Round Tinned	per 100 lgths	**2.75**

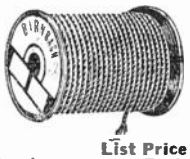
Special Prices 1000-length Lots

EO1 TRANSMISSION CABLE

This cable has a surge impedance of 72 ohms, which accurately matches the impedance at the center of the half wave Hertz Antenna. The construction is such that it can be used in any required length up to 1000 ft., with negligible losses, and can handle any power up to 1 Kw. Moisture absorption of rubber as measured by percentage change, in capacity, after 30 days in water—less than 5%. Attenuation—less than 1.5 Db. per 1000 ft. of line at 3500 Kc., 4.0 Db., 7 Mcs., 5.2 Db. at 14 Mcs.

No.		List Price
953—Transmission Cable,	1000-ft. coil,	**$100.00**
954—Transmission Cable,	500-ft. reel,	**50.00**
955—Transmission Cable,	250-ft. reel,	**25.00**
956—Transmission Cable,	100-ft. spool,	**10.50**

BATTERY CABLES



Birnbach Battery Cable is constructed of individual rubber insulated stranded conductors, cotton braided and color coded.

No.	100-Ft. Spools	List Price Each
172—	2 Conductor Cable	**$3.00**
173—	3 Conductor Cable	**4.00**
174—	4 Conductor Cable	**5.50**
175—	5 Conductor Cable	**6.50**
176—	6 Conductor Cable	**7.50**
177—	7-Conductor Cable	**8.50**
178—	8-Conductor Cable	**12.00**
179—	9-Conductor Cable	**14.00**
180—	10-Conductor Cable	**16.00**
182—	12-Conductor Cable	**18.00**

All cables available in special lengths

SHIELDED BATTERY CABLE

Constructed of flexible stranded conductors covered with quality rubber compound and braided with cotton, color-coded. A tinned copper shield is woven overall.

No.		List Price
972—2-Conductor Cable,	100-ft. spool, ea.	**$5.00**
973—3-Conductor Cable,	100-ft. spool, ea.	**7.00**
974—4-Conductor Cable,	100-ft. spool, ea.	**8.50**
975—5-Conductor Cable,	100-ft. spool, ea.	**10.00**
976—6-Conductor Cable,	100-ft. spool, ea.	**12.00**
977—7-Conductor Cable,	100-ft. spool, ea.	**15.00**

All cables available in special lengths

JACKS AND PLUGS

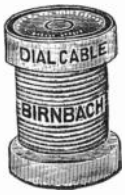
Large area of contact is one of the outstanding features of Birnbach Jacks and Plugs. The Jacks and Plugs are made of brass, nickel-plated and come complete with nut and lug, or screw and lug, depending upon type chosen.

No.		List Price
395—Giant Jack, ⅜" Mounting Hole	ea.	**$0.25**
396—Giant Plug with 10-32 Threaded Hole	ea.	**.25**
397—Giant Plug with ¼-20 Threaded Hole	ea.	**.25**
398—Giant Plug, ½-28 Threaded Shank	ea.	**.25**
399—Giant Jack, ½" Mounting Hole	ea.	**.25**
400—Plug, 6-32 Threaded Shank, ½" Long	ea.	**.06**
401—Plug, 6-32 Threaded Hole	ea.	**.07**
403—Jack, ¼" Mounting Hole	ea.	**.06**

A.C.-D.C. RESISTANCE CORDS

No.		Sets having following tubes	List Price Each
35—135-ohm cord	25Z5-43-4	(6.3 volt)	**$0.70**
36—160-ohm cord	25Z5-43-3	(6.3 volt)	**.70**
34—180-ohm cord	12Z3-43-4	(6.3 volt)	
	25Z5-43-2	(6.3 volt)	**.70**
37—220-ohm cord	12Z3-43-3	(6.3 volt)	**.70**
41—250-ohm cord	12Z3-43-2	(6.3 volt)	
	25Z5- 3	(6.3 volt)	**.70**
38—290-ohm cord	12Z3- 3	(6.3 volt)	**.70**
45 300-ohm cord			**.70**
39—330-ohm cord	4	(6.3 volt)	
	12Z3- 2	(6.3 volt)	**.70**
40—350-ohm cord	12Z3- 1	(6.3 volt)	
	3	(6.3 volt)	**.70**
47—390-ohm cord	2	(6.3 volt)	**.70**

DIAL CABLE



This Phosphor-Bronze Dial Cable is constructed of 42 strands over a linen thread center. Due to its high tensile strength it will not stretch. The all-linen dial cable is the finest available for replacement purposes. The 25, 50, and 100 ft. lengths are put up on attractive wooden spools.

No.	PHOSPHOR BRONZE		List Price
1025—	25-ft. spool	each	**$1.50**
1050—	50-ft. spool	each	**2.75**
1051—	100-ft. spool	each	**5.00**
1052—	1000-ft. spool	each	**40.00**

LINEN DIAL CABLE

No.	Heavy		List Price
2025—	25-ft. spool	each	**$1.50**
2051—	100-ft. spool	each	**5.00**
2052—	1000-ft. spool	each	**40.00**

No.	Light		List Price
3025—	25-ft. spool	each	**$1.30**
3051—	100-ft spool	each	**4.50**
3052—	1000-ft. spool	each	**35.00**

WING NUTS

Standoff Insulators can be used as binding posts by substituting our brass nickel-plated Wing Nut instead of nut supplied.

No.		Standard Paclage		List Price
6	6-32 thread	100	per 100	**$5.00**
8	8-32 thread	100	per 100	**5.00**
10	10-32 thread	100	per 100	**5.00**
11	¼-20 thread	100	per 100	**5.00**

PORCELAIN TUBES

To bring a lead-in into a building without breaking, we advise our Porcelain Tubes, which require a ¾" diam. hole for installation.

No.		Standard Package		List Price
42—	2"	100	per 100	**$2.75**
43—	3"	100	per 100	**3.35**
44—	4"	100	per 100	**4.50**
46—	6"	100	per 100	**5.50**
48—	8"	100	per 100	**8.00**

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Birnbach Products

7MM HIGH TENSION CABLE

Useful in reducing interference from auto secondary circuits instead of the unshielded spark distributors. Also used as photo electric cell leads and wherever a low loss shielded lead is required.

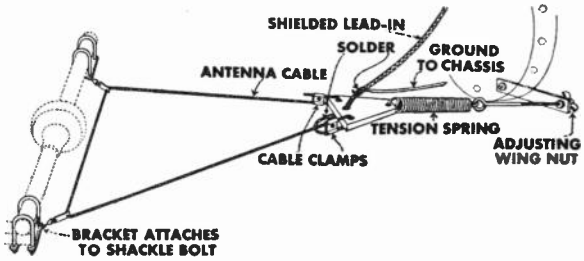
No.		List Price Per 100 Ft.
781	7MM Shielded Secondary Wire	$9.00
1600	7MM High Tension Unshielded Cable	5.50

SHIELDED LOW TENSION WIRE

It is constructed of stranded tinned copper wire and has two layers of cambric insulation and a high lacquer finish cotton braid with a closely woven tinned copper shield. Is oil, heat, and moisture-proof.

No.		List Price Per 100-Ft. Spool
1800	Shielded Low Tension Wire No. 16	$6.00
1818	Shielded Low Tension Wire No. 18	5.25
1820	Shielded Low Tension Wire No. 20	4.75

AUTO ANTENNAS



$2.25 List — Cat. No. 302

- ★ For Turret-Top Cars
- ★ Easy to Install
- ★ Shielded Lead-in
- ★ Reduces Noise
- ★ Bakelite Insulators
- ★ Rugged, Permanent
- ★ Out of Sight

$1.90 List — Cat. No. 303

- ★ For Turret-Top Cars
- ★ Easy to Install
- ★ Lacquered Lead-In
- ★ Bakelite Insulators
- ★ Rugged, Permanent
- ★ Out of Sight
- ★ Low Cost

AUTO RADIO COPPER SHIELDING

Used for shielding leads of interference creating circuits; and for bonding motor block and other parts of the automobile to the chassis, where floating power is used.

BARE

No.		List Price
860	¼"—50-ft. spool..each	$1.75
861	⅜"—50-ft. spool..each	2.00
862	⅝"—50-ft. spool..each	4.50

TINNED

No.		List Price
863	¼"—50-ft. spool..each	$2.00
864	⅜"—50-ft. spool..each	2.50
865	⅝"—50-ft. spool..each	5.00

IGNITION FILTER

Birnbach Ignition Filter completely eliminates all ignition and high-tension circuit interference. The **only Ignition Filter** having these features:

Only 120 Ohms D.C.
Copper-Wound Inductance
Less Gasoline Consumption
Perfect Motor Idling

Filter encased in a heat resistant moisture-proof bakelite shell. Brackets fit any spark plug. Positive electrical contact.

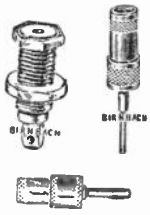
No.		List Price
350	Spark Plug Filter..each	$0.50
351	Cable Type Filter..each	.50
352	Distributor Filter..each	.50
353	Ignition Filter, Screw Type..each	.50
354	Master Filter, Cable or Distributor Type..each	2.00

BATTERY AND TEST CLIPS

Battery Clips—Made of extra heavy gauge steel heavily lead-coated. Test clips are made of steel, cadmium-plated. The Alligator Clip is made out of heavy - gauge steel, nickel-plated.

		Amps.	Std. Pkge.	List Price each
27	Midget Test Clip	5	50	$0.07
28	Pee-Wee Test Clip	10	50	.07
29	Battery Clip, Medium	25	50	.10
30	Battery Clip, Large	50	30	.18
31	Alligator Clip	..	50	.07

PHONE TIPS AND JACKS



No 402 Phone Tip is ideal for replacement on headset, speaker and extension cords. Nos. 23 and 24 Solderless Phone Tips are designed for easy insertion of wire through the hole at the end of the tip and brought through the side hole and then wrapped around the groove.

No.		List Price
402	Carton, 100 Phone Tips...per 100	$1.10
416	Envelope, 4 Phone Tips...per env.	.06
23	Junior Solderless Phone Tip.per 100	5.00
24	Senior Solderless Phone Tip.per 100	6.00
26	Phone Tip Jack..per 100	6.00

AUTO RADIO SHIELDED LEAD-IN

Consists of a stranded tinned copper conductor, insulated with rubber and braided with cotton and with a tinned copper braid overall.

No.		List Price
799	Auto Radio Shielded lead-in, ¼" diam..100 ft.	$8.25
800	Auto Radio Shielded lead-in, ½" diam..100 ft.	13.50

AUTO RADIO SHIELDED LOOM

Tinned copper braid over a weatherproof loom. Used to shield auto antenna leadin and groupedleadsagainst interference; also, in shielding the output of signal generators.

No.		List Price
1316	⅜" inside diam..per 100 ft.	$8.00
1516	⅜" inside diam..per 100 ft.	12.00
1038	⅜" inside diam..per 100 ft.	14.00
1716	⅞" inside diam..per 100 ft.	15.00
1012	½" inside diam..per 100 ft.	18.00

LACQUERED AUTO WIRE

Constructed of a stranded tinned copper conductor for easy soldering, with a heavy wall of live rubber over which a cotton braid is woven. A high gloss lacquered finish covers this braid.

Colors: Red, Black, Green, Brown, Yellow, Blue

No.		List Price
3425	25-ft. coil..each	$0.45
3450	50-ft. coil..each	.90
3460	100-ft. coil..each	1.80
3600	500-ft. spool..each	8.00

INSULATED STAPLES and TACKS

These are essential for the securing of leadin, ground, and other wires for installations.

No.		Per Box	Std. Pkge.	List Per M
R 100	Plain...	100	1000	$2.75
D 50	Plain...	50	1000	3.00
C 40	Colored.	40	1000	3.50
C 41	Perfection Tacks—White or Brown....		1000	3.00

AUTO NOISE FILTER

These are specially designed for the elimination of noise created by generator commutator, electrical windshield wiper, horn, and especially dome, tail, and stop light cables.

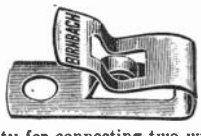
No.		List Price
355	Auto Noise Filter ½ Mfd.....each	$0.50
356	Auto Noise Filter 1 Mfd.....each	.60
357	Ammeter Filter.....each	.50
358	Dome Light Inductance Capacity Filter.....each	.80

KNIFE SWITCHES

Made of nickel-plated brass on a porcelain base. Special spring brass material used assures perfect contact. Screw terminals located conveniently for easy connections in circuit. Two-hole mounting.

No.	Pole	Throw	Std.Pkg.		List Price
6100	Single	Single	25	each	$0.25
6102	Single	Double	10	each	.30
6103	Double	Single	10	each	.45
6104	Double	Double	10	each	.55
6105	Triple	Double	10	each	1.00

SPRING CLIPS



Will hold a wire, up to No. 10 B&S Gauge, in a secure contact. Ideal for temporary hookups requiring simple and inexpensive terminals. The twin clips have facility for connecting two wires in a temporary or permanent connection. All clips are nickel-plated.

No.		Std. Pkg.	List Price
32	Spring Clip—1" long	100	per C $1.10
33	Twin Clip—1¾" long	100	per C 4.00

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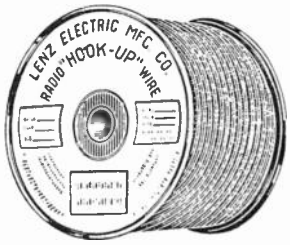
LENZ

WIRES *Quality Products* CABLES

RADIO HOOK-UP WIRE

(PUSH-BACK TYPE)



Consists of push-back non-fraying insulation, thoroughly saturated in MOISTURE-PROOF compound effective in reducing leakage. Has high insulation resistance and other essential dielectric properties. Can be furnished in SOLID or STRANDED, WAXED or LACQUERED. Neatly packed in attractive cartons or supplied on spools. Colors: Blue, Orange, Green, Brown, Slate, Red, Yellow, White and Black. If color is not specified, BLACK will be furnished.

WAXED HOOK-UP WIRE (BRADAX) DOUBLE COTTON BRAIDS WAXED

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1010	25′ carton...	20	.14	$0.23
1011	50′ carton...	15	.24	.39
1012	100′ spool....	10	.45	.77
1013	1000′ spool....	1	4.7	6.35

No. 22 STRANDED TINNED COPPER

1016	25′ carton...	20	.14	$0.25
1017	50′ carton...	15	.24	.44
1018	100′ spool....	10	.45	.86
1019	1000′ spool....	1	4.7	7.15

No. 20 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1022	25′ carton...	20	.17	$0.25
1023	50′ carton...	15	.31	.45
1024	100′ spool....	10	.58	.88
1025	1000′ spool....	1	6.1	7.30

No. 20 STRANDED TINNED COPPER

1028	25′ carton...	20	.17	$0.27
1029	50′ carton...	15	.31	.49
1030	100′ spool....	10	.58	.97
1031	1000′spool.....	1	6.1	8.30

No. 18 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1035	25′ carton...	20	.17	$0.29
1036	50′ carton...	15	.35	.53
1037	100′ spool....	10	.7	1.05
1038	1000′ spool....	1	7.7	9.10

No. 18 STRANDED TINNED COPPER

1041	25′ carton...	20	.17	$0.32
1042	50′ carton...	15	.35	.59
1043	100′ spool....	10	.7	1.17
1044	1000′ spool....	1	7.7	10.25

No. 16 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1810	25′ carton	20	.25	$0.34
1811	50′ spool	15	.5	.68
1812	100′ spool	10	1.0	1.25
1813	1000′ spool	1	11.0	11.15

No. 16 STRANDED TINNED COPPER

1816	25′ carton	20	.25	$0.40
1817	50′ spool	15	.5	.79
1818	100′ spool	10	1.0	1.47
1819	1000′ spool	1	11.0	13.25

No. 14 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1910	25′ carton	20	.35	$0.42
1911	50′ spool	15	.70	.83
1912	100′ spool	10	1.4	1.54
1913	1000′ spool	1	14.0	14.00

No. 14 STRANDED TINNED COPPER

1916	25′ carton	20	.35	$0.50
1917	50′ spool	15	.70	.99
1918	100′ spool	10	1.4	1.86
1919	1000′ spool	1	14.0	17.20

LACQUERED FLAME-RESISTING HOOK-UP WIRE (BRALAC)

DOUBLE COTTON BRAIDS LACQUERED

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1050	25′ carton...	20	.14	$0.24
1051	50′ carton...	15	.24	.43
1052	100′ spool....	10	.45	.84
1053	1000′ spool....	1	4.7	6.95

No. 22 STRANDED TINNED COPPER

1060	25′ carton...	20	.14	$0.26
1061	50′ carton...	15	.24	.47
1062	100′ spool....	10	.45	.92
1063	1000′ spool....	1	4.7	7.80

No. 20 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1070	25′ carton...	20	.17	$0.26
1071	50′ carton...	15	.31	.48
1072	100′ spool....	10	.58	.95
1073	1000′ spool....	1	6.1	8.05

No. 20 STRANDED TINNED COPPER

1080	25′ carton...	20	.17	$0.29
1081	50′ carton...	15	.31	.54
1082	100′ spool....	10	.58	1.05
1083	1000′ spool....	1	6.1	9.05

No. 18 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1220	25′ carton...	20	.17	$0.32
1221	50′ carton...	15	.35	.58
1222	100′ spool....	10	.7	1.15
1223	1000′ spool....	1	7.7	10.10

No. 18 STRANDED TINNED COPPER

1230	25′ carton...	20	.17	$0.35
1231	50′ carton...	15	.35	.64
1232	100′ spool....	10	.7	1.27
1233	1000′ spool....	1	7.7	11.25

WAXED HOOK-UP WIRE (LENZITE)

TWO WRAPS CELLULOSE ACETATE TEXTILE PLUS ONE COTTON BRAID WAXED

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1310	25′ carton...	20	.14	$0.23
1311	50′ carton...	15	.24	.39
1312	100′ spool....	10	.45	.77
1313	1000′ spool....	1	4.7	6.35

No. 22 STRANDED TINNED COPPER

1316	25′ carton...	20	.14	$0.25
1317	50′ carton...	15	.24	.44
1318	100′ spool....	10	.45	.86
1319	1000′ spool....	1	4.7	7.15

No. 20 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1322	25′ carton...	20	.17	$0.25
1323	50′ carton...	15	.31	.45
1324	100′ spool....	10	.58	.88
1325	1000′ spool....	1	6.1	7.30

No. 20 STRANDED TINNED COPPER

1328	25′ carton...	20	.17	$0.27
1329	50′ carton...	15	.31	.49
1330	100′ spool....	10	.58	.97
1331	1000′ spool....	1	6.1	8.30

No. 18 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1335	25′ carton...	20	.17	$0.29
1336	50′ carton	15	.35	.53
1337	100′ spool....	10	.7	1.05
1338	1000′ spool....	1	7.7	9.10

No. 18 STRANDED TINNED COPPER

1341	25′ carton...	20	.17	$0.32
1342	50′ carton...	15	.35	.59
1343	100′ spool....	10	.7	1.17
1344	1000′ spool....	1	7.7	10.25

No. 16 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1825	25′ carton	20	.25	$0.36
1826	50′ spool	15	.5	.73
1827	100′ spool	10	1.0	1.34
1828	1000′ spool	1	10.0	11.95

No. 16 STRANDED TINNED COPPER

1831	25′ carton	20	.25	$0.43
1832	50′ spool	15	.5	.85
1833	100′ spool	10	1.0	1.58
1834	1000′ spool	1	10.0	14.35

No. 14 SOLID TINNED COPPER

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1925	25′ carton	20	.35	$0.45
1926	50′ spool	15	.7	.88
1927	100′ spool	10	1.4	1.64
1928	1000′ spool	1	14.0	14.95

No. 14 STRANDED TINNED COPPER

1931	25′ carton	20	.35	$0.60
1932	50′ spool	15	.7	1.10
1933	100′ spool	10	1.4	2.08
1934	1000′ spool	1	14.0	19.40

Coils furnished without cartons—deduct two cents each from list price. All prices subject to change without notice.

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World Radio History

LENZ

WIRES *Quality Products* CABLES

LACQUERED FLAME RESISTING HOOK-UP WIRE (LENZAC)

Two Wraps Cellulose Acetate Textile Plus One Cotton Braid Lacquered

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1350	25-ft. carton	20	.14	$0.24
1351	50-ft. carton	15	.24	.43
1352	100-ft. spool	10	.45	.84
1353	1000-ft. spool	1	4.7	6.95

No. 20 SOLID TINNED COPPER

1370	25-ft. carton	20	.17	$0.26
1371	50-ft. carton	15	.31	.48
1372	100-ft. spool	10	.58	.95
1373	1000-ft. spool	1	6.1	8.05

No. 18 SOLID TINNED COPPER

1391	25-ft. carton	20	.17	$0.32
1392	50-ft. carton	15	.35	.58
1393	100-ft. spool	10	.7	1.15
1394	1000-ft. spool	1	7.7	10.10

No. 22 STRANDED TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1360	25-ft. carton	20	.14	$0.26
1361	50-ft. carton	15	.24	.47
1362	100-ft. spool	10	.45	.92
1363	1000-ft. spool	1	4.7	7.80

No. 20 STRANDED TINNED COPPER

1380	25-ft. carton	20	.17	$0.29
1381	50-ft. carton	15	.31	.54
1382	100-ft. spool	10	.58	1.05
1383	1000-ft. spool	1	6.1	9.05

No. 18 STRANDED TINNED COPPER

1395	25-ft. carton	20	.17	$0.35
1396	50-ft. carton	15	.35	.64
1397	100-ft. spool	10	.7	1.27
1398	1000-ft. spool	1	7.7	11.25

Coils furnished without cartons — deduct two cents each from list price.

R.F. CIRCUIT HOOK-UP WIRE (PUSH-BACK TYPE)

A wire with insulation of extremely low losses at high frequencies. Designed especially for wiring the SWITCHING SYSTEM, AVC, PLATE and GRID of RF stages. Conductors supplied in several sizes either solid or stranded. Insulation pushes back freely without adhering to the conductor, and is mechanically strong enough to resist abrasion. A fine production wire with insulation impregnated in a high-resistant, low-loss, moisture-resisting compound.

No. 22 SOLID TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Each Each
900	25-ft. carton	15	.16	$0.35
901	50-ft. carton	10	.24	.64
902	100-ft. spool	5	.45	1.26
903	1000-ft. spool	1	4.7	11.15

No. 22 STRANDED TINNED COPPER

910	25-ft. carton	15	.16	$0.36
911	50-ft. carton	10	.24	.68
912	100-ft. spool	5	.45	1.34
913	1000-ft. spool	1	4.7	12.00

No. 20 SOLID TINNED COPPER

920	25-ft. carton	15	.17	$0.37
921	50-ft. carton	10	.31	.69
922	100-ft. spool	5	.58	1.37
923	1000-ft. spool	1	6.1	12.25

No. 20 STRANDED TINNED COPPER

930	25-ft. carton	15	.17	$0.40
931	50-ft. carton	10	.31	.75
932	100-ft. spool	5	.58	1.48
933	1000-ft. spool	1	6.1	13.40

No. 18 SOLID TINNED COPPER

Cat. No.	Put-up	Stranded Package	Wt. Ea. in lbs.	List Price Each
940	25-ft. carton	15	.19	$0.40
941	50-ft. carton	10	.35	.76
942	100-ft. spool	5	.70	1.50
943	1000-ft. spool	1	7.7	13.65

No. 18 STRANDED TINNED COPPER

950	25-ft. carton	15	.19	$0,45
951	50-ft. carton	10	.35	.85
952	100-ft. spool	5	.70	1.69
953	1000-ft. spool	1	7.7	15.50

No. 16 SOLID TINNED COPPER

960	25-ft. carton	15	.28	$0.48
961	50-ft. carton	10	.52	.91
962	100-ft. spool	5	1.10	1.76
963	1000-ft. spool	1	11.25	16.75

No. 16 STRANDED TINNED COPPER

970	25-ft. carton	15	.28	$0.55
971	50-ft. carton	10	.52	1.05
972	100-ft. spool	5	1.10	2.09
973	1000-ft. spool	1	11.25	19.50

COLORS: White with red tracer; white—blue tracer; white—green tracer; white—yellow tracer; white—brown tracer; white—orange tracer; white—black tracer; and plain white.

Coils furnished without cartons — deduct two cents each from list price.

LACQUERED HI-VOLTAGE PLATE CIRCUIT TRANSMITTER HOOK-UP WIRE (DULAC)

Insulation Consists of Varnished Cambric Plus Lacquered Outer Braid

No. 18 STRANDED TINNED COPPER

Cat. No.		Standard Package	Wt. Ea. in lbs.	List Price Each
2013	25-ft. carton	15	.2	$0.52
2014	50-ft. spool	10	.4	1.02
2015	100-ft. spool	5	.8	1.94
2016	1000-ft. spool	1	8.0	18.00

No. 16 STRANDED TINNED COPPER

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
2020	25-ft. carton	15	1.0	$0.61
2021	50-ft. spool	10	2.0	1.20
2022	100-ft. spool	5	5.5	2.30
2023	1000-ft. spool	1	11.0	21.65

COLORS: Blue, Orange, Green, Brown, Slate, Red, Yellow, White, or Black
Coils furnished without cartons — deduct two cents each from list price

All prices subject to change without notice

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World Radio History

LENZ

WIRES *Quality Products* CABLES

SHIELDED LEAD-IN AND GROUND WIRE

FREE STRIPPING RUBBER

Consists of FLEXIBLE tinned copper conductors, heavy wall of FREE STRIP rubber and CLOSELY WOVEN tinned copper shield. Shield can be grounded, reducing interference, resulting in better reception.

No. 18 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1100	50-ft. carton	5	1.1	$1.25
1101	250-ft. spool	1	5.9	6.15
1101A	500-ft. spool	1	11.8	12.05

No. 16 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1102	50-ft. carton	5	1.4	$1.35
1103	250-ft. spool	1	7.2	6.70
1103A	500-ft. spool	1	14.4	13.15

No. 14 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1104	50-ft. carton	5	1.8	$1.65
1105	250-ft. spool	1	9.0	8.20
1105A	500-ft. spool	1	18.0	16.20

SHIELDED LEAD-IN AND GROUND WIRE

WITH WAXED COTTON BRAID UNDER-SHIELD

Consists of FLEXIBLE tinned copper conductors, heavy wall of FREE STRIP rubber, plus WAXED COTTON BRAID and CLOSELY WOVEN tinned copper shield.

No. 18 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
118	50-ft. carton	5	1	$1.40
118A	250-ft. spool	1	5.5	7.10
118B	500-ft. spool	1	11.0	13.95

No. 16 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
116	50-ft. carton	5	1.3	$1.75
116A	250-ft. spool	1	7	8.75
116B	500-ft. spool	1	14.0	17.30

No. 14 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
114	50-ft. carton	5	1.6	$2.00
114A	250-ft. spool	1	8.5	9.90
114B	500-ft. spool	1	17.0	19.60

BLACK POLISHED RUBBER COVERED LEAD-IN AND GROUND WIRE

Conductor consists of stranded clean tinned copper wire. Insulation—high quality live rubber, easily stripped. Put up in attractive CARTONS and on SPOOLS.

No. 18 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1094	50-ft. carton	15	.45	$0.47
1095	100-ft. spool	10	.95	.93
1095B	500-ft. spool	2	2.5	4.52
1096	1000-ft. spool	1	5.0	8.80

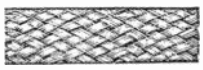
No. 16 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1097	50-ft. carton	15	.90	$0.63
1098	100-ft. spool	10	1.75	1.23
1098B	500-ft. spool	2	9.0	5.95
1099	1000-ft. spool	1	17.8	11.68

No. 14 FLEXIBLE 1/32" R.C.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1510	50-ft. carton	15	1.0	$0.83
1511	100-ft. spool	10	2.0	1.63
1511B	500-ft. spool	2	11.0	7.98
1512	1000-ft. spool	1	21.0	15.73

TINNED COPPER SHIELDING AND BONDING BRAIDS



Conveniently furnished on spools in complete range of various widths. Used for general shielding purposes, especially auto radio. Wider widths used for bonding purposes, especially where automotive floating power exists.

1/8" Wide—Opens to 7/32"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1208	50-ft. spool	5	.4	$0.90
1208A	100-ft. spool	3	1.0	1.65
1209	250-ft. spool	1	2.5	3.90
1209B	500-ft. spool	1	5.0	7.30

3/16" Wide—Opens to 1/4"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1210	50-ft. spool	5	1.1	$1.25
1210A	100-ft. spool	3	2.2	2.20
1211	250-ft. spool	1	3.7	5.55
1211B	500-ft. spool	1	7.4	10.90

1/4" Wide—Opens to 3/8"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1212	50-ft. spool	5	1.4	$1.65
1212A	100-ft. spool	3	2.8	3.25
1213	250-ft. spool	1	4.7	7.35
1213B	500-ft. spool	1	9.4	14.55

3/8" Wide—Opens to 7/16"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1214	50-ft. spool	5	1.7	$2.05
1214A	100-ft. spool	3	3.4	4.00
1215	250-ft. spool	1	6.7	9.60
1215B	500-ft. spool	1	13.4	19.00

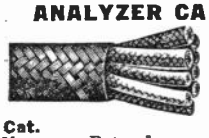
9/16" Wide—Opens to 15/16"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1216	50-ft. spool	5	2.4	$3.15
1216A	100-ft. spool	3	4.8	6.40
1217	250-ft. spool	1	9.6	14.65
1217B	500-ft. spool	1	19.2	29.10

11/16" Wide—Opens to 1¼"

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1218	50-ft. spool	5	3.2	$5.25
1218A	100-ft. spool	3	6.4	10.50
1219	250-ft. spool	1	13.3	23.60
1219B	500-ft. spool	1	26.6	46.95

ANALYZER CABLE — 8 AND 9 CONDUCTOR



Constructed of flexible color-coded conductors. Cable consists of two heavy conductors for filament circuit. Supplied in both 8 and 9 conductors. Black glazed braid with red tracers overall.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1154	100-ft. spool, 8 conductor	1	7.2	$11.05
1155	250-ft. spool, 8 conductor	1	20.0	28.05
1155A	500-ft. spool, 8 conductor	1	38.0	55.15
1156	100-ft. spool, 9 conductor	1	8.1	12.15
1157	250-ft. spool, 9 conductor	1	22.0	30.75
1157A	500-ft. spool, 9 conductor	1	42.0	60.45

TEST PROD LEAD WIRE

A standard rubber-covered tinsel conductor used in construction of most all nationally known Analyzers, Oscillators and all types of test apparatus. Furnished in brown, red and black. SPECIFY COLOR.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1158	100-ft. spool	5	1.1	$2.00
1159	1000-ft. spool	1	6.1	19.00

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World Radio History

LENZ

WIRES *Quality Products* CABLES

Shielded Rubber Jacketed Microphone Cables

Conductors all color-coded. Braided with tinned copper shield. Heavy Jacket Tough Black Polished Rubber applied overall. Will withstand severe service. Adaptable to carbon, condenser, and moving coil microphones. POSITIVELY WATERPROOF—excellent for field microphones.

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1185	100-ft. spool, 2-conductor	11/32"	1	7.5	$7.30
1186	250-ft. spool, 2-conductor	11/32"	1	20.7	18.60
1186A	500-ft. spool, 2-conductor	11/32"	1	39.4	36.20
1187	100-ft. spool, 3-conductor	11/32"	1	9.5	8.10
1188	250-ft. spool, 3-conductor	11/32"	1	25.7	20.65
1188A	500-ft. spool, 3-conductor	11/32"	1	49.4	40.30
1180	100-ft. spool, 4-conductor	3/8"	1	10.0	9.35
1181	250-ft. spool, 4-conductor	3/8"	1	27.0	23.75
1181A	500-ft. spool, 4-conductor	3/8"	1	52.0	46.45
1182	100-ft. spool, 5-conductor	3/8"	1	10.5	11.55
1183	250-ft. spool, 5-conductor	3/8"	1	28.0	29.30
1183A	500-ft. spool, 5-conductor	3/8"	1	54.0	57.60
1189	100-ft. spool, 6-conductor	7/16"	1	15.0	13.50
1190	250-ft. spool, 6-conductor	7/16"	1	39.0	34.15
1190A	500-ft. spool, 6-conductor	7/16"	1	76.0	67.35

Shielded Rubber Jacketed Microphone Cables

Light Weight

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1800	100-ft. spool, 2-conductor	13/64"	1	3.6	$5.85
1801	250-ft. spool, 2-conductor	13/64"	1	9.5	15.00
1802	500-ft. spool, 2-conductor	13/64"	1	17.0	29.10
1810	100-ft. spool, 3-conductor	17/64"	1	5.0	6.65
1811	250-ft. spool, 3-conductor	17/64"	1	14.5	17.05
1812	500-ft. spool, 3-conductor	17/64"	1	22.0	33.10

Special Extra Flexible Shielded Rubber Jacketed Microphone Cable

Conductors of EXTRA FLEXIBLE CONSTRUCTION. Closely woven tinned copper shield, heavy Jacket Tough Black Polished Rubber overall.

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1192	100-ft. spool, 3-conductor	11/32"	1	6.4	$9.30
1193	250-ft. spool, 3-conductor	11/32"	1	18.0	22.95
1193A	500-ft. spool, 3-conductor	11/32"	1	34.0	46.40

Crystal Microphone Cable

Shielded—Rubber Jacketed

The conductor is extremely flexible. Insulation is of low loss, high di-electric characteristics. A closely-woven tinned copper shield is applied, over which is placed a durable, high-quality rubber jacket.

SINGLE CONDUCTOR

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1252	100-ft. spool	7/32"	3	3.0	$6.40
1253	250-ft. spool	7/32"	1	6.75	15.60
1253A	500-ft. spool	7/32"	1	13.5	30.35

TWO-CONDUCTOR

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1254	100-ft. spool	1/4"	1	3.55	$7.40
1255	250-ft. spool	1/4"	1	8.80	18.10
1255A	500-ft. spool	1/4"	1	17.6	35.00

Shielded Cables

Flexible tinned copper conductors plus good grade of rubber insulation. Each conductor braided with color-coded cotton braid, thoroughly saturated in MOISTURE-PROOF compound, CLOSELY WOVEN tinned copper shield overall. Especially adaptable to AUTO RADIO, PUBLIC ADDRESS SYSTEMS and SOUND RECORDING EQUIPMENT.

NO. 20 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1110	100-ft. spool, 2-conductor No. 20	3	3.3	$4.60
1111	250-ft. spool, 2-conductor No. 20	1	7.4	10.65
1111A	500-ft. spool, 2-conductor No. 20	1	16.8	20.80
1112	100-ft. spool, 3-conductor No. 20	3	4.7	6.25
1113	250-ft. spool, 3-conductor No. 20	1	10.7	14.55
1113A	500-ft. spool, 3-conductor No. 20	1	23.4	28.25
1114	100-ft. spool, 4-conductor No. 20	3	5.6	6.85
1115	250-ft. spool, 4-conductor No. 20	1	15.1	16.85
1115A	500-ft. spool, 4-conductor No. 20	1	28.2	32.65
1116	100-ft. spool, 5-conductor No. 20	3	6.5	9.10
1117	250-ft. spool, 5-conductor No. 20	1	16.8	21.35
1117A	500-ft. spool, 5-conductor No. 20	1	31.6	41.25
1118	100-ft. spool, 6-conductor No. 20	3	7.5	10.85
1119	250-ft. spool, 6-conductor No. 20	1	18.6	25.55
1119A	500-ft. spool, 6-conductor No. 20	1	35.2	49.20

NO. 18 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1120	100-ft. spool, 2-conductor No. 18	3	3.8	$5.50
1121	250-ft. spool, 2-conductor No. 18	1	8.6	12.75
1121A	500-ft. spool, 2-conductor No. 18	1	19.2	24.85
1122	100-ft. spool, 3-conductor No. 18	3	5.4	7.50
1123	250-ft. spool, 3-conductor No. 18	1	14.7	17.50
1123A	500-ft. spool, 3-conductor No. 18	1	27.4	33.90
1124	100-ft. spool, 4-conductor No. 18	3	7.0	9.15
1125	250-ft. spool, 4-conductor No. 18	1	18.2	21.50
1125A	500-ft. spool, 4-conductor No. 18	1	34.4	41.55
1126	100-ft. spool, 5-conductor No. 18	3	8.2	10.65
1127	250-ft. spool, 5-conductor No. 18	1	21.6	25.05
1127A	500-ft. spool, 5-conductor No. 18	1	41.2	48.25
1128	100-ft. spool, 6-conductor No. 18	3	9.8	12.50
1129	250-ft. spool, 6-conductor No. 18	1	25.0	29.40
1129A	500-ft. spool, 6-conductor No. 18	1	48.0	56.60

Shielded Cables

Cotton Braid Overall

NO. 20 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1160	100-ft. spool, 2-conductor No. 20	3	3.5	$5.50
1161	250-ft. spool, 2-conductor No. 20	1	8.0	12.85
1161A	500-ft. spool, 2-conductor No. 20	1	18.0	25.00
1162	100-ft. spool, 3-conductor No. 20	3	4.9	7.30
1163	250-ft. spool, 3-conductor No. 20	1	11.1	17.00
1163A	500-ft. spool, 3-conductor No. 20	1	24.2	32.95
1164	100-ft. spool, 4-conductor No. 20	3	6.0	7.95
1165	250-ft. spool, 4-conductor No. 20	1	16.0	19.50
1165A	500-ft. spool, 4-conductor No. 20	1	30.0	37.70
1166	100-ft. spool, 5-conductor No. 20	3	7.3	10.35
1167	250-ft. spool, 5-conductor No. 20	1	12.5	24.35
1167A	500-ft. spool, 5-conductor No. 20	1	33.0	46.95
1168	100-ft. spool, 6-conductor No. 20	3	8.0	12.15
1169	250-ft. spool, 6-conductor No. 20	1	20.0	28.65
1169A	500-ft. spool, 6-conductor No. 20	1	38.0	55.15

NO. 18 FLEXIBLE R.C. COTTON BRAID CONDS.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1170	100-ft. spool, 2-conductor No. 18	3	4.2	$6.60
1171	250-ft. spool, 2-conductor No. 18	1	11.5	15.45
1171A	500-ft. spool, 2-conductor No. 18	1	21.0	29.95
1172	100-ft. spool, 3-conductor No. 18	3	6.2	8.40
1173	250-ft. spool, 3-conductor No. 18	1	15.0	19.70
1173A	500-ft. spool, 3-conductor No. 18	1	28.0	38.00
1174	100-ft. spool, 4-conductor No. 8	3	7.4	10.50
1175	250-ft. spool, 4-conductor No. 18	1	19.2	24.60
1175A	500-ft. spool, 4-conductor No. 18	1	36.4	47.50
1176	100-ft. spool, 5-conductor No. 18	3	8.7	12.10
1177	250-ft. spool, 5-conductor No. 18	1	22.0	28.45
1177A	500-ft. spool, 5-conductor No. 18	1	42.0	54.70
1178	100-ft. spool, 6-conductor No. 18	3	10.4	13.90
1179	250-ft. spool, 6-conductor No. 18	1	26.5	32.80
1179A	500-ft. spool, 6-conductor No. 18	1	51.0	63.05

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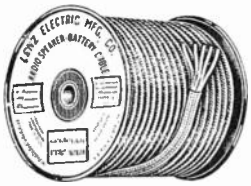
World Radio History

LENZ

WIRES **Quality Products** CABLES

DYNAMIC SPEAKER EXTENSION CABLE



Individual conductors consist of flexible tinned copper, rubber insulation and color-coded cotton braid. Brown cotton braid applied overall. Suitable for either permanent or portable PUBLIC ADDRESS systems.

No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1139	100-ft. spool, 2 conductor, No. 20	3	2.0	$3.00
5139	500-ft. spool, 2 conductor, No. 20	1	12.0	13.75
1140	100-ft. spool, 3 conductor, No. 20	3	2.7	3.75
5140	500-ft. spool, 3 conductor, No. 20	1	15.5	18.45
1141	100-ft. spool, 4 conductor, No. 20	3	3.5	4.70
5141	500-ft. spool, 4 conductor, No. 20	1	19.5	23.30
1142	100-ft. spool, 5 conductor, No. 20	3	4.0	6.00
5142	500-ft. spool, 5 conductor, No. 20	1	22.0	29.85
1143	100-ft. spool, 6 conductor, No. 20	3	5.0	7.20
5143	500-ft. spool, 6 conductor, No. 20	1	27.0	35.90
1144	100-ft. spool, 7 conductor, No. 20	3	6.0	8.15
5144	500-ft. spool, 7 conductor, No. 20	1	32.0	40.60

No. 16 & No. 20 STRANDED CONDUCTORS

Cable consists of two heavy conductors for voice-coil circuit.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1141A	100-ft. spl., 4 cond., 2 No. 16 and 2 No. 20	3	4.5	$6.25
1141B	500-ft. spl., 4 cond., 2 No. 16 and 2 No. 20	1	24.5	31.00
1142A	100-ft. spl., 5 cond., 2 No. 16 and 3 No. 20	3	5.6	7.30
1142B	500-ft. spl., 5 cond., 2 No. 16 and 3 No. 20	1	30.0	36.25
1143A	100-ft. spl., 6 cond., 2 No. 16 and 4 No. 20	3	6.6	8.30
1143B	500-ft. spl., 6 cond., 2 No. 16 and 4 No. 20	1	35.0	41.30
1144A	100-ft. spl., 7 cond., 2 No. 16 and 5 No. 20	3	7.6	9.30
1144B	500-ft. spl., 7 cond., 2 No. 16 and 5 No. 20	1	40.0	46.35

RUBBER JACKETED DYNAMIC SPEAKER EXTENSION CABLE

Heavy Tough Rubber Jacket Applied Overall—Suitable for Portable Public Address Systems

(Not Shielded)

No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1700	100-ft. spool, 4 conductor	5/16"	1	6.5	$6.90
1701	500-ft. spool, 4 conductor	5/16"	1	34.5	34.35

No. 16 & No. 20 STRANDED CONDUCTORS

Cat. No.	Put-up	Approx. O.D.	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1700A	100-ft. spool, 4 conductor	13/32"	1	8.0	$9.00
1700B	500-ft. spool, 4 conductor	13/32"	1	42.0	44.90

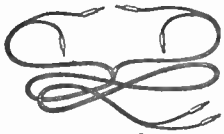
HEAD SET CORDS

DOUBLE HEAD-SET CORDS

Trim A has pin tips on all ends. Trim B has loop tips on head-set end and pin tips opposite end. Mercerized cotton braid.

CAT. No. 1225A

5-Ft. Lengths—Trim A



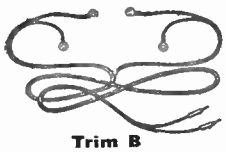
Trim A

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.6	$0.50
Lots of 25	1.3	.48
Lots of 100	5.2	.42

CAT. No. 1225B

5-Ft. Lengths—Trim B

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.6	$0.50
Lots of 25	1.3	.48
Lots of 100	5.2	.42



Trim B

SINGLE PHONE CORDS

Also Used on Magnetic Speakers and Electric Pickups

Construction — Good grade tinsel conductor, well insulated. Overall braid mercerized cotton.

CAT. No. 1235A

5-Ft. Lengths—Trim A

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.5	$0.36
Lots of 25	1.2	.32
Lots of 100	4.8	.29

Trim A

Trim B

CAT. No. 1235B

5-Ft. Lengths—Trim B

Quantity	Weight in lbs.	List Price Per Cord
Lots of 12	.5	$0.36
Lots of 25	1.2	.32
Lots of 100	4.8	.29

EXTENSION CORDS

20-FOOT LENGTHS

Extra flexible tinsel conductor, well insulated. Overall mercerized cotton braid. Can be used on auxiliary speaker or phono pick-up extension.

CAT. No. 1245

Put-up	Weight Per Lot	List Price Per Cord
Lots of 12—20-ft. length	2.2	$0.65
Lots of 25—20-ft. length	4.5	.62
Lots of 100—20-ft. length	18.0	.58

RADIO BATTERY CABLE

Consists of two heavy conductors for "A" battery supply. All conductors color-coded. Durable brown cotton braid overall.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1150	100-ft. spool, 5 conductor	3	5.0	$6.50
1150A	500-ft. spool, 5 conductor	1	27.0	30.70
1151	100-ft. spool, 7 conductor	2	7.0	8.40
1151A	500-ft. spool, 7 conductor	1	37.0	40.10
1152	100-ft. spool, 9 conductor	1	10.0	10.50
1152A	500-ft. spool, 9 conductor	1	52.0	49.90

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World Radio History

LENZ

WIRES *Quality Products* CABLES

TRANSMISSION LINE FOR ALL-WAVE DOUBLET ANTENNA SYSTEM

NOT SHIELDED

Excellent for short-wave reception. Conductors are of solid copper, insulated with a heavy coating of enamel, and weatherproof cotton braid, color coded.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1260	100-ft. spool	5	1	$1.60
1261	500-ft. spool	1	5	7.00

SHIELDED

Ideal for short-wave reception. Conductors are of solid copper, insulated with a heavy coating of enamel over which is placed a weatherproof cotton braid, color coded. A closely woven bare copper shield is placed over all for grounding purposes.

Cat. No.	Put-up	Standard Package	Wt. Ea. in lbs.	List Price Each
1262	100-ft. spool	5	2.25	$3.10
1263	500-ft. spool	1	11.25	14.50

EO 1 AMATEUR TRANSMISSION CABLE

SURGE IMPEDANCE 72 OHMS FOR AMATEUR TRANSMITTERS AND RECEIVERS. USED IN LENGTHS UP TO 1000 FEET WITH LOW LOSS

Cat. No.	Put-up	Standard Package	Weight Ea. in lbs.	List Price Each
2010	100′ coil	1	6.7	$10.15
2011	250′ coil	1	16 7	25.30
2012	500′ coil	1	33.5	50.65
2013	1000′ coil	1	67.0	101.25

TWISTED PAIR BRAID OVERALL DOUBLET TRANSMISSION CABLE

BLACK weatherproof braid overall suitable as transmission line for DOUBLET ANTENNA SYSTEM required on "ALL WAVE" RADIO RECEIVERS.

Cat. No.	Put-up	Standard Package	Weight Ea. in lbs.	List Price Each
1264	100′ spool	5	2.45	$2.65
1265	500′ spool	1	11.90	12.40

SHIELDED LOW CAPACITY CABLE

For auto antennae lead-in and short-wave converters. Extremely low capacity between conductor and shield permits shield grounding without excessive loss of signal.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1194	50-ft. coil ½″ O.D.	3	4.0	$5.60
1195	100-ft. spool ½″ O.D.	1	10.0	11.70
1195B	500-ft. spool ½″ O.D.	1	50.0	53.90
1196	50-ft. spool ¼″ O.D.	3	2.5	2.70
1197	100-ft. spool ¼″ O.D.	1	7.0	5.95
1197B	500-ft. spool ¼″ O.D.	1	37.0	25.60

Shielded Low Capacity Weatherproof Tubing

LOOM

⅜″ I.D. Shielded low capacity weatherproof tubing, approximately ¼″ O.D. Small outside diameter permits easy assembly in corner post of auto as shield for antennae lead-in. Excellent for shielding output of signal generators. Used by many prominent manufacturers of auto radio.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1203	50-ft. spool ⅜″ I.D.	3	2.0	$3.65
1204	100-ft. spool ⅜″ I.D.	1	4.0	7.10
1206	500-ft. spool ⅜″ I.D.	1	20.0	35.35

RUBBER JACKETED SHIELDED LOW CAPACITY CABLE

SINGLE CONDUCTOR

Outer rubber jacket insures **Positive Weatherproofing.** Excellent interference eliminator on broadcast band. Suggest ends be sealed after installation to prevent moisture absorption.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1400	50-ft. coil ⅝″ O.D.	1	4.0	$4.90
1400A	100-ft. spool ⅝″ O.D.	1	8.0	9.55
1400B	500-ft. spool ⅝″ O.D.	1	40.0	45.30
1405	50-ft. coil ⅝″ O.D.	1	12.0	9.60
1405A	100-ft. spool ⅝″ O.D.	1	22.0	20.15
1405B	500-ft. spool ⅝″ O.D.	1	111.0	96.95

INDOOR AERIAL

EXTREMELY FLEXIBLE conductor, tightly woven brown cotton braid. Will not kink and can be easily concealed. Also suitable for loop aerials.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. Lbs.	List Price Each
1089	20-ft. carton	20	.05	$0.14
1090	60-ft. carton	5	.16	.35
1091	125-ft. carton	5	.30	.65
1092	1000-ft. spool	1	2.75	4.50

TWO CONDUCTOR RUBBER JACKETED SHIELDED SHORT WAVE TRANSMISSION LEAD-IN

APPROXIMATELY ⅝″ O.D.

Properly installed this cable is truly a half-wave transmission lead-in. Suggests ends be sealed after installation to prevent moisture absorption and consequent DB. drop.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1200	50-ft. coil 2 cond.	1	10.0	$10.25
1201	100-ft. spool 2 cond.	1	20.0	21.50
1201A	500-ft. spool 2 cond.	1	111.0	103.50

SHIELDED IGNITION CABLE

No. 16 7MM rubber wall lacquered braid plus overall shield. Effective in reducing interference in auto secondary circuit. Can also be used as photo electric cell leads.

Cat. No.	Put-up	Std. Pkg.	Wt. Ea. in lbs.	List Price Each
1205	100-ft. spool 7 mm. rubber wall	1	8.0	$9.90

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World Radio History

ANTENNA SYSTEMS and ACCESSORIES

ALPHA

WIRE and CABLE

ALPHA MICROPHONE CABLE

ALPHA SHIELDED MICROPHONE CABLE

Rubber Jacket

Adaptable for all indoor and outdoor microphones. Each conductor is of stranded copper and rubber covered. A shield of fine tinned copper is over the grouped conductors. Overall is a jacket of Para Rubber.

No.	Per Spool	List Price
1249	100 Ft.—1-conductor (crystal)	$6.25
1250	100 Ft.—2-conductor	7.50
1251	100 Ft.—3-conductor	9.00
1252	100 Ft.—4-conductor	10.40
1253	100 Ft.—5-conductor	11.75
1254	100 Ft.—6-conductor	13.25

ALPHA UNSHIELDED MICROPHONE CABLE

Rubber Jacket

For use in indoor permanent or portable P.A. systems, sound recording and auto radios. Effective in the prevention of pickup interference. Each conductor of this cable is extra flexible, insulated with live rubber and color coded. Overall is a sheath of Para Rubber.

No.	Per Spool	List Price
1244	100 Ft.—2-conductor	$4.00
1245	100 Ft.—3-conductor	5.75
1246	100 Ft.—4-conductor	7.50

ALPHA SHIELDED MULTIPLE CONDUCTOR CABLE

For use in indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios. Effective in the prevention of pickup interference. Each conductor of this cable is extra flexible.

No.	Per Spool	List Price
1256	100 Ft.—2-conductor	$4.90
1257	100 Ft.—3-conductor	6.25
1258	100 Ft.—4-conductor	7.50
1259	100 Ft.—5-conductor	8.50
1260	100 Ft.—6-conductor	10.00
1261	100 Ft.—7-conductor	12.00

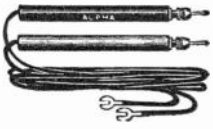
ALPHA BATTERY CABLE

Each conductor of Alpha Battery Cable is stranded, insulated with live rubber and covered with a colored cotton braid—easily distinguished from each other and non-confusing while making the necessary connections. Over all is a heavy cotton braid.

100-Foot Spools

No.		List Price
1182	2-wire	$3.10
1183	3-wire	4.10
1184	4-wire	5.25
1185	5-wire	6.00
1186	6-wire	7.00
1187	7-wire	8.00
1188	8-wire	12.00
1189	9-wire	14.00
1190	10-wire	15.50
1192	12-wire	18.00

ALPHA SUPER "HI-TENSION" TEST LEADS



Can readily be connected for testing circuit defects and all devices such as meters, batteries, transformers, etc. An insulation of Alpha Super "Hi-Tension" heavy rubber is over an extremely flexible tinned copper wire (Alpha No. 1635 Test Prod Wire). Constructed to withstand rough usage and repeated bendings. Handles are of sturdy fibre. Overall length 50". Red and Black leads for easy identification

Needle Point Prods

No.		List Price
2171	With spade terminals	$0.60
2172	With phone tip terminals	.60
2173	With alligator clips	.75
	Solderless Prods	
2175	With spade terminals	.60
2176	With phone tip terminals	.60
2177	With alligator clips	.75

ALPHA E-Z STRIP POWER CORDS

This is the modern and ideal power supply cord for replacement on radios, lamps, fans, etc. It is made of 6 feet of Alpha E-Z strip all rubber parallel cord (Underwriters' approval) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

No.		List Price
2101	Power Cord	$0.28

Furnished in brown unless otherwise specified.

WIND CHARGER CABLE

Rubber and Weatherproof Braid

No.	Per Coil	List Price
1286	100 Ft.—14-solid	$2.00
1288	100 Ft.—12-solid	2.65
1290	100 Ft.—10-solid	3.75
1292	100 Ft.—8 solid	5.75

Triple Braid

No.	Per Coil	List Price
1295	100 Ft.—12-solid	2.75
1297	100 Ft.—10-solid	3.75
1299	100 Ft.—8-solid	6.00

ALPHA AUTOMOTIVE CABLES

ALPHA LACQUERED PRIMARY WIRE

Adapted for automobile head, tail, side, dashboard lamps, horn, etc. Oil, moisture and heat proof.

No.	Per Spool Stranded	List Price
1983	100 Ft.—No. 10—1/32"	$5.50
1989	100 Ft.—No. 18—1/64"	1.50
1990	500 Ft.—No. 18—1/64"	7.00
1991	100 Ft.—No. 18—1/32"	1.65
1992	500 Ft.—No. 18—1/32"	7.65
1995	100 Ft.—No. 16—1/32"	2.10
1996	500 Ft.—No. 16—1/32"	9.70
1997	100 Ft.—No. 14—1/32"	2.75
1998	500 Ft.—No. 14—1/32"	12.50
1999	100 Ft.—No. 12—1/32"	3.60

ALPHA BRAIDED SHIELDING

An all purpose shielding for speaker leads, lead-ins, amplifier wires, auto radio installations. Can be stretched in width or length for snug covering.

Bare

No.		List Price
1226	50 Ft.—1/4" per spool	$1.65
1227	50 Ft.—3/8" per spool	2.00
1228	50 Ft.—5/8" per spool	4.50
	Tinned	
1230	50 Ft.—5/16" per spool	1.65
1231	50 Ft.—1/4" per spool	2.00
1232	50 Ft.—3/8" per spool	2.35
1232-D	250 Ft.—3/8" per coil	10.65
1233	50 Ft.—5/8" per spool	5.00

ALPHA ARMORED CABLE

Extensively used in automotive wiring, portable P. A. Systems, oil burner installations, etc. Heat, oil and moisture proof.

Single Conductor

No.		List Price
1975	100 Ft. per spool	$2.40

Duplex

No.		List Price
1978	100 Ft. per spool	$4.15

ALPHA SHIELDED IGNITION CABLE

Lacquered Ignition Cable covered with a close tinned shielding. Designed for auto radio installation.

No.		List Price
1241	100 Ft.—No. 16-7 MM Auto Radio Lead-In	$8.50

ALPHA LACQUERED IGNITION CABLE

A combination of extra flexible tinned copper, high grade rubber, and a lacquered braid make this ignition cable moisture, heat and oil proof.

No.		List Price
1981	100 Ft.—No. 16-7 MM	$4.15

ALPHA AUTO RADIO SHIELDED LEAD-IN WIRE

An auto antenna lead-in shielded to reduce interference of ignition pickup. Flexible tinned copper, rubber covered, built up with cotton fillers and closely braided tinned copper shielding overall.

No.		List Price
1239	100 Ft.—1/4" dia., per spool	$6.25
1240	100 Ft.—1/2" dia., per spool	10.65

ALPHA SHIELDED LOOM

For auto installations. A flexible non-collapsible seamless cotton and fibre tubing furnished with a compound to resist oil, water and gasoline. Overall is a close tinned copper shield.

No.		List Price
1236	50 Ft.—3/8" inside dia. per coil	$6.50
1237	50 Ft.—5/8" inside dia. per coil	5.00
1238	50 Ft.—5/8" inside dia. per coil	3.50

ALPHA BATTERY AND TEST CLIPS

For protection against rust and corrosion, these clips are completely cadmium plated. Spring jaw for permanent contact.

No.		Standard Amps.	Pkg.	List Price
2070	Solderless Test Clips		50	$0.07
2071	Midget Test Clips	5	50	.07
2072	Pee-Wee Test Clips	10	50	.07
2073	Battery Clips (medium)	25	50	.10
2074	Battery Clips (large)	50	30	.17
2075	Alligator Clips		50	.07

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World Radio History

ANTENNA SYSTEMS and ACCESSORIES

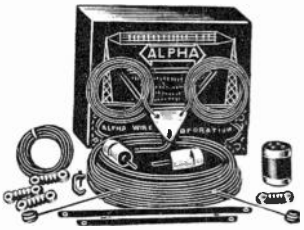
ALPHA

WIRE and CABLE

ALPHA ALL-WAVE SYSTEMS

FOR SHORT WAVE, STANDARD BROADCAST, POLICE AND AIRCRAFT SIGNALS

The ALPHA DOUBLET ANTENNA is an expertly designed aerial system for all types of All-Wave receivers. The great advantage of the double type antenna system is its efficiency in eliminating noises between the antenna and the receiver and the greater reception it affords. The ALPHA wire and accessories used have been particularly designed for this doublet antenna system.



KIT No. 25—Contents:

1—Alpha All-Wave Antenna Coupler, No. 51
2—30-Ft. Coils No. 15 Solid Enamel Aerial Wire
1—50-Ft. Coil Transmission Cable No. 1149
3—Glass Insulators No. 2020
2—Glazed Porcelain Nail Knobs No. 2031
1—Strap Type Ground Clamp No. 2012
2—Weatherproofed Window Lead-In Strips No. 2002
1—7" Bakelite Screw Eye No. 2055

KIT No. 25 ..... **List Price $3.00**

KIT No. 24—All-Wave Doublet Antenna System—same as Kit No. 25, except without No. 51 Alpha All-Wave Antenna Coupler.

KIT No. 24 ..... **List Price $2.10**

KIT No. 31—Contents:

1—Alpha All Wave Antenna Coupler No. 51
2—46-Ft. Coils 7/26 Aerial Wire
1—110-Ft. Coil Transmission Cable No. 1136
1—Alpha Triangular Antenna Block No. 2069
1—Doublet Screw-Type Window Lead-in Strip No. 2004
1—25-Ft. Coil Heavy Flexible Rubber Covered Wire
4—Glass Insulators No. 2020
2—7" Bakelite Screw Eyes No. 2055
2—Glazed Porcelain Nail Knobs No. 2031
1—"C" Type Pipe Clamp No. 2011
6—Insulated Staples No. 2041

KIT No. 31 ..... **List Price $4.75**

KIT No. 30—Alpha All-Wave Doublet Antenna System—same as Kit No. 31, except without No. 51 Alpha All-Wave Antenna Coupler.

KIT No. 30 ..... **List Price $3.75**

ANY AERIAL SYSTEM DUPLICATED

ALPHA TWISTED AND BRAIDED TRANSMISSION CABLE

This is the doublet style transmission lead-in designed for coupling low impedance between the aerial system and radio receiver. Each conductor is twisted tinned stranded flexible wire insulated with "Hi-Tension" color-coded rubber. The conductors are made into a twisted pair with an overall cotton braid heavily waxed and weatherproofed.

No.			List Price
1146	500 Ft.	per spool	$10.00
1147	110 Ft.	per coil	2.20
1148	100 Ft.	per coil	2.00
1149	50 Ft.	per coil	1.00
1150	80 Ft.	per coil	1.60

ALPHA PHOSPHOR BRONZE DIAL CABLE

Made of 42 strands phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

No.			List Price
1269	25 Ft.	per spool	$1.25
1270	50 Ft.	per spool	2.25
1271	100 Ft.	per spool	4.00
1275	500 Ft.	per spool	18.75
1277	1000 Ft.	per spool	36.00

ALPHA UNBREAKABLE SOFT RUBBER PLUG

Made of sturdy live soft rubber. Unbreakable, easy to attach.

No.		List Price
1964	Soft Rubber Plug	$0.09

ALPHA RUBBER JACKET TRANSMISSION CABLE

This is a NEWLY developed and PERFECTED doublet style transmission cable. Each conductor is stranded tinned wire insulated with 1/32" live color-coded rubber. The conductors are twisted and overall is a rubber jacket of Hevea.

No.			List Price
1135	500 Ft.	per spool	$12.50
1136	110 Ft.	per coil	2.75
1137	100 Ft.	per coil	2.50
1138	50 Ft.	per coil	2.35
1139	80 Ft.	per coil	2.00

ALPHA ALL-WAVE ANTENNA COUPLER

This coupler is entirely automatic. Controls the impedance that may exist between the doublet antenna and receiver. Suitable for broadcast as well as short-wave reception.

No.		List Price
51	Antenna Coupler	$1.00

ALPHA DOUBLET LEAD-IN STRIP

This Doublet Lead-In Strip consists of two separate lacquered weatherproof lead-ins with screw terminals, held apart by two riveted fibre pieces. Strips are staggered, preventing cross contact.

No.		List Price
2004	Doublet Screw Type Lead-In Strip	$0.18

ALPHA DOUBLET LIGHTNING ARRESTER

For complete protection on doublet antenna systems.

Individually boxed.

No.		List Price
2000	Doublet Lightning Arrester	$0.30

ALPHA EO1 AMATEUR TRANSMISSION CABLE

For amateur transmitters and receivers. The surge impedance of 72 ohms matches the impedance at the center of the half-wave Hertz Antenna. Can be used in any desired length up to 1000 feet, with negligible loss. Handles up to 1 Kw. power.

No.			List Price
1153	100 Ft.	per spool	$10.00
1154	250 Ft.	per reel	22.50
1155	500 Ft.	per reel	45.00
1156	1000 Ft.	per reel	90.00

ALPHA TRIANGULAR ANTENNA JUNCTION BLOCK

For Doublet Type Antenna Systems. Acts as a junction block or center insulator between aerial and lead-in. Constructed of high-grade glazed ceramic.

No.		List Price
2069	Triangular Antenna Junction Block	$0.12½

ALPHA SUPER "HI-TENSION" TEST PROD LEAD WIRE

For use in construction of analyzers, oscillators and all types of testing apparatus and wherever an EXTRA FLEXIBLE insulated wire is required. An extremely flexible stranded tinned copper wire is insulated with ALPHA SUPER "HI-TENSION" HEAVY RUBBER. A very close cotton warp protects the conductor from oxidization.

No.			List Price
1631	25 Ft.	per carton	$0.55
1633	100 Ft.	per spool	1.65
1635	500 Ft.	per spool	8.00

Colors: Red and Black.

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World Radio History

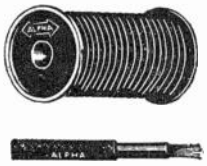
ANTENNA SYSTEMS and ACCESSORIES

ALPHA

WIRE and CABLE

ALPHA LACQUERED RUBBER COVERED HOOK-UP AND LEAD-IN WIRE

Lacquered Braid



A superior type of stranded tinned copper wire, rubber insulated with a highly lacquered cotton braid. For a point to point soldering connection where a low loss di-electric is required. It is not a push-back wire, but will strip easily and clean. It is also ideally suited for a lead-in, being impervious to weather conditions.

No. 20 Stranded 7/44"

No.		List Price
1511	25 Ft. ... per carton	$0.33
1513	100 Ft. ... per spool	1.25
1515	500 Ft. ... per spool	5.50

Colors: Black and Red

No. 18 Stranded 7/44"

1521	25 Ft. ... per carton	$0.40
1523	100 Ft. ... per spool	1.55
1525	500 Ft. ... per spool	7.25

Colors: Black and Red

No. 18 Stranded 7/32"

1531	25 Ft. ... per carton	$0.45
1533	100 Ft. ... per spool	1.65
1535	500 Ft. ... per spool	7.65

Colors: Black, Red, Green, Yellow, Blue, Brown and White.

No. 16 Stranded 7/32"

1541	25 Ft. ... per carton	$0.50
1543	100 Ft. ... per spool	2.20
1545	500 Ft. ... per spool	10.00

Colors: Black and Red

ALPHA "HI-TENSION" COLORED RUBBER FLEXIBLE WIRE

Free stripping, easy point to point wiring for all radio and electrical uses. The "Hi-Tension" rubber used contains the very best of pure Hevea making it unsurpassed in dielectric strength, elasticity, longlifeand insulating qualities.

Tinned C. W. Rubber—7/44"

No.		List Price
1601	25 Ft.—No. 18-16/30 ... per carton	$0.30
1603	100 Ft.—No. 18-16/30 ... per spool	1.00
1605	1000 Ft.—No. 18-16/30 ... per spool	9.00

Colors—Black, Red, Green, Yellow, Blue, Brown and White.

Tinned C. W. Rubber—7/32"

No.		List Price
1621	25 Ft.—No. 16-26/30 ... per carton	$0.42
1623	100 Ft.—No. 16-26/30 ... per spool	1.50
1625	1000 Ft.—No. 16-26/30 ... per spool	14.00

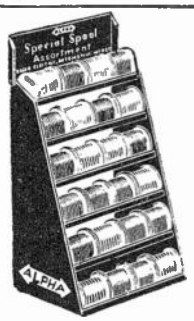
ALPHA AC-DC RESISTANCE LINE CORDS

These line cords are built with a third element voltage drop resistor to take care of reducing line voltage and also increase life of coils and condensers as well as eliminate heat generated by the receiver. Equipped with a soft rubber unbreakable attachment plug.

Individually Boxed

No.	Ohms	For Sets with Following Tubes
1174	135	4-6.3-Volt Tubes, 1-43, 1-25Z5
1175	160	3-6.3-Volt Tubes, 1-43, 1-25Z5
1175B	180	4-6.3-Volt Tubes, 1-43, 1-12Z3
		2-6.3-Volt Tubes, 1-43, 1-25Z5
1176	220	3-6.3-Volt Tubes, 1-43, 1-12Z3
1176B	250	2-6.3-Volt Tubes, 1-43, 1-12Z3
		3-6.3-Volt Tubes, 1-25Z5
1177	290	3-6.3-Volt Tubes, 1-12Z3
1178	330	4-6.3-Volt Tubes
		2-6.3-Volt Tubes, 1-12Z3
1179	360	1-6.3-Volt Tube, 1-12Z3
		3-6.3-Volt Tubes

List Price for above Cords ... each $0.60



ALPHA SPECIAL SPOOL ASSORTMENT

On Attractive Metal Spools

INCLUDING PUSHBACK, HOOK-UP, RUBBER COVERED AUTOMOTIVE SHIELDED, LEAD-IN, FIXTURE AND LAMP WIRES

No.		Feet Per Spool
9801	No. 22—Solid Pushback Wire-Assorted Colors	100
9802	No. 20—Solid Pushback Wire-Assorted Colors	75
9804	No. 18—Solid Pushback Wire-Assorted Colors	60
9805	No. 16—Solid Pushback Wire-Assorted Colors	40
9806	No. 14—Solid Pushback Wire-Assorted Colors	35
9811	No. 22—Stranded Pushback Wire-Assorted Colors	75
9812	No. 20—Stranded Pushback Wire-Assorted Colors	60
9814	No. 18—Stranded Pushback Wire-Assorted Colors	50
9815	No. 16—Stranded Pushback Wire-Assorted Colors	35
9816	No. 14—Stranded Pushback Wire-Assorted Colors	25
9819	No. 18—Stranded 7/44" Alpha "Hi-Tension" Colored Rubber Wire-Assorted Colors	75
9822	No. 18—Stranded 7/32" R. C. Wire-Black	75
9824	No. 16—Stranded 7/32" Alpha "Hi-Tension" Colored Rubber Wire-Black and Red	50
9827	No. 14—Stranded 7/44" R.C.Wire-Black	35
9828	No. 18—Solid 7/44" R. C. Lead-In Wire-Black	70
9830	No. 18—Stranded 7/32" R. C. Lacquered Braid-Assorted Colors	40
9834	No. 20—Stranded 7/32" R. C. Shielded Lead-In	40
9837	Alpha "Super Hi-Tension" Test Prod Colored Rubber Wire-Black and Red	35
9840	AC-DC Indoor Aerial Wire	100
9841	No. 18—Twisted Pair Lamp Cord	30
9843	No. 18—Stranded, R. C., Cotton Covered Indoor Wire-Assorted Colors	60
9845	No. 18—Parallel Silk-Assorted Colors	30
9848	No. 20—Junior E-Z Strip All Rubber Parallel Lamp Cord-Brown	40
9870	No. 18—Plain Tinned Copper	100
9875	No. 18—Annunciator (Bell) Wire	100

List Prices for above..each, per spool $0.63

ALPHA BUS-BAR WIRE

Alpha tinned Bus-Bar Wire is cut in uniform 2-ft. lengths.

No.		List Price
2078	10-round ... each	$0.05
2080	12-round ... each	.03½
2081	14-square ... each	.03
2082	14-round ... each	.02½

ALPHA ALL RUBBER AND SERVICE CORD

For use in shops, garages, on portable tools, refrigerators, etc. Made of heavy rubber jacket to withstand rough usage. Will not kink.

No.		List Price
1961	250 Ft.—No. 18-2 All Rubber Cord per spool	$8.25
1962	250 Ft.—No. 18-2 SJ Service Cord (with filler)	11.00

ALPHA E-Z STRIP..THE NEW TYPE LAMP CORD

An all rubber parallel cord approved by the National Board of Fire Underwriters. This new type of lamp cord is of a tough rubber that strips easy and splits exactly down through the center by pulling apart. No braid to fray. For radio, clocks, lamps, etc.

No.		List Price
1966	100 Ft. ... per spool	$2.75
1967	250 Ft. ... per spool	$6.25

Colors—Brown, Ivory, Green and Black.

ALPHA "LACTIV" WIRE PUSHBACK

Easy pushback, easy soldering and small outside diameter make this an ideal radio hook-up wire. Specifications as follows: Bright tinned copper, a serving, special compound of rubber insulation, a colored cotton braid treated with insulating wax.

Solid

No.		List Price
1411	25 Ft.—No. 22 ... per carton	$0.23
1413	100 Ft.—No. 22 ... per spool	.85
1415	1000 Ft.—No. 22 ... per spool	7.00
1421	25 Ft.—No. 20 ... per carton	.28
1423	100 Ft.—No. 20 ... per spool	.95
1425	1000 Ft.—No. 20 ... per spool	7.65
1431	25 Ft.—No. 18 ... per carton	.35
1433	100 Ft.—No. 18 ... per spool	1.10
1435	1000 Ft.—No. 18 ... per spool	10.00
1441	25 Ft.—No. 16 ... per carton	.45
1443	100 Ft.—No. 16 ... per spool	1.80
1445	1000 Ft.—No. 16 ... per spool	14.75
1451	25 Ft.—No. 14 ... per carton	.60
1453	100 Ft.—No. 14 ... per spool	2.10
1455	1000 Ft.—No. 14 ... per spool	19.00

Stranded

No.		List Price
1301	25 Ft.—No. 22- 7/30 ... per carton	$0.26
1303	100 Ft.—No. 22- 7 30 ... per spool	.93
1305	1000 Ft.—No. 22- 7/30 ... per spool	7.65
1311	25 Ft.—No. 20-10/30 ... per carton	.33
1313	100 Ft.—No. 20-10/30 ... per spool	1.10
1315	1000 Ft.—No. 20-10/30 ... per spool	9.00
1321	25 Ft.—No. 18-16/30 ... per carton	.40
1323	100 Ft.—No. 18-16/30 ... per spool	1.25
1325	1000 Ft.—No. 18-16/30 ... per spool	12.00
1331	25 Ft.—No. 16-26/30 ... per carton	.50
1333	100 Ft.—No. 16-26/30 ... per spool	2.00
1335	1000 Ft.—No. 16-26/30 ... per spool	18.00
1341	25 Ft.—No. 14-41/30 ... per carton	.65
1343	100 Ft.—No. 14-41/30 ... per spool	2.10
1345	1000 Ft.—No. 14-41/30 ... per spool	21.00

Colors

Nos. 22-20-18—Stranded and Solid—Black, Red, Green, Yellow, Blue, Brown and White

Nos. 16-14—Stranded and Solid—Black and Red only.

ALPHA FILAMENT LEAD WIRE

Consists of No. 14—41/30 tinned copper stranded, heavy insulation and braid overall, impregnated.

No.		List Price
1641	25 Ft. ... per carton	$0.60
1645	500 Ft. ... per spool	12.50

ALPHA FLEXIBLE LAMP CORD AND FIXTURE WIRE

Silk—Cotton—Single—Parallel—Twisted

For use on lamps, Radio A.C. or D.C. Lines, ground and aerial connections, etc.

No.		List Price
1701	1000 Ft.—No. 18—7/44" Cotton Single Conductor	$10.00
1702	500 Ft.—No. 18—7/44" Cotton Single Conductor	5.15
1705	500 Ft.—No. 18—7/44" Cotton Twisted Pair	9.50
1711	250 Ft.—No. 18—7/44" Cotton Twisted Pair (app.)	7.00
1801	1000 Ft.—No. 20—7/44" Cotton Single Conductor	8.25
1802	500 Ft.—No. 20—7/44" Cotton Single Conductor	4.35
1851	250 Ft.—No. 18—7/44" Parallel Silk (approved)	6.90
1901	500 Ft.—No. 18—7/44" Parallel Silk (N. I. B.)	8.90

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World Radio History

ANTENNA SYSTEMS and ACCESSORIES

ALPHA

WIRE and CABLE

ALPHA LEAD-IN STRIPS

These are unquestionably the finest type of lead-in strips. Fully covered weatherproof braid with several dips of lacquer insulation.

No.		List Price
2002	12″ Clip Type—Riveted and Soldered	$0.06½
2005	12″ Screw Type—Positive Contact	.08

FAHNESTOCK SPRING BATTERY CLIPS

No.		List Price
2076	Spring Clip 1″—1 Clip, 100 per carton	$1.00
2077	Twin Clip 1¾″—Clips, 100 per carton	3.50

ALPHA SCREW EYES

No.		List Price
2051	3″ Bakelite—per 100	$5.00
2052	3″ Porcelain—per 100	4.75
2055	7″ Bakelite—per 100	5.50
2056	7″ Porcelain—per 100	5.25

ALPHA RADIO LIGHTNING ARRESTER

Made of high quality material. Thoroughly sturdy. Designed for indoor or outdoor use.

No.		List Price
2001	Lightning Arrester—Packed in individual cartons—each	$0.18

ALPHA ANNUNCIATOR (BELL) WIRE

Pure copper, two cotton serves reversed and heavy paraffine impregnation are the components used in our wire. Supplied in assorted colors.

No.		List Price
1970	25-ft.—per coil	$0.14
1971	¼-pound—per carton	.19
1972	½-pound—per carton	.37
1974	7-pound—per spool	4.75

ALPHA SPAGHETTI TUBING

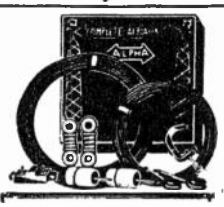
A superior varnished tubing for radio work. It will retain its dielectric flexibility indefinitely.

Takes up to a No. 14 wire. Colors—Black, Yellow, Red, Green and Brown.

No.		List Price
2091	30″ Lengths—each	$0.10½

We carry a complete line of Alpha Spaghetti Tubing as well as Saturated Sleeving in all sizes.

ALPHA AERIAL KITS



Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

Aerial Kit No. 301
50-ft. 7-strand Copper Aerial Wire
25-ft. R. C. Lead-In Wire
2 No. 2022 Porcelain Insulators
2 No. 2031 Porcelain Nail Knobs
1 No. 2012 Copper Ground Clamp
1 No. 2002 Weatherproof Lead-In Strip
Kit No. 301 ..... List Price $0.70

Aerial Kit No. 307
75-ft. 7/23 Bare Copper Aerial Wire
35-ft. No. 16 Solid R. C. Lead-In Wire
15-ft. Indoor Wire
2 No. 2021 Glass Insulators
1 No. 2001 Lightning Arrester
1 No. 2022 Weatherproof Lead-In Strip
1 No. 2012 Copper Ground Clamp
6 No. 2041 Insulated Staples
2 No. 2031 Porcelain Nail Knobs
2 Galvanized Screw Eyes
Kit No. 307 ..... List Price $1.50

Aerial Kit No. 314
100-ft. 7/22 Bare Copper Aerial Wire
50-ft. No. 16 Stranded R. C. Lead-In Wire
25-ft. Indoor Wire
1 No. 2001 Lightning Arrester
2 No. 2021 Glass Insulators
1 No. 2005 Screw Type Lead-In Strip
1 No. 2011 "C" Type Ground Clamp
2 No 2051 Bakelite Screw Eyes
2 No. 2031 Porcelain Nail Knobs
6 No. 2041 Insulated Staples
2 Wood Screws
Kit No. 314 ..... List Price $2.35

Aerial Kit No. 304
75-ft. 7/24 Bare Copper Aerial Wire
25-ft. R. C. Lead-In Wire
1 No. 2001 Lightning Arrester
1 No. 2002 Weatherproof Lead-In Strip
2 No. 2031 Porcelain Nail Knobs
1 No. 2012 Copper Ground Clamp
2 No. 2020 Glass Insulators
2 Galvanized Screw Eyes
2 Wood Screws
Kit No. 304 ..... List Price $1.10

Aerial Kit No. 303
75-ft. 7/27 Bare Copper Aerial Wire
25-ft. R. C. Lead-In Wire
1 No. 2012 Copper Ground Clamp
2 No. 2022 Porcelain Insulators
2 No. 2031 Porcelain Nail Knobs
1 No 2002 Weatherproof Lead-In Strip
2 Galvanized Screw Eyes
Kit No. 303 ..... List Price $0.85

Aerial Kit No. 310
75-ft. 7/22 Bare Copper Aerial Wire
35 ft. No. 16 Stranded R. C. Lead-In Wire
1 No. 2011 "C" Type Ground Clamp
1 No. 2001 Lightning Arrester
2 No. 2021 Glass Insulators
1 No. 2005 Screw Type Lead-In Strip
2 No. 2031 Porcelain Nail Knobs
2 No. 2051 Bakelite Screw Eyes
6 No. 2041 Insulated Staples
2 Wood Screws
Kit No. 310 ..... List Price $1.75

Standard package—20 kits per carton
We are equipped to make up kits to your own specifications

ALPHA PURE COPPER AERIAL WIRE

All Alpha Aerial Wire is properly annealed to assure required flexibility and tensile strength.

No.		List Price
	Individually Boxed Enamel Stranded	
1000	100-ft.—7/20	$1.90
1005	100-ft.—7/22	1.00
1009	75-ft.—7/22	.80
	Enamel Solid	
1040	100-ft.—No. 10	$2.10
1045	100-ft.—No. 12	1.25
1055	100-ft.—No. 14	.80
	Tinned Stranded	
1015	100-ft.—7/22	$0.95
1019	75-ft.—7/22	.70
	Bare Stranded	
1020	100-ft.—7/20	$1.35
1025	100-ft.—7/22	.85
1029	75-ft.—7/22	.65
1035	100-ft.—7/23	.70
1039	75-ft.—7/23	.55
	Tinned Solid	
1060	100-ft.—No. 10	$2.00
1065	100-ft.—No. 12	1.20
1070	100-ft.—No. 14	.75

For other sizes than above see price sheet.

ALPHA A.C.-D.C. ANTENNA WIRE

This is a very fine flexible wire covered with cotton braid. Is an ideal replacement wire for universal midget receivers. Also used as indoor and loop wire.

No.		List Price
1281	25-ft.—per reel	$0.22
1282	100-ft.—per spool	.70
1283	500-ft.—per spool	3.05
1284	1000-ft.—per spool	5.75

ALPHA LEAD-IN AND GROUND WIRE

Both our solid and stranded are insulated with live Hevea rubber that strips easily. Copper conductor is well TINNED for quick soldering.

No.	Solid	List Price
1101	500-ft.—No. 16—1/64″ per spool	$4.50
1105	50-ft.—No. 16—1/64″ per carton	.48
1111	500-ft.—No. 18—1/64″ per spool	3.50
1112	50-ft.—No. 18—1/64″ per carton	.42
	Stranded	
1114	1000-ft.—No. 20—1/32″ per spool	$5.50
1114E	500-ft.—No. 20—1/32″ per spool	3.00
1115	500-ft.—No. 14—1/64″ per spool	8.20
1117	100-ft.—No. 14—1/64″ per spool	1.90
1118	50-ft.—No. 14—1/64″ per carton	.90
1121	500-ft.—No. 16—1/32″ per spool	4.90
1124	100-ft.—No. 16—1/32″ per spool	1.00
1125	50-ft.—No. 16—1/32″ per carton	.55
1130	100-ft.—No. 18—1/32″ per spool	.85
1131	500-ft.—No. 18—1/32″ per spool	3.90
1132	50-ft.—No. 18—1/32″ per carton	.42
1133	25-ft.—No. 18—1/32″ per carton	.22
1134	1000-ft.—No. 18—1/32″ per spool	6.25

ALPHA GUY WIRE

Extensively used on all transmitter and receiver poles and towers. Twisted galvanized steel wires having extremely high tensile strength.

No.		List Price
2195	25-ft.—per coil	$0.28
2196	50-ft.—per coil	.56

INSULATORS NAIL KNOBS—STAPLES

No.		List Price
2022	2½″ Glazed Porcelain Insulators—100 per carton	$4.00
2031	Glazed Porcelain Nail Knobs—100 per carton	3.25
2041	Insulated Staples—50 per box	.12
2043	Colored Staples—40 per box	.12

ALPHA GROUND CLAMP

Heavy gauge copper is used. This ground clamp makes a quick and positive connection.

No.		List Price
2012	Strap Type, ⅜″ to 2″ pipe	$0.07

ALPHA PIPE CLAMP

Is of neat appearance. Attaches the ground wire to the pipe easily and securely. Will last indefinitely

No.		List Price
2011	"C" Type Ground Clamp—each	$0.08

ALPHA GLASS INSULATORS

Is of great tensile strength, moisture proof, waterproof and weatherproof.

No.		List Price
2020	3″—100 per carton	$5.00
2021	3⅝″—100 per carton	7.00

ALPHA SHIELDED LEAD-IN AND GROUND WIRE

Made to reduce interference caused by motors, high tension wires or other apparatus that radiate inductive impulses. To obtain best results ground the shield separately. Consists of a STRANDED TINNED CONDUCTOR, FREE STRIP RUBBER AND SHIELDED WITH VERY FINE FLEXIBLE TINNED COPPER.

No.	Stranded Rubber	List Price
1201	250-ft.—No. 14—1/64″ per spool	$10.00
1205	50-ft.—No. 14—1/64″ per carton	2.00
1211	250-ft.—No. 16—1/32″ per spool	7.00
1215	50-ft.—No. 16—1/32″ per carton	1.40
1221	500-ft.—No. 18—1/64″ per spool	9.50
1225	500-ft.—No. 20—1/64″ per spool	8.25

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FLERON Radio Products

No. 329 HANDY TAP

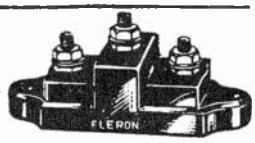
3 WIRE

For Doublet Aerials, 3-Wire Aerial and Ground Connector

A much needed item. Brings Doublet Leads and Ground Wire to one point. Then to the Radio Set from 3 Wire Cap. Allows Radio to be quickly and easily disconnected. Makes a neat, workmanlike finish on every Radio Set installation. SAFE, CONVENIENT, UP-TO-DATE. Sell one with each set. Use them in your Radio Show Room. Body and Cap of Bakelite.

Cat. No.		Carton	Std. Pkg.	List
329	Complete with Cap	20	100	$0.65
337	Cap Only			.35

ALL WAVE LIGHTNING ARRESTER



Carefully calibrated Air Gap Type Arrester. Insures maximum protection with minimum loss of signal. Sealed against moisture.

Cat. No.	Carton	Std. Pkg.	List, Each
92	10	50	$0.35

Home Guard

LIGHTNING ARRESTER

With $50 Protection Bond

Meets the demand for a lower priced arrester, but avoids trouble and service calls because of care in manufacture. Mineral Gap type. Each arrester in an attractive carton, **with Counter Display Sign.** Listed by Underwriters.

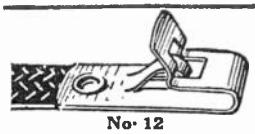
Cat. No.	Display Carton	Std. Pkg.	List, Each
20	10	100	$0.50

CADET LIGHTNING ARRESTER

A high grade Air Gap type approved arrester, at a low price. Packed in individual cartons with two screws for mounting.

Cat. No.	Std. Pkg.	List, Each
80	100	$0.25

WEATHERPROOF AND SOLDERED COPPER LEAD-IN STRIPS



No. 12

No. 126

Insulated its entire length and thoroughly impregnated with a new process high gloss weatherproof, insulating varnish. End clips are soldered to strip.

Cat. No.	Size	Carton	List, Each
12	⅛"x12½"	50	$0.10
126	⅜"x12½"	50	.10

GROUND RODS

Made in two sizes—4 feet or 6 feet long—of ⅜ inch rod heavily galvanized. Wire is securely held by our special Ground Rod Clamp. We especially recommend the galvanized rod because of its non-corrosive qualities.

The Copper finished rod is available for those desiring a lower priced item.

Cat. No.		Length	Bundle	Std. Pkg.	List, Each
485	(Hot Galvanized)	4 ft.	20	100	$0.50
725	(Hot Galvanized)	6 ft.	20	100	.65
45	(Copper Finish)	4 ft.	20	100	.40

No. 29 HANDY TAP

2 WIRE

Polarized Radio Aerial and Ground Connector
A convenient device for connecting the aerial and ground wires from the set to the aerial and ground lead-in wires. Packed in an individual carton with mounting screw. Separate Polarized Caps available. (Catalog No. 37.) Also furnished in combination with 110-V. receptacle (Cat. No. 32).

Cat. No.		Carton	List, Each
29	2 Wire	20	$0.35
32	with 110 V. Receptacle	20	.50
37	Cap Only, 2 Wire	20	.15

FLUSH HANDY TAP*

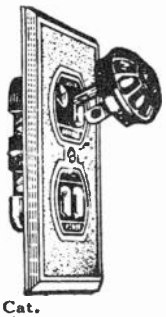
Bakelite Flush Type Polarized Radio Aerial and Ground Connector

For use where concealed aerial and ground connections only are required and Power for your Radio is furnished from another outlet. **Polarized Aerial and Ground Cap is included,** which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio. Approved by Underwriters Laboratories.

Cat. No.		List Price, Each
24	Receptacle & Polarized Cap only, 10 in carton	$0.80
25	Receptacle, Polarized Cap and Brass Plate, 10 in carton	$1.00
26	Receptacle, Polarized Cap and Bakelite Plate, 10 in carton	$1.00
37	Polarized Aerial and Ground Cap only, 10 in carton	$0.15

*Registered U. S. Patent Office

DUO TAPS*



Bakelite Flush Type Polarized Radio Aerial and Ground Outlet

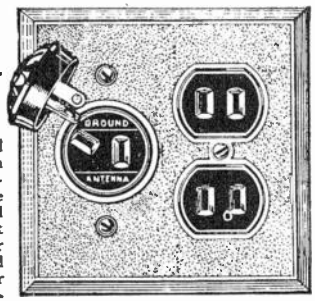
In Combination with 110 Volt Receptacle Aerial and Ground connections and Power for your Radio set all from a Single Gang outlet. **Furnished complete with Polarized Aerial and Ground Cap,** which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio.

Cat. No.		Carton	List Price Each
34	Receptacle, Polarized Cap and Brass Plate	10	$1.50
35	Receptacle and Polarized Cap Only	10	1.35
36	Receptacle, Polarized Cap and Bakelite Plate	10	1.50
37	Polarized Aerial and Ground Cap Only	10	.15

* Registered U. S. Patent Office.

DUPLEX DUO TAP*

Flush Polarized Radio Aerial and Ground Connector in combination with Duplex 110 Volt receptacle



Duplex Duo Tap

Concealed aerial and ground connections in combination with Duplex Electric receptacle. Furnished complete with **Polarized Aerial and Ground Cap,** which cannot be interchanged with Power Cap, insuring correct and positive connections for your Radio. **Separator Plate included.** Approved by Underwriters Laboratories.

Cat. No.		Carton	List Price Each
42	Receptacle, Polarized Cap and Brass Plate	10	$2.00
43	Receptacle, Polarized Cap and Bakelite Plate	10	2.00
37	Polarized Aerial and Ground Cap Only	10	.15

*Registered U. S. Patent Office.

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World Radio History

FLERON Radio Products

Showing 2 Sets with 100 feet connecting wire. Cat. No. 21095

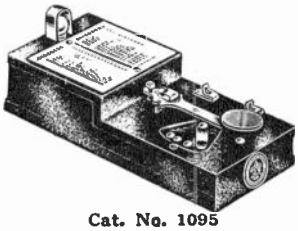
OFFICIAL BOY SCOUT SIGNALER

Radio — Blinker — Telegraph

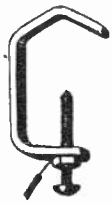
Operates from 2 self-contained standard flashlight cells. Pocket size. Black and Nickel Finish. Packed 1 to Carton (Cat. No. 1095), and 2 to Carton (Cat. No. 21095). With the double unit is included 100 ft. connecting wire so that 2 sets can be used and messages sent or received.

Cat. No.		List, Each
1095		$1.50
21095	with 100 ft. connecting wire	3.50

Net price quotations to Trade are without Batteries



Cat. No. 1095



No. 6 GROUND CLAMP

To those desiring a lighter clamp than our No. 4 we suggest our No. 6 clamp. It is made of narrower, thinner metal, cadmium plated. Ground wire is fastened under separate contact screw.

Cat. No.	Carton	List, Each
6	50	$0.08

No. 188 AERIAL SPRING TIGHTENER

For holding aerial wire tight and straight. Prevents breakage when swaying in wind or if covered with heavy snow and ice or if anchored to trees, etc. Improved Rust Proofing.

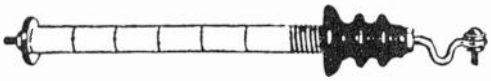
Cat. No.	Carton	List, Each
188	50	$0.50

STOP NOISE IN RADIO FROM ELECTRIC RAZORS

Remarkable new device finds quick sale. Has been carefully tested and works like magic. Just plugs in ahead of razor. Works on other small appliances not over 100 watts. Display stand with each carton. Made of Bakelite.

Cat No.	Carton	Std. Pkg.	List
192	12	144	$1.00

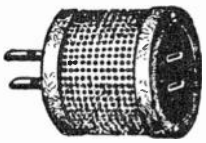
PORCELAIN LEAD-IN BUSHING



This device makes a workmanlike finish at a point in aerial installation that has been a source of power loss. Maximum length, 14 inches. Porcelain sections slide off brass rod to any wall thickness up to 9¾ inches. Threaded rod can then be cut at any desired point. Black Porcelain. Black Glaze. Passed by Underwriters Laboratories. Each Bushing in carton.

Cat. No.	Carton	Std. Pkg.	List, Each
9	10	25	$1.25

TUBETEX—Line Voltage Regulator



Improved type of Line Voltage Control. Furnished in two ratings—No. 1 for sets up to and including 80 watts (or up to 7-tube sets); No. 2 for sets up to and including 175 watts (or from 8 to 12-tube sets).

Cat. No.		Carton	List, Each
196	(0-80 Watts)	24	$1.00
296	(80-175 Watts)	24	1.00

AEROPLANE TYPE STRAIN INSULATORS

Lap Type Strain Insulator, made of Fleron High Test Porcelain, finished in White Glaze.

Made in two sizes as follows:

Cat. No.	Size	Carton	List, Each
23	13-16"x1½"	100	$0.07
73	1¼"x2½"	100	.10

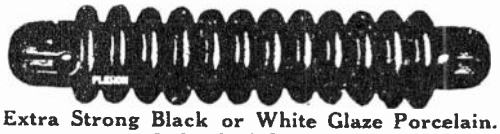
SCREW EYE INSULATORS

Screw Eye Insulator

Made in three sizes. Porcelain ring made of Fleron Blue Porcelain. Screw eyes of steel, **hot tinned finish.**

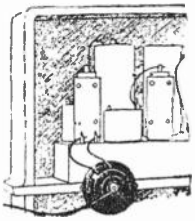
Cat. No.	Size	Carton	List, Each
318	3"	50	$0.05
618	6¼"	50	.07
1218	12"	20	.20

HEAVY DUTY AERIAL INSULATOR



Extra Strong Black or White Glaze Porcelain. Individual Cartons

Cat. No.	Size	Std. Pkg.	List, Each
40	8"x1½"	20	$0.80



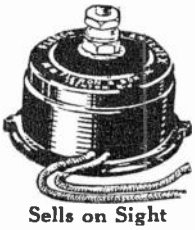
Attaches to Any Radio

ANTENEX INDOOR AERIAL

The best selling Aerial Eliminator on the market because of: Performance — Ease of Installation — Attractive Display Material—Quality of Product.

High-powered Display material packed with every dozen turns hundreds of thousands of prospects into SALES.

Cat. No.	Carton	Std. Pkg.	List, Each
94	12	144	$1.00



Sells on Sight

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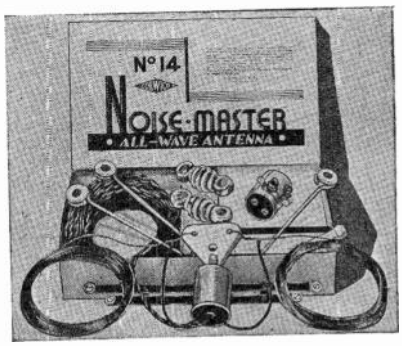
World Radio History

CORWICO RADIO WIRE *products*



NOISE-MASTER
ALL-WAVE ANTENNA

FOR EVERY SET AND LOCATION

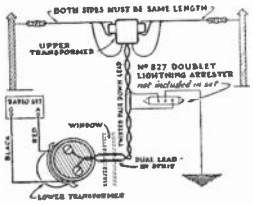
Eliminates "man-made" static on broadcast as well as short wave bands.

There is a correct "NOISE-MASTER" antenna for every set and location. Radio reception is enjoyed to its fullest extent by installing one of these competent units. "NOISE-MASTER" is scientifically engineered to filter out the innumerable nuisance noises caused by electrical devices . . . asssuring perfect reception over broadcast as well as short-wave frequency.

No. 14 "NOISE-MASTER"

$6.75 LIST. Code: CORAL. Wt. 2 lbs. 12 oz.

Recommended where there are sufficient "man-made" noises to interfere with radio reception over both the short-wave and broadcast bands. Licensed under Amy, Aceves & King patent No. Re. 19854. A highly engineered product which makes one aerial act electrically as two perfect antennas. Two or more sets (preferably not more than 4) can be operated at the same time on the same antenna by using an additional lower transformer unit on each additional set. Assures highest efficiency over the entire receiving band.



No. 14

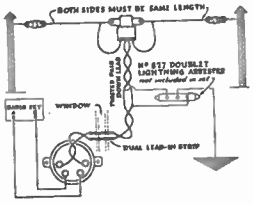
CONTENTS:

- 2—30 foot coils of stranded copper antenna wire
- 1 upper transformer assembly
- 2 glass insulators
- 75 feet twisted pair down lead
- 3—6" screw eye insulators
- 1 No. 755 dual lead-in strip
- 1 lower transformer unit
- 1—4" porcelain tube
- 1 instruction sheet

No. 14a Code: CUTAT)—Kit containing upper and lower transformers only.....List $5.00
No. 127 (Code: CYTAT)—Extra lower transformers, each.....List 2.25
No. 14b (Code: CATAW)—"EUROPEAN NOISE-MASTER." Same as No. 14 except that transformers are designed to operate on 15 to 2100 meters.....List 7.00
No. 128 (Code CYTAR)—European type lower transformer.....List 2.50

No. 19 "NOISE-MASTER" . . $4.00 LIST. Code: CYRAX. Wt. 3 lbs. 13 ozs.

This antenna is a deluxe doublet employing an Amy, Aceves & King licensed Self-Selecting matching transformer and a junction box in the antenna line. Easy to install and factory fabricated. When properly erected it assures excellent all-wave reception.



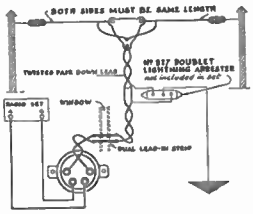
No. 19

CONTENTS:

- 2—30 ft. coils 7/23 aerial wire
- 2—No. 1 porcelain insulators
- 1 junction-box assembly
- 75 ft. No. 123 twisted pair down lead
- 3—6" screw eye insulators
- 1 No. 755 dual lead-in strip
- 1—4" porcelain tube
- 1 No. 129 Self-Selecting transformer
- 1 instruction sheet.

No. 18 "NOISE-MASTER" . . $3.25 LIST. Code: CIRAM. Wt. 3 lbs. 12 ozs.

A licensed Amy, Aceves & King antenna at a popular price! Simple doublet type, featuring a high-grade Self-Selecting licensed matching transformer. Easy to install and completely factory fabricated. Recommended for locations where "man-made" static interferes with short-wave but not with ordinary broadcast reception.



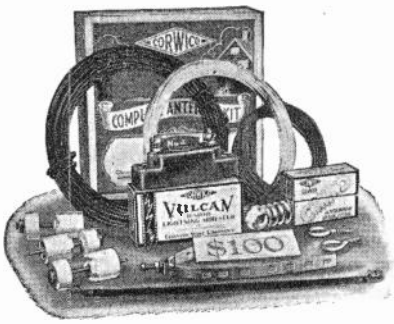
No. 18

CONTENTS:

- 2—30 ft. coils 7/24 "TRI-COR" all-wave aerial wire
- 2 No. 2 glass insulators
- 1 triangular porcelain center insulator
- 50 ft. No. 117 stranded twisted "TU KOLOR" down lead (connected at our factory to the two coils of aerial wire at center insulator)
- 10 ft. coil stranded twisted pair brown inside lead-in wire
- 3—6" screw eye insulators
- 1 No. 755 dual lead-in strip
- 1—4" porcelain tube
- 1 No. 129 Self-Selecting transformer
- 1 instruction sheet

BROADCAST ANTENNA KITS

These are popular priced broadcast kits of the "L" type. Each kit contains the necessary parts for the installation of the complete antenna. They are furnished in an attractive two-color box.



Kit No. 3
THE MAJOR
Code: CYTAM. Wt. 3 lbs.

CONTENTS:
75 ft. No. 15 stranded aerial wire; 35 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 glass insulators; 2 glazed porcelain nail knobs; 1—3" screw eye stand-off insulator; 1 No. 760 high gloss lead-in strip; 1 No. 710 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 6 insulated staples; 2 wood screws.

$1.35 List

Kit No. 4
THE CAPTAIN
Code: CYTON. Wt. 2½ lbs.

CONTENTS:
75 ft. 7/24 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 glazed porcelain nail knobs; 1 No. 760 high gloss lead-in strip; 1 No. 712 "C" type ground clamp; 15 ft. flexible rubber-covered wire; 2 wood screws.

$1.10 List

Kit No. 5
THE LIEUTENANT
Code: CYTAO. Wt. 2 lbs.

CONTENTS:
75 ft. 7/27 stranded aerial wire; 25 ft. rubber-covered lead-in wire; 1 No. 825 lightning arrester; 2 porcelain insulators; 2 nail knobs; 1 No. 707 strap type ground clamp; 1 No. 770 lead-in strip; 2 wood screws.

85c List

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World Radio History

CORWICO RADIO WIRE *products*

AERIAL WIRE

The most careful attention has been given to those properties which make CORWICO aerial wire the most suitable for radio reception; viz., large surface area, high electric conductivity, and tensile strength.

STRANDED BARE WIRE

No.		List Price
	7/20	
64	— 100-ft. coil	$1.30
	7/22	
40A	— 75-ft. coil	.60
40	— 100-ft. coil	.79
40B	—1000-ft. spool	7.90
	7/22 (14 B&S)	
51A	— 75-ft. coil	.55
51	— 100-ft. coil	.73
51B	—1000-ft. spool	7.30
	7/23	
41A	— 75-ft. coil	.49
41	— 100-ft. coil	.65
41B	—1000-ft. spool	6.50
	7/23 (15 B&S)	
31A	— 75-ft. coil	.45
31	— 100-ft. coil	.58
31B	—1000-ft. spool	5.80
	7/24	
42A	— 75-ft. coil	.41
42	— 100-ft. coil	.53
42B	—1000-ft. spool	5.30
	7/24 (16 B&S)	
50A	— 75-ft. coil	.38
50	— 100-ft. coil	.50
50B	—1000-ft. spool	5.00
	7/26	
30A	— 75-ft. coil	.28
30	— 100-ft. coil	.36
30B	—1000-ft. spool	3.60

SOLID BARE WIRE

No.		List Price
	No. 14	
57	— 100-ft. coil	.62
57B	—1000-ft. spool	6.20
	No. 15	
55	— 100-ft. coil	.50

STRANDED TINNED WIRE

No.		List Price
	7/22	
45A	— 75-ft. coil	.68
45	— 100-ft. coil	.89
45B	—1000-ft. spool	8.90

No.	(Tinned, Continued)	List Price
	7/22 (14 B&S)	
53A	— 75-ft. coil	.62
53	— 100-ft. coil	.82
53B	—1000-ft. spool	8.20
	7/23 (15 B&S)	
35A	— 75-ft. coil	.54
35	— 100-ft. coil	.70
35B	—1000-ft. spool	7.00
	7/24 (16 B&S)	
52A	— 75-ft. coil	.45
52	— 100-ft. coil	.59
52B	—1000-ft. spool	5.90

STRANDED ENAMEL WIRE

No.		List Price
	7/20	
73	— 100-ft. coil	1.90
	7/22	
37A	— 75-ft. coil	.75
37	— 100-ft. coil	.99
37B	—1000-ft. spool	9.90
	7/22 (14 B&S)	
56A	— 75-ft. coil	.68
56	— 100-ft. coil	.89
56B	—1000-ft. spool	8.90
	7/23 (15 B&S)	
33A	— 75-ft. coil	.59
33	— 100-ft. coil	.77
33B	—1000-ft. spool	7.70
	7/24 (16 B&S)	
54A	— 75-ft. coil	.50
54	— 100-ft. coil	.65
54B	—1000-ft. spool	6.50

SOLID ENAMEL WIRE

No.		List Price
	No. 12	
61	— 100-ft. coil	1.20
61F	— 150-ft. coil	1.80
61G	— 200-ft. coil	2.40
61B	—1000-ft. spool	12.00
	No. 14	
60	— 100-ft. coil	.77
60B	—1000-ft. spool	7.70
	No. 15	
36	— 100-ft. coil	.65

LEAD-IN WIRE

STRANDED

No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
300	50 coil	18-$\frac{1}{32}$"	.38	310	50 coil	16-$\frac{1}{32}$"	.45
301	100 spool	18-$\frac{1}{32}$"	.75	311	250 spool	16-$\frac{1}{32}$"	2.30
302	500 spool	18-$\frac{1}{32}$"	3.60	312	500 spool	16-$\frac{1}{32}$"	4.35
303	1000 spool	18-$\frac{1}{32}$"	7.00	313	1000 spool	16-$\frac{1}{32}$"	8.50

SOLID

320	25 coil	18-$\frac{3}{64}$"	.20	330	25 coil	20-$\frac{3}{64}$"	.17
321	50 coil	18-$\frac{3}{64}$"	.38	331	50 coil	20-$\frac{3}{64}$"	.32
322	500 spool	18-$\frac{3}{64}$"	3.35	332	500 spool	20-$\frac{3}{64}$"	2.85
323	1000 spool	18-$\frac{3}{64}$"	6.50	333	1000 spool	20-$\frac{3}{64}$"	5.50

COLORED RUBBER LEAD-IN AND GROUND WIRE

Colors: Red, Black, Green, White

No.		List Price, Each	No.		List Price, Each
215	—No. 16 str., 25-ft.	.31	217	—No. 16 str., 100-ft.	1.15
216	—No. 16 str., 50-ft.	.60	218	—No. 16 str., 1000-ft.	11.00

TWISTED PAIR DOWNLEADS

No. 122—List Mft. $16.00

This is a popular-priced twisted pair down lead consisting of two conductors, each No. 22 stranded copper, 1/32" and rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 116—List Mft. $30.00

This is a heavy twisted pair down lead especially designed for use in doublet type antennas. Each conductor consists of No. 16 (26/30) stranded tinned copper wire with a 1/32" rubber covering and a single white weatherproof braid. The two conductors are then twisted together.

No. 120—List Mft. $18.00

This is a cheaper twisted pair down lead consisting of two conductors each No. 20 (10/30) stranded copper, 1/32" rubber covered twisted and covered with an overall black weatherproof braid.

ANTENNA ACCESSORIES

LIGHTNING ARRESTERS

Extreme care has been given to the design of these arresters to produce low-priced products of greatest possible value.

	List Price
No. 825—2 Pole	20c
No. 827—3 Pole (Doublet)	30c

LEAD-IN STRIPS

All Strips 12" Long—Packed 50 to a Carton

No.		List per C
760	—½" Zinc, High Gloss, Soldered Terminals	$5.48
761	—½" Zinc, High Gloss, not Soldered Terminals	4.97
770	—$\frac{1}{16}$" Zinc, Dull Finish, not Soldered Terminals	4.10
771	—$\frac{1}{16}$" Zinc, Dull Finish, Soldered Terminals	4.62
750	—½" Copper, High Gloss, Soldered Terminals	6.12
751	—½" Copper, High Gloss, not Soldered Terminals	5.69

SCREW END LEAD-IN STRIPS

Equipped with screw-type terminals, insuring positive and lasting contact. Lenth 12"—Packed 50 to a Carton.

No. 780—Copper, High Gloss	List per C $6.50
No. 781—Zinc, High Gloss	List per C 5.88
No. 755—Doublet, Copper, High Gloss	List per C 15.00

SCREW EYE INSULATORS

Packed 50 to a Carton

No.		List per C
795	—Porcelain Eye, 3"	$3.63
796	—Porcelain Eye, 6"	4.15
797	—Bakelite Eye, 3"	4.45
798	—Bakelite Eye, 6"	5.56

BATTERY CLIPS

Spring jaw clips for instant connection to wet or dry batteries. Packed 30 to carton.

No.		List per C
1	—50 amp.	$15.00
2	—25 amp.	8.75
3	—10 amp.	6.00
4	— 5 amp.	5.00

GROUND CLAMPS

710

707

We manufacture a complete line of ground clamps of all types, for every purpose.

700

"C" TYPE GROUND CLAMP. Hardened steel point, assures positive ground connection. Opening 1¾". Packed 50 to a carton.

No. 710—Cadmium Plated	List per C $5.50
No. 713—Plain Finish	List per C 4.25

SADDLE TYPE GROUND CLAMP. Hardened steel point assures positive contact. Easily applied to any pipe or rod from ½" to 2½" in diameter. Cadmium Plated. Packed 50 to a carton.

No. 700—Saddle Type	List per C $5.00

STRAP TYPE GROUND CLAMP. Packed 50 to a carton. The No. 708 Clamps have a coppered finish.

No. 707—Copper Strap Clamp	List per C $3.75
No. 708—Steel Strap Clamp	List per C 3.35

GROUND RODS No. 785 Made of ⅜" coppered steel, 4 ft. long. Has adjustable saddle with pointed screw for positive ground connection. Packed—12. Weight 20 lbs. Each 50c

GLASS INSULATORS

Substantially made of non-brittle crystal glass.

No. 1—3" length, 100 per carton	List per C $6.00
No. 2—3¾" length, 25 per carton	List per C 6.50

PORCELAIN INSULATORS

Made of high grade glazed porcelain for long and short wave antennas.

No. 790	List per C $3.90

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World Radio History

P-A WIRES and CABLES

HOLLYWOOD MICROPHONE CABLES

(Shielded—Rubber Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded rubber used on conductors. Braided with tinned copper shield. Tough weatherproof polished rubber jacket overall.
Single conductor—unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.

Cat. No.	Conductors	Feet on Spool	Approx. Outside Diam.	List Price
1105	1	100	9/32"	$ 5.00
2104	1	500	9/32"	24.00
2101	1	1000	9/32"	47.00
Two conductor, for low impedance microphones and transmission lines.				
1152	2	100	11/32"	6.40
1153	2	250	11/32"	16.00
2152	2	500	11/32"	32.00
1154	3	100	11/32"	9.25
1155	3	250	11/32"	18.50
2153	3	500	11/32"	37.00
1156	4	100	3/8"	11.75
1157	4	250	3/8"	23.50
2154	4	500	3/8"	47.00
1158	5	100	3/8"	12.00
1159	5	250	3/8"	30.00
1160	6	100	7/16"	13.60
1161	6	250	7/16"	34.00

MULTI-CONDUCTOR RUBBER JACKETED CABLES

(Not Shielded)

Principally Used as Speaker Extension Cables

2160	2	100	1/4"	4.10
2161	2	250	1/4"	10.25
2162	2	500	1/4"	20.50
2163	3	100	1/4"	6.00
2164	3	250	1/4"	15.00
2165	3	500	1/4"	30.00
2166	4	100	5/16"	7.50
2167	4	250	5/16"	18.75
2168	4	500	5/16"	37.50

SHIELDED CABLES

These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton.

Cat. No.	Put-Up	List Price Each
1114	100 spool 2 Conductor	$ 4.50
1115	250 spool 2 Conductor	11.25
1116	100 spool 3 Conductor	6.50
1117	250 spool 3 Conductor	16.25
1118	100 spool 4 Conductor	8.00
1119	250 spool 4 Conductor	20.00
1120	100 spool 5 Conductor	9.50
1121	250 spool 5 Conductor	23.75
1122	100 spool 6 Conductor	11.00
1123	250 spool 6 Conductor	27.00

SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price Each
1124	100 spool 2 Conductor	$ 5.50
1125	250 spool 2 Conductor	13.75
1126	100 spool 3 Conductor	7.75
1127	250 spool 3 Conductor	19.25
1128	100 spool 4 Conductor	9.25
1129	250 spool 4 Conductor	23.00
1130	100 spool 5 Conductor	11.00
1131	250 spool 5 Conductor	27.00
1132	100 spool 6 Conductor	12.50
1133	250 spool 6 Conductor	30.50

RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Made of multi-conductor cable. Flexible conductors with over-all heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. systems.

Cat. No.	Put-Up	List Price Each
228	3 wire-100 Ft. Spool	$ 3.50
219	4 wire-100 Ft. Spool	4.50
221	5 wire-100 Ft. Spool	5.50
231	6 wire-100 Ft. Spool	6.50
241	7 wire-100 Ft. Spool	7.50
222	8 wire-100 Ft. Spool	8.50
223	9 wire-100 Ft. Spool	9.50
224	10 wire-100 Ft. Spool	10.50
227	12 wire-100 Ft. Spool	11.50

SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

Cat. No.	Put-Up	List Price Each
No. 20 FLEXIBLE 1/32" R.C.		
1143	50 Ft. Coil	$ 1.05
1144	250 Ft. Spool	5.10
1145	1000 Ft. Spool	19.00
No. 18 FLEXIBLE 1/32" R.C.		
1146	50 Ft. Coil	$ 1.20
1147	250 Ft. Spool	5.80
1148	1000 Ft. Spool	21.00
No. 16 FLEXIBLE 1/32" R.C.		
1149	50 Ft. Coil	$ 1.50
1150	250 Ft. Spool	7.25
1151	500 Ft. Spool	14.00

AUTO RADIO WIRES and CABLES

SHIELDED LOW CAPACITY CABLE

Extremely low capacity between conductor and shield used in auto radio for antenna lead-in and elsewhere where a low capacity wire is required.

Cat. No.	Put-Up	List Price Each
1100	50' Coil 1/2" O.D.	$5.65
1101	100' Coil 1/2" O.D.	10.70
1102	50' Coil 1/4" O.D.	4.20
1103	100' Coil 1/4" O.D.	7.95

BRAIDED TINNED COPPER TUBULAR SHIELDING

Convenient shielding for auto radio installations. We recommend the 1/4" width for wires up to 3/16" O.D. and the 1/2" width for larger wires.

Cat. No.	Put-Up	Width	List Price Each
1108	50 Ft. Spool	1/4"	$2.50
1109	100 Ft. Spool	1/4"	4.30
1110	250 Ft. Spool	1/4"	9.70
1111	50 Ft. Spool	1/2"	4.10
1112	100 Ft. Spool	1/2"	7.80
1113	250 Ft. Spool	1/2"	18.90

SHIELDED LOW CAPACITY LOOM

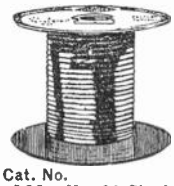
Frequently used in auto radio as a shield for the antenna lead-in. Inside Diameter 3/16" (Approx.). Outside Diameter 1/4" (Approx.)

Cat. No.	Put-Up	List Price Each
1106	50' Coil 3/16" I.D.	$4.25
1007	100' Coil 3/16" I.D.	8.00

SHIELDED IGNITION CABLE

Consists of a No. 16 Stranded Conductor with high grade rubber wall with a lacquered braid and overall tinned copper shield. This wire is effectively used in secondary circuits in auto radio and also in photo electric cell leads.

Cat. No.	Type	Spool	List Price Each
1134	7MM	R.W.—100'	$ 9.00
1136	7MM	R.W.—250'	23.00
1137	3/32"	R.W.—100'	3.90
1139	3/32"	R.W.—500'	16.50



FLEXIBLE CORDS

(Fixture Wires—Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords.
Colors: Brown, Black, Ivory.

Cat. No.		Put-up	List Price per M ft.
133	No. 20 Single, Type F, Cotton	1000 ft.	$ 6.75
136	No. 18 Single, Type F, Cotton	1000 ft.	8.00
*138	No. 18 Parallel, Type PO, Rayon	250 ft.	18.75
*139	No. 18 Parallel, Type POSJ, All Rubber	250 ft.	18.75
*132	No. 18 All Rubber Service Cord, Type SJ	250 ft.	33.50

* Has Underwriter's Labels.

TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering.

Cat. No.	Put-Up	List Price Each
1140	100 Ft. Spools	$ 2.40
1141	500 Ft. Spools	11.00
1142	1000 Ft. Spools	21.50

AC-DC Antenna Lead Wire

A replacement antenna wire for Universal Sets at a minimum cost. The type of wire used incorporates the well-known Corlac Insulation between the copper conductor and the outside brown cotton braid which not only assures a moisture-proof product but also greatly tends to make the wire non-kinkable.

Cat. No.	Put-Up	List Price Each
660A	25 Ft. on Fibre	$0.25
660B	100 Ft. on Spools	.75
660C	500 Ft. on Spools	3.25
660	1000 Ft. on Spools	6.00
Same Wire Without Corlac Insulation		
661	on 1000 Ft. Spools	4.80

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World Radio History

CORWICO RADIO WIRE *products*

RADIO HOOK-UP WIRES

"BRAIDITE" PUSH-BACK WIRE

These Hook-Up wires are the standard type of push back wires. They have a cotton serve and an impregnated braid which slides back easily from the tinned copper conductor, thus making it easy to solder.

Plain			Lacquered		
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
		No. 22 SOLID			
398	25 Ft. Cartons	$0.25	416	25 Ft. Cartons	$0.28
399	100 Ft. Spools	0.85	417	100 Ft. Spools	0.95
400	1000 Ft. Spools	5.40	418	1000 Ft. Spools	6.25
		No. 20 SOLID			
401	25 Ft. Cartons	$0.27	419	25 Ft. Cartons	$0.31
402	100 Ft. Spools	0.95	420	100 Ft. Spools	1.10
403	1000 Ft. Spools	6.20	421	1000 Ft. Spools	7.20
		No. 18 SOLID			
404	25 Ft. Cartons	$0.33	422	25 Ft. Cartons	$0.36
405	100 Ft. Spools	1.20	423	100 Ft. Spools	1.40
406	1000 Ft. Spools	8.50	424	1000 Ft. Spools	9.70
		No. 22 STRANDED			
407	25 Ft. Cartons	$0.285	425	25 Ft. Cartons	$0.32
408	100 Ft. Spools	1.00	426	100 Ft. Spools	1.10
409	1000 Ft. Spools	6.35	427	1000 Ft. Spools	7.30
		No. 20 STRANDED			
410	25 Ft. Cartons	$0.32	428	25 Ft. Cartons	$0.36
411	100 Ft. Spools	1.10	429	100 Ft. Spools	1.25
412	1000 Ft. Spools	7.40	430	1000 Ft.Spools	8.55
		No. 18 STRANDED			
413	25 Ft. Cartons	$0.37	431	25 Ft. Cartons	$0.42
414	100 Ft. Spools	1.40	432	100 Ft. Spools	1.60
415	1000 Ft. Spools	9.70	433	1000 Ft. Spools	11.30

"CORLAC" HOOK-UP WIRE

For the discriminating service man who knows the importance of voltage break down and insulation resistance. Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back. Tinned copper conductors.

Plain			Lacquered		
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
		No. 22 SOLID			
434	25 Ft. Cartons	$0.29	452	25 Ft. Cartons	$0.33
435	100 Ft. Spools	1.05	453	100 Ft. Spools	1.20
436	1000 Ft. Spools	6.65	454	1000 Ft. Spools	8.00
		No. 20 SOLID			
437	25 Ft. Cartons	$0.33	455	25 Ft. Cartons	$ .40
438	100 Ft. Spools	1.20	456	100 Ft. Spools	1.40
439	1000 Ft. Spools	8.00	457	1000 Ft. Spools	9.50
		No. 18 SOLID			
440	25 Ft. Cartons	$0.39	458	25 Ft. Cartons	$ .44
441	100 Ft. Spools	1.50	459	100 Ft. Spools	1.65
442	1000 Ft. Spools	10.00	460	1000 Ft. Spools	11.70
		No. 22 STRANDED			
443	25 Ft. Cartons	$0.335	461	25 Ft. Cartons	$0.38
444	100 Ft. Spools	1.20	462	100 Ft. Spools	1.30
445	1000 Ft. Spools	7.85	463	1000 Ft. Spools	9.30
		No. 20 STRANDED			
446	25 Ft. Cartons	$0.40	464	25 Ft. Cartons	$0.45
447	100 Ft. Spools	1.40	465	100 Ft. Spools	1.55
448	1000 Ft. Spools	9.40	466	1000 Ft. Spools	11.10
		No. 18 STRANDED			
449	25 Ft. Cartons	$0.46	467	25 Ft. Cartons	$0.54
450	100 Ft. Spools	1.70	468	100 Ft. Spools	1.95
451	1000 Ft. Spools	12.40	469	1000 Ft. Spools	14.50

COLOR RUBBER HOOK-UP WIRE

When a rubber covered hook-up wire is necessary the following products are recommended. They are made of Stranded Tinned Copper Wire covered with live rubber sufficient to withstand any voltage ordinarily used in radio. For circuit distinction these products are covered with colored rubber in Red, Green, Black and White.

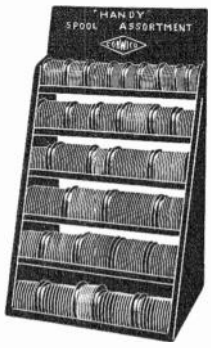
No. 515	25 Ft. Cartons	No. 18—1/64" R.C. $0.35
No. 515B	1000 Ft. Spools	No. 18—1/64" R.C. 8.70
No. 215	25 Ft. Coils	No. 16—1/32" R.C. .35
No. 218	1000 Ft. Coils	No. 16—1/32" R.C. 11.80

"NUCOR" HOOK-UP WIRE

By using a special soft rubber insulation this wire has the highest possible electrical properties of insulation resistance and voltage break-down for a push back wire (13,000 volts as per certified report of Electrical Test Laboratory of New York City). Tinned Copper conductors.

Plain			Lacquered		
Cat. No.	Put-Up	List Price Each	Cat. No.	Put-Up	List Price Each
		No. 22 SOLID			
470	25 Ft. Cartons	$0.38	485	25 Ft. Cartons	$0.43
471	100 Ft. Spools	1.36	486	100 Ft. Spools	1.56
472	1000 Ft Spools	8.15	487	1000 Ft. Spools	9.10
		No. 20 SOLID			
473	25 Ft. Cartons	$0.43	488	25 Ft. Cartons	$0.49
474	100 Ft. Spools	1.55	489	100 Ft. Spools	1.75
475	1000 Ft. Spools	9.75	490	1000 Ft. Spools	10.85
		No. 22 STRANDED			
476	25 Ft. Cartons	$0.435	491	25 Ft. Cartons	$0.49
477	100 Ft. Spools	1.55	492	100 Ft. Spools	1.70
478	1000 Ft. Spools	9.60	493	1000 Ft. Spools	10.65
		No. 20 STRANDED			
479	25 Ft. Cartons	$0.52	494	25 Ft. Cartons	$0.58
480	100 Ft. Spools	1.82	495	100 Ft. Spools	2.02
481	1000 Ft. Spools	11.40	496	1000 Ft. Spools	12.65
		No. 18 STRANDED			
482	25 Ft. Cartons	$0.62	497	25 Ft. Cartons	$0.72
483	100 Ft. Spools	2.40	498	100 Ft. Spools	2.90
484	1000 Ft. Spools	14.90	499	1000 Ft Spools	16.50

"HANDY" SPOOL ASSORTMENT



(One Price Spools)

This "Silent Sam" works day and night. An easy, attractive way to sell the fast moving kinds of wire. . . . All one price.

FREE DISPLAY WITH INITIAL ORDER FOR 100 SPOOLS

Extra Display Racks $1.25

LIST PRICE, per spool . 60c

Cat. No.		Approx. ft.
1250	—No. 22 Solid Push Back	80
1251	—No. 20 Solid Push Back	70
1252	—No. 18 Solid Push Back	60
1253	—No. 16 Solid Push Back	40
1254	—No. 22 Stranded Push Back	70
1255	—No. 20 Stranded Push Back	60
1256	—No. 18 Stranded Push Back	50
1257	—No. 16 Stranded Push Back	35
1258	—No. 18 Stranded Colored Rubber	60
1259	—No. 16 Stranded Colored Rubber	40
1260	—AC-DC Aerial Wire	100
1261	—No. 18 Solid Lead-in Wire	70
1262	—No. 18 Stranded Lead-in Wire	75
1263	—No. 20 Single Fixture Wire	65
1264	—No. 18 Single Fixture Wire	55
1265	—No. 18 Stranded 1/32" R.C. Lacquered	40
1266	—No. 18 White Bell Wire	100
1267	—No. 18 Solid Tinned Copper (Bare)	100
1268	—No. 18 Parallel Silk Lamp Cord	30
1269	—No. 18 Parallel All Rubber Lamp Cord	30
1270	—No. 18 Twisted Lamp Cord	25
1271	—Test Lead Wire	35
1272	—No. 18 Stranded Shielded	20

MAGNET WIRE DISPLAY

The best way to sell magnet wire. Supplied in even gauges from 16 to 36, on one price spools in plain enamel, double cotton and double silk.

LIST PRICE, per spool 35c

Free display rack with initial orders for 100 spools.
EXTRA RACKS, $1.25

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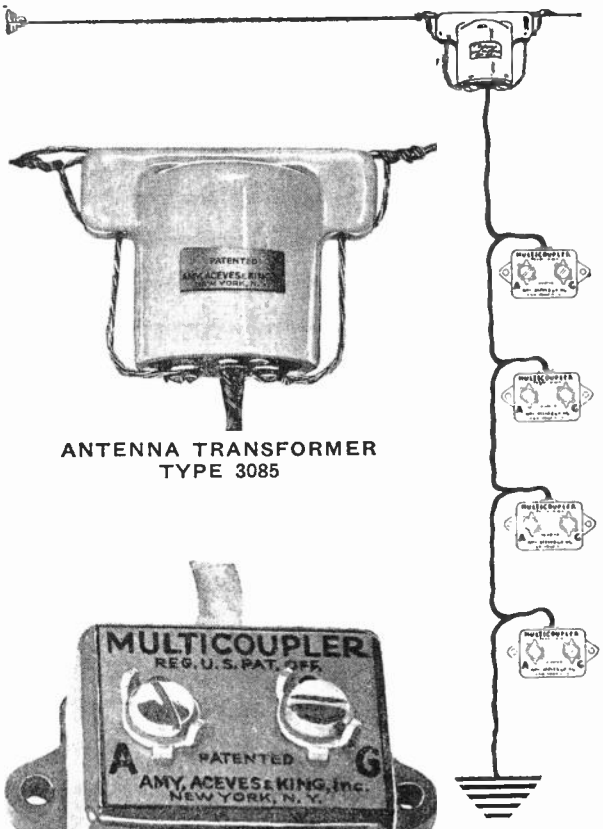
World Radio History

ALL-WAVE
"Multicoupler" Antenna Systems
TRADE MARK REG.

for APARTMENT HOUSES, RESIDENCES, HOTELS, INSTITUTIONS, HOSPITALS, SCHOOLS, ETC.



ANTENNA TRANSFORMER
TYPE 3085

MULTICOUPLER
TYPE 202E

Since 1928 Amy, Aceves & King, Inc., Consulting Engineers, have specialized in antenna problems. The All-Wave "Multicoupler" Antenna Systems provide standard broadcast and short wave reception for 25 radio sets on one aerial with NOISE REDUCTION.

THE ALL-WAVE MULTICOUPLER ANTENNA SYSTEM consists of an efficient antenna on the roof, used in connection with antenna transformer connected to twisted pair downlead, generally run down the court or side wall of the building to which multicouplers are attached. These units are conveniently located inside the tenant's window to which the radio set is connected.

It is fully protected by U. S. Patents Nos. Re. 19,854, 1,938,092, 2,002,844 and others.

NOISE REDUCTION

Maximum reduction of outside noises. The employment of a special downlead in conjunction with an antenna transformer and set couplers eliminates all noise pick-up from the downlead.

ALL-WAVE MULTIPLE RECEPTION

A system that provides for multiple reception of both long and short waves simultaneously. Its action is automatic.

INSTALLATION

No defacement of buildings is necessary for installation. Can be installed by any radio service man. Detailed installation specifications furnished without cost. Especially adaptable for existing buildings and eliminates all hazards and violations.

Another system, for concealed conduit installation in buildings in the course of construction, available only and exclusively through the Arrow-Hart & Hegeman Electric Co., Hartford, Conn.

GUARANTEE

When installed in accordance with our specifications, reception equal to or better than that obtained with each radio set using its own aerial is guaranteed.

Type		List
3085	Antenna Transformer	$3.00
202E	Multicoupler	2.25
TPT	TW.PR. Transmission Line, 1,000 Ft.	24.00

OUTSTANDING FEATURES

1. Multiple system for all-wave reception.
2. Maximum noise reduction.
3. Free engineering service.
4. No upkeep cost; nothing to go wrong; no tubes to burn out; no extra current to consume.
5. Simplicity and neatness.
6. Positive freedom from interaction from receivers in the same building and on the same antenna.
7. Added rental feature and tenant convenience.

AMY, ACEVES & KING, Inc.
Consulting Engineers - Specialists in Antenna Systems

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Q 39

CAT. No. 400 ALL-WAVE ANTENNA

higher priced TACO models. Easily erected in a very limited space on the roof. It is fool-proof and trouble-free—once erected —always functioning.

Cat. No. 400L Kit Less Set Coupler $2.75

*Cat. No. 402 Set Transformer. 1.25

TACO No. 85 FARM-SPECIAL ANTENNA

For sets, especially in the lower-priced field, designed for broadcast reception a straight wire antenna is frequently desirable from a cost angle. This condition often exists in rural districts and where the noise level is low, good, clear reception from local and distant stations may be enjoyed. The kit is packed in an attractive box and is complete with all accessories.

List Price $1.00

CONTENTS OF KIT

1 Coil Antenna Wire; 1 Coil Lead-in Wire; 1 Ground Clamp; 1 Window-Strip; 1 Lightning Arrestor; 2 Nail Knobs; 2 Insulators.

No. 152 TACO LOW-LOSS TRANSMISSION LINE

The TACO Transmission cable does not deteriorate when exposed to the weather. For extensions use genuine TACO wire for maximum efficiency and dependability.

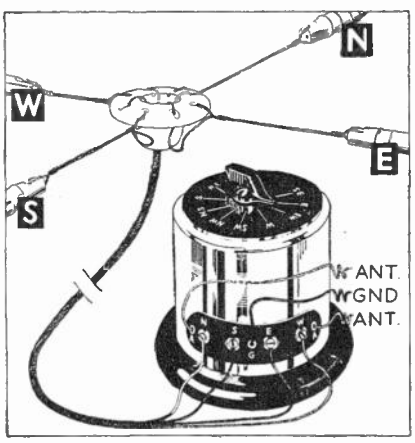
50-ft. Coil	$1.50	75-ft. Coil	$2.00
69 ft. Coil	1.75	500-ft. Coil	10.00

*Lic. A. A. K., Inc. Pats.; U. S. 1920162, 1938092, 1976909, 1976910, 2002844, 2064400, Re. 19854, Appl. 758234, Canada 334671, 361802, Appl. 397300, 397301.

World Radio History

TACO

AMATEUR SELECTIVE-BEAM ANTENNA



Designed for increased fidelity in the amateur bands through the selection by the listener of the most efficient channel. Two doublets erected at right angle require a span of 65 ft. Where this space is not available, loading coils Cat. No. 159 may be used to cut down span to 36 ft.

A Selective Beam Antenna is indispensable in congested areas where Q. R. M. is bad or where interference from local transmitters prevents the pick-up of the far away signals that you want to intercept.

The voltage from the doublets is transmitted to the Selector Coupler by a special low impedance transmission line. Equal impedance between the four conductors assures a fully balanced condition of the doublets.

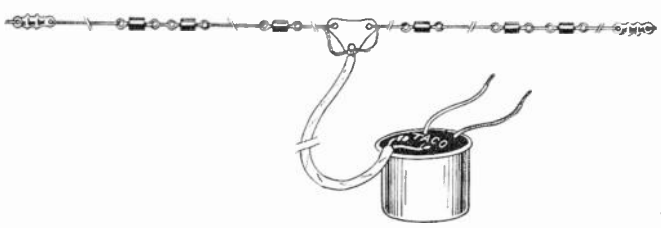
Total space required for erection is 65 ft. square.

By means of the Selector Switch on the coupler the most efficient beam between the coupler output and the transmission line may be selected. A transformer provides for the proper match between the Antenna and the input circuit of your set.

● CONTENTS OF KIT ●

Antenna connecting block; 4 30-ft. aerial wires; 50 ft. 4 conductor transmission cable; Selector Coupler Cat. No. 156; 4 porcelain insulators; 2 nail knobs; 1 screw eye.

No. 155—Beam Antenna, complete	**$12.50**
No. 156—Coupler only	**6.00**
No. 157—Loading coils, set of 4	**2.50**
No. 158 — Four-conductor cable, 50'..$3.00 100'..$6.00 500'..$25.00	



CAT. No. 165

TACO PEAK-BAND AMATEUR ANTENNA

● CONTENTS OF No. 165 KIT ●

1 Antenna with triangular block supporting; 50 ft. transmission wire; 2 14-M.C. traps; 2 30-M.C. traps; 2 loading coils; 2 TACO low-loss insulators; 1 set coupler; 1 instruction sheet; 1 display box.

Total space required for erection is 40 ft.

This antenna system designed for amateur use automatically converts the antenna to a true 1/4 wave doublet in any one of the 10 meter, 20 meter or 40 meter amateur bands.

The unusual effectiveness of this antenna in the various bands is accomplished through the use of accurately designed high Q traps tuned to the respective amateur frequencies. The proper consideration is given to the loading coil effect of each wave trap for the various frequencies.

To obtain the desired 1/4 wave effect in the 7 M.C. band, loading coils are used to stretch the 40 ft. aerial to the required length.

This antenna has the directional characteristics of a doublet antenna and therefore in the erection, care should be taken that it is erected for the maximum efficiency, same as any other doublet.

The set coupler matches the usual input of the amateur receivers. If noise level in the locality is low, the use of this set coupler may be omitted.

The transmission line on this kit is standard TACO No. 152 low-loss transmission wire and the length of this wire is not critical. Additional wire may be added if desired.

***No. 165—Peak Band Amateur Antenna complete**	**$8.50**
No. 166—Wave traps for above 29 M.C. trap, set of two	**2.00**
No. 167—Wave traps for above 14 M.C. trap, set of two	**2.00**
No. 168—Loading coils, set of two	**1.50**
***No. 169—Set coupler**	**1.50**

TACO SHIELDED WIRE ANTENNA SYSTEM

In extremely noisy locations, it has often been found advantageous to use shielded transmission wire to reduce the outside interference to a minimum. The TACO Shielded Wire Kit is an old standby for broadcast installations where reception in many cases was impossible before the erection of an antenna system of this type.

When antenna and set couplers are purchased separately, they are designed to make it easy to connect both the antenna wire and the shielded wire to the couplers. They can therefore be readily attached to existing straight wire antennae for added noise reduction in the broadcast band.

● CONTENTS OF KIT ●

1 60-ft. coil antenna wire; 1 antenna transformer; 1 50-ft. coil of shielded transmission wire; 1 set coupler; 1 insulator; 2 nail knobs; 1 screw eye; 1 instruction sheet.

No. 45—Shielded Wire Kit	**$5.00**
No. 46—Antenna Coupler for above	**2.00**
No. 47—Set Coupler for above	**2.00**

No. 79 NOISE-REJECTOR

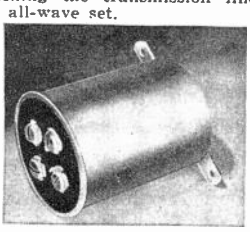
For Variable Impedance Matching

Your set must operate with its aerial for maximum results. This coupler with its variable impedance matching gives the best possibilities for distance receptions under difficult conditions.

***Cat. No. 79.....$2.75**

UNIVERSAL DOUBLET COUPLER

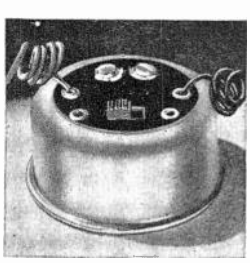
Operates with any doublet properly matching the transmission line of any all-wave set.



***Cat. No. 402.....$1.25**

HAM-SPECIAL DOUBLET COUPLER

For the HAM bands it is often desirable to change the coupling to the antenna transmission line. A switch is provided in the coupler for this purpose. For maximum results use suitable doublet antenna.



***Cat. No. 74.....$1.75**

*Lic. A. A. K., Inc. Pats.; U. S. 1920162, 1938092, 1976909, 1976910, 2002844, 2064400, Re. 19854, Appl. 758234, Canada 334671, 361802, 367126, 367127.

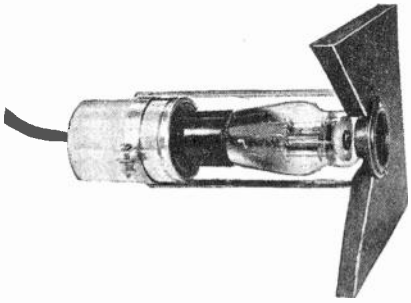
World Radio History

TACO

TUNING INDICATOR

Simple, effective, inexpensive means of modernizing any set by adding electron-ray feature for precise visual tuning. Especially desirable for those good sets lacking tuning meter, or other visual tuning indicator.
TACO intensifier screen prevents light from striking target, thereby bringing out full illuminosity of eye. Installed in an hour or less.

The TACO tuning indicator makes use of Type 6E5 electron-ray tube. The electron-ray tube target, viewed through bezel window of set panel, presents bright, luminous disk with variable black sector. At point of greatest resonance or sharpest tuning of any given signal, black sector narrows or disappears entirely, leaving solid luminous disk.



No. 130 TACO TUNING INDICATOR, less Tube, List Price..... $1.50

TACO WAVE-TRAPS

Where high-power local stations appear over the entire dial a wave trap is necessary to eliminate this condition, which is prevalent in older set models. The TACO Wave-Trap eliminates the overlapping of powerful stations without interfering with stations located on adjacent frequencies.

TACO Wave-Traps are designed in steps to cover the entire broadcast band. A glance at the table to the right shows the proper trap to use when the frequency of the offending station is known.

- Eliminate overlapping stations.
- Eliminate annoying code stations.
- Enjoy clear uninterrupted reception.

Cat. No. 110 (450— 750 KC) List.....$ .95
Cat. No. 111 (750—1150 KC) List..... .95
Cat. No. 112 (1150—1550 KC) List..... .95

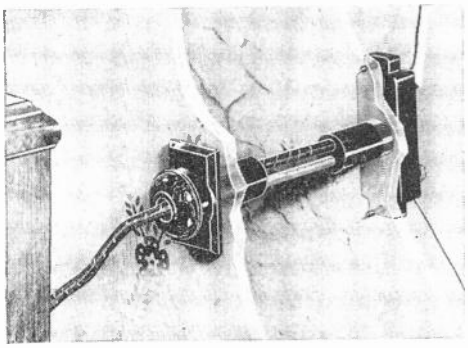
TACO No. 85L SINGLE-WIRE ANTENNA

For sets especially in the lower-priced field, designed for broadcast reception a straight wire antenna is frequently desirable from a cost angle. This condition often exists in rural districts and where the noise level is low, good, clear reception from local and distant stations may be enjoyed. The kit is packed in an attractive box and is complete with all accessories.

List Price..... $.85

● CONTENTS OF KIT ●
1 Coil Antenna Wire; 1 Coil Lead-in Wire; 1 Ground Clamp; 1 Window-Strip; 2 Nail Knobs; 2 Insulators.

TACO AERIAL-IN-LET



This combination lightning arrestor and lead-in assures a permanent radio outlet inside the room which is a desirable addition to any house.

The TACO Aerial-in-Let is primarily designed for the private home as a permanent feed-through from the outside of the house to inside the room. Any antenna may be connected to this permanent Aerial-in-Let which does not become obsolete or require changing as the radio art progresses.

The unit is easily mounted under any window sill. Drill a hole and feed the two wires through from the inside of the room. Fasten the wires to the outside block containing the lightning arrestor and the installation is virtually completed. All that remains is to ground the lightning arrestor and to connect the Antenna System chosen for the house to the outside part of the Aerial-in-Let and then connect the set to the polarized plug furnished.

No. 390 Aerial-in-Let..... $2.50
No. 391 Polarized cap for above .25

We carry a full line of accessories used for any type of modern antenna installation. The parts listed below are the most commonly used. Should you desire anything not listed—write and we will furnish full information.

● NAIL-KNOBS ●

No. 375—Solid, porcelain....box 100.....$4.00
No. 376—Split, porcelain....box 100..... 4.00
No. 307—Solid, less nail....box 100..... 3.20

● SCREW-EYE STANDOFF ●

No. 377—3" with porcelain bushing....box 100.....$5.25
No. 378—7" with porcelain bushing....box 100..... 6.50

● AERIAL INSULATORS ●

No. 308—7" Drip type, heavy duty....box 10 .....$2.50
No. 379—Special TACO low-loss.....box 100..... 5.00
No. 380—Porcelain insulators .....box 100..... 4.00

● LIGHTNING ARRESTOR, AIRGAP TYPE ●

No. 381—Single, porcelain .....$ .20 each
No. 382—Double, porcelain ..... .30 each

● LIGHTNING ARRESTOR, RESISTOR TYPE ●

(approved by Underwriters Labs.)
No. 309—Double, porcelain .....$ .50 each

● GROUND CLAMP ●

No. 383—C type .....box 25... .....$ .06 each

● WINDOW STRIP, SCREW TERMINALS ●

No. 384—Single, 12" long.....box 25.....$ .10 each
No. 385—Double, 12" long.....box 25..... .18 each

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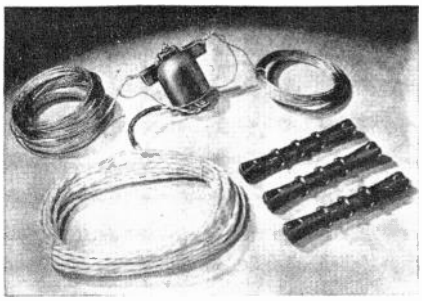
World Radio History

TACO

ALL-WAVE SELF-SELECTING MASTER ANTENNA SYSTEM



The sensible and economical solution of the radio problem facing apartment houses, hotels, club houses, hospitals or private homes. One efficient aerial and transmission line carried down inconspicously outside of building serves up to 25 sets. Each set connected through a coupler to the aerial. Eliminates usual jungle of unsightly poles, aerials and downleads constituting menace to life and property as well as an unsightly mess.

EFFICIENCY — TACO Master Antenna provides excellent broadcast, amateur and short-wave reception with modern all-wave sets. Matches all sets. Minimum background noise.

SIMPLICITY—All mysteries taken out of installation work. Components available through the distributor in kit form. The Foundation Kit contains all parts necessary for the roof installation. Erect the TACO aerial as high as possible for best results and follow the instructions given in the specification booklet for a durable, successful installation. If additional information is desired we will gladly assist.

LOW COST—As inexpensive as efficient. Inconspicuous neutral tone transmission cable and neat exposed wiring outlets permit wiring any existing building. No objectionable wires. Nothing to mar inside or outside walls.

SPECIFICATION DATA—Complete specification data available in printed form giving full details both for layout as well as cost estimating.

TACO MASTER FOUNDATION KIT

*Cat. No. 320—For 1-25 outlets.....$6.00

Consisting of:

- 1 Transformer Unit (321)
- 1 30 ft. coil transmission cable (335)
- 3 7" Navy Insulators
- 1 Sleeving
- 1 80-ft. coil 7/20 tinned copper aerial wire
- 1 22-ft. coil 7/20 tinned copper aerial wire

For a small apartment house or an individual home where a span of 65 feet is available. The antenna may be fully concealed in attic for maximum neatness of installation.

TACO Home-Wiring Foundation Kit

*Cat. No. 322—For 1-8 outlets.....$6.00

Consisting of:

- 1 Transformer Unit (321)
- 1 30 ft. coil transmission cable (335)
- 4 30-ft. coils No. 14 tinned aerial wire
- 4 TACO insulators

*No. 321—Transformer Unit only, incorporating the approved Lightning Arrestor.$3.00

RECEIVER COUPLERS

The choice of coupler for an exposed wiring installation depends on the space available and the preference in coupler finish.

Coupler finished in baked IVORY. Bakelite terminal panel with screw posts for easy connections to radio set. Single hole mounting.

*No. 325 COUPLER, for exposed wiring $2.50

Small, Neat, Finished in satin aluminum. Bakelite terminal panel with ANT. & GND. screw posts for radio set connections.

*No 326 COUPLER, for exposed wiring $2.00

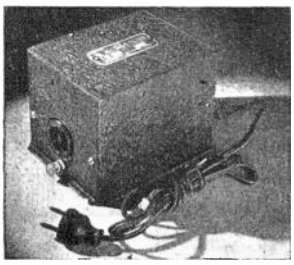
ESSENTIAL TACO WIRING PARTS

Cat. No. 304—Aerial Wire 7/20 Tinned Copper Wire, per 80 ft...	$1.75
Cat. No. 305—Transmission Line No. 18 Twisted-Pair Neutral Buff-Covered, per 500-ft. roll.....	15.00
Cat. No. 306—Transmission Line No. 18 Twisted-Pair Black-Covered, per 500-ft. roll.....	15.00
Cat. No. 307—Solid knobs, white or brown, for supporting transmission cable. 100 to a carton. Per carton	3.20
Cat. No. 308 — Navy-Type, Low-Loss glazed porcelain insulators, 7 inches long, each.....	.25
Cat. No. 309—Double Lightning Arrestor, Underwriters Approved	.50
Cat. No. 330—Bracket for mounting Antenna Transformer..... ..	.79
Cat. No. 335—Transmission Wire for Antenna Unit. Black Conductor No. 14; Red Conductor No. 18; 30 ft. coil.....	1.25

TACO MASTER ANTENNA PARTS FOR REPLACEMENT PURPOSES

For the proper servicing of existing TACO Master installations, a complete stock of older model couplers is kept. All new couplers are marked with their catalog number. If no catalog number shows on the couplers they are either No. 302 (present No. 325) or No. 318 (present No. 326).

*No. 301—Foundation Unit.....	$6.00
*No. 310—Transformer for above.....	3.00
*No. 302—Coupler, exposed wiring.....	2.50
*No. 318—Coupler, exposed wiring.....	2.00

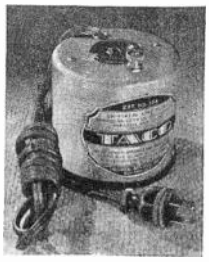


Noises from electrical equipment in the home often spoil the reception even where a noise reducing antenna system is used. The clicks and crashes from sparks on motors, buzzers, etc. enter the set through the power lines. A filter of the RF choke type, properly installed, is necessary when the noise frequency is within the broadcast or short-wave bands. Complete instructions packed with each filter.

Cat. No. 100 (110 V.)..... $7.50
Cat. No. 101 (220 V.)..... 7.50

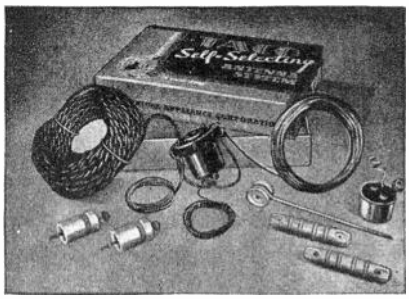
For elimination of noises reaching the set through the power lines it is advisable to place the filter adjacent to the noise source. Eliminate clicks and crashes with a TACO filter. Operates on AC or DC 110 to 250 volts. Filter is of the RF choke type and covers all wave-bands. The filter is housed in a durable metal shell. Complete instructions packed with each unit.

Cat. No. 104..... $4.00



This latest TACO Antenna System is designed especially for installations where a doublet cannot be erected due to space limitations. It is not recommended where the ultra-high frequencies are desired, there, other TACO Systems of the doublet type are recommended. Ideal for standard broadcast and the ordinary short-wave bands.

The TACO Self-Selecting feature is maintained in this kit, same as in the higher priced kits. Suggested for medium priced sets.



CONTENTS OF No. 600 KIT

No. 601 Antenna Transformer; No. 602 Set Transformer; 50 ft. coil Antenna Wire; 50 ft. coil Transmission Cable; 1 Antenna Insulator; 1 Screw Eye; 2 Nail-it-knobs; 1 Instruction Sheet; 1 Display Box.

*No. 600 — Antenna System complete	$5.00
*No. 600L—Kit, less set coupler...	3.75
*No. 601—Antenna Unit	2.00
*No. 602—Set Coupler	1.50

Shipping weight of standard carton of 6 kits, 23 lbs.

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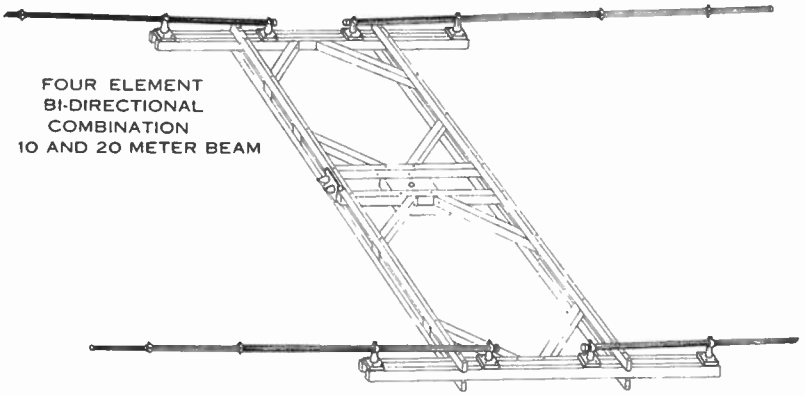
World Radio History

PREMAX CORULITE ROTARY BEAM ANTENNA

In designing the kits for Premax Corulite Rotary Beam Antennas, we have had in mind that they would find their greatest usefulness among the serious amateur radio operators who realize the tremendous gain which may be had in power transmitted in a given direction by the use of a beam over the ordinary type of antenna. This gain is also apparent in a marked increase in the received signal. A third, and not the least important advantage to be had from beam operation, is the great reduction in signal strength from stations in undesired locations.



Premax Corulite Four-Element Installation — Bi-Directional, Combination 10 and 20-Meter Beam; may be modified for Unidirectional.

Knowing that no other portion of the transmitter or receiver circuit will provide anything like the same improvement at anything like the same cost as improving the antenna system, we have designed our supporting framework and Telescopic Corulite Beam Elements in a manner which will permit them to be used with practically any type of half wave twenty meter antennas having two elements, and an almost unlimited number of ten meter arrays, without the need for additional material.

Without in any way reducing the performance characteristics of any beam which can be made from similar setups, we have been able to provide for the simplest construction, almost universal utility, much better than the average (in fact, we know of no other arrangement which would be as efficient) at a price which now puts rotary beams in the hands of the average amateur who, up to now, has considered such antenna equipment a luxury far beyond his reach.

The concentrated bi-directional beam, first suggested by G. H. Brown (proceedings I. R. E., January, 1937) and made practical for amateur operation by the excellent experimental work and illuminating articles by John D. Kraus (Radio, 1938) and commonly called the "8JK" type beam, is very effective, easy to adjust, and for certain uses, is the ideal type beam. This type has been in operation with Premax Corulite Elements at W2AZ, East Rockaway, L. I., and has done everything in the nature of transmitting and receiving formerly done by three fixed beams, set up in suitable directions, each 25 feet higher and twice as long, and occupying several acres instead of the 32 feet of the Premax Corulite Antenna. It has been found with the Premax Corulite that it is possible to cover all directions in the most efficient manner without making a compromise as was necessary with the fixed beams, even though there were three of them. The net result was a decided improvement in overall performance with the Premax Corulite Rotary Beam.

A similar beam has been in operation on the 10 meter band at W2GYL, at Hempstead, L. I., where it will be used to keep in communication with the Ghatti Expedition to Belgian Congo, Africa.

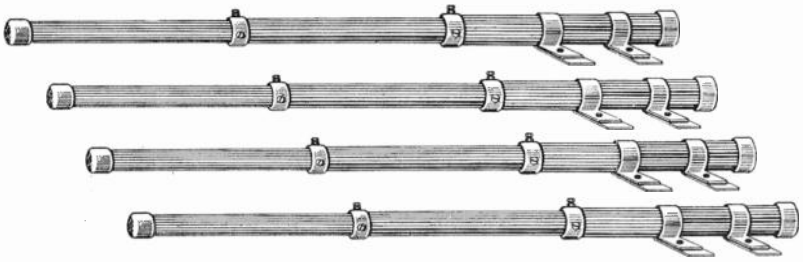
Premax Corulite Beam Elements are now being used in a simplified array at W3CHO (described in Radio for January and April, 1938) replacing the 20 meter "box kite" array.

W2DKJ, which has been operating on the 10 meter uni-directional system with great satisfaction for several years, has recently replaced its heavy stranded wire with Premax Corulite Rotary Beam installation with excellent results.

The elements used in the Premax Corulite Beam Antenna Kit are one inch in diameter, (the large diameter providing high Q) tapering to three-quarter inch at the outside end. Each element consists of three telescoping sections of very light weight steel, copper plated both inside and out to provide low R. F. resistance, and lacquered to withstand weather. The sections are positively locked at any desired extension by three set-screws and lock-nuts at each joint. The special construction prevents sagging (fully extended, the sag is less than 4 inches). Shipping length (collapsed) 6 feet.

Full instructions are supplied with each kit for making all popular rotary beams, with details and drawings of several suitable designs for making the rotary supporting framework, and recommended systems of antenna feed and transmission lines to fit nearly every conceivable requirement. Also included is a comprehensive bibliography of directional arrays, matching sections, transmission lines, etc.

No. RB-218—Premax Corulite Four-Element Kit, consisting of 4 17½-foot telescoping elements, 8 combination mounting brackets and soldering lugs.



Complete kit of four 17½ foot telescoping Corulite elements, eight combination mounting brackets and soldering lugs, together with instructions.

No. RB-218—Shipping Wt., 10 lbs. .....LIST $25.00

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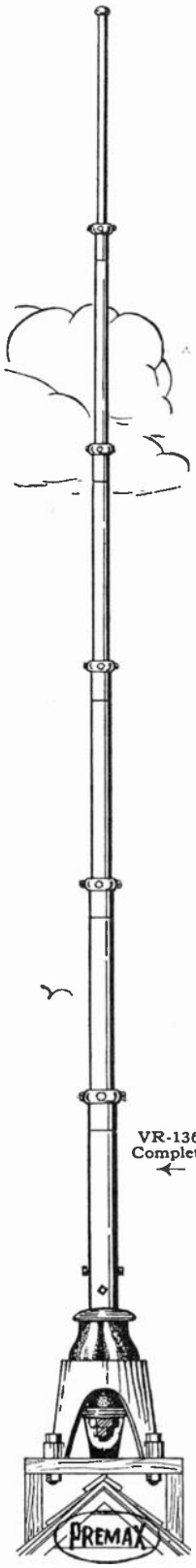
World Radio History

PREMAX VERTICAL STEEL RADIATORS



VR-136 Complete

Premax Vertical Steel Radiators, fully telescoping and adjustable, have been perfected only after long and comprehensive study of practical operating requirements and extensive contacts with amateurs and servicemen to develop their particular needs and desires in such amateur equipment. Because of their high efficiency, ease of erection and minimum space requirements, Premax Telescoping Vertical Steel Radiators are proving popular with an ever-growing circle of amateurs who seek a satisfactory 10 or 20 meter vertical radiator at a low cost.

Premax Vertical Radiators are made of steel tubing, copper plated, to provide low R. F., then lacquered to withstand weather. The diameters are carefully designed to provide the complete telescoping of the masts into single six-foot units to insure easy erection and the necessary flexibility of tuning adjustment.

Ingenious and positive clamping caps on each section provided with set screws and lock nuts, lock each section at the exact height desired and insure efficient electrical contact between the units.

The tubing is light in weight, but of adequate diameter and wall thickness to provide the necessary strength in the extended mast, and yet assure ease in handling. Under all normal conditions, these Vertical Radiators will withstand average wind strains or other stresses without guys or supports other than the insulator units themselves.

MODEL VR-136 (20-METER) ADJUSTABLE UP TO 34 FEET
MODEL VR-118 (10-METER) ADJUSTABLE UP TO 17 FEET

20-Meter Premax Vertical Steel Radiator (No. VR-136) consists of six sections of heavy gauge steel tubing, all six feet long. The 10-Meter design uses the famous Premax Corulite steel tubing, having three six-foot sections. This special Corulite tubing is used to give greater lightness and strength to the radiator.

INSULATORS, HEAVY TYPE (136-P)

The insulator used on the 20-Meter Radiator is a special Lapp design, developed exclusively for Premax by the manufacturers of the heavy base insulators used by the large broadcasting stations on vertical radiators up to 800 feet in height. It is of the same general design as these commercial insulators, using heavy, wet-process, brown-glazed porcelain cones, held in compression (which develops the maximum possible strength in the porcelain) between special malleable castings which form the base support itself.

All iron parts are hot galvanized, and the complete insulator assembly is guaranteed to withstand any electrical or mechanical strains which may be imposed upon it in normal operating use. The total height of the insulator is 7 inches, with 5 inches between the feet. It has a dry flashover rating of 25,000 volts and a wet flashover rating of 12,000 volts—more than ample for all requirements.

INSULATORS, LIGHT TYPE (118-P)

The insulator used with the 10-Meter Vertical Radiator is of lighter construction and different design than for the 20-Meter type because the demands on it are less. This lighter insulator is not recommended for use with masts other than Premax VR-118 and will be found perfectly adapted to this installation. It is of brown-glaze porcelain mounted on a special post and base flange. A threaded stud is attached to the top of the insulator and screws into a threaded metal insert in the base of the mast.

MOUNTING AND INSTALLATION

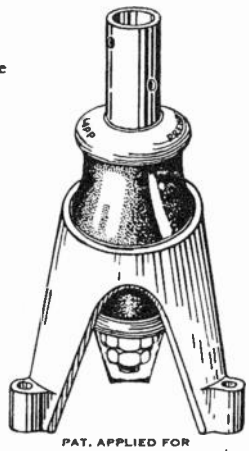
In erecting either the 10-Meter or 20-Meter Telescoping Vertical Radiators, the insulator unit must be bolted firmly on post or roof-top in the location desired. The complete mast in collapsed form is then attached to the insulator by means provided for each model.

To erect mast, extend and lock one section at a time, beginning with the top section, until all sections have been extended to the height desired. This simple and practical design permits erection of the entire mast and its adjustment while working from a height no greater than six feet above the insulator. It is easier, quicker and safer than the erection of wood or metal masts which must be completely assembled before erection and then raised to position in a long, awkward unit.

ADJUSTMENT FOR PRECISE HEIGHT OR TUNING

Before actually mounting the mast for erection, it is suggested that it be laid out on the ground and adjusted to the actual length required for the wave band on which the radiator is to be operated. Mark each section with chalk or paint to indicate the desired extension, and use this mark as a guide when extending the sections in erecting the mast. This preparation will assure correct and accurate height of your erected radiator. If slight adjustments are necessary after the mast has been erected, they may be made at the top of the lower or base section only.

Each section of the mast is six feet long and, in extending, at least six inches lap should be allowed at each joint.



Insulator No. 136-P

LIST PRICES AND DETAILS

No. VR-118 — Three-section radiator, adjustable 7 to 17 feet. 10-Meter, half wave. Complete with insulator No. 118-P and mounting. Weight, each, packed, 7 pounds..LIST $10.50

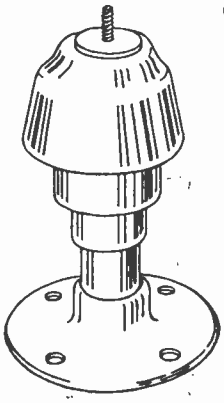
No. VR-136—Six-section radiator, adjustable 7 to 34 feet. 20-Meter, half wave. Complete with insulator No. 136-P and mounting. Weight, each, packed, 25 pounds.LIST $28.50

No. 136-M—Mast only, as used in Kit No. VR-136. Weight 18 pounds.....LIST $15.00

No. 136-P—Insulator Unit Assembly only as used in Kit No. VR-136. Weight 7 pounds. .....LIST $13.50

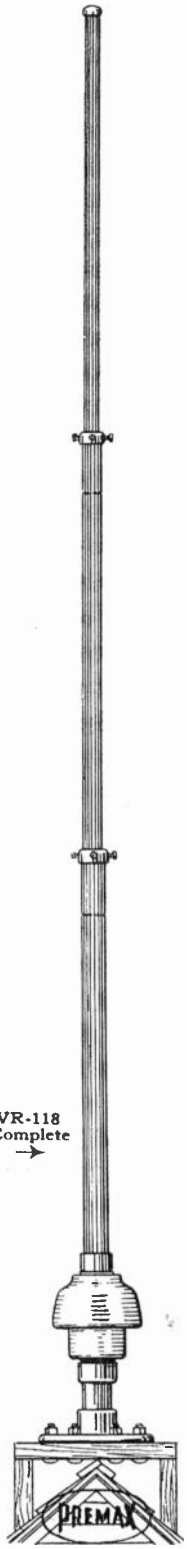
No. 118-M—Mast only, as used in Kit No. VR-118. Weight 3 pounds..LIST $ 6.00

No. 118-P—Insulator Unit Assembly only, as used in Kit No. VR-118. Weight 3 pounds. .....LIST $ 4.50



Insulator 118-P

VR-118 Complete



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World Radio History

PREMAX ALL STEEL VERTICAL ANTENNA

The Premax Vertical Tubular Steel Telescoping Antenna is the latest development in modern aerial design. Neat in appearance, saving in space, easy to erect in the yard or on the roof, it appeals to every radio owner.

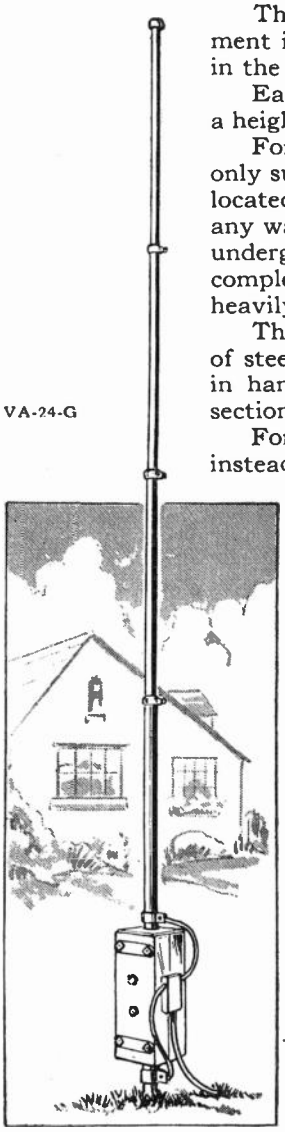
Easy to erect in small space—gives stronger signals—reduces noise—extends to a height of 24 feet, yet telescopes to a 6-foot unit.

For yard installation, (Kit No. VA-24-G) the Premax Vertical Antenna requires only sufficient space in which to drive a single tubular steel ground post, and can be located anywhere in a spot farthest removed from local noise sources and without in any way detracting from the appearance of house or grounds. When installed with underground lead-in, no wires or guys are visible, and the only indication of the complete antenna is the tall, straight, tubular steel mast, neatly finished and heavily cadmium plated for durability and efficiency.

The Premax Vertical Tubular Steel Telescoping Antenna consists of four sections of steel tubing, telescoping one within the other into a single 6-foot unit for ease in handling and erecting. When fully extended, the mast is 24 feet high, each section locked in position by the unique Premax locking clamp.

For roof use, (Kit No. VA-24-R) is provided with a short post and flanges instead of the ground post.

VA-24-G

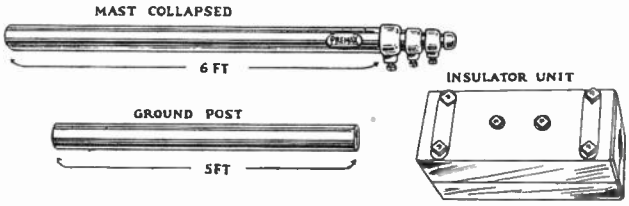


LIST PRICES

No. VA-24-G—Premax Vertical Antenna Kit, ground type, including 4-section mast, ground post and base insulator; weight 20 pounds.....LIST $10.00

No. VA-24-R—Premax Vertical Antenna Kit, roof type, including 4-section mast, roof mounting and insulator; weight 20 pounds.....LIST $10.00

Illustration at left shows Premax Vertical Tubular Steel Antenna, ground type. Below, the ground type kit.



VA-24-R

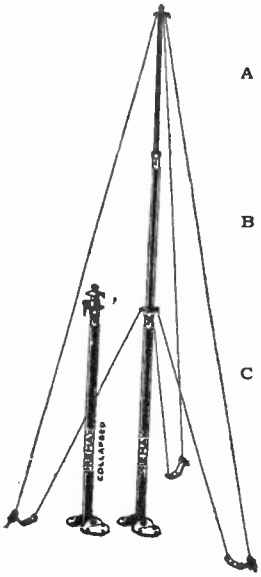
Below — Showing Roof Mounting.

Premax Telescoping Steel Radio Masts

Premax Telescoping Steel Masts are rapidly replacing the old-fashioned, clumsy wood posts and pipes of early radio days because they so easily insure secure, safe and easy erection for any type of aerial.

They are convenient, strong, inexpensive, weather-proof and add greatly to the appearance of straight-line installation.

Premax Telescoping Steel Masts are built up of individual sections of tubular steel, telescoping one within the other. They can be firmly locked at any desired height, yet collapse to a single 3½-foot unit for convenience in handling and erecting. All sections are uniform and interchangeable, permitting any mast to be converted into a longer length by the simple addition of another base section. All sections are finished in green baked enamel.



LIST PRICES

No. M-42—1-section Mast, 3½ feet; Wt. 2 lbs.....LIST $1.00
No. M-84—2-section Mast, extends to 7 feet; Wt. 5 lbs.....LIST $2.00
No. M-120—3-section Mast, extends to 10 feet; Wt. 7 lbs.....LIST $3.00
No. M-156—4-section Mast, extends to 13 feet; Wt. 10 lbs.....LIST $4.00
No. X-3—3-foot Section Extension; Wt. 2½ lbs.....LIST $1.00
Individual Sections B, C or D, each; Wt. 2½ lbs.....LIST $1.00
Extra Base Flanges with bolt, pair.....LIST $0.15

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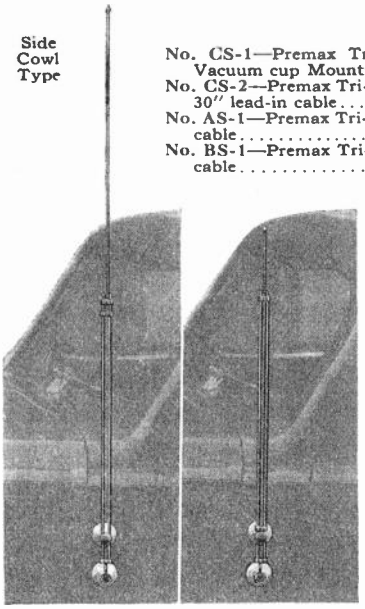
World Radio History

PREMAX TRI-BAR AUTO ANTENNA

The Premax Tri-Bar Auto Antenna is distinctly new in design and attractiveness. With its neat, graceful lines, conforming to the ornamental trim of the car, it now offers the discriminating car owner all of the desired efficiency with modern, unobtrusive, ornamental beauty. Neat spearhead tips decorate the ends of all three bars.

Built of three solid rods of Chrome-Nickel Stainless Steel, freedom from rust and corrosion is assured. An ingeniously designed contact yoke permits the adjustment of the bars to any desired height while maintaining perfect electrical contact and entire absence of rattles and noises such as characterize many types of telescoping tubular aerials. Because of its three-bar (Tri-Bar) design, this new antenna has greater skin surface than ordinary designs, making for greater pickup and clearer reception of signals.

Premax Tri-Bar Antennas are available in three designs and four types of mounting, and come complete with all necessary mountings, connections, and lead-in cables.



Side Cowl Type

LIST PRICES

No. CS-1—Premax Tri-Bar Antenna, Side Cowl, one hole and Vacuum cup Mounting. 30" lead-in cable ..... LIST $3.50

No. CS-2—Premax Tri-Bar Antenna, Side Cowl, two hole mounting; 30" lead-in cable ..... LIST $3.50

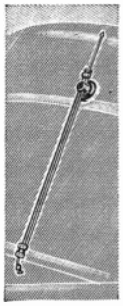
No. AS-1—Premax Tri-Bar Antenna, Hinge Model; with 30" lead-in cable ..... LIST $2.50

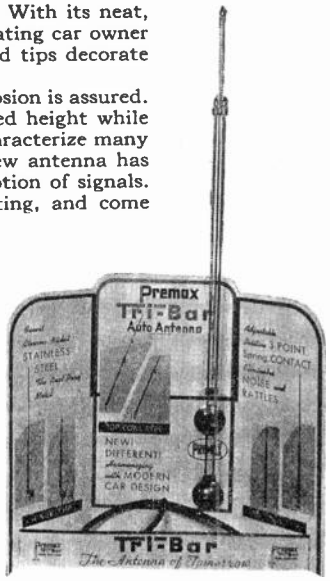
No. BS-1—Premax Tri-Bar Antenna, Top-Cowl Model; 30" lead-in cable ..... LIST $3.25

Packed in individual cartons, 10 to the master carton. Shipping weight, No. CS-1 and No. CS-2, 15 lbs.; No. AS-1, 8 lbs.; No. BS-1, 7 lbs.

Hinge Type

Top-Cowl





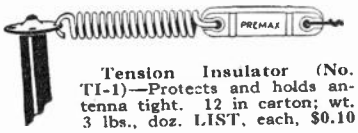
Free Display. 18x22, a bright yellow background with lettering in black, red and blue. Punched to fit No. CS-2 Tri-Bar Antenna.

As an introductory offer, this beautiful display is available with special assortment No. TB-1, which includes one of each type Tri-Bar Antenna and an extra No. CS-2 to mount on the display. Order No. TB-1 Display Assortment ..... LIST $16.25

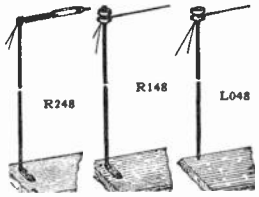
PREMAX AERIAL ACCESSORIES

Parapet Mast Support (No. PS-18)—For masts or vertical antenna on parapet or fire wall. Fits round or square masts up to 2" on parapets up to 20". Green enamel finish.... LIST $2.50

Insulator Bracket (No. IB-8)—8" formed steel with insulator adjustable to 4 positions. Green enamel. 12 to carton; wt. 6 lbs., doz. LIST, each, $0.30



Tension Insulator (No. TI-1)—Protects and holds antenna tight. 12 in carton; wt. 3 lbs., doz. LIST, each, $0.10



PREMAX SERVICE MASTS

No. R-148—3/8"x4' steel rod, flattened base; porcelain knob; cadmium plated; Wt. 2 lbs. LIST $0.60

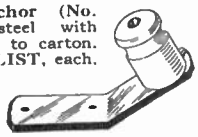
No. R-248—3/8"x4' steel rod, flattened base; tension insulator; cadmium plated. Wt. 2 lbs. LIST $0.70

No. L-048—1/2"x4' steel tubing; porcelain knob; green enamel; fits over nail or peg. Wt. 2 lbs. LIST $0.80

Galvanized Guy Wire (No. G-50)—50' coil; galvanized steel, annealed. 12 coils to carton. Wt. 7 lbs., doz. LIST, coil $0.25

Guy Anchor (No. GA-1)—Rust-proof steel. 12 to carton. Wt. 2 lbs., doz. LIST, each, $0.15

Insulator Anchor (No. IA-6)—Formed steel with porcelain, 6". 12 to carton. Wt. 4 lbs., doz. LIST, each, $0.15



PREMAX GROUND RODS

CADMIUM PLATED GROUND RODS

Size	Style D Spring Clamp	Style G Screw Clamp	Weight Per 100	List Per 100
4' by 3/8"	No. CD-4	No. CG-4	160 lbs.	$40.00
5' by 3/8"	No. CD-5	No. CG-5	200 lbs.	$55.00
6' by 3/8"	No. CD-6	No. CG-6	240 lbs.	$65.00

COPPER PLATED GROUND RODS

Size	Style D Spring Clamp	Style G Screw Clamp	Weight Per 100	List Per 100
4' by 3/8"	No. RD-4	No. RG-4	160 lbs.	$40.00
5' by 3/8"	No. RD-5	No. RG-5	200 lbs.	$55.00
6' by 3/8"	No. RD-6	No. RG-6	240 lbs.	$65.00

COPPER-HEADED GROUND RODS

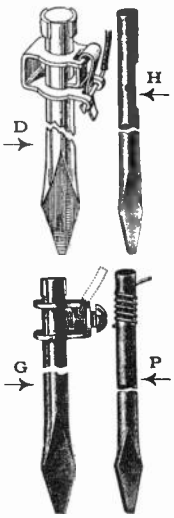
Size	Style D Spring Clamp	Style G Screw Clamp	Weight Per 100	List Per 100
4' by 3/8"	No. SD-4	No. SG-4	160 lbs.	$37.00

HEAVY DUTY GROUND RODS

Style G Screw Clamp—Copper or Cadmium

Size	Copper Plated	Cadmium Plated	Weight Per 100	List Per100
5' by 1/2"	No. RG-85	No. CG-85	340 lbs.	$ 80.00
6' by 1/2"	No. RG-86	No. CG-86	400 lbs.	$ 90.00
7' by 1/2"	No. RG-87	No. CG-87	470 lbs.	$105.00
8' by 1/2"	No. RG-88	No. CG-88	540 lbs.	$125.00

Electrical Rods, Style H or P
1/2" or 5/8" diameter, quoted on request



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World Radio History

INSULATED PHONE TIP JACK

The head is made of insulated material and is supplied with a shoulder washer for a complete insulation. Supplied in three different size heads and available in all colors.

No. 1866 3/8" Head.....$.10 each
No. 138 7/16" Head..... .10 each
No. 1860 9/16" Head..... ....15 each

BANANA PLUG OR TIP JACK

Made to take standard phone tips in banana type plugs. Plugs will fit interchangeably. Mounts in a 1/4" hole in panels up to 1/2" thick. Overall length 1 3/8". Supplied complete with shoulder washer and nut.

No. 148 .....$.15 each

HEXAGON HEAD TIP JACK

The head is made of hexagon material and is forced into the tip jack to prevent the head from turning loose. Size of head is 7/16" across the flats and is available in all colors.

No. 1828.....$.12 each

COMBINATION INSULATED BINDING POSTS

This insulated binding post is of new design which accommodate standard banana plugs through the top of the post, a standard phone tip through the side, or as more ordinarily used with a wire through the side. The non removable head is heavily knurled for a firm grip. .....

No. 143—All colors.....$.15 each

MIDGET JACKS

ARHCO Midget Phone Jacks are made of the finest quality brass and are nickel plated with an enduring nickel finish. Noiseless contact is provided by phosphor bronze spring contacts. Mounts in 3/8" diameter hole, in panels up to 5/16" thick.

No. 89 Open Circuit Jack .....$.25 each
No. 1789 Closed Circuit Jack..... .30 each

BABY PLUGS AND JACKS

These plugs and jacks are excellent for use in all high frequency transmitters and receivers. Their small size allows them a wide range of uses. The No. 392 plug has a 10/32 threaded shank, a 3/16" hexagon shank and is 7/8" overall. Also available with 7/8" Ameroid Handle in any standard color. The mate to this plug is the No. 394 Jack. It has a hexagon head and a 10/32 threaded shank which will fit in panels up to 1/4" in thickness. Also available with an insulated ameroid head in any standard color.

	Per 100
No. 392 Threaded Shank Plug	$ 6.50
No. 393 Plug and Ameroid Handle	10.00
No. 394 Non-Insulated Jack	6.00
No. 395 Insulated Jack	10.00

Banana Type Plugs

This type Plug is extensively used on coils and on other plug-in transmitting and laboratory equipment.

No. 1764—6/32 Thread 1" Long.....$8.50 per 100
No. 120—6/32 Thread 1/2" Long.....$7.00 per 100
No. 122—8/32 Thread 1/2" Long.....$7.00 per 100

Sr. Solderless Phone Tip

May be used with all our standard type phone tip jacks. Entirely constructed of high grade brass with nickel plated finish. Overall length is 1 5/8".

No. 10 Tip $6.00 per 100

Jr. Solderless Phone Tip

Fits all standard phone tip jacks such as our No. 137 and No. 138. Made entirely of brass with nickel plated finish. Length overall is 1 1/8". The tip is 5/8".

No. 9 Tip $5.00 per 100

Split Type Banana Plug

The strong action of the contact prongs eliminates faulty electrical continuity. The hexagonal shape of the body between the tip and the threaded shank facilitates holding of plug while tightening. The plug fits our jacks Nos. 136, 125, 148, and 336. The overall length is 1 1/4".

No. 124 .....$7.00 per 100

Insulated Solderless Phone Tip

This type Phone Tip is highly recommended on set analyzers., tube testers and all types of laboratory test equipment. Fits all standard tip jacks. A knurled collar is provided which when tightened after inserting the wire thru the barrel, securely clamps the wire and makes soldering unnecessary. The overall length of the plug is 2". The sleeve is 1" Long.

No. 141 ..... 12c each

INSULATED BANANA PLUG JACK

Will fit all our standard banana size plugs. Mounts in a 5/16" diameter hole and can be used up to panels 5/8" thick. Overall length 7/8". Available in all colors.

No. 336 .....$.15 each

INSULATED BINDING POST

This type binding post is available in two sizes. Easy identification is made possible by the bright colored head.

		Ea.
146	1/2" Head	$.10
147	3/8" Head	.08

HEAVY DUTY METAL BINDING POST

This type of binding post is especially designed for high amperage work or for use on test equipment where low resistance connections are imperative.

No. 32 .....$10.00 per C

Solderless Insulated Banana Plug

A completely insulated Banana Type Plug to fit all standard Banana. Jacks. A one-piece Phosphor Bronze Spring and full length center pin assure good contact and long life. Ameroid barrel is 3/4" long, 3/8" diameter. Available in all colors.

No. 332 .....12c each

Split Type Banana Plug

Designed to snugly fit a standard type banana jack. Spring action is positive and durable. A set screw is provided in the side of the barrel to secure the wire to the plug without soldering. Length 1-7/16". The plug is 1/2" long. Available in all colors.

No. 331.....$.15 each

Insulated Banana Plug

A set screw in the side of the barrel secures the wire within the plug without the necessity of soldering. A full length center pin prevents the spring from collapsing. Ameroid sleeves are available in all colors.

No. 131—7/8" Sleeve Overall Length 1 5/8" .....12 1/2"c ea.
No. 131A—1 1/2" Sleeve. Overall Length 2 1/4".....15c ea.

PHONE TIP PLUG

This solderless phone tip is made to fit our No. 137, and No. 138 Jacks and No. 143 Binding Posts. Tightening the knurled collar produces a perfect electrical connection without the necessity of soldering. The Ameroid sleeve is available in all colors. Length is 1 1/2".

No. 142 Plug .....$.12 each

INSULATED BANANA JACK

This insulated Banana Jack is used with the Banana Type Plugs 3/4" long and mounts in a 1/4" hole in panels up to 3/8" thick. Available in all colors.

No. 136 .....$.10 each

NEW BANANA JACK

Recommended for use with No. 1150 Banana Plug. Countersunk to fit tapered portion of plug shank. Will fit panels up to 7/16" thick.

No. 1151 .....$.06 each

PHONE TIP JACKS

The outstanding feature of this jack is the specially designed springs within the body that hold the phone tips straight and grip firmly at all times. Mounts in a 1/4" hole in panels up to 3/8" thick.

No. 137 $6.00 per 100

NEW BANANA TYPE PLUG

Equipped with a 6/32 Female thread and supplied with a 6/32 screw and soldering lug. A one piece phosphor bronze spring assures positive and long lasting contact. The full length center pin prevents the plug from collapsing when misaligned with the jack.

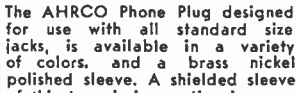
No. 1150 .....$.07 each

Streamlined Phone Tip Plug

The highly polished ameroid handles are made so that they will fit a standard non-insulated or insulated phone tip jack. By inserting the wire in the hole and screwing the tip in securely, a solid, solderless connection is made. Available in all colors. Plug 1 3/8" long, 1/2" high.

No. 1855 .....25c each

PHONE PLUGS



The AHRCO Phone Plug designed for use with all standard size jacks, is available in a variety of colors, and a brass nickel polished sleeve. A shielded sleeve of this type is imperative in many microphone circuits.

Overall length is 2 3/4".

No. 128 Plug with Ameroid Sleeve .....$.40 each
No. 218 Plug with Pol Nickel Sleeve ..... .75 each

Midget Phone Plugs

This Midget Phone Plug fulfills a pressing need for a small but practical plug to fit all standard phone jacks.

No. 1786 2 1/4" Plug .....$.35 each

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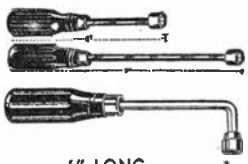


SPIN TYPE SOCKET WRENCHES STRAIGHT AND OFFSET TYPES

Wrenches are made with a deep hollow hole in ends of shanks that will take long screws up to No. 10 Straight Types six and nine inches long; offset type seven inches long.

6" LONG

No.	for	Ea.
48	3/16" Hex Nut	$.25
50	1/4" Hex Nut	.25
51	5/16" Hex Nut	.25
52	3/8" Hex Nut	.25
53	7/16" Hex Nut	.25
49	1/2" Hex Nut	.25

660 box of six 6" long wrenches 1.50

9" LONG

No.	for	Ea.
58	3/16" Hex Nut	$.30
54	1/4" Hex Nut	.30
55	5/16" Hex Nut	.30
56	3/8" Hex Nut	.30
57	7/16" Hex Nut	.30
59	1/2" Hex Nut	.30

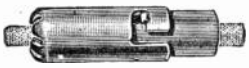
690 box of six 9" long wrenches 1.80

7" OFFSET

No.	for	Ea.
106	3/16" Hex Nut	$.30
107	1/4" Hex Nut	.30
108	5/16" Hex Nut	.30
109	3/8" Hex Nut	.30
110	7/16" Hex Nut	.30
111	1/2" Hex Nut	.30

670 box of six 7" long wrenches 1.80

ANTENNA AND FUSE CONNECTORS



These Connectors are made in wto types; one that is plain and the second with a reinforced ring around the connecting part of the Connector. The Connectors are made for automobile quick connections either on the antenna or ground line as well as for the standard 3AG automobile fuses.

In addition to being available completely assembled, they are also available in individual parts.

No. 221 Overall length 1¼" ..... 7c each
No. 222 Overall length 3½" ..... 10c each

REINFORCED RING TYPE

No. 231 Overall length 1¼" ..... 12c each
No. 232 Overall length 3½" ..... 15c each

Unbreakable Handle Spin Type Socket Wrenches

The ARHCO Amber Handle Socket Wrenches are made with amber color plastic unbreakable handles which are absolutely shockproof and unbreakable. The socket wrenches are constructed with a deep hollow hole in the end of the socket and will take a screw up to a No. 10 diameter. The shank is made of steel and cadmium plated. The socket is made of fine steel and case hardened for service and durability. The handle is 1" in diameter and is ribbed for a tight and firm grip and can easily be spun around. The overall length is 7½".

No.	for	Ea.
3100	3/16" Hex Nut	$.60
3101	1/4" Hex Nut	.60
3102	5/16" Hex Nut	.60
3103	11/32" Hex Nut	.60
3104	3/8" Hex Nut	$.60
3105	7/16" Hex Nut	.60
3106	1/2" Hex Nut	.60
3107	Complete set of seven wrenches	4.20

PARKER KALON TYPE SOCKET WRENCHES

3110 for No. 4 Screw ..... $2.00 each
3111 for No. 6 Screw ..... 2.00 each
3112 for No. 8 Screw ..... 2.00 each
3113 for No. 10 Screw ..... 2.00 each
3114 for No. 12 Screw ..... 2.00 each

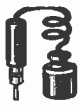
Volume Control Wrench

The handles of the volume control wrench are made of amber color plastic unbreakable material which will withstand the severest sledge hammer blows. The handle is 1" diameter 3½" long and is ribbed so that a firm and secure grip necessary to tighten the nuts is assured. The shank is made of fine steel, cadmium plated and will take shafts up to 4¼" long x ¼ O. D. The socket is of case hardened steel accurately turned and broached and securely fastened to the shank.
No. 3116 ..... $1.00

DUAL GRID CAP

This cap may be used with the standard glass tube cap or the small metal tube grid cap. Furnished with a 12" wire and standard phone tip. Cap is made of ameroid and is available in various colors.
No. 412 ..... 20c each

Insulated Grid Caps



The 418 fits the standard glass tube cap and the 419 fits the 866 tube cap, as well as many types of transmitting tubes. Cap is provided with a 12" wire.
No. 418 Glass Tube Cap $.20 each
No. 419 866 Type Cap .... .30 each

Beaded Edge Grid Caps

A Beaded edge is formed around the lower edge of the cap to produce a wiping grip and ease of soldering is assured by a bridge in the tail.
No. 102 ..... $4.00 per M
202 (Metal Tube Caps) 2.50 per M

New Metal Tube Grid Caps

Made in two types-one without a hole and one with a hole in the tail of the cap to facilitate the soldering of the wire.
No. 114 ..... $4.00 per M
No. 121 with Hole .. 4.00 per M
Metal Tube Grid Cap to fit Inside of Grid Shield.
No. 115 ..... $4.00 per M

Candelabra Bulb Socket

These candelabra type sockets are designed to be used wherever a heavy duty intermediate base socket is required. Two tinned eyelets provide easy soldering connections.
No. 1542 (Up Bracket) $7.00 per C
No. 1543 (Down Brkt.) 7.00 per C

Clip-on Bracket Type Sockets

Will accommodate all standard miniature base bulbs. The height of the shell and washer is ½" and the length of the bracket is ⅝".
No. 34 UP Clip type ¾" long ..... $7.00 per C
No. 35 DOWN Clip type 1⅛" long ..... 7.00 per C

Horizontal Panel Indicator Assembly

This departure in design of panel indicators has many outstanding features. The bulb fits into the jewel so the maximum light is concentrated thru the jewel. The bulb is instantly removable. Due to its design this indicator requires less space than ordinary types. The jewels are supplied in Red, Green, Amber, Blue, and White.
No. 88 ..... 50c each

Grid Cap Shield

Cadmium plated or black finish.
92 Cad. Plated $.10 ea.
94 Black ..... .15 ea.

Alligator Clips

These alligator clips are available in two sizes and can be supplied either in cadmium or bright nickel.
45AT 2" Long ..... $7.00 C
242 2¾" Long ..... 8.00 C

Approved Type Bayonet Dial Sockets

These sockets are completely insulated and made in four types, all meeting the Underwriters Laboratories' approval.

1721 Straight UP Bracket $15.00 C
1722 Straight DOWN br. 15.00 C
1723 UP clip-on bracket ..... 15.00 C
1724 DOWN clip-on br. ..... 15.00 C

Bayonet Type Dial Sockets

The shell is securely eyeleted to the bracket proper. The center contact is of new design permitting a constant and positive pressure on the bulb contact.

1538 Straight UP bracket $7.00 C
1539 Straight DOWN br. ..... 7.00 C
1540 UP clip-on bracket ..... 7.00 C
1541 DOWN clip-on br. ..... 7.00 C

Approved Type Panel Indicator Bayonet Type

This socket conforms to Underwriters Laboratories' specifications. Constructed so that accidental short circuits are prevented. Each socket furnished with a red, green, amber, blue or white glass "Bull's eye." Mounts in panels up to 5/16" thick.
No. 1725 ..... $.30

Panel Indicator Bracket

The indicator mounts in a single hole 7/16" in diameter and can be used on panels up to 5/16" in thickness. The jewels are translucent Ameroid in various colors. Available in Red, Blue, White, Green, and Amber jewels.
No. 39 Miniature Socket .25 each
No. 93 Candelabra Type Socket ..... .40 each

Insulated Alligator Clips

Insulated Alligator Clips Nos. 129 and 130 consist of the No. 45AT clip with Ameroid Handle attached. The No. 152 Insulated Alligator Clip utilizes the No. 242 size clip. All clips are furnished with a loop around which the connecting wire can be twisted for soldering.

129 Clip, Overall 2¾", Handle 1¼" long ..... $.15 each
130 Clip, Overall 2¼", Handle 1½" long ..... .15 each
152 Clip, Overall 3¼", Handle 1¼" long ..... .17½ each

Approved Type Clip-In Sockets

A Pilot Light Socket that meets the rigid requirements of the Underwriters Laboratories. Connection to the shell is made by a lug which is lanced directly from the shell body and connection to the center of the contact of the bulb is made with a specially moulded rubber sleeve which embodies a spring and contact.
No. 1718 ..... 18c each

Clip-In Sockets

It is so constructed that it may be clipped into a dial directly. It requires a mounting slot ¾" long and ½" wide.
No. 1759 Clip-in socket screw shell type ..... $8.00 per C
No. 1760 Clip-in socket bayonet type ..... 8.50 per C

Giant Panel Indicators

Each pilot light indicator can be individually marked, by writing in the desired copy one requires on the card disc which is supplied with each unit. Mounts in ¾" hole in panels up to ⅜" thickness. Indicator 1" in diameter and extends 1⅜" behind the panel. Available in green, red, blue.
1872 Bayonet Type ..... $.75 ea.
1873 Miniature Screw Shell .75 ea.

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Fibre Neutralizing Tools

Made of hard fibre and are a 3 in 1 combination. A 1/4" diameter screw driver on the inside and 1/4" and 5/16" sockets at each end of the tool. A completely insulated neutralizing tool for servicemen.

No. 2501. Eeach.. 50c

Ameroid Neutralizing Tools

Made of ameroid and are a 3 in 1 combination 1/4" diameter screw driver on the inside and 1/4" and 5/16" Sockets at each end of the tool.

700 Neutralizing Tool .....$.45 each
720 Majestic Attachments .15 each
730 Crosley Attachments .15 each

Fibre Neutralizing Tubes

These tubes are ideal, for when the hexagon wears out it can be cut off and used again. It may be had in the 1/4" or 5/16" hexagon nut size as listed.

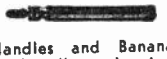
2502 6" Long .....$.20 each
2503 8" Long ..... .25 each
2504 10" Long ..... .30 each
2505 12" Long ..... .35 each
2506 28" Long ..... .75 each

TUNING WANDS

This is a soft rubber Tuning Wand. Made of soft rubber so that it can be bent into any desired shape. These rubber tuning wands have a pulverized iron core at one end and a brass insert at the other. Wand is 6" Long. Straight tuning Wand also available.

	Each
840 Flexible Tuning Wands	$1.00
825 Straight Tuning Wand	.90

PROD HANDLES



Prod Handles and Banana Test Prods to fit all needs. Available in all standard colors.

SOLDERLESS TEST PRODS:

145 Handle 5 1/2" .....$.25 each
149 Handle 7" ..... .30 each

PHONO NEEDLE PROD HANDLES:

153 Handle 4 1/2" ..... .25 each
155 Handle 5 1/2" ..... .30 each

BANANA TEST PRODS

151 Handle 5" ..... .40 each
134 Handle 3" ..... .30 each
135 Handle 1 1/2" ..... .25 each

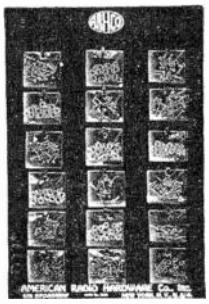
Alligator Alignment Wrench

Made to fit various sizes both knurled and hexagon nuts up to 3/8" diameter. The alligator jaws are fastened to the insulating rod with a rivet to prevent turning. Overall length is 6" and diameter of shaft is 1/4". Available in assorted colors.

No. 805 .....$.35 each

ARHCO HARDWARE MERCHANDISER

An attractive display consisting of seventy-two transparent cellophane envelopes—eighteen different items and four envelopes of each item. Replacement envelopes of all the items may be ordered separately from catalog numbers listed below.



2330 Display Card of Hardware $7.20

The contents are easily identified as each envelope is stamped as to the item it contains. The following articles are furnished as an integral part of the display.

2331 RHICPMS 6/32" x 1/4" .....$.10
2332 RHICPMS 6/32" x 3/8" ..... .10
2333 RHICPMS 6/32" x 1/2" ..... .10
2334 RHICPMS 6/32" x 3/4" ..... .10
2335 RHICPMS 6/32" x 1" ..... .10
2336 RHICPMS 8/32" x 1/4" ..... .10
2337 RHICPMS 8/32" x 3/8" ..... .10
2338 RHICPMS 8/32" x 1/2" ..... .10
2339 RHICPMS 8/32" x 3/4" ..... .10
2340 RHICPMS 8/32" x 1" ..... .10
2341 Steel Hex Nuts C.P. 6/32" x 1/4" ..... .10
2342 Steel Hex Nuts C. P. 6/32" x 5/16 .10
2343 Steel Hex Nuts C. P. 8/32" x 5/16" .10
2344 No. 6 Nickel Plated Washers ..... .10
2345 No. 8 Nickel Plated Washers ..... .10
2346 No. 6 Shakeproof Lock Washers ..... .10
2347 No. 8 Shakeproof Lock Washers ..... .10
2348 No. 6 Kantlink Washers ..... .10

AMBER BAKELITE HANDLE SCREW DRIVERS

The ARHCO No. 2356 Display Card consists of twelve Handle Screw Drivers. The top of the handles are machined out of Amber Colored Bakelite in both convex and concave shapes—and ribbed for solid grip.

2350 Convex Handle 2 1/4" Blade $.15
2351 Convex Handle 3 1/2" Blade .20
2352 Convex Handle 4 1/2" Blade .25
2353 Concave Handle 2 1/4" Blade .15
2354 Concave Handle 3 1/2" Blade .20
2355 Concave Handle 4 1/2" Blade .25
2356 Display Card 2.40

The different styles and sizes of screw drivers shown on the Display Card are also supplied separately.

Low Capacity Alignment Screw Driver

The screw driver is made of 1/4" Ameroid Rod Silver Finish, provided with two screw driver knibs. The knib extending from the lower end of the handle extends 1/2" and can be used for ordinary padding condensers. There is another recessed screw driver knib in the upper end of the handle which may be used for aligning permeability tuned circuits.

No. 2370 .....$ .50

Dual Duty Alignment Tool

Handle is 3/8" diameter 2 1/2" long. From one end of the handle there is a sturdy 1 3/4" screw driver blade. This screw driver blade may be used for aligning padding condensers. From the opposite end a socket screw driver projects which may be used for adjustable iron core tuning systems. Overall size of screw driver is 6".

No. 2371 .....$.50

Fuse Mounting Bases

These fuse bases are designed for the auto type fuse. Available in two types, one for breadboard mounting and the other for panel mounting.

103 Single, Baseboard Mount $.15
127 Double, Baseboard Mount .25
104 Single, Panel Mount ..... .15
126 Double, Panel Mount ..... .25

Push Button Tuner Aligning Tool

Specially adaptable for aligning Push Button Tuning units of the variable permeability type. Handle is 3/8" diameter and 1 7/8" long. The shank is 4 1/2" long and permanently fixed in the handle. The socket is 7/32" diameter and contains a screw driver knib recessed in the socket.

No. 2372 .....$ .50

Alignment Screw Driver

This screw driver is made of ANEROID, 6" long and 7/32" in diameter, and is so fabricated that the amount of metal in the screw driver nib will negligibly affect the inductance of the coil. This is of prime importance in the alignment of modern all-wave receivers. Available in various colors.

No. 860 .....$.25 each

Compensating Screw Driver

Made of ameroid. The compensating screw driver has a special shape blade at one end for adjusting trimmer screws. The other end is knurled for a non-slip grip. Supplied with pocket clip. 6" overall.

No. 710 .....$.20 each

Pencil Type Test Prods With Interchangeable Tips Ends

Spring prongs located at flexible end of test prods allows to interchange spade lugs, phone tips, and alligator spring clips. New type needle point phone tip for piercing through insulated wire for a good contact. Equipped with black and red flexible wires measuring 5 feet and same colored handles. Each set complete with two Alligator Clips, two Needle Point Phone Tips, and two American Type Tapered Lugs.

500 .....$1.50 Set

Socket Head Alignment Wrench

This is an Alignment Tool 6" long with a brass 1/4" socket head that fits over trimmer screws on various types of receivers. Outside diameter of this Hexagon Wrench is 3/8". An insulating shaft is forced into wrench and riveted to prevent shaft from turning. The other end has a hardened screw driver bit for adjusting trimmer screws. Diameter of the insulation is 7/32" and will fit into a 1/4" hole where the wrench has to go thru the top of a coil available in assorted colors.

No. 820 .....$.50 each

Heavy Duty Test Prods

Ameroid prod handles are 7/16" diameter and 5" long. Prods equipped with 60" long heavy duty flexible wire. Prod tips are sharp, suitable for scraping and piercing corrosion. Handles and leads are colored red and black.

300 with Taper Lugs..... $.80 pair
310 with Phone Tips..... .80 pair
320 with Alligator Clips .. .90 pair

TEST LEADS

SOLDERLESS TIP TEST LEADS

200 with Phone tips .....$.60 pr.
210 with Spade Lugs ..... .60 pr.
260 with Alligator Clips ..... .70 pr.

PHONO NEEDLE TEST LEADS

230 with Phone Tips .....$.60 pr.
240 with Spade Lugs..... .60 pr.
259 with Alligator Clips..... .70 pr.

TEST LEAD SPECIAL

Ameroid Handles with 3 feet of kinkless rubber covered wire. Standard Phone Tip on one end; spade lugs on the other end.

No. 439 ..... Price $.45

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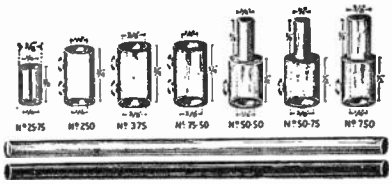
SHAFT COUPLINGS EXTENDERS & REDUCERS



These accurately machined brass fittings can be used for coupling shafts of the same or different diameter, for straight extension, or for extension with smaller or larger shaft diameter.

NO.	LENGTH		EA.
25-75	7/16"	1/4" Hole I.D. 3/8" O.D. Dial Bushings	7c
250	3/4"	1/4" Hole I.D. 1/2" O.D. Brass Coupling	15c
375	3/4"	3/8" Hole I.D. 9/16" O.D. Brass Coupling	15c
75-50	3/4"	3/8"—1/4" Hole I.D. 9/16" O.D. Brass Coupling	15c
50-50	1 1/8"	1/4" Hole I.D. 1/2" O.D. Brass Reducer	15c
50-75	1 1/8"	3/8" Hole I.D. 9/16" O.D. Brass Reducer	15c
750	1 1/8"	1/4" Hole I.D. 1/2" O.D. Brass Reducer	15c
6250	6"	1/4" Diameter Brass Shafting	15c
12250	12"	1/4" Diameter Brass Shafting	30c
388	8"	3/8" Diameter Brass Shafting	30c
250 C	3/4"	1/4" Hole I.D. 1/2" O.D. Ins. Coupling	15c
375 C	3/4"	3/8" Hole I.D. 9/16" O.D. Ins. Coupling	15c
75-50 C	3/4"	3/8"—1/4" Hole I.D. 9/16" O.D. Ins. Coupling	15c
50-50 C	1 1/8"	1/4" Hole I.D. 1/2" O.D. Ins. Reducer	15c
50-75 C	1 1/8"	3/8" Hole I.D. 9/16" O.D. Ins. Reducer	15c
750 C	1 1/8"	1/4" Hole I.D. 1/2" O.D. Ins. Reducer	15c
637 C	6"	1/4" Diameter Insulated Shafting Black	10c
1237 C	12"	1/4" Diameter Insulated Shafting Black	20c
383 C	12"	3/8" Diameter Insulated Shafting Black	30c

Special Angle Brackets with Tapped Holes

		Per 100
No. 1627	1/2" x 1/2" Bracket	$3.00
No. 1628	1/2" x 5/8" Bracket	3.50
No. 1629	1/2" x 3/4" Bracket	4.00

Z Bracket Type with no clearance hole—one tapped hole, 1/2" x 3/8" Bend x 7/16" long. 2363 4.00

RACK SCREWS

Particularly suitable for mounting panels in racks and cabinets. Enhances appearance of any panel. Screws, steel nickel plated.

NO.	SIZE	Per 100
1641	1/4" x 6/32	$.30
1642	1/2" x 6/32	.35
1643	3/4" x 6/32	.40
1644	1" x 6/32	.45
1637	1/4" x 8/32	.35
1638	1/2" x 8/32	.40
1639	3/4" x 8/32	.45
1640	1" x 8/32	.50
1630	1/4" x 10/32	.45
1631	1/2" x 10/32	.50
1632	3/4" x 10/32	.55
1633	1" x 10/32	.60

WASHERS

	Per 100
1634 6/32 Cup Washer	.80
1635 8/32 Cup Washer	.80
1636 10/32 Cup Washer	.80

TERMINAL BOARDS

PLUG-IN TYPE

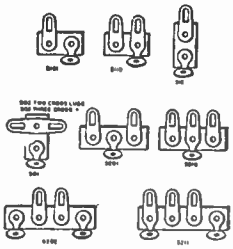
Where connections must be changed quickly and easily and yet maintain a firm contact.

No.		Price
1701	1 Clip Strips	$.10 Each
1702	2 Clip Strips	.12 each
1703	3 Clip Strips	.15 Each
1704	4 Clip Strips	.20 Each
1705	5 Clip Strips	.25 Each
1706	6 Clip Strips	.30 Each
1707	7 Clip Strips	.35 Each
1708	8 Clip Strips	.40 Each
2391	Contacts Only	1.25 per C
1715	Pin Plug	.08 Each

Round Head Steel Cadmium Plated Machine Screws

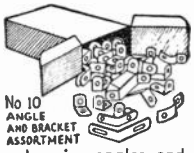
PRICE	PER 1000		
1/4"x6/32	$2.80	1 1/4"x8/32	$6.00
3/8"x6/32	3.05	1 1/2"x8/32	6.50
1/2"x6/32	3.35	2"x8/32	7.50
5/8"x6/32	3.60	2 1/2"x8/32	9.00
3/4"x6/32	3.90	3"x8/32	11.00
1"x6/32	4.45	1/4"x10/32	$4.15
1/4"x8/32	$3.35	3/8"x10/32	4.45
3/8"x8/32	3.65	1/2"x10/32	4.75
1/2"x8/32	3.90	5/8"x10/32	5.00
5/8"x8/32	4.15	3/4"x10/32	5.30
3/4"x8/32	4.45	1"x10/32	5.85
1"x8/32	5.00		

Terminal Lug Strips



No.	Per C	No.	Per C
5101	$2.00	5201	3.00
5110	2.25	5210	3.25
512	2.25	5202	4.00
501	2.25	5211	4.25

ANGLE AND BRACKET ASSORTMENT



28 popular size angles and brackets made of brass and nickel plated. A choice selection of "Z" brackets and perforated strips are included. Indispensable for mounting radio parts.

No. 488-10 ..... $ .50

Self-Tapping Screw Assortment

Parker Kalon self-tapping screw assortment of most popular sizes. Genuine replacements for ALL standard brand receivers.

No. 1078 ..... $ .50

Fancy Head Bronze Finish Screws

	Per 1000
3/4" x 6/32	$6.00
1" x 6/32	6.70
1 1/4" x 6/32	7.80
1 1/2" x 6/32	9.45
3/4" x 8/32	7.80
1" x 8/32	8.90
1 1/4" x 8/32	10.00
1 1/2" x 8/32	12.30

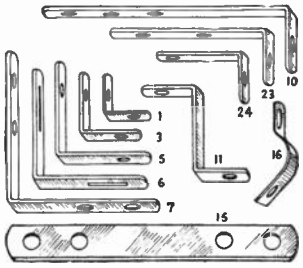
FIBRE SCREWS Round Head

		Per 100
1881	6/32 x 3/16	$4.00
1882	6/32 x 1/4	4.50
1883	6/32 x 3/8	5.25
1884	6/32 x 1/2	6.00
1885	8/32 x 3/16	4.00
1886	8/32 x 1/4	4.50
1887	8/32 x 3/8"	5.25
1888	8/32 x 1/2	6.00

Bakelite Terminal Strips and Terminals

		Ea.
1501	2 Term Marked	$.15
1502	2 Term. Plain	.15
1503	2 Term. A. & G.	.18
1504	2 Term "Output"	.18
1505	2 Term. "Input"	.18
1506	3 Term. Plain	.20
1507	3 Term. Marked	.25
1508	4 Term. Marked	.35
1509	4 Term Plain	.30

ANGLES AND BRACKETS



		Per 100
1	1/2" x 1/2"	$.90
3	5/8" x 5/8"	1.60
5	1" x 1"	2.50
6	1 1/8" x 1 1/8"	3.25
7	1 1/2" x 1 1/2"	4.00
10	5/8" x 2 1/4"	4.00
11	13/16" high	1.60
15	2 7/8" long	3.50
23	1/2" x 1 1/2"	2.00
24	1/2" x 7/8"	1.60

TINNED BRASS LUGS

No.	Length	Hole Size	1000
1	5/8"	6 or 8	$2.50
2	5/8"	8	2.50
3	3/4"	8	2.50
4	5/8"	6 or 8	2.50
5	7/8"	6 or 8	2.50

Twin Phone Tip Jacks

Jacks in this assembly are our No. 138 type, mounted on a bakelite strip 1/2" wide and 2" long. Coded red and black for identification. Mounting strips may be had unmarked or with the following identification: SPEAKER, INPUT, OUTPUT, 1-2, and A-G.

No. 406 Marked ..... $.25 each
No. 405 Unmarked ..... .20 each

Bracket Type Lug Strips

		Price per 100
1620	3 lug	$10.00
1621	4 lug	12.00
1622	5 lug	15.00
1623	6 lug	18.00

1841 Special Mounting Bkt. 1.25
1839 Mounting Bracket and lug Combination 1.50

Available with No. 1841 Bracket as illustrated or with No. 1839 Bracket, which is a combination bracket and mounting lug or with No. 1847 Bracket which is similar to No. 1839 but with a tapped 6/32 hole.

1660	3 Lug	with 1839 Br.	$12.00
1661	4 Lug	with 1839 Br.	14.00
1662	5 Lug	with 1839 Br.	17.00
1663	6 Lug	with 1839 Br.	20.00
1664	3 Lug	with 1847 Br.	14.00
1665	4 Lug	with 1847 Br.	16.00
1666	5 Lug	with 1847 Br.	19.00
1667	6 Lug	with 1847 Br.	22.00
1847	Bracket and Lug with tapped 6/32 Hole		3.00

RUBBER GROMMETS

Ideal for use on all types of electrical and radio purposes.

No.	Panel Hole	I.D.	O.D.	Panel Thickness	Per 100
1113	13/32	21/64	5/8	1/16	$2.35
1114	1/4	1/8	11/32	1/16	1.50
1115	3/8	1/4	9/16	7/32	2.50
1118	5/16	3/16	7/16	1/16	2.00
1119	13/32	17/64	9/16	1/16	2.00
1120	7/16	19/64	5/8	1/16	2.25
1121	1/2	3/8	11/16	1/16	2.25
1122	11/32	1/4	1/2	1/32	2.00

When ordering Gum Rubber add G to Number and add $1.00 per C to list price of Black.

Rubber Grommet Ass'm't

An assortment of 5 sizes of pure gum and black rubber grommets.

No. 68 Assortment of 12 Rubber Grommets ..... $.25
No. 69 Assortment of 30 Rubber Grommets ..... .50
No. 70 Assortment of 100 Rubber Grommets 1.60

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ESICO

Green Label Electric Soldering Irons

GENERAL INFORMATION: These irons are extraordinarily high-quality tools. They are packed in green label boxes to differentiate from Esico Industrial Irons, which have orange labels. They have one-piece blued steel cases. Rich dark mahogany handles. Replaceable forged copper tips. They are wound in voltages ranging from 32 to 250 volts and can be used on both A.C. or D.C. current. (Nick Nacks 105-120 volts only.)

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55 WATTS

"NICK NACK"

CAT. No. 15

Tip 7/16" in Diameter Weight 6 Oz. Length 11¾"

List Prices — Iron Complete $1.10 Extra Tip 20c Element 50c

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65 WATTS

"MIDGET"

CAT. No. 16

Tip 7/16" in Diameter Weight 7 Oz. Length 11½"

List Prices — Iron Complete $1.75 Extra Tip 30c Element $1.25

---

100 WATTS

"JUNIOR"

CAT. No. 17

Tip 7/16" in Diameter Weight 9 Oz. Length 12¼"

List Prices — Iron Complete $2.75 Extra Tip 30c Element $1.35

---

150 WATTS

"TROPHY"

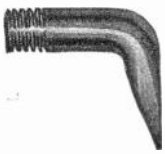
CAT. No. 18

Tip 7/8" in Diameter Weight 18 Oz. Length 12½"

List Prices — Iron Complete $5.00 Extra Tip 45c Element $2.50

COPPER TIPS FOR MIDGET OR JUNIOR IRONS

CAT. No. JM 2
Tip 3/8" in Diameter
Fits either
Midget or Junior



Price 30c

CAT. No. JM 3
Tip 5/8" in Diameter
Fits either
Midget or Junior

Price 30c

World Radio History

ESICO

Industrial Electric Soldering Irons

GENERAL INFORMATION FOR PLUG TIP IRONS:

These irons can be used on both A.C. or D.C. current and are wound in voltages ranging from 105 to 240 volts. The tips are the plug type, held by a set screw, which is easily removed for making tip replacements. It is not necessary to return these irons to the factory for repairs. Elements and other parts are easily replaced. For soldering, these irons cannot be surpassed as ample heat is delivered to the tip for fastest work. For durability, their construction is such, with a one-piece heavy-gauge steel case, mounted element and a positive grip handle, that through use, the parts cannot fail to give unlimited service, regardless of the hardest use imposed upon them. Each iron is equipped with a 6′ cord and attachment plug. A metal stand is supplied with every tool.

List Prices—Iron Complete $5.00
Extra Tip 25c **Element $2.25**

No. 54—65 WATTS

Tip ⅜″ in Diameter

Equal to copper of ½ lb. Length overall 10″. Weight exclusive of cord, 8 oz. For light work, such as soldering fine wires, radio factory use, tool kits, and especially suitable for use of operators where a light short tool is required.

List Prices—Iron Complete $5.50
Extra Tip 32c **Element $2.75**

No. 96—110 WATTS

Tip ⅜″ in Diameter

Equal to copper of ¾ lb. Length overall, 12″. Weight exclusive of cord, 10 oz. For electrical and radio factories, telephone switchboards, telephone repair work, fuses, tool kits, light manufacturing, delicate instruments, radio and electrical experimental laboratories.

List Prices—Iron Complete $7.75
Extra Tip 65c **Element $3.50**

No. 126—130 WATTS

Tip ½″ in Diameter

Equal to copper of 1 lb. Length overall, 12½″. Weight exclusive of cord. 16 oz. For light tin work, automobile repairs and general factory soldering. A very handy tool because of its shortness.

List Prices—Iron Complete $8.75
Extra Tip 70c **Element $3.75**

No. 206—200 WATTS

Tip ½″ in Diameter

Equal to copper of 1½ lbs. Length overall, 14″. Weight exclusive of cord, 24 oz. For medium tin work, automobile repairs, patterns and general factory work. Suitable for small branders.

List Prices—Iron Complete $10.25
Extra Tip $1.25 **Element $5.00**

No. 355—310 WATTS

Tip ⅞″ in Diameter

Equal to copper of 3 lbs. Length overall, 14½″. Weight exclusive of cord, 41 oz. For heavy sheet metal work, tinsmiths, automobile radiators, refrigerators and branding purposes.

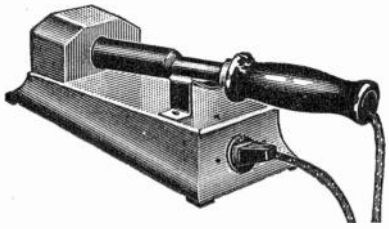
List Prices—Iron Complete $12.25
Extra Tip $1.75 **Element $6.00**

No. 505—500 WATTS

Tip 1⅛″ in Diameter

Equal to copper of 5 lbs. Length overall, 14½″. Weight exclusive of cord, 54 oz. For very heavy soldering, large tanks or cans, roofs and objects of large area. Very large branders.

ESICO THERMOSTATIC CONTROL STAND



Patent Pending

TEMPERATURE: Iron can be maintained at any desired temperature while in the stand. Efficient control of the tip temperature is attained.

Years of experimental work in attempting to incorporate a thermostat in the iron itself have failed to obtain the fine degree of temperature regulation secured with this stand. When removed from the control, full current is instantly applied to the iron.

POSITIVELY IMPOSSIBLE FOR IRON TO OVERHEAT OR TO BURN OFF ITS TIN!

PROLONG: Element and tip life.
SAVE: Cost of electric current.

Permits the use of high wattage elements in small irons as they cannot overheat.

Cat. No. 5—Irons up to 1″ Diameter tip.
Cat. No. 6—Irons 1″ to 1⅝″ Diameter tip.

List Price — $6.50

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World Radio History

KRAEUTER

The choice of skilled mechanics

Supreme Brand Pliers

The first requisite of quality pliers is good steel . . . Kraeuter Supreme Brand Pliers are drop-forged from an extra high grade steel especially chosen as best adapted for quality pliers after rigid testing and experimenting extending over a period of several years.

All Kraeuter Pliers are heat-treated and hardened in automatic furnaces where the temperature is regulated automatically, and the possibility of human error is entirely eliminated. The result of using this Supreme quality steel and the extreme accuracy in tempering make the Kraeuter Supreme Brand Pliers unequalled for **durability, gripping and cutting power.** The teeth do not mash down or crumble and the cutting edges will not dent or nick.

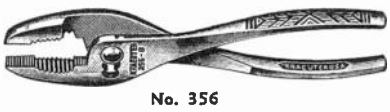
New Industrial Finish Pliers

INDUSTRIAL FINISH is a Kraeuterized, non-smudging-black lasting finish impregnated into the metal by a special process. It is not just a baked lacquer.

Many industrial trades using pliers do not need the finely nickeled and highly polished finish on their pliers. By eliminating certain grinding and polishing operations on the Industrial Finish Pliers, it has been possible to offer these pliers at a greatly reduced price. The Industrial Pliers are drop-forged from the same extra high grade steel used on the highly finished pliers, have the same careful tempering and pass the same rigid tests.

"Griptite" Combination Pliers

NEW PATTERN



No. 356

Supreme Full Nickel Finish and Industrial Finish

These are of new design with slightly tapered nose, and are fitted with special non-slipping serrated edge wire cutters. The two larger sizes have **three slip-joint adjustments** which give a wider range of parallel grips on large nuts.

		Industrial Finish		Supreme Full Nickel Finish	
Length	Wt. per doz.	No.	Price Each	No.	Price Each
5½ in.	3½ lbs.	565½	$ .65	356	$ .85
6 in.	5¾ lbs.	566	.75		1.00
8 in.	8½ lbs.	568	.90		1.25
10 in.	13 lbs.	5610	1.25		1.65

Auto Electricians' Pliers

No. 1831

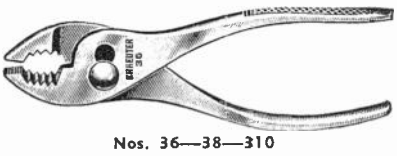
Supreme Kraeuter Finish & Industrial Finish

Used extensively for electrical and general wiring work around the car. Strongly constructed with sturdy wire cutters.

		Industrial Finish		Supreme Kraeuter Finish	
Length	Wt. per Doz.	No.	Price Each	No.	Price Each
4 in.	2½ lbs.	8314	$1.15	1831	$1.40
5 in.	3½ lbs.	8315	1.25		1.60
6½ in.	5¾ lbs.	8316	1.45		1.85
7 in.	6¾ lbs.	8317	1.60		2.00
8 in.	9½ lbs.	8318	1.75		2.25

This is only a partial listing of Kraeuter Pliers. Send for Catalog.

Combination Pliers — Dull Nickel



Nos. 36—38—310

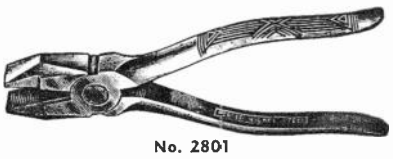
Dull Nickel Finish Only

These well-made dull nickel finish pliers are designed to meet the demand for medium priced good quality pliers that will give good service.

		Dull Nickel	
Length	Wt. per Doz.	No.	Price Each
6 in.	5¾ lbs.	36	$ .35
8 in.	8½ lbs.	38	.55
10 in.	13 lbs.	310	.75

"DREADNOUGHT" LINEMEN'S PLIERS

Heavy Duty — Lap-Jointed



No. 2801

Supreme Kraeuter Finish Only

Powerful and durable—wonderful strength and cutting power. Drop forged—perfectly hardened, accurately fitted.

Length	Wt. per Doz.	No.	Price Each
6 in.	5¾ lbs.	2801	$2.25
7 in.	8¼ lbs.		2.50
8½ in.	11½ lbs.		3.00

With Stripping Notch

No. 2801-S

Supreme Kraeuter Finish Only

Extensively used on electrical outside lighting fixtures, for cutting and stripping the asbestos insulation on 14 gauge wire without injury to the wire.

Length	Wt. per Doz.	No.	Price Each
6 in.	5¾ lbs.	S-2801	$2.35
7 in.	8¼ lbs.		2.80
8½ in.	11½ lbs.		3.15

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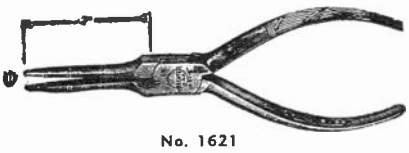
Long Fine Needle Nose Pliers



No. 1621

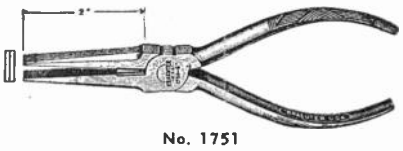
Supreme Kraeuter Finish and Industrial Finish

This pattern is especially made for difficult and odd jobs where no other plier will answer. Especially useful for auto mechanics and vulcanizers. Its capacity for fine work is unusual. The long, fine nose is very carefully tempered.

		Industrial Finish		Supreme Kraeuter Finish	
Length	Wt. per doz.	No.	Price Each	No.	Price Each
6 in.	3¼ lbs.	6216	$1.40	1621	$1.60

Extra Long Reach Flat Nose Pliers

SIDE CUTTING

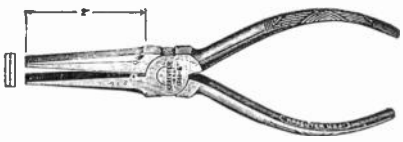


No. 1751

Supreme Kraeuter Finish Only

An appropriate tool for electrical workers and very useful for special work. The long, flat nose is nicely tapered and beveled. The cutting edges are superior.

Length	Wt. per Doz.	No.	Price Each
6 in.	3½ lbs.	1751	$1.60



No. 1741

Extra Long Reach Flat Nose Pliers

Supreme Kraeuter Finish and Industrial Finish

The long, flat nose is nicely tapered and beveled. No cutter. Adaptable to all the uses of a flat nose plier with the added feature of an extremely long nose.

		Industrial Finish		Supreme Kraeuter Finish	
Length	Wt. per Doz.	No.	Price Each	No.	Price Each
6 in.	3½ lbs.	7416	1.30	1741	$1.50

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World Radio History

KRAEUTER

The choice of skilled mechanics

Hy-Power Side Cutting Pliers

No. 1801

Supreme Kraeuter Finish & Industrial Finish

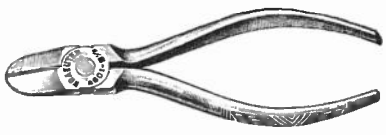
Useful for heavy duty jobs of wire cutting and twisting. Very strongly constructed and have extra tough jaws.

Length	Wt. per Doz.	Industrial Finish No.	Industrial Finish Price Each	Supreme Kraeuter Finish No.	Supreme Kraeuter Finish Price Each
6 in.	5¾ lbs.	8016	$1.75	1801	$1.85
7 in.	8¼ lbs.	8017	2.00		2.15
8½ in.	11½ lbs.	8018½	2.25		2.50

"Sure-Grip" Ignition Pliers

NEW PATTERN

Electrician's Diagonal Cutting Pliers



No. 4601

Supreme Kraeuter Finish & Industrial Finish

Longer jaws and made especially for close cutting. Forged from special plier steel and finely fitted for exact work.

Length	Wt. per doz.	Industrial Finish No.	Industrial Finish Price Each	Supreme Kraeuter Finish No.	Supreme Kraeuter Finish Price Each
4½ in.	2 lbs.	6014½	$1.50	4601	$1.75
5 in.	3 lbs.	6015	1.60		1.95
5½ in.	3¾ lbs.	6015½	1.75		2.10
6 in.	5 lbs.	6016	1.85		2.20
7½ in.	6¾ lbs.	6017½	2.00		2.50

KRAEUTER

The choice of skilled mechanics

Offset Screw Drivers

"Chrome-Molly" Steel

Invaluable for reaching screws in difficult places.

			Price Each
No. 497	¼ in. x 4½ in.	1 lb.	$ .50
	⅜ in. x 8 in.	3 lbs.	.60
No. 97	7/16 in. x 6 in.	2 lbs.	.55

Plumbers' Wood chisels

An exclusive Kraeuter design, with beveled edges and bit, making it easier to operate in heavy wood. The handle is slightly raised to clear the hand when using.

Made of "Chrome-Molly" steel, perfect temper, highly polished face, side of grip, bevels and bit. Absolutely guaranteed. Number and size stamped on shank.

No.	Cut	Stock	Length	Wt., Doz.	Price Each
403	⅝ in	½ in.	11 in.	6 lbs.	$ .60
	¾ in	½ in.	11 in.	7 lbs.	.65
	1 in	⅝ in.	11 in.	10½ lbs.	.75
	1¼ in	⅝ in.	11 in.	11½ lbs.	.85
	1½ in	¾ in.	11 in.	15 lbs.	1.00
	2 in.	⅞ in.	12 in.	23 lbs.	1.80

Cold Chisels

(Sold by Cutting Size)

Drop forged perfectly tempered chisels with tough cutting edges.

Furnished in two qualities to take care of all classes of trade.

No. 330—Made of the finest "chrome-molly" steel, correctly tempered, individually tested, with both ends polished.

No. 430—A lower priced drop forged chisel—fine quality steel—well tempered—black finish.

Cut	Stock	Length.	Weight Per doz.	Price Each No. 330	Price Each No. 430
3/16 x	3/16 x	5	½ lbs.	$ .30	$ .16
¼ x	¼ x	5	¾ lbs.	.30	.18
5/16 x	5/16 x	5	1¼ lbs.	.30	.20
⅜ x	⅜ x	5	1¾ lbs.	.35	.22
½ x	5/16 x	6	2¾ lbs.	.40	.24
⅝ x	½ x	6½	4 lbs.	.50	.30
¾ x	⅝ x	7	6¾ lbs.	.60	.38
⅞ x	¾ x	8	11½ lbs.	.75	.48
1 x	⅞ x	8½	15 lbs.	1.00	.65
½ x	5/16 x	12	5¾ lbs.	—	.42
⅝ x	½ x	12	7¾ lbs.	—	.50
¾ x	⅝ x	12	12 lbs.	—	.60
⅞ x	¾ x	12	17½ lbs.	—	.85
1 x	⅞ x	12	22 lbs.	—	1.10
⅝ x	½ x	18	10 lbs.	—	.65
¾ x	⅝ x	18	19¼ lbs.	—	.80
⅞ x	¾ x	18	27½ lbs.	—	1.15
1 x	⅞ x	18	33½ lbs.	—	1.50
⅝ x	½ x	24	16½ lbs.	—	.80
¾ x	⅝ x	24	25¼ lbs.	—	1.10
⅞ x	¾ x	24	36½ lbs.	—	1.45
1 x	⅞ x	24	48 lbs.	—	1.90
⅞ x	¾ x	30	46 lbs.	—	1.75
1 x	⅞ x	30	60¾ lbs.	—	2.20
⅞ x	¾ x	36	41 lbs.	—	1.90
1 x	⅞ x	36	73½ lbs.	—	2.60

Star Drills No. 342

These tools are drop forged from high-carbon steel, oil hardened and oil tempered on both cutting and striking end. The size and number are plainly marked on each drill. The blades have a rounded bevel which gives support to the cutting edge, and permits fast work without splintering or cracking the edge. The flutes are large enough to prevent clogging, and the blades are specially designed for ease in rotating the drill in the holes.

	Size Hole	Length	Wt. per doz.	Price Each
342	¼ x	8 in.	1 lb.	$ .28
	5/16 x	8 in.	1½ lbs.	.30
	⅜ x	8 in.	2¼ lbs.	.32
	7/16 x	8 in.	2¼ lbs.	.35
	½ x	8 in.	3¼ lbs.	.38
	9/16 x	8 in.	4 lbs.	.41
	⅝ x	8 in.	4 lbs.	.43
	11/16 x	8 in.	5½ lbs.	.47
	¾ x	8 in.	5½ lbs.	.50
	13/16 x	8 in.	9 lbs.	.55
	⅞ x	8 in.	9 lbs.	.58
	15/16 x	8 in.	13 lbs.	.65
	1 x	8 in.	13 lbs.	.75
	¼ x	12 in.	1⅓ lbs.	.35
	5/16 x	12 in.	2¼ lbs.	.35
	⅜ x	12 in.	3½ lbs.	.37
	7/16 x	12 in.	3½ lbs.	.40
	½ x	12 in.	5 lbs.	.45
	9/16 x	12 in.	6½ lbs.	.50
	⅝ x	12 in.	6½ lbs.	.50
	11/16 x	12 in.	8¼ lbs.	.55
	¾ x	12 in.	8¼ lbs.	.60
	13/16 x	12 in.	13 lbs.	.65
	⅞ x	12 in.	13 lbs.	.85
	15/16 x	12 in.	19 lbs.	.85
	1 x	12 in.	19 lbs.	.90
	1¼ x	12 in.	25 lbs.	1.10
	1¼ x	12 in.	30 lbs.	1.35
	1½ x	12 in.	34 lbs.	2.10
	¾ x	18 in.	5¼ lbs.	.45
	7/16 x	18 in.	5¼ lbs.	.50
	½ x	18 in.	7½ lbs.	.55
	9/16 x	18 in.	10¼ lbs.	.60
	⅝ x	18 in.	10¼ lbs.	.65
	11/16 x	18 in.	12¼ lbs.	.70
	¾ x	18 in.	12¼ lbs.	.75
	13/16 x	18 in.	20 lbs.	.90
	⅞ x	18 in.	20 lbs.	.90
	15/16 x	18 in.	28 lbs.	1.10
	1 x	18 in.	28 lbs.	1.15
	1¼ x	18 in.	38 lbs.	1.35
	1¼ x	18 in.	50 lbs.	1.60
	1½ x	18 in.	50 lbs.	2.35
	½ x	24 in.	9¼ lbs.	.75
	9/16 x	24 in.	14 lbs.	.75
	⅝ x	24 in.	14 lbs.	.75
	11/16 x	24 in.	16½ lbs.	.85
	¾ x	24 in.	16½ lbs.	.85

Solid Machine or Drift Punches — No. 291

Accurately machined precision tools made by an improved method which insures perfectly square ends. Number and size stamped on each tool. Made from "Chrome-Molly" steel.

No.	0	1	2	3	4	5	6	7	8	9
291	5/16	9/32	¼	13/64	3/16	11/64	5/32	9/64	⅛	3/32

Length	Stock			Price Each
4½ in.	5/16	7/16	⅜	$.25
6 in.	½			.30
10 in.	½			.40

Center Punches

Points polished. Forged from "Chrome-Molly" steel. Number and size stamped on each one.

No.	Stock	4½ in. Long Price Each	6 in. Long Price Each
23	3/16 in.	$.25	$.30
	⅜ in.	.27	.32
	7/16 in.	.30	.36
	½ in.	.32	.38

Prick Punches

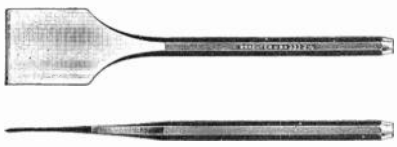
Points polished. Forged from "Chrome-Molly" steel. Number and size stamped on each one.

No.	Stock	Length	Price Each
24	5/16 in.	4½ in.	$.25
	⅜ in.		.30
	7/16 in.		.35

Long Slender Pattern

No.	Stock	Length	
24-A	5/16 in.	6 in.	$.30
	⅜ in.		.34
	7/16 in.		.38
	½ in.		.40
25	⅜ in.		.35

Electrician's Chisels No. 333



Used by electricians, plumbers and other workmen for taking up floor boards without damage.

The blade is inserted between two boards, and they are pried apart sufficiently to open the tongue-and-groove joint. In this way, one board is raised without splitting its tongue or groove.

Drop-forged from special chisel steel—perfectly hardened—spring tempered.

Blade is ground thin, with sharp edge, and extremely gradual bevel.

No.	Width of Blade	Length	Wt., Doz.	Price Each
333	2 in.	12 in.	15 lbs.	1.60
	2½ in.	12 in.	15½ lbs.	1.60
	3 in.	12 in.	16 lbs.	1.60

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World Radio History

TOOLS

De Luxe

With Lumarith SUPER-GRIP Handles, Substantially Non-Inflammable

CHROME NICKEL -- MOLYBDENUM BLADES

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4"	1/4"	2 1/4 lbs.	R144	$1.15
6"	1/4"	2 3/4 lbs.	R146	1.25
6"	5/16"	4 lbs.	R5166	1.55
8"	5/16"	4 3/4 lbs.	R5168	1.75

Electric or Radio

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	1 1/4 lbs.	R412	$ .95
6 1/2"	3/16"	1 1/2 lbs.	R612	1.05
8 1/2"	3/16"	2 3/8 lbs.	R812	1.25
10 1/2"	3/16"	2 5/8 lbs.	R1012	1.55

MINIATURE—Magnetized

No. 1620. Twelve miniature de luxe screw drivers mounted on display card; each with pocket clip. Four each of 1 1/2", 2 1/4" and 3 1/4" with 1/8" round blades. Weight per doz. cards, 9 lbs. List per card $3.75

SUPER-GRIP

No. F215—Machinists' Type

BLADE THROUGH HANDLE

Steel bushing welded on blade.

U. S. Pat. No. 2,046,733

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4"	1/4"	2 1/2 lbs.	F215	$ .45
5"	1/4"	2 3/4 lbs.	F215	.50
6"	5/16"	4 1/2 lbs.	F215	.65
8"	3/8"	7 3/4 lbs.	F215	.75
10"	3/8"	8 lbs.	F215	.95
12"	3/8"	9 lbs.	F215	1.15

No. F216—Electric or Radio—Wood Handle

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	1 1/4 lbs.	F216	$ .25
6 1/2"	3/16"	1 1/2 lbs.	F216	.30
8 1/2"	7/32"	2 lbs.	F216	.50
10 1/2"	7/32"	3 1/4 lbs.	F216	.65
12 1/2"	7/32"	3 3/4 lbs.	F216	.80

THORITE

Thorite insulated handles, molded under heavy pressure, on tool steel blades. Hexagon guard prevents fingers slipping on blade in electrical work.

Patent No. 1,979,460

No. W120—Machinists' Type

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
3"	3/16"	1 3/4 lbs.	W120	$ .30
4"	1/4"	2 1/2 lbs.	W120	.40
5"	5/32"	3 lbs.	W120	.45
6"	5/16"	4 3/4 lbs.	W120	.55

No. W220—Electric or Radio

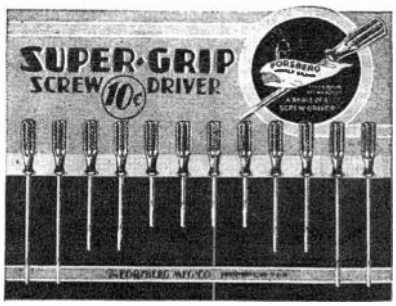
Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
3 1/2"	3/16"	1 1/2 lbs.	W220	$ .30
4 1/2"	3/16"	2 lbs.	W220	.40
6 1/2"	3/16"	2 1/2 lbs.	W220	.50
8 1/2"	3/16"	3 lbs.	W220	.65

No. W2201—Electric or Radio

INSULATED BLADE

Blade Length	Blade Diameter	Weight Per Dozen	No.	List, Each
4 1/2"	3/16"	2 lbs.	W2201	$ .45
6 1/2"	3/16"	2 1/2 lbs.	W2201	.55
8 1/2"	3/16"	3 lbs.	W2201	.70

No. W620—Miniature Display



Magnetized

No. W620. Twelve miniature Whale black thorite handle screw drivers mounted on card, each with pocket clip. Four each 1 1/2" 2 1/4" and 3 1/4" lengths. Weight per dozen cards, 9 lbs. List per card $1.50

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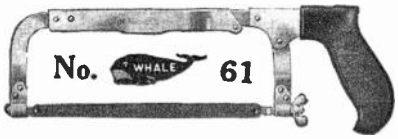
World Radio History

TOOLS

Hack Saw Frames



No. 61. An excellent frame for the electrician and radio mechanic. Steel tail piece molded in checkered composition handle. Reinforced back gives additional strength. Adjustable for 8" to 12" blades; blade may be faced in four directions. Nickel-plated stock .165" x 5/8"; depth 3 1/8"; complete with 10" blade. One in a box. Weight per dozen, 17 lbs. List each $1.25

No. 155B. Horizontal frame with black hardwood handle; has wing nut blade adjustment. Reinforced back. Adjustable for 8" to 12" blades; blade may be faced in four directions. Nickel-plated stock .165" x 5/8"; with blade. One in a box. Weight per dozen, 11 lbs. List each ..... $.50

Tom Thumb

No. 3. The "Tom Thumb" frame--sold all over the world. The handiest and most compact saw obtainable. Made of nickel-plated 1/4" steel wire. With No. 270 blade. One dozen in a box. Weight per dozen, 2 1/2 lbs. List each ..... $.20

Keyhole Saws

No. F33. Pistol grip, and a thumb rest, gives a firm hold; nicely finished in silver and black lacquer; 7 1/2" interchangeable, 18-tooth hack saw blade, No. F33B flexible back, cuts all metals, all woods, plaster, wall board, conduit, etc. One on a card, one dozen cards in a box. Weight per dozen, 3 lbs. List each ..... $.30

Hack Saw Blades

Flexible Hand Blades

Made especially for rough usage. Recommended for Automotive Mechanics, Plumbers and Electricians for use on mild steel, pipe, tubing, BX cable, conduit, etc. Made of tungsten alloy steel.

Number	List per Dozen	Length	Width	Thickness	Teeth Per in.	Weight per Gross lbs.	Weight per Gross ozs.
1024F	$ .95	10"	1/2"	.025	24	5	13
1032F	.95	10"	1/2"	.025	32	5	13

Hack Saw Blades

Tom Thumb Blades

No. 270. Pin type, for Tom Thumb frame, and other frames of this type; 5 3/4" long, 1/4" wide, .015 thick. 32 teeth. Packed one gross in a box. Weight per gross, 1 lb. List per dozen ..... $.75

Keyhole Hack Saw Blades

No. F33B. For No. F33 Keyhole Hack Saw, and saws of this type; flexible, 7 1/2" long, 3/4" wide at heel, 3/16" wide at point, .032 thick, 18 teeth. Packed one dozen in a bundle, one gross in a box. Weight per gross, 5 3/4 lbs. List per dozen $1.80

Spiral Screw Drivers

A Quality Tool—Does Everything
Popular in Price

The useless, expensive, reversible feature has been eliminated—reducing cost. It is impractical to push against a screw coming out.

Automatic screw drivers are used rigid to take out screws. The Whale is made rigid by holding the chuck in left hand, turning the handle toward you with the right hand.

FAST! — LIGHT! — STRONG!

No. W71. Length extended with bit 14 3/4"; closed 9"; complete with one bit. Each stroke turns screw 2 1/2 times. Packed one in a box. List, each $1.25

No. W81. Length extended, with bit 21", closed 13 1/4" complete with two bits. Each stroke turns screw 5 times. Packed one in a box. List, each $1.90

No. W91. Length extended, with bit 24"; closed 15 1/2"; complete with three bits. Each stroke turns screw 4 1/2 times. Packed one in a box. List, each $2.50

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DRAKE Utility IRONS

60 WATT IRON WITH 5/8" TIP

Highest quality Nichrome wire used in porcelain element. Equipped with 6 ft. heater cord and rubber plug. Fully nickel plated. An excellent iron for light work. Net weight 1 lb.

No. 75 ..... List Price **$1.25**

100 WATT IRON WITH 7/8" TIP

Highest quality Nichrome wire used in porcelain element. Equipped with 6 ft. heater cord and rubber plug. Fully nickel plated. Just the iron for repair work around the home. Net weight 1 lb.

No. 85 ..... List Price **$1.75**

80 WATT IRON WITH 3/8" TIP

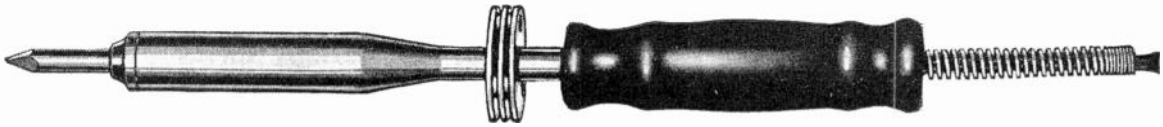
Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug. Fully nickel plated. Recommended for light radio work. Net weight 1½ lbs.

No. 225 ..... List Price **$3.15**

100 WATT IRON WITH 3/8" TIP

Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug. Fully nickel plated. Recommended for general radio work. Net weight 1½ lbs.

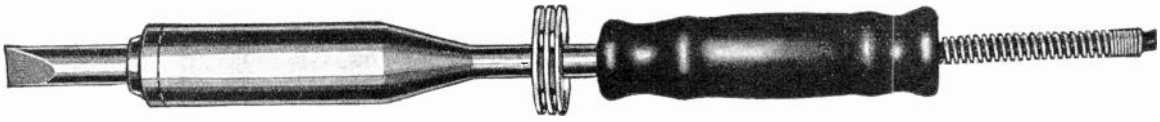
No. 325 ..... List Price **$3.75**



125 WATT IRON WITH 3/8" TIP

Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug. Fully nickel plated. Recommended for general radio work. Net weight 2 lbs.

No. 325 SPECIAL ..... List Price **$4.50**



200 WATT IRON WITH 5/8" TIP

Highest quality Nichrome wire wound on amber mica. Complete with 6 ft. heater cord, rubber plug. Fully nickel plated. Recommended for Medium heavy work. Net weight 2 lbs.

No. 425 ..... List Price **$7.50**

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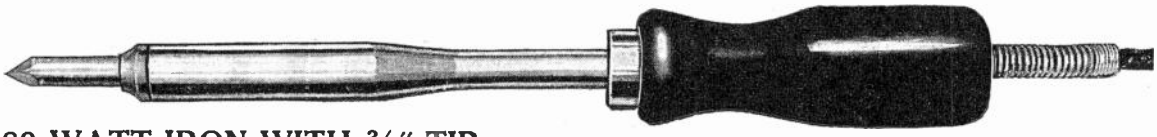
DRAKE Industrial IRONS

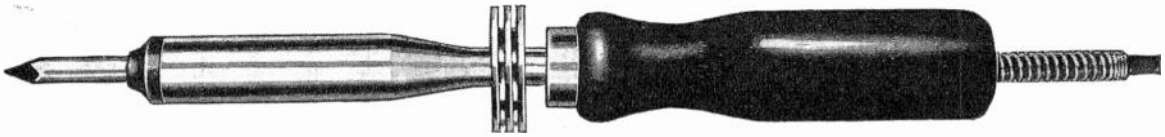


80 WATT IRON WITH 3/8" TIP

Recommended for fine instruments, light telephone and other light soldering.
Complete with 6 ft. cord and stand.

No. 450 . . . . . List Price **$4.50***

Net weight 1½ lbs.

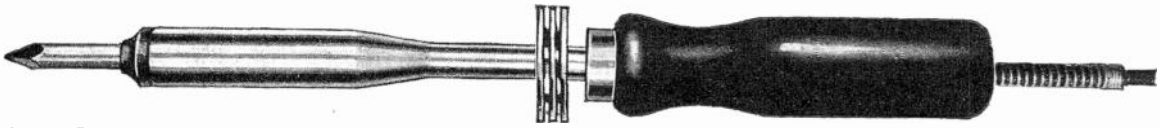


100 WATT IRON, only 10 inches overall

For switch boards, radio and other light manufacturing. 3/8" tip.
Complete with 6 ft. cord and stand.

No. 600-10 . . . . . List Price **$6.50***

Net weight 2 lbs.



Speed up production with the No. 600 Special
A 140 WATT IRON WITH 3/8" TIP

Recommended for high speed soldering on radio sets.
Complete with 6 ft. cord and stand.

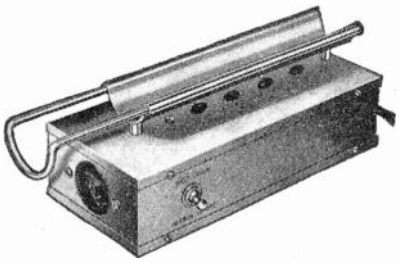
No. 600 Special . . . . . List Price **$7.00***

Net weight 2 lbs.

*30

DOUBLE THE LIFE OF YOUR IRON
with the

DRAKE VARIABLE HEAT CONTROL



KEEPS YOUR TIP PROPERLY TINNED

•

PAYS FOR ITSELF WITHIN A SHORT TIME

With this control you can keep your iron warm at low cost. A flip of the switch and the iron is ready for use in a few moments. For use with any Soldering Iron not exceeding 150 Watts Input. 115 Volts A. C. or D. C. only.

No. 300—Heat Control . . . . List Price **$3.50†**

Net weight 3 lbs.

DRAKE SOLDERING STAND

No. 10 . . . . . List Price **50c†**

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GENERAL G.C. CEMENT Service Aids for Radio Men

LIQUIDOPE

This genuine coil dope is specially prepared for coating and holding coil windings firmly in place. Coils treated with LIQUIDOPE are protected from characteristic changes. It is fast-drying and non-inductive.

LIST PRICE

No. LD2—
2 oz. bottle..... $0.35

No. LD8—
½ pt. can..... 1.05

No. LDP—
1 pt. can..... 2.00

SPAGHETTI

"Made in U.S.A."

G. C. Sphaghetti is of the highest quality and is made for Radio Work. It is flexible and will not crack after aging. Breakdown voltage 5000 Volts. Colors: Red, Green, Yellow, Black. 30" lengths.

LIST PRICE

No. SR1 —Reg. No. 12.....$0.15
No. SR12—⅛ in. I.D..... .25
No. SR13—3/16 in. I.D..... .35
No. SR14—¼ in. I.D..... .45
No. SR15—5/16 in. I.D..... .85
No. SR16—½ in. I.D..... 1.00

RADIO DIAL OIL

Fine complicated radio dial mechanisms require a special lubricant if they are to give long-lasting service. General Cement has developed such a lubricant in "Radio Dial Oil". It contains special processed, fine oils, treated with permanent lubricants that insure lubrication even after the oil has disappeared. Treat these automatic dials and fine movements with G-C Dial Oil and they will give lasting service.

LIST

No. RD04—4 oz. can.....$0.35

FINE OIL

For general purpose use.

No. FO4—4 oz. can.....$0.30

Dial Lite Coloring

Most of the radios have multi-colored dials, and you need this kit to replace colored lites. This new kit contains 6 bottles: solvent, 5 colors, red, green, blue, amber

and "the new purple," with new wide mouth bottles. Lites can be dipped directly into bottles.

LIST PRICE

No. DC6—Coloring Kit.....$0.60

FIBRELOID SPEAKER SHIMS

This kit of Speaker Shims is made of specially tough and flexible Fibreloid (Celluloid) and is preferred for adjustments on certain types of speakers. Our kit consists of five different sizes that will take care of all speakers: .005, .0075, .010, .0125 and .015 inches. All sizes are colored and the different gauges are indicated on the attractive gold lettered snap case supplied with this kit.

LIST PRICE

No. FS5—Five Sizes—20 Shims to this kit.....$0.60

SWEDISH STEEL SPEAKER SHIMS

Speaker shims are necessary to every Service Man to enable him to properly adjust any type of a dynamic speaker. With our Steel shims, adjustments on speakers can be made in a few minutes, and satisfactory results are assured, where without shims much more time is required. These shims are made of the best grade of Swedish Steel, they are really very flexible, and can be honestly called a permanent tool. Four sizes are furnished in a handy gold lettered partitioned snap case: .0035, .006, .008 and .010 in.

LIST PRICE

No. SS4—16 shims color coded in a kit..... .....$0.65

Speaker Repair Cement

Here's our high grade speaker cement in a handy tube for those who prefer to use a tube. Cement can be applied directly from the tube on the parts to be cemented without the use of a brush. This tube is very handy to carry with you on every service job, and should be a part of your tool kit.

LIST PRICE

No. TC42 .....$0.42

RADIO SERVICE CEMENT
"For Speaker Repairs"

A high grade cement specially prepared for Radio and Speaker Work. Unexcelled for cementing and replacing cones on dynamic speakers, repairing rattling or torn cones, cementing voice coils, spiders, etc. Can also be used for a bakelite or glass cement, in cementing loose tube bases and grid caps to glass, sealing adjustments, cementing parts to chassis, etc. Dependable, vibration proof, and fast drying. Will not crack or shrink paper cones.

LIST PRICE

No. SC2 —2 oz. bottle.....$0.50
No. SC4 —4 oz. economy bottle..... .90
No. SC6 —6 oz. economy bottle..... 1.35
No. SC1P—1 pt. bottle..... 3.00

5,000 Volt Insulating Cambric

"Breakdown Voltage, 10,000 Volts"

Insulating Cambric is the handiest item to have in a service shop. It is absolutely necessary for insulating and preventing grounds and shorts on field coils, transformers, resistors, condensers, wires, etc.

A DRY YELLOW CAMBRIC

No. IC2—Rolls of over 210 sq. in.
List Price, $0.50

Cement & Solvent Kit

"A Handy Kit to Carry With You"

This is a handy kit for speaker repairs on the job. The kit contains one bottle of high grade Speaker Cement and one bottle of Cement Solvent, together with a handy brush.

LIST PRICE

No. CSK1—Per kit.....$0.50

RADIO SERVICE SOLVENT

"Cleans and Dissolves"

This solvent is prepared for quickly loosening cement on speaker cones, spiders and voice coils, and for thinning the Cement when necessary.

LIST PRICE

No. SSL2 —Large 2 oz. bottle.....$0.35
No. SSL4 —4 oz. economy bottle..... .50
No. SSL6 —6 oz. economy bottle..... .65
No. SSL1P—Pt. bottle 1.25

INSULATING AND DIPPING VARNISH

This is a clear amber-colored insulating varnish composed of highest quality ingredients. It produces a smooth, tough film and is waterproof, oilproof and non-corrosive. Recommended for treating field coils, buzzing or noisy transformers and choke coils. It can be either used as a dipping varnish or applied with a brush.

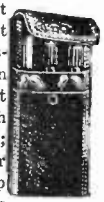
"It requires no baking and dries in air"

No. DV8 —½ Pint can.....LIST PRICE, $0.75
No. DV1P—Pint can.....LIST PRICE, $1.25

Handy Pocket Tool Case

"Saves the Pocket and the Tools"

Here's a high grade, two-partition case that will fit your hip pocket and hold all the necessary tools you need on the job. A very neat case, made of high grade Genuine Leather; it is double sewed for strength, with a snap on the flap. This case is very handy to have as it keeps your tools together, and they're there when you need them. It also saves wear and tear on your pockets. "Every Service Man Should Have a Case for Tools."



No. PTC1.....LIST PRICE, $1.00

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World Radio History

GENERAL G-C CEMENT Service Aids for Radio Men

RADIO REPAIR LITE

"Light Where You Want It"

Saves time and trouble. Simply plug it into any 110 volt socket and you have light where you want it. Can also be used for coloring dial light bulbs, dip the bulb in the coloring and the job is done.

110V. AC or DC

No. RRL.....List Price, $1.50

SOLDER IRON TIPS

G-C Solder Iron Tips are made of the best grade of hard drawn copper and will give lasting service.

The sizes listed will fit all makes of soldering irons that have removable tips and use these sizes. Next time try a G-C solder iron tip, and see if it doesn't last longer.

	LIST PRICE
No. SIT1—5/16" x 4" long	$0.50
No. SIT2—3/8" x 4" long	.60
No. SIT3—7/16" x 3" long	.60

CABINET Speaker Grille Cloth

Our Speaker Grille Cloth is a high quality cloth of a beautiful pattern, which will harmonize with any high grade cabinet. This is not an ordinary cheap grille cloth. It is a high grade cloth such as is used on the more expensive cabinets.

"Every Service Shop should have a piece of Grille Cloth on hand"

	LIST PRICE
No. GLC1—For larger cabinets—Size 18 x 20 inches	$0.75
No. GSC2—For small cabinets or midget sets—9 x 18 in. (Pieces sufficient for 2 or 3 cabinets.)	$0.50
No. GCY—For odd sizes, 50 in. wide, per yard	$3.80

SCRATCH STIK "Removes Scratches"

You simply run this scratch stick over the scratch and it will vanish like magic. You should carry one of these sticks with you at all times for accidental scratches. It comes in handy carrying case.

LIST PRICE

No. SSK..... $0.50

COLOR CODING KIT

"Air Drying In a Few Minutes"

This kit consists of four brilliant colors of the highest grade lacquer enamel for color coding sockets, all-wave coils, jacks, wire terminals, and various parts of testing equipment. You can improve the appearance of your equipment with this kit. Colors of red green, blue and yellow furnished with solvent and brushes in this kit.

No. CCK5.....LIST PRICE, $0.60

GRAFOLINE "Radio Contact Lubricant"

GRAFOLINE is absolutely necessary to insure proper and lasting repairs for all air-exposed contacts, switches, and wire-wound volume controls—wherever dust and dirt affect the quiet action of adjustable radio parts or controls, Radio Men need this compound for all-wave switches, wire-wound volume controls, to clean noisy tube prongs, etc.

"It Cleans As It Lubricates"

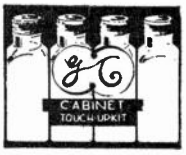
No. GR2

LIST PRICE.....$0.35

CABINET TOUCH-UP KIT

"Removes Scratches"

This Kit is a practical touch-up kit that will touch up those accidental scratches and dents on cabinets and relieve you of worry and responsibility due to an unavoidable accident. It contains 4 bottles, camels hair brushes, a portion of dark wax for filling deep scratches and a rubbing cloth. A light and a dark stain, and a light and a dark varnish stain are included. The Varnish stains can also be used to touch up scratched metal escutcheons, etc.



No. CTK4.....LIST PRICE $0.60

Crystalizing Lacquer

"Decorates Metal and Wood"

This is a high grade Air Drying finishing lacquer that produces a fine professional finish on any metal parts on which it is applied. On drying it produces a beautiful crystal effect on the surface. It is easy to apply and requires no skill or special equipment.

	LIST PRICE
No. CLB2 —Black ⅛ pt.	$0.35
No. CLB4 —Black ¼ pt.	.65
No. CLB8 —Black ½ pt.	1.05
No. CLB1P—Black pt.	2.00
Red, Green, Blue, Yellow, Brown	
No. CLC2 —⅛ pt.	.45
No. CLC8 —½ pt.	1.15
No. CLC1P—Pint	2.25
TELEPHONE BLACK	
No. TB2 —⅛ pt.	$0.40
No. TB16—Pint	2.00

Dating & Marking Kit

"For Metal or Glass Tubes, Chassis, etc."

Date and mark your tubes and repair jobs the "factory way." When your name or date is stamped with this kit, the marking is there to stay. It is not affected by heat or moisture.

Use your own rubber stamp for your name on every job. Kit is complete with dater, pad, ink, solvent, and brush in a neat black leatherette finish box.

LIST PRICE

No. DK1..... $3.75

RUF-KOAT Wrinkle Finish Varnish

"As Used by Manufacturers of Professional Radio Equipment"

This wrinkle varnish requires no baking and can be air dried. It can be easily brushed or sprayed if preferred. It is the same professional finish as used on most of P. A. Amplifiers, test equipment, I.F. Transformers, chassis, panels, racks, etc.

	LIST PRICE
No. RKB2 —⅛ pt.	$0.40
No. RKB4 —¼ pt.	.70
No. RKB8 —½ pt.	1.10
No. RKB1P—Pint	2.00
No. RKB32—Quart	3.50

BLACK, SILVER-GRAY or BROWN

State color wanted

CREME-O-WAX POLISH FOR RADIO CABINETS

This is a high grade greaseless polish that you can use on new Radios in your shop, or sell to your customers to keep their Radios looking new. Your customers will marvel at the high gloss and hard finish of this polish. It leaves a durable finish that lasts.

"Feature This Polish With Your New Radios"

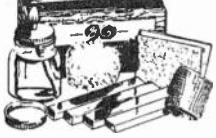
(Display cards furnished)

	LIST PRICE
No. CWP8—Half pint bottle	$0.60
No. CWP16—Pint bottle	1.00

Radio Cabinet & Refrigerator PATCH KIT

"For Deep Nicks and Scratches"

With this kit you can patch Wood, Bakelite or Metal Cabinets. This kit is complete and ready to use. It comes in a black leatherette case and contains six Shellac Sticks in light and dark shades of oak, walnut and black and white, alcohol lamp (with alcohol), spatula, steel wool, sandpaper and wiping cloth.



	List Price
No. PSK	$2.25
Extra Shellac Sticks, 7" long	0.25

NON-SLIP COMPOUND FOR RADIO DIALS

This compound is specially made for aiding in repair of slipping friction, and cable or cord driven dials. This compound will save the service man much work and insure a perfect job when used. It is easy to use, as it comes in powder form and should be applied freely to slipping parts.

No. NSC4

LIST PRICE $0.30

Write for complete catalog and full description of General Cement Radio Products for Service Men.

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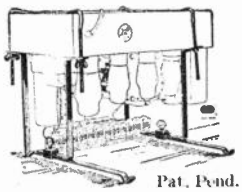
World Radio History

GENERAL GC CEMENT

Radio Products

RADIO CHASSIS GUARDS

The Answer! - to the Radio Man's Problem



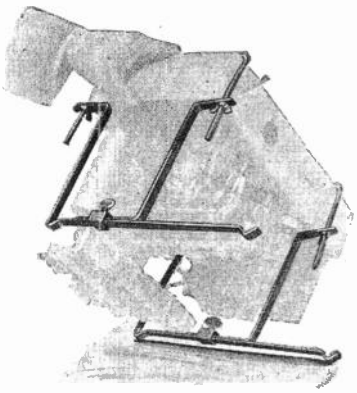
Pat. Pend.

Easy to work on, in any position. Every shop should have 3 or 4 pairs of guards on hand to take care of incoming jobs.

One of the unsolved Service Man's Problems has been a practical method of Chassis Protection and Handling, while he is working on it, or his bench, and when he is transporting it to and from his shop. General Cement has solved this problem with the first practical CHASSIS GUARDS. You can apply these guards at the job, bring the set in with the guards, and leave them on till you get the set back to the job. You will appreciate the ease of handling a chassis after you have tried these guards on your first job. Here are just a few features of these guards.

- FITS ANY CHASSIS
- EASY AND FAST TO APPLY
- RIGID AND SOLID PROTECTION
- PROTECTS CHASSIS IN ANY POSITION
- REALLY PRACTICAL AND PROFESSIONAL GUARDS

No. RCG—Radio Chassis Guards .....Price per pair, $1.75 Net



CHASSIS JACKS

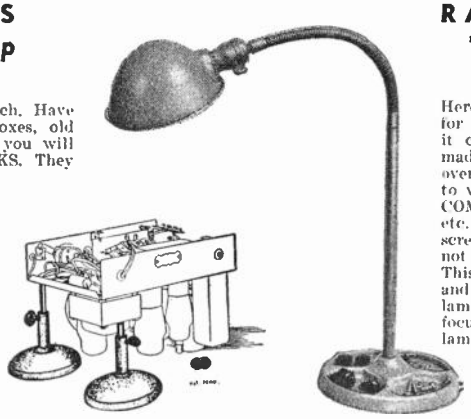
"Convenient tool to keep on the bench"

Another practical tool for the Radio Bench. Have you ever tried to prop up a set with boxes, old parts, batteries, etc.? If you have—then you will appreciate a pair of these CHASSIS JACKS. They are adjustable to fit any set, or any conditions. They are made of metal, and much superior to any type of wood props. They take very little space, and are very convenient.

Service men should have at least two pairs of jacks on the bench. They will more than pay for themselves in saving of time. After you once try these jacks they will become a part of your regular equipment.

No. CJ2

Chassis Jacks....Price per pair, $1.25 Net



RADIO BENCH LAMP

"Saves your eyes and your light bill"

Here is the first practical Bench Lamp made for Radio Work. It has a flexible shaft so that it can be adjusted to any position, and it is made high enough so that it can be placed over the chassis and there is sufficient room to work with your iron, etc. It has a SPECIAL COMPARTMENT BASE, for knobs, screws, parts, etc. When working on a set you can place the screws and knobs in this base, and they will not get lost. This is a special feature in itself. This light will also save on your light bill and pay for itself in a short time. A 25 watt lamp will give you more light when directly focused on the chassis, than several 100 watt lamps over head. It will also be easy on your eyes as you can focus the light on the Chassis only, and eliminate glare.

No. RBL

Radio Bench Lamp .....Price, $2.50 Net

SERVICE BENCH STOOLS

Comfortable Chairs for Radio Repairs

A comfortable chair or stool has a definite place in the service shop. Every Radio Bench should be equipped with a good stool, for comfortable seating.

GC Stools are made for Radio Work, constructed of strong angle steel and incorporate original method of double riveting every structural connection, hence GC Stools will outlast any other stool.

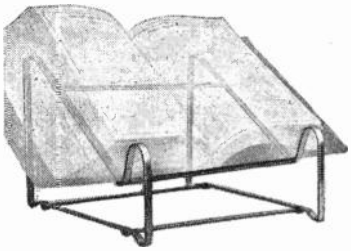
These Stools have WOOD SEATS of 13½" diameter. The No. 403 series have a WOOD BACK REST for greater comfort.

			Net Price
No. 401	Steel Stool—wood seat	24" high	$4.05
No. 401-A	Steel Stool—wood seat	26" high	4.35
No. 401-C	Steel Stool—wood seat	30" high	4.75
No. 403	Chair same as 401 but with back rest	24" high	6.05
No. 403-A	Chair same as 401 but with back rest	26" high	6.35
No. 403-C	Chair same as 401 but with back rest	30" high	6.75

(30" stools have turned out foot rest)

TESTER and MANUAL HOLDER

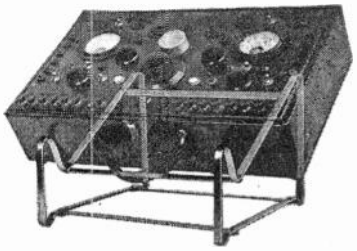
A necessity for every Radio Bench



Here is a real practical, and inexpensive Tester-and-Service-Manual Holder. It can be moved around on your bench with safety and ease; holds your Tester or Manual at the right angle for easy vision. It will give your portable test equipment a definite place on the bench. This holder also makes an ideal rack for DISPLAY of TEST EQUIPMENT.

Cat. No. TMH

Tester-and-Manual Holder .....Net Price, each $1.50



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NET

World Radio History

GC Woven Fabric Radio Dial Belts

GC Fabric Woven Radio Dial Belts are exactly the same as used by Radio Set Manufacturers. They are heat and moisture-proof, will not stretch, and are specially treated for maximum friction and accurate tuning. They will fit models listed accurately. Each belt is packed in individual envelopes, and put up in kits of 15, 25, 50, 100, 200 and 300 belts.

SERVICEMEN'S KITS

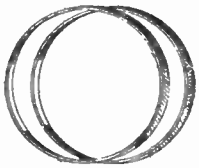
Leatherette Finish Boxes and Belt Scale with each Assortment FREE.

Cat. No. G100—Contains complete assortment of all belts listed. Includes belts for RCA, Zenith, Emerson, Crosley, Grunow, Sparton, Fada, Stromberg-Carlson, Fairbanks-Morse, Majestic, Detrola, Silvertone, Airline, Lafayette and others.....**List Price $25.00**
NET to DEALERS..... **13.50**

Cat. No. G 50—Contains 50 belts, one each of the most popular models.....**List Price $13.25***
NET to DEALERS..... **7.25***

Cat. No. G 25—Contains 25 belts, one each of the most popular models.....**List Price $7.00**
NET to DEALERS..... **3.75***

Cat. No. G 15—Contains 15 belts, one each of the most popular models.....**List Price $4.50**
NET to DEALERS..... **2.50***
(Jobbers Kits of 200 and 300 Belts also available.)



SINGLE BELTS
25c Each

Model No.	Belt No.
ACRATEST	
24 BH	108
24 BW	108
30 C	109
31 C	109
AM 29 C	109
AM 79 H	109
AM 111 G	109
ADMIRAL	
AM787	142
AM4-88	142
AM889	142
AM3-87-88	142
AM6-87-88	142
AM786	145
AM458	145
AM859	145
AM3 86-57	145
AM6 86-57	145
11S 9G 16R	169
8K	170
8T	170
8KU	170
8TU	170
AIRLINE (Montgomery Ward)	
179, 180, 182	163
185, 187, 190	163
194, 196, 206	163
207, 209, 216	163
218, 220	163
221, 223	163
192, 195, 197	164
226, 228, 259	S1
307, 318	S1
409, 418	S1
257, 307, 316	123
317, 328, 338	123
249, 251, 255	123
407, 416	123
428, 430	123
AMERICAN BOSCH	
670, 678, 680	115
660	129
ARVIN	
617	165
627	165
927	165
1127	165
1237	166
1247	166
1247-A	166
1427	166

Model No.	Belt No.
BELMONT	
686	126
770	127
786	126
787	126
878	107
1070	127
1170	107
1174	107
CAPEHART CO.	
3650	157
CROSLEY	
All Numbers	141
DETROLA	
155	136
164	135
DEWALD	
901, 1102	141
EMERSON	
K	102
AP	156
C, D, X, M	118
AG, AB	118
B, F, G, L	103
Z, AM, BF	103
A, H, AC	104
AJ, AL	104
AF, AH	106
AR, AS	106
FADA	
270, 271	110
212, 216	138
312, 316	138
211, 270	130
271, 220	130
FAIRBANKS-MORSE	
58	154
72	154
8-A	146
G-A	140
5C	140
91	154
120	154
GAROD	
370, 371	119
830, 830A	119
831A, 930	119
930A, 731	119
309, 903	149
3012, 1203	149
4012, 1204	149
3016, 1603	149
4016, 1604	149

Model No.	Belt No.
4110, 1240	120
1240A, 1650	120
1650A, 5240	120
309, 903	170
3012, 1203	170
4012, 1204	170
3016, 1603	170
4016, 1604	170
GRUNOW	
573	131
631	131
643	131
711	131
723	131
731	131
733	131
735	131
823	132
831	132
833	132
835	132
941	132
1191	139
LAFAYETTE	
B15, B22	115
B35	115
B30, C46	121
C47, C61	121
C62, C64	121
MAJESTIC	
65	161
66	161
650	161
75	161
76	161
750	161
750—Old Style	106
85	161
86	161
850	160
1050	160
1250	160
NORTH. ELECTRIC	
All Numbers	152
R.C.A.	
810K	142
810K1	142
810T	142
810T4	142
812X	143
813U	142
85BK	133
85BT	133
85BT6	106
85E	122
85K	106

Model No.	Belt No.
85K1	123
85T	112
85T1	106
85T2	113
85T5	111
85T8	111
85T9	123
86BK	133
86BT	133
86E	142
86K	142
86K2	111
86K7	142
86T	133
86T1	133
86T2	111
86T3	111
86T4	133
86T6	111
86T44	133
86X	106
86X4	106
87EY	133
87K	142
87K1	142
87K2	142
87T	133
87T1	111
87T2	142
87X	133
87Y	133
88K	142
88U	142
88U2	142
U101	106
U102E	122
U103	106
U105	142
U106	142
U107	142
RC326	148
RC327	150
SILVERTONE (Sears, Roebuck)	
1930	114
1940	114
1956	114
1970	114
1970A	114
1941	145
1981	145
1981C	145
7170	145
7170A	145
7340	145
SILVER MARSHALL	
846	130
SIMPLEX	
W	108

Model No.	Belt No.
SPARTON	
517	147
518	146
527-2	146
528-2	146
537	146
538	146
547-X	146
548-X	146
557	147
558	146
567	147
568	146
577	146
578	146
587-2	146
588-2	146
617	146
628	146
637-6	146
638-6	146
667	146
668	146
678	146
687-6	146
688-6	146
727-X	134
727-XD	134
728-X	134
748-X	146
768	134
778	134
827-X	134
827-XD	134
867	134
877-X	134
928-X	134
968	134
987	134
997-X	134
1068	134
1078	134
1167	134
1268	134
1288-P	134
1288-LXP	134
1567	134
1568	134
1867	134
STROMBERG-CARLSON	
All Numbers	151
WELLS-GARDNER	
8X46	S2
27L	S2
8X42	S1
17L, OE	S1
2D	S1
8X47	168
57E	168

Model No.	Belt No.
8X57	131W
17P4	131W
17B2	131W
17T1	131W
8X62	170
88A9	170
8X35	163
7G, 9C	163
8X36	164
6F, 2C	164
10X23	W1
TE1	W1
10X20	W2
82DL	W2
10X21	W3
57L, 50E	W3
52D, 50F	W3
57P, 57Q	W3
10X14	W4
WESTINGHOUSE	
1029 X	124
1029 Y	124
1230 X	124
WILCOX-GAY	
6 S 12	125
A-21	125
ZENITH	
Chassis No.	
1001	160
1202	139
1203	149
1204	143
5905	143
1501	143
5903	128
5704	128
5902	128
5627	116
5619	116
5522	167
5638	167
5523	167
5710	167
5508	101
5614	101
5618	101
5634	168
5801	168
5635	168
1004	168
5709	168
5516	117
5707	117
5518	117
5644	133

 *Net

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World Radio History

GENERAL GC CEMENT

Dial Drive Cables and Accessories

DIAL DRIVE CABLES, CORDS, BANDS BY THE SPOOL

42 Strand Phosphor Bronze Cable

Highest Grade cable made of 42 strands and constructed over a linen thread center. Absolutely the finest Bronze cable money can buy.

Cat. No.		List Price per spool
71-25—	25 ft. spool	$1.15
71-50—	50 ft. spool	2.25
71-1C—	100 ft. spool	4.00

Phosphor Bronze No. 2 Cable

A lower quality cable than the No. 71, but a cable that will give good service. This is a braided Phosphor Bronze Cable.

72-25—	25 ft. spool	$ .65
72-50—	50 ft. spool	1.25
72-1C—	100 ft spool	2.45

Heavy Linen Cable

Best quality cord, same as used in Philco, Silver Marshall, Brunswick and others. Made of finest Black Linen Braided, and specially treated to prevent slipping.

73-25—	25 ft. spool	$1.30
73-50—	50 ft. spool	2.50
73-1C—	100 ft. spool	4.50

Light Linen Cable

Highest Quality Light Cord exactly as used in RCA, Wells Gardner, Majestic, Sonora and others, both as to texture and thickness, made of finest Black Linen Braided, and specially treated to prevent slipping.

74-25—	25 ft. spool	$1.15
74-50—	50 ft. spool	2.25
74-1C—	100 ft. spool	4.00

Special Thin Phosphor Bronze Cable

This is a High Quality Special Thin Phosphor Bronze Braided Cable exactly the same as used on RCA and GE 1936-1937-1938 sets.

76-25—	25 ft. spool	$ .75
76-50—	50 ft. spool	1.40
76-1C—	100 ft. spool	2.60

Phosphor Bronze Belting

Same belting as used on Atwater Kents, Colonial, Steinite, Crosley and others. 3/16" wide x .005" thick.

61-25—25 ft. spool $1.25

Bronze Belting same as used on Brunswick and Silver Marshall 5/16" x .006" thick.

62-25—25 ft. spool $1.85

NON-SLIP COMPOUND *for Radio Dials*

This compound is specially made for aiding in repair of slipping friction, and cable or cord driven dials. It will save the service man much work and insure a perfect job when used. It is easy to use, as it comes in powder form and should be applied freely to slipping parts.

No. NSC4 ..... List Price $0.30

FELT and RUBBER BUMPERS

For use on bottoms of small cabinets, appliances, etc., to prevent scratching of tables. The felt pads can be glued on with a drop of SERVICE CEMENT, and the tack bumpers can be pushed or nailed in.

	List Price
No. FB—Felt Pads, 100 in envelope	$0.50
No. RB—Rubber Tack Bumpers, 25 in envelope	.50

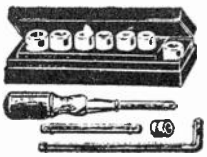
RADIO KNOB SET SCREWS

Replacement Screws for all sizes of Knobs. Assortment of 50 screws. Each assortment contains various lengths of 6/32, 8/32, 10/32 screws.

	List Price
No. RKS—50 assorted set screws	$1.00

11-PIECE RADIO SOCKET SET

Eleven pieces, ¼" hexagon drive, put up in convenient crystal enameled steel case, as follows: 6½" Wood Grip Screw Driver Handle, 4" L Handle, 3¾" Extension adapter, ¼", 5/16", ⅜", 7/16", ½" Hex. Sockets, ⅜" Round Knurled Socket, and ¼", and 5/16" Square Sockets.



	List Price
No. 11SS—Radio Socket Set	$1.75

DIAL DRIVE FRICTION RUBBERS

Specially made for Atwater Kent, RCA, Stewart Warner, Olsen, Kennedy, Emerson, and others. Best quality live rubber drives.

		List Price
No. DR1	—Single Rubbers, any type	$0.10
No. DR25	—Box of 25 assorted	1.50
No. DR1C	—Box of 100 assorted	5.75

GC DIAL DRIVE CEMENT

Specially prepared for cementing Rubber dial drives to metal shafts, rubber mountings to chassis, or for cementing any rubber material to metal. A drop of cement will hold the article in place till worn out.

	List Price
No. DDT—Dial Drive Cement in tube	$0.45
No. DDB—Dial Drive Cement, 2 oz. bottle with brush	.50

READY MADE DIAL BANDS, BELTS, CABLES and CORDS

Make of Set and Model No.	List Price
Atwater Kent, 35, 37	$0.25
Atwater Kent, 44	.40
Atwater Kent, 46	.25
Atwater Kent, 55	.25
Bosch, 48A	.25
Bosch, 58, 60	.25
Brunswick, 15, 22 Front	.40
Brunswick, 15, 22 Rear	.40
Brunswick, 14, 21	.25
Majestic, 70, 71, 72	.20
Majestic, 15B Lazy Boy	.25
Majestic, 52, 60	.25
NEW Majestic, 60, 620	.25
Philco, 71	.25
Philco, 91	.25
RCA, 44, 46, 47	.30
RCA, 16, 17, 18, 33	.30
General Electric, A88, A82, A87	.20

Cables available for other models also; state Make and Model when ordering.

EYELET and CLAMP ASSORTMENT

The same eyelets and clamps as are used on READY MADE CABLES. With these you can make your own cables and belts... AND SAVE!

	List Price
No. ECA—50 assorted pieces	$0.50

GC RADIO FRICTION TAPE

3/8" Narrow Width

High quality friction tape, specially made for Radio Work, where narrow tape is more practical. It eliminates tearing and waste.

No. RFT—3/8" Radio Friction Tape, approx. 65 ft. roll ..... List Price $0.25

GC GENFLEX ADHESIVE TAPE

Adhesive on One Side Only

Coated with a smooth, flexible, durable Bakelite of exceptionally high resistance and to one side is applied a super-pressure sensitive adhesive. Waterproof and moisture proof. Eliminates corrosion due to moisture and weather conditions. Light tan.

No. GAT—Genflex Adhesive Tape ½" x 10 yd. rolls ..... List Price $0.50

GC SKOCH RADIO TAPE

"An All Around Tape"

This is the well known tape for Radio Work that sticks to all surfaces. It can be used for general insulation work, for repairing torn cones, for anchoring coils, wires, condensers and other parts to chassis. It is a thin, flexible and strong tape. Slight pressure seals it.

No. SRT—Skoch Radio Tape, ½" x 10 yd. rolls ..... List Price $0.50

8-PIECE VEST POCKET SOCKET SET

The smallest, but most complete, and practical 8 Piece Socket Wrench set on the market. An outstanding value. Seven sockets, ¼", 5/16", 11/32", ⅜", 7/16" Hex., ⅜" Round Knurled, ¼" Square and 4" L Handle with two friction balls, in Baked Enamel Box.

No. 8VS—Vest Pocket Set ..... List Price, $0.75

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World Radio History

GENERAL GC CEMENT

Radio Repair Kits

SERVICE AID KIT OF GENERAL CEMENT PRODUCTS

Here is a complete kit of the well known GENERAL CEMENT Everyday Service Needs. You get a complete assortment of regular size standard packages put up in a neat black, leatherette finish box. You will find many definite uses for these products, and it will pay for itself on a few jobs.

Complete assortment contains the following: GC Service Cement, Service Solvent, Steel Speaker Shims, Fibreloid Shims, Roll Insulating Cambric, Assortment of Spaghetti, Liquidope, Non Slip Compound for Dials, Grafoline, Scratch Stick, Grille Cloth, Dial Oil, Fish Paper, Rubber and Felt Bumpers, Ruf Koat, Crystal Lacquer, Aluminum Paint, Soldering Paste, 15 ft. Light Linen Dial Cable, 15 ft. Heavy Linen Dial Cable, 15 ft. 42 strand Bronze Cable, Roll Friction Tape, Genflex Tape, Skoch Tape, Radio Trouble Light, Pocket Tool Case, and Insulated Screwdriver.

Complete Kit, List Price.....$15.62
If items were bought separately your cost would be..... 9.37
SPECIAL NET PRICE, No. GC-K1 and Case FREE..... *8.50

DELUXE CABINET REPAIR KIT

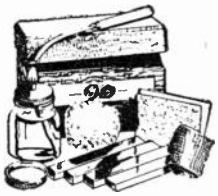
"A COMPLETE PROFESSIONAL KIT"

A complete kit that will meet any emergency or do any repair job. With this kit you can repair Wood cabinets as well as Plastic and Bakelite cabinets, knobs, etc. On dents or nicks you can use the shellac sticks and melt them in with the spatula and alcohol lamp. On light scratches you can use the MAGIC SCRATCH REMOVER, or the stains. Metal Escutcheons can also be touched up with this kit. **Kit comes in a handy black leatherette finish box, and contains an assortment of 9 shades of shellac sticks, bottles of light and dark oil stain, bottle of metal shading lacquer, bottle of polish, Magic Scratch Remover, alcohol lamp (with alcohol), spatula, touch-up brushes, steel wool, sandpaper, and wiping cloth. Everything necessary to do a practical repair job. No Special Skill is required to make perfect patches with this kit.**

No. CRK—Cabinet Repair Kit .....List Price, $3.25

Radio Cabinet and Refrigerator PATCH KIT

"FOR DEEP NICKS AND SCRATCHES"



With this kit you can patch Wood, Bakelite or Metal Cabinets. This kit is complete and ready to use. It comes in a black leatherette case and contains nine Shellac Sticks in light and dark shades of oak, walnut and black and white, alcohol lamp (with alcohol), spatula, steel wool, sandpaper and wiping cloth.

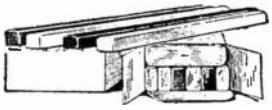
No. PSK.....List Price, $2.25

SHELLAC PATCH STIKS

FOR CABINET REPAIRS

	List Price
No. PSLW—Light Walnut	$0.25
No. PSDW—Dark Walnut	.25
No. PSLO—Light Oak	.25
No. PSDO—Dark Oak	.25
No. PSB—Black	.25
No. PSW—White	.25
No. SPT—Special Spatula	.50
No. AL—Alcohol Lamp	.25

All items—7" stick.



MAGIC SCRATCH STIK

"REMOVES SCRATCHES"

Did you ever accidentally scratch a Radio Cabinet just when you were completing the repair job? Accidents do happen and you can avoid many embarrassing cases like this if you have in your pocket a G-C Scratch Stik. You simply run the Scratch Stik over the scratch, and it will vanish like magic—before your customer is the wiser—and everybody is happy. This Stik comes in a handy case so it is easy to carry with you.

No. SSK.....List Price, $0.50

REFRIGERATOR PATCH KIT

"A PRACTICAL KIT FOR PORCELAIN AND DUCO BOXES"

An ideal repair kit for repairing nicks or dents on any type of Refrigerator. Kit contains everything necessary to do a perfect patch job on either a porcelain or a duco finish box. No special skill is required. Can also be used on Washing Machines, Kitchen Ranges and other appliances.

Handy Kit contains a bottle of pure white special lacquer enamel, bottles of tinting colors, yellow, blue, brown, and black, bottle of special Porcelain Glazing Compound, bottle of solvent, spatula, steel wool, sandpaper, mixing tins and brushes. All put up in a neat black leatherette finish box.

No. RPK—Refrigerator Patch Kit.....List Price, $2.50

CREME-O-WAX POLISH

FOR RADIO CABINETS

A high grade greaseless polish that you can use on new Radios in your shop, or sell to your customers to keep their Radios looking new. They will marvel at the high gloss and hard finish of this polish. It leaves a durable finish that lasts.

"Feature This Polish With Your New Radios"

(Display cards furnished)

	List Price
No. CWP8—Half pint bottle	$0.60
No. CWP16—Pint bottle	1.00

CABINET SPEAKER GRILLE CLOTH

A high quality cloth of a beautiful pattern which will harmonize with any high grade cabinet. This is not an ordinary grille cloth. It is a high grade cloth which is used on the more expensive cabinets. **"Every Service Shop should have a piece of Grille Cloth on hand."**

	List Price
No. GLC1—For larger cabinets—Size 18" x 20"	$0.75
No. GSC2—For small cabinets or midget sets—9" x 18"	.50
No. GSC3—12" x 12"	.45
No. GSC4—14" x 18"	.60
(Pieces sufficient for 2 or 3 cabinets)	
No. GCY—For odd sizes and very large cabinets, 50" wide. Any length, list price per yard	3.80

CABINET TOUCH-UP KIT

"REMOVES SCRATCHES"

A practical kit that will touch up those accidental scratches and dents on cabinets and relieve you of worry and responsibility due to an unavoidable accident. It contains 4 bottles, camels hair brushes, a portion of dark wax for filling deep scratches and a rubbing cloth. A light and a dark stain, and a light and a dark varnish stain are included. The Varnish stains can also be used to touch up scratched metal escutcheons, etc.

No. CTK4.....List Price $0.60

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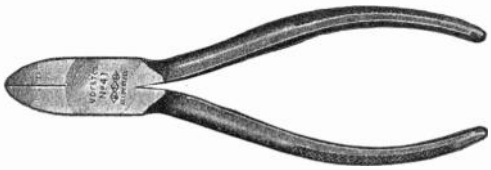
World Radio History

UTICA TOOLS

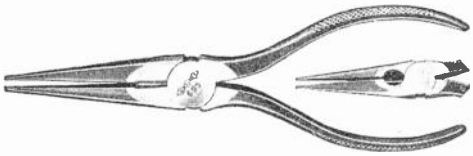


No. 41
Utica Alloy Steel Diagonal Cutting Plier

Drop forged from Alloy Steel. Hardened and tempered in oil. Special narrow nose for radio work.

No. 41	5 in.	5½ in.	6 in.
Price	1.50	1.65	1.80

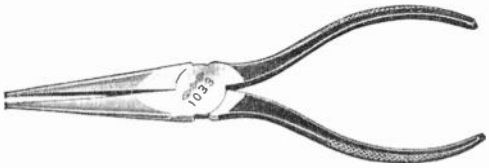
Can be furnished with insulation stripper.



No. 655 ● Utica Long Needle Nose Side Cutting Plier

This is a long fine spring-tempered nose side cutting plier, drop forged from Alloy Steel with hand-honed cutting knives.

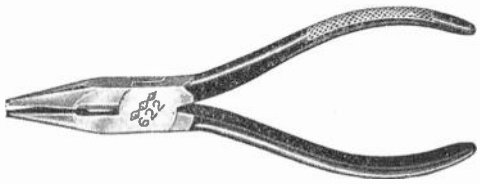
Utica Finish Size	6"	7"
Price	1.55	1.75



No. 1033 ● Utica Long Chain Needle Nose Plier

This is a long needle nose type of plier without a side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.

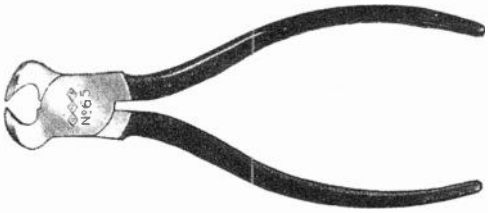
Utica Finish Size	6"	7"
Price	1.30	1.45



No. 622 ● Utica Short Chain Nose Mechanic's Plier

This plier is a Short Chain Nose Side Cutting Plier, hand-honed cutting knives. It makes an all around Electrical Mechanic's plier.

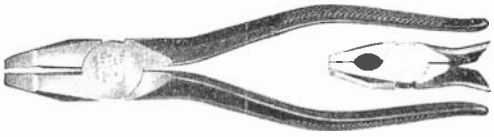
Utica Finish Size	5"
Price	1.17



No. 65 ● Utica Jeweler's End Cutting Nipper

This Nipper is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nipper, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool (Lap joint).

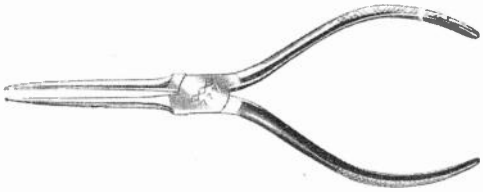
Utica Finish Size	5"
Price	1.50



No. 50 ● Utica Standard Side Cutting Plier

An ideal tool for electrical work. Forged from Alloy Steel and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting plier.

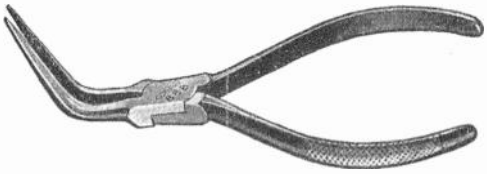
Utica Finish Size	4"	5"	6"	7"	8"
Price	1.05	1.15	1.25	1.40	1.50



No. 777 ● Utica Long Needle Nose Plier

This plier has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

Utica Finish Size	6"
Price	1.65



No. 888 ● Utica Curved Needle Nose Plier

This is a long curved spring-tempered Needle Nose Plier and used in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

Utica Finish Size	6"
Price	1.90

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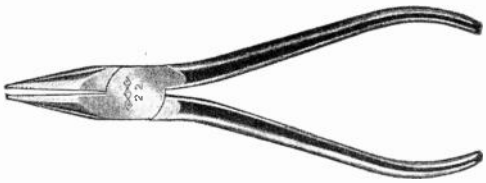
GOOD TOOLS SHORTEN LABOR



No. 22 • Utica Chain Nose Plier

This is a Short Chain Nose Plier forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

Utica Finish Size	4"	4½"	5"	5½"	6"
Price	.84	.88	.90	1.00	1.05

No. 82 • Utica Chain Nose Wiring Plier

This is a special Radio Repair man's plier, new in design, having a chain nose for those who prefer this type of construction. Forged from Alloy Steel.

Utica Finish Size	7¾"
Price	1.65

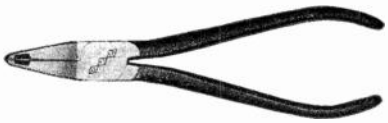
No. 91—6" • Utica Thin Alloy Steel Wrench, Chrome Plated

This new Utica Thin Pattern Full Alloy Steel Wrench is not just another wrench; it's different in that the jaws are designed to get at places inaccessible with the ordinary wrench of this type.

Both the handle and jaw are drop forged from a high grade Alloy Steel, hardened and tempered in oil and will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.

Note the full deep throat for either square or hexagon nuts. It will give better service and last longer than any other wrench.

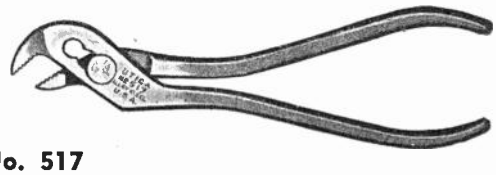
Size	4"	6"	8"	10"	12"
Price	.94	.94	1.15	1.45	2.00



No. 895 Utica Radio Plier

This is a General Radio Repair Man's Plier. It has a center cutter and flat scored nose for looping and bending.

Utica Finish Size	6"
Price	2.00



No. 517 Utica Ignition Plier

This ignition Plier with its unique design will fit all ignition units, forged from Alloy Steel, spring tempered. A great little tool for the hard to get at adjustments.

No. 517	5"
Price	1.10

No. 275 • Utica Circular Utility Snip

Drop forged from Alloy Steel hardened and tempered to cut. Designed specially for cutting out intricate patterns and curves. An ideal tool for cutting gaskets. It makes a nice smooth cut and leaves the metal unbent. Polished blades and gun metal handles.

Size	7½"
Price	1.15

UTICA AMBERGRIP INSULATED SCREWDRIVERS

Tool No.	Stock	Blade Length	Price	Tool No.	Stock	Blade Length	Price
1200	⅛"	2"	.30	1204	3/16"	9"	.85
1201	⅛"	3"	.35	1205	¼"	1¼"	.65
1202	3/16"	3"	.65	1206	¼"	10"	.90
1203	3/16"	6"	.75	1211	¼"	4"	.75
				1212	¼"	6"	.85

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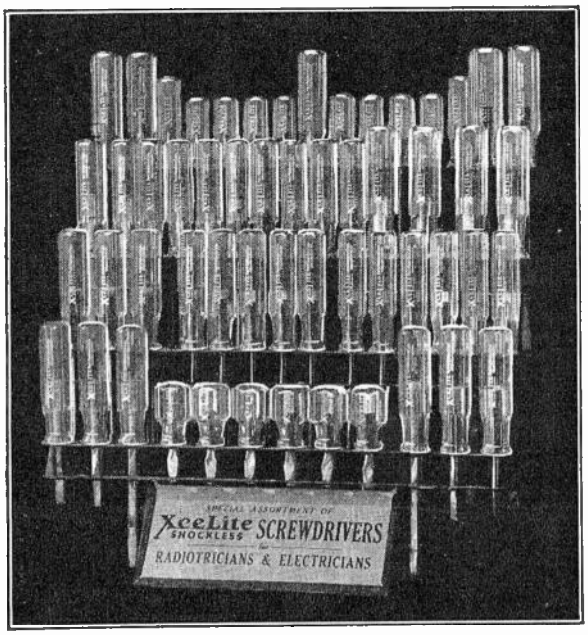
RADIO AND ELECTRIC
XCELITE *SHOCKLESS* SCREWDRIVERS

● XCELITE is the original shock-proof, transparent handle screwdriver—introduced by us over ELEVEN years ago.

Its attractive amber handle is both shock-proof and break-proof. It is specially designed to give the best possible grip—and is extremely easy on the hands. Blades are made of the finest alloy steel—free from defects. Guaranteed not to burr.



Numbers Included on Display

Quantity on Display	Number	Size Blade	Round	Square	Weight Per Doz.
2	R-184	1/8"x4"	$0.45	...	1 lb.
2	R-186	1/8"x6"	.50	...	1 lb.
2	R-188	1/8"x8"	.55	...	1 lb.
2	R-1810	1/8"x10"	.60	...	1 lb.
2	R-3163	3/16"x3"	.65	...	2 lb.
1	S-3163	3/16"x3"	...	$0.70	2 lb.
3	R-3164	3/16"x4"	.70	...	2½ lb.
1	S-3164	3/16"x4"	...	.75	2½ lb.
4	R-3166	3/16"x6"	.80	...	2½ lb.
2	S-3166	3/16"x6"	...	.85	2½ lb.
2	R-3168	3/16"x8"	.85	...	3 lb.
1	S-3168	3/16"x8"	...	.90	3 lb.
3	R-31610	3/16"x10"	.95	...	3 lb.
1	S-31610	3/16"x10"	...	1.00	3 lb.
3	S-141	1/4"x1"	...	.60	1¾ lb.
2	R-142	1/4"x2"	.75	...	2½ lb.
2	S-142	1/4"x2"	...	.80	2½ lb.
3	R-144	1/4"x4"	.80	...	3 lb.
2	S-144	1/4"x4"	...	.85	3 lb.
2	R-146	1/4"x6"	.85	...	2½ lb.
1	S-146	1/4"x6"	...	.90	2½ lb.
2	R-148	1/4"x8"	.90	...	4 lb.
1	S-148	1/4"x8"	...	1.00	4 lb.
3	S-5161	5/16"x1"	...	.60	1¾ lb.
2	S-5166	5/16"x6"	...	1.10	5 lb.
2	S-5168	5/16"x8"	...	1.20	5½ lb.
2	R-5328	5/32"x8"	.60	...	1½ lb.

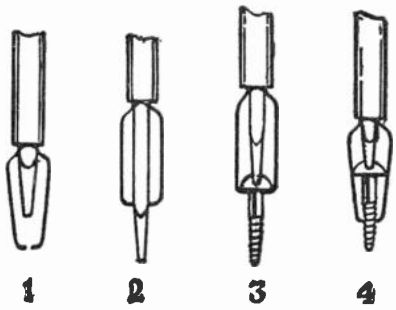
Radio and Electrical Display complete.....List $43.90
Display only.....List 1.50

Additional Sizes

Number	Size Blade	Round	Square	Weight Per Doz.
R-181	1/8"x1-1/2"	$0.30	....	½ lb.
R-182	1/8"x2-1/2"	.40	....	¾ lb.
S-183	1/8"x3"	....	$0.45	¾ lb.
S-185	1/8"x5"	....	.50	1 lb.
S-3161	3/16"x1-1/2"	....	.55	2 lb.
S-5162	5/16"x2"	....	.80	3 lb.
R-5166	5/16"x6"	1.05	....	5 lb.
R-5163	5/16"x8"	1.10	....	5¼ lb.
51610	5/16"x10"	1.15	1.25	6½ lb.
51612	5/16"x12"	1.25	1.35	7 lb.
S-386	3/8"x6"	....	1.25	6½ lb.
S-388	3/8"x8"	....	1.40	7½ lb.
S-3810	3/8"x10"	....	1.70	9½ lb.
S-3812	3/8"x12"	....	1.90	11½ lb.
S-3818	3/8"x18"	....	2.10	14½ lb.
R-5323	5/32"x3"	.50	....	1 lb.
R-5324	5/32"x4"	.50	....	1 lb.
R-5325	5/32"x5"	.50	....	1 lb.

Prices Subject to Change Without Notice

SCREW-HOLDING SCREWDRIVER



The XceLite Screw-Holding Screw Driver is a tool for which electricians, radio men and mechanics everywhere have long searched. It is a genuine XceLite product with a unique attachment that instantly and rigidly holds and starts any screw, even one without a head. Spring holder remains in place either above, below or exactly at the driver point. Grasps the screw at the head or ⅜" below giving three point suspension for greater rigidity. Can also be used for removing screws. Comes in ⅛" square blade, 3", 4" and 5". Packed 12 assorted lengths on metal display.

Display, Each $6.00
List Price, Each..... .50

No. 10 DISPLAY — This Display consists of 10 screwdrivers with 5/32" chrome plated blades in assorted lengths of 3", 4" and 5" all mounted on a very attractive metal display.

List Price, Complete..$5.15
List Price, ea. S.D... .50

No. 12 DISPLAY — Radio and Ignition Screwdrivers come complete with Pocket Klips assorted with 2", 3" and 4" chrome plated blades in the popular ⅛" diameter size. Packed 12 on an attractive metal display.

List Price, Complete..$3.60
List Price, ea. S.D... .30

No. 24 DISPLAY—The popular XceLite pocket screwdriver (another original XceLite introduction has a ⅛" diameter chrome plated blade 2" in length. Comes 24 on an attractive metal display.

List Price.....$7.20 List Price, ea. S.D.....$ .30

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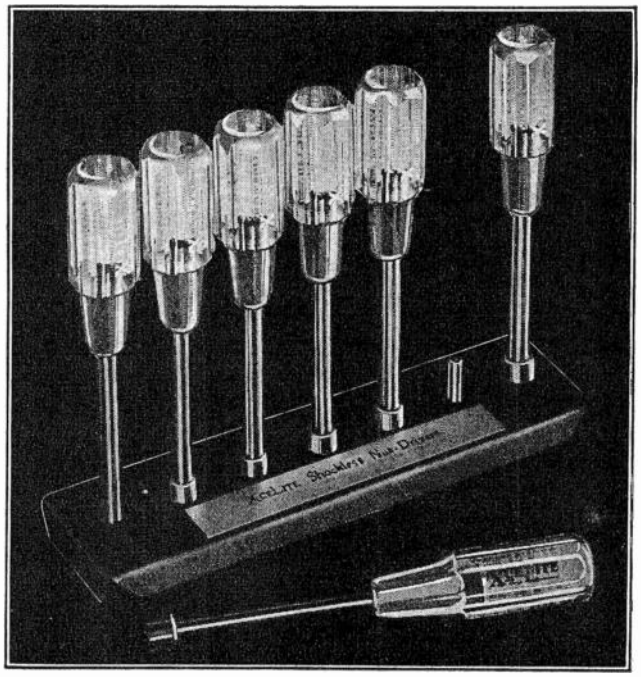
XceLite Nut Drivers

STANDARD TYPE

Deep sockets capable of handling two nuts are truly formed and entirely free from burrs—tempered and finished, handles of genuine amber XceLite are shockproof, breakproof and comfortable. Can be furnished with fully insulated shank if desired. Display stand holds 7 popular sizes either 6″ or 9″ long. Can also be furnished with 5 wrenches.

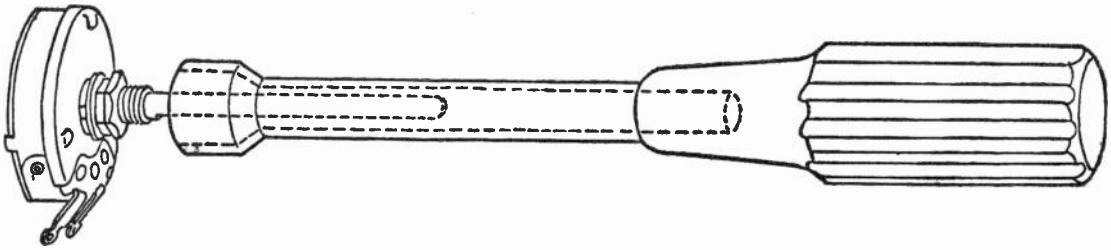


Nut Size	No. and Length	List	No. and Length	List
3/16"	No. 6—(6")	$0.65	No. A 6—(9")	$0.75
7/32"	No. 7—(6")	.65	No. A 7—(9")	.75
1/4"	No. 8—(6")	.65	No. A 8—(9")	.75
9/32"	No. 9—(6")	.65	No. A 9—(9")	.75
5/16"	No. 10—(6")	.65	No. A10—(9")	.75
11/32"	No. 11—(6")	.65	No. A11—(9")	.75
3/8"	No. 12—(6")	.65	No. A12—(9")	.75
7/16"	No. 14—(6")	.85	No. A14—(9")	.95
1/2"	No. 16—(6")	.85	No. A16—(9")	.95

NOTE

For insulated shanks on A6 thru A16....$0.20 extra
For insulated shanks on No. 6 thru 16....$0.15 extra
No. 15 Display rack only, holds 5 wrenches $0.20 list
No. 17 Display rack only, holds 7 wrenches $0.25 list

HOLLOW SHAFT TYPE



Hollow shaft nut drivers are invaluable for general electrical and radio work. In the latter case they are used primarily for installing and removing volume controls and other panel equipment. The nut is instantly tightened or loosened without damage to the panel. Working on switchboards, electricians find hollow shaft nut drivers a real time saver. They slip right over the long protruding bolts or studs so that nuts can be installed or removed with ease. They are made with steel shaft, but can also be furnished with insulated shaft for high voltage work.

SIZES AND PRICES

Nut Size	No. and Length	List
* 5/16"	HS 10 (6")	$ .90
*11/32"	HS 11 (6")	.90
3/8"	HS 12 (6")	1.00
7/16"	HS 14 (6")	1.00
† 1/2"	HS 16 (6")	1.00
† 9/16"	HS 18 (6")	1.20
5/8"	HS 20 (7")	1.40

*Depth of hole 2¼ inches.
†For adjusting volume control nuts.
For insulated shanks add $.15 to above list.

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JACKSON SOLDERING IRONS

No. 121 — 55 WATTS

Tip ⅜ dia. Length 11 in. Weight 8 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Removable Copper Tip.

Model 121	List Price	$1.50
Extra Tips, each	List Price	.25
Elements, each	List Price	.65

No. 216 — 55 WATTS

Tip $\frac{5}{16}$ dia. Length 12 in. Weight 8 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

Model 216	List Price	$1.50
Extra Tips, each	List Price	.25
Elements, each	List Price	.65

SOLDERING IRON KIT

Complete with 55 watt iron and stand. Gun Metal Finish. Removable Tip. Solder and Paste, Emery Cloth.

Model 121K ..... List Price $1.50

No. 217 — 75 WATTS

Tip ⅜ dia. Length 12 in. Weight 10 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

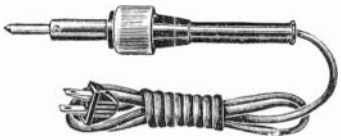
Model 217	List Price	$2.15
Extra Tips, each	List Price	.40
Elements, each	List Price	.95

No. 218 — 100 WATTS

Tip $\frac{7}{16}$ dia. Length 12 in. Weight 14 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Mahogany Handle. Adjustable Copper Tip with set screw.

Model 218	List Price	$2.50
Extra Tips, each	List Price	.55
Elements, each	List Price	1.75

SOLDERING PENCIL



The Tool You've Been Waiting For! A 25-watt, ¼ inch soldering pencil that does the work of any 100-watt iron. The result of extensive research. Extremely economical. Brass wound, mica covered element guarantees durability. 6-ft. approved rubber cord and plug. **Model 230, complete with 3 tips and stand.**

List Price $1.50

Model 231 (⅜" tips—40 Watts) $2.00

BATTERY CLIPS—Heavy Spring Jaw Clips for Instant Connection

No. 206—Midget Size, 5 Amp.

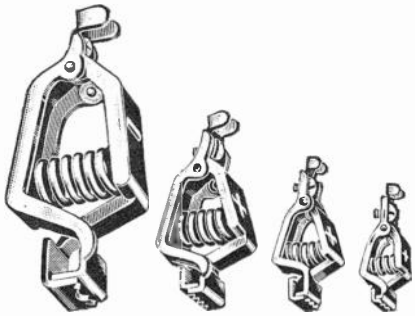
Electro-Plated—1½ in. Long

List Price ..... $5.00 C

No. 123B—Small Size, 10 Amp.

Electro-Plated—2 in. Long

List Price ..... $5.00 C



No. 123—Medium Size, 25 Amp.

Electro-Plated—2⅞ in. Long

List Price ..... $8.00 C

No. 124—Large Size, 50 Amp.

Electro-Plated—3⅞ in. Long

All above packed 50 to Carton.

List Price ..... $12.00 C

No. 117
AUTOMATIC VOLTAGE CONTROL

For all standard Sets. Individual Box

List Price ..... Each $0.68

No. 125
HEAVY GRIP TITE GROUND CLAMP

With Set Screws—Electro-Plated

Packed 50 to Carton

List Price ..... $5.50 C

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JACKSON SOLDERING IRONS

FEATURES

The sturdy construction of JACKSON Irons guarantees long usage and hard wear. Every part is carefully manufactured, and tested in our factory before shipping. Standard Soldering Irons are individually packed in orange and black cartons, plainly marked as to type and voltage.

No. 141 — 75 WATTS

Tip 7/16 dia. Length 12 in. Weight 12 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

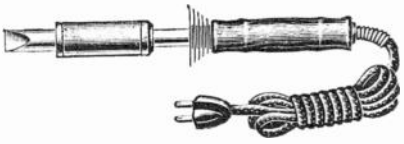
Model 141	List Price	$3.00
Extra Tips, each	List Price	.40
Elements, each	List Price	1.35

No. 142 — 100 WATTS

Tip 1/2 dia. Length 12 in. Weight 16 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 142	List Price	$3.75
Extra Tips, each	List Price	.55
Elements, each	List Price	1.75

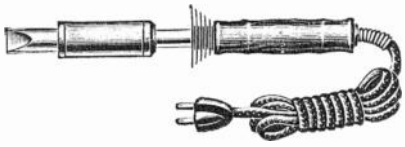
No. 144 — 150 WATTS



Tip 5/8 dia. Length 12 in. Weight 20 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 144	List Price	$6.00
Extra Tips, each	List Price	.80
Elements, each	List Price	2.75

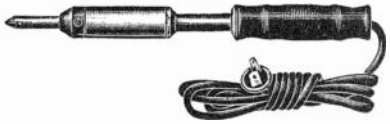
No. 143 — 200 WATTS



Tip 3/4 dia. Length 13 in. Weight 24 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Mahogany Handle. Removable Copper Tip.

Model 143	List Price	$8.00
Extra Tips, each	List Price	.95
Elements, each	List Price	3.75

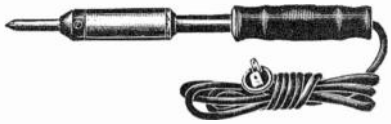
No. 149 — 75 WATTS



Tip 7/16 dia. Length 12 in. Weight 12 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 149	List Price	$3.25
Extra Tips, each	List Price	.55
Elements, each	List Price	1.20

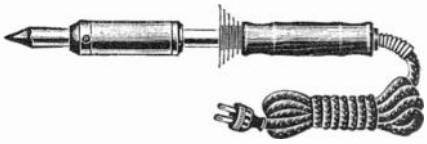
No. 145 — 100 WATTS



Tip 3/8 dia. Length 12½ in. Weight 16 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 145	List Price	$4.50
Extra Tips, each	List Price	.65
Elements, each	List Price	1.85

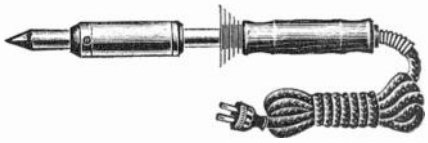
No. 146 — 150 WATTS



Tip 1/2 dia. Length 12½ in. Weight 20 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 146	List Price	$7.00
Extra Tips, each	List Price	.80
Elements, each	List Price	2.75

No. 147 — 200 WATTS



Tip 5/8 dia. Length 12½ in. Weight 24 oz. Highly polished nickel plated tube. 6 ft. Heater Cord with Rubber Cap. Removable Black Handle. Adjustable Copper Tip with set screw.

Model 147	List Price	$10.00
Extra Tips, each	List Price	1.10
Elements, each	List Price	3.75

Approved by Underwriters Laboratories

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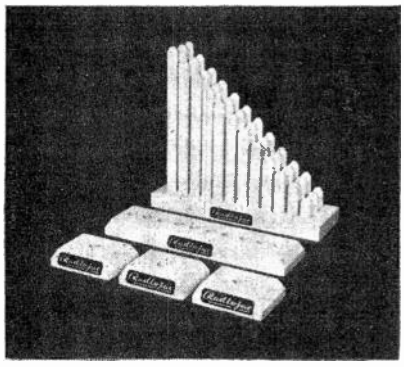


Patent Pending

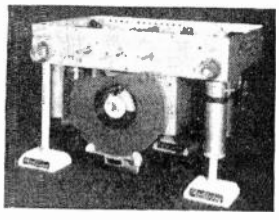
Radiojac

THE IDEAL TOOL TO SUPPORT YOUR RADIO CHASSIS

● Every Radio Serviceman will agree on his past experience with inadequate and bulky contrivances and how he continues to use old batteries, blocks, boxes, and whatnot for this purpose.

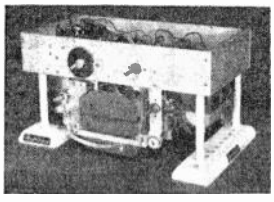
● RADIOJAC is designed to fill this long-felt need. It offers the following Advantages over any other device for this purpose:

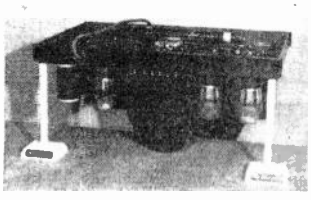
1. **RADIOJAC is the only device which will actually support any chassis regardless of size, age or weight.**
2. RADIOJAC is set up without any loss of time — without screwing or clamping.
3. The Support is rigid, due to a patented **spring-tight fit** between rod and base.
4. The Chassis is free to be turned without interference with speaker leads.
5. RADIOJAC requires very little bench space—only 2½" x 9".
6. RADIOJAC is low in price.

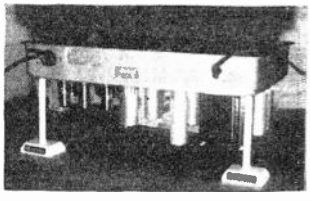


● From a handy Benchstand containing 36 hardwood rods varying in length from 1½" to 8", you can readily select any length of support. Simply insert the needed rods into respective bases, which are provided with a spring-tight fit, — and within a few seconds you have a substantial support for any chassis.

● The photographs below representing sets of all vintages will convince you of the efficiency of this much needed Tool.







Only $1.60

NET TO SERVICEMEN

Benchstand with
36 Hardwood Rods
from 1½" to 8"
1 Large Base
3 Small Bases

THE SUREME MODEL 525 SOLDERING TOOL

"SUPREME BY COMPARISON"

(1) The greatest individual contribution to the art of soldering in many years. Unexcelled for radio, telephone, and general soldering.

(2) Three definite, different core heats controlled by cord switch, together with adjustable soldering rod provide a great number of possible tip temperatures.

(3) Non-scaling copper soldering rod may be extended 6 inches maximum from heating body to reach locations totally inaccessible with straight soldering tools.

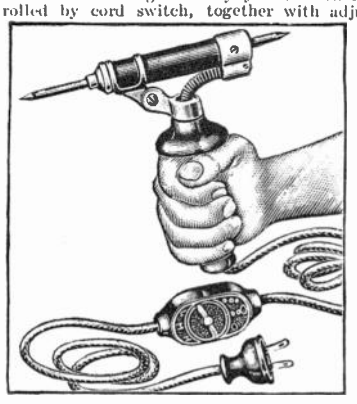
(4) Either end of soldering rod may be used by simply turning tool over in the hand, thus allowing two different types of points for instant use.

(5) Soldering rod easily removable for pointing and shaping.

(6) Soldering rods obtainable in a variety of shapes.

(7) New working comfort with perfect mechanical balance is allowed by the handle mounted at **right angles** to the heating body.

(8) Pivot mounting allows heating body to be set at any angle from parallel to approximately 110 degrees with handle thereby allowing additional flexibility to meet working conditions.



(9) Heating unit which is easily replaceable reaches working temperature quickly.

(10) Wattage: 75 watts for general light work; 125 watts for medium work and rod extensions to approximately 4 inches; 200 watts for quick heating from cold, heavy duty soldering, and for rod extensions to 6 inches.

(11) Weight approximately 18 ounces.

(12) Also available in single heat models.

THE SUPREME MODEL 525 SOLDERING TOOL

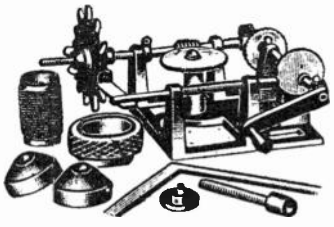
(Triple-Heat—75, 125 and 200 Watts)
Net Price $6.75

(Single-Heat—125 Watts)
Net Price 6.00

MORRIS DELUXE COIL WINDER

Will wind Honey Comb, Spiderweb, or Solenoid coils of various widths and diameters. Equal in appearance to factory-made coils. Includes all accessories necessary for winding the various types. Has recorder and indicator that counts turns. Black enamel finish. Shipping Weight 6 lbs.

NET PRICE $4.35



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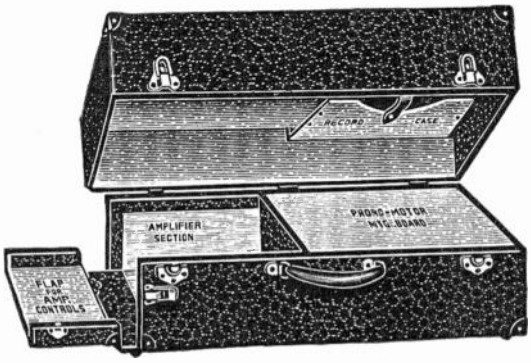
World Radio History

CUSTOM CARRYING CASES

The portable carrying cases listed on this page are constructed of a strong, heavy plywood designed to withstand hard usage under all conditions. The panels are covered with a neat and durable black fabrikoid that will last indefinitely. The cases are equipped with heavy-duty, reinforced carrying handles, extra heavy leather corner posts, and strong rust-proof clasps that prevent accidental opening. These cases are a necessary and convenient means by which the sound man can readily transport his public address equipment from place to place.

Combination Amplifier and Phonograph Case



An especially designed carrying case with two separate compartments for an amplifier and phonograph. The top cover of the case contains a separate space for carrying 10″ and 12″ records. A mounting board for the phonograph is also included. The case opens on two sides; accessibility to the amplifier controls is provided by means of a drop front at one end of the case. The overall dimensions are: 18″ high, 24¾″ long, and 10⅝″ deep.

Model No. 50
List Price **$19.35**

Dual Speaker Case

This dual speaker case fills a long-felt need. Two speakers, mounted and ready to work, are carried in one case. Each side of the case, when open, will stand by itself without any outside support, making for instant and convenient installation. When used in conjunction with the combination Amplifier and Phonograph case illustrated at left, a complete sound system up to 40 Watts is available in only two handy carrying cases.

This type of carrying case is constructed in two separate sections which are diagonally cut so as to afford the largest mounting space possible in the given size. Each section will accommodate a speaker 12″ in diameter and has sufficient baffle area for an exceptionally fine frequency response. The case is constructed of a high grade plywood fabricoid covered, and is made to withstand rough wear. It is reinforced with special leather corners for protection at these points. Leather bumpers on the base sides will prevent marring of any mounting surface. The case comes furnished with metal speaker screens. The overall dimensions are: 25″ high, 17½″ wide, and 10½″ deep.

Model No. 52
List Price **$10.50**

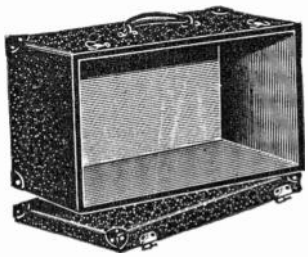
Speaker Cases

Two serviceable portable speaker cases for 10″ to 12″ speakers. The high-grade heavy plywood with rounded corners, the beautiful black fabrikoid covering, the heavy-duty carrying handle, and the metal bumpers make these cases an exceptional value at this low price. There are sufficient openings in the detachable back to prevent cone pressure.

For 10″ speakers; Size: 13″H.x12⅞″W.x10″D.
Model No. 54
List Price **$5.85**

For 12″ speakers; Size: 15″H.x15″W.x10″D.
Model No. 56
List Price **$8.00**

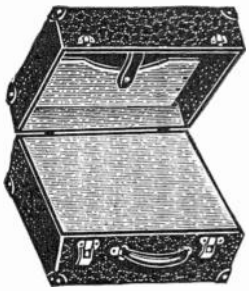
Portable Amplifier Carrying Case



A large-sized carrying case designed to accommodate all makes of amplifiers. It has a removable drop-front that permits quick and easy accessibility to the controls. High grade, durable plywood construction, attractive fabricoid covering, reinforced heavy leather corners, regulation luggage handle, rustproof clasps. The overall dimensions of the case are: 10¾″ high, 17½″ long, and 11¾″ deep. There is sufficient space provided to carry such additional equipment as cables and other small accessories.

Model No. 58
List Price **$9.60**

Portable Phonograph Case



Large enough to accommodate any standard make phonograph motor such as General Electric or Green Flyer. There is also sufficient room for mounting a phono pick-up. The top section contains a compartment for carrying 15 records. The case comes equipped with a mounting board. Furnished with metal bumpers. Size: 12⅞″ high, 14⅝″ wide, 8⅝″ deep.

Model No. 60
List Price **$7.50**

Automatic Record Changer Case

A carrying case designed especially for the Packard Automatic Record Changer. The top cover is equipped with an inclined, felted board that acts as a receiver for the ejected records. The case is already cut out to the exact requirements of the record changer. A small opening is provided on the outside of the case for any plug connection that may be desired. The hole is covered with the black fabrikoid and is not visible from the outside if not used. Size: 12¾″ high, 12¾″ wide, and 7½″ deep.

Model No. 62
List Price **$9.60**

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World Radio History

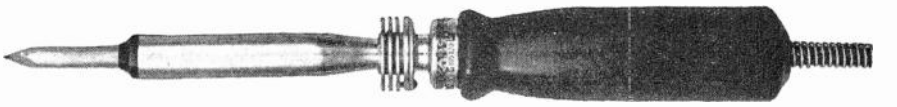
VASCO

TRADE-MARK REG. U. S. PAT. OFF.

ELECTRIC SOLDERING IRONS

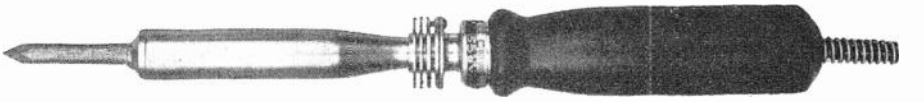
(APPROVED BY UNDERWRITERS LABORATORIES)

No. 85—A brand new iron in the VASCO line for high speed soldering on wiring and other light electrical work.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 85E	Extra Tip No. 8538
85	3/8 in.	85	14 oz.	12 ins.	3/4 in.	2 lbs.	$5.50	$2.35	$0.35

No. 100 — Used exclusively by radio factories, telephone switchboard work and other light duty production jobs.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 100E	Extra Tip No. 10038
100	3/8 in.	100	16 oz.	12 7/8 ins.	7/8 in.	2 lbs.	$7.20	$3.60	$0.40

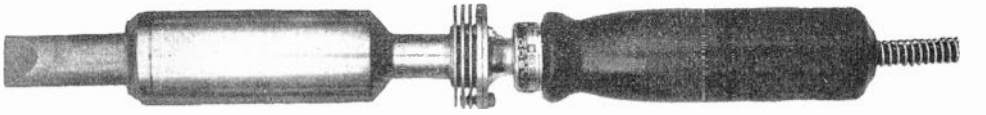
No. 150 — A medium weight iron for chassis spotting, radio work, small metal parts. Provides the extra heat needed for many jobs.

Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 150E	Extra Tip No. 15012
150	1/2 in.	130	19 oz.	12 7/8 ins.	1 in.	2 lbs.	$7.50	$4.75	$0.80

No. 180—An excellent iron for general shop and garage use. Large enough for light sheet metal work, and auto electricians.

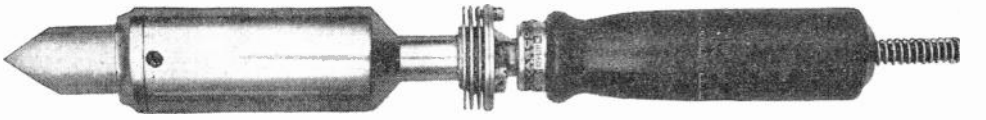
Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 180E	Extra Tip No. 20038
180	5/8 in.	200	28 oz.	13 5/8 ins.	1 1/4 ins.	3 lbs.	$8.60	$5.25	$1.00

No. 300—Used extensively for sheet metal work, small motor factories, general service and production work.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 300E	Extra Tip No. 30078
300	7/8 in.	300	42 oz.	14 3/8 ins.	1 9/16 ins.	4 lbs.	$11.50	$6.50	$1.75

No. 500—A heavy duty industrial iron for hard service. Used by tin shops, coppersmiths and other production jobs requiring a heavy iron.



Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Diameter Over All	Approximate Shipping Weight	List Price	Extra Element No. 500E	Extra Tip No. 55098
500	1 1/8 ins.	500	60 oz.	15 ins.	1 3/4 ins.	5 3/4 lbs.	$15.00	$10.00	$2.50

All irons furnished for 105-120 volts, A.C. or D.C., also 215-230 volts A.C. or D.C. Special voltages can be furnished upon request.

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World Radio History

HOTSPOT

TRADE-MARK

ELECTRIC SOLDERING IRONS

(APPROVED BY UNDERWRITERS LABORATORIES)

A HIGH QUALITY TOOL FOR EVERY SOLDERING JOB

REMOVABLE TIPS **REPLACEABLE ELEMENTS**

Cat. No. 55 55 Watts ½" Tip Weight 8 oz.
List Price.....$1.25
Extra Tip..... $ .25 Extra Element ..... $ .50

This handy size meets the demand for an iron for light soldering jobs. **Heats Quickly.** Polished brass and copper finish.

Cat. No. 750 75 Watts ½" Tip Weight 12 oz.
List Price.....$2.50
Extra Tip..... $ .30 Extra Element ..... $ .85

A medium weight iron for radio and other light jobs. Just the iron for the home, shop or garage. Polished chrome finish.

Cat. No. 850 85 Watts ⅜" Tip Weight 12 oz.
List Price.....$3.00
Extra Tip..... $ .35 Extra Element..... $1.25

This is an efficient, quick-heating iron for wire connections and other light soldering jobs. Equipped with plunger tip and indestructible element, same as used in higher-priced irons. Polished chrome finish.

Cat. No. 10 100 Watts ⅜" Tip Weight 1 lb.
List Price.....$3.75
Extra Tip..... $ .40 Extra Element $1.50

An ideal iron for radio assembly and other light soldering. The plunger tip can be extended as used. Polished chrome finish.

Cat. No. 15 150 Watts ½" Tip Weight 1 lb. 4 oz.
List Price.....$4.50
Extra Tip..... $ .90 Extra Element $2.25

Has the extra heat necessary for chassis spotting. Polished chrome finish. An excellent general purpose iron for the shop.

VASCO "FINSTANDS"

New heat-dissipating stands for VASCO irons. Prevents the irons from overheating, and burning up tips and elements. NEW!

Cat. No.	For Iron	Case Dia.	List Price
100S	100 or 10	⅞"	$1.00*
150S	150 or 15	1"	1.25*
180S	180	1¼"	1.25*
300S	300	1 9/16"	1.50*
500S	500	1¾"	1.75*

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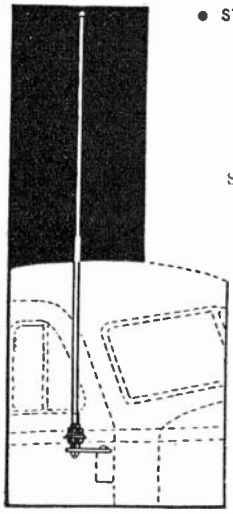
World Radio History

AUTO RADIO AERIALS FOR ALL CARS

BUGGY WHIPS

DOOR HINGE MODEL



- ADJUSTABLE 2-PIECE MODEL
- STAINLESS STEEL AND CHROME

AR-45—Leader Model
LIST PRICE $1.25

AR-46—3-Section Deluxe
LIST PRICE $2.25

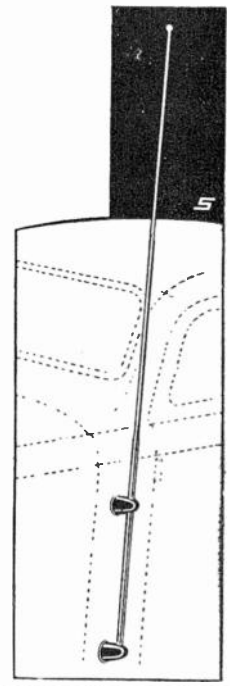
Same Aerial as Manufactured by Us for Radio Manufacturers

- BRILLIANTLY CHROMIUM PLATED
- ONE-PIECE RUBBER INSULATOR
- 42" SPRING STEEL ROD

	List Price
AR-43—Chromium Plated	$1.25
AR-43X—Cadmium (Rustproof)	1.00
AR-43B—Black Enameled	.75

Guaranteed Chrome

COWL SIDE-CAR AUTO AERIAL



- GENUINE BAKELITE INSULATION
- STAINLESS STEEL
- CHROME PLATE
- GUARANTEED RUSTPROOF
- INDIVIDUALLY BOXED
- TELESCOPIC
- 62" EXTENDED 27" CLOSED
- 36" SHIELDED LEAD-IN CABLE

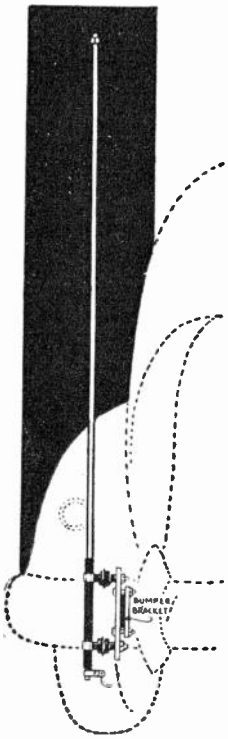
Same Aerial as Manufactured by Us for Radio and Car Manufacturers

	List Price
AR-75—3 Section	$3.25
AR-76—2 Section	2.75
AR-77—1 Piece	2.50

Guaranteed Chrome

FISH-POLE AUTO AERIAL

DELUXE

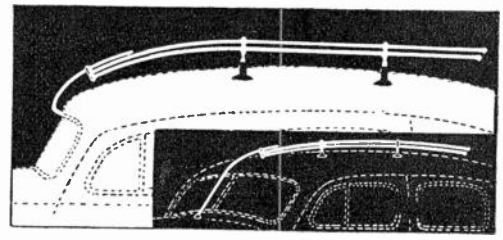


- HEAVILY RUBBER INSULATED
- DOUBLE BUMPER BRACKETS
- 7 FEET FULLY EXTENDED
- CADMIUM OR CHROMIUM
- UNIVERSAL FOR ALL CARS
- INDIVIDUALLY PACKED
- COMPLETE WITH 10 FEET OF LEAD-IN CABLE

AR-60—All Cadmium Plated
LIST PRICE $2.00

AR-60C—Stainless Steel and Chromium Plated
LIST PRICE $2.75

TOPPERS



AR-47

• PARALLEL RODS • ONE-PIECE SUCTION CUPS AND INSULATORS • FOR OPEN WINDSHIELDS • INDIVIDUALLY PACKED

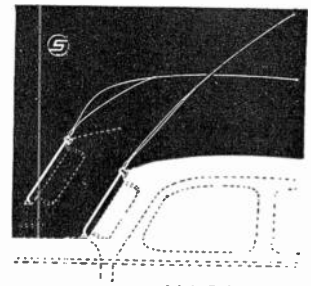
AR-47—Chromium Plated .....List Price $2.25

AR-47X

• SAME AS OUR AR-47 BUT DESIGNED FOR CLOSED TYPE WINDSHIELDS.

AR-47X—Chromium Plated ..... List Price $2.60

WINDSHIELD WHIPS



- HIGH OR LOW ADJUSTMENT
- MUSIC STEEL "WHIP"
- CHROMIUM PLATED (rustproof)
- UNIVERSAL FOR ALL CARS
- QUICKLY AND EASILY INSTALLED
- SENSITIVE YET DURABLE
- RUBBER INSULATION
- COMPLETE WITH LEAD-IN CABLE

AR-42—Chromium Plated	List Price $1.95
AR-42X—Cadmium (Rustproof)	List Price 1.50
AR-42B—Enameled	List Price 1.25

Individually Packed

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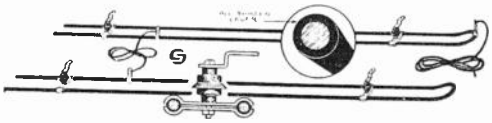
World Radio History

UNDER-CAR AUTO RADIO AERIALS

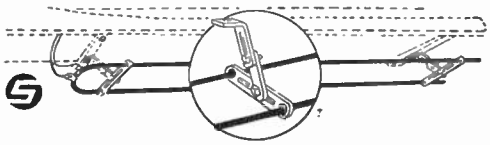
"RUBBERSET" SKI-POLES



COMPLETELY RUBBER COVERED

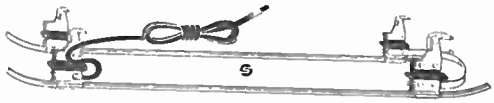
AR-38R—Single Running Board Outfit ..... List Price $1.75
AR-39R—Dual Outfit for Both Running Boards ..... List Price 3.25

"DU-POLE" TROMBONE DELUXE



	List Price
AR-30—Enameled Single Running Board Outfit	$1.55
AR-30-X—Dual Outfit for Both Running Boards	3.00
AR-31—All Cadmiumized Single Outfit	1.85
AR-31-X—Dual Outfit All Cadmiumized	3.60

NEW! 1938 SUPER UNDER-CAR AERIAL

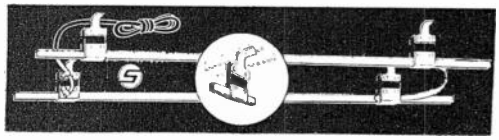


• UNIVERSAL • 3-WAY MOUNTING BRACKETS • 72" SHIELDED LOOM LEAD-IN CABLE • RUSTPROOF • MOULDED RUBBER INSULATORS

AR-27—New Universal ..... List Price $3.00

Individually Boxed

INVERTED CHANNELS

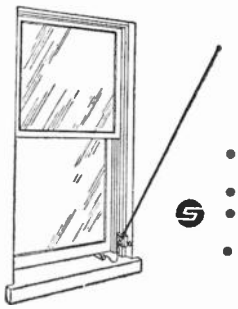


• LEADERS • RUBBER INSULATORS • 60" LEAD-IN CABLE

AR-26-A—Single Running Board Outfit ..... List Price $1.85
AR-26—Dual Outfit for Both Running Boards ..... List Price 3.50

FLEX-O-MAST

Home or Apartment House Aerial



1-Piece Model, 5 Feet Long
2-Piece Adjustable, 7 Feet Long

- EQUALLY EFFICIENT FOR LONG- OR SHORT-WAVE
- QUICKLY AND EASILY INSTALLED
- MADE OF FINEST SPRING STEEL ROD
- ENTIRE AERIAL COMPLETELY PORTABLE

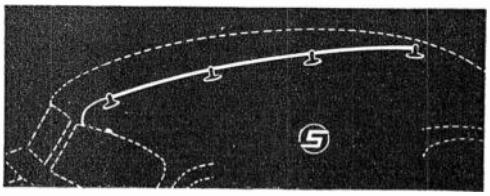
	List Price
105—One-piece Enameled Rod	$1.00
105-X—One-piece Cadmium Plated Rod	1.35
105-C—One-piece Chromium Plated Rod	1.75

Packed Three to Each Container

106—Two-piece Adjustable, Enameled	1.50
106-X—Two-piece Adjustable, Cadmium Plated	1.85
106-C—Two-piece Adjustable, Chromium Plated	2.50

INDIVIDUALLY BOXED

TOPPER



- SINGLE ROD FULL ACROSS TOP
- 3" ALL-RUBBER INSULATORS

AR-44—Chromium Plated $2.50
AR-44X—Cadmium Plated 2.00

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World Radio History

Meissner VIBRATOR REPLACEMENT GUIDE

Make	Model	Type	List
ACE			
	Household	714	$4.95
ACRATONE			
	40, 250B, 259B, 260B, 42D, 43D, 44D, U6, 53D	454	2.95
	640	701	5.95
	49, 51, 92, 92A, 94A, 460	400	3.45
	L7, X6, Z4, Z5, 32C, 33C, K6, 167B, 168B, 167D, 168D	714	4.95
ADDISON			
	531, 631	400	3.45
	N655	717	7.00
	Six-Tube Deluxe	454	2.95
ADMIRAL			
	U6, 78, 88, 780, 880, 66, 55, 5P, 69, PH16, 660, 77, 770	454	2.95
	L7, X6, Z4, Z5, BA41, 950-6A, 965-6A, 965-6P, X641	714	4.95
AIRCASTLE			
	330P, BA41, 611 Syn., L7, X6, Z4, Z5	714	4.95
	460, 603	400	3.45
	660, 611 Non-Syn.	442	2.95
	U6	454	2.95
AIR CHIEF			
	66	703	5.95
AIR LINE			
	(See Montgomery Ward)		
AIRMASTER			
	31B, 34B, 49B, 50B, 63BC, 63BT, 68BCE, 68BTE	715	4.95
AIRMATE			
	(See Buick, Olds, Pontiac)		
ALL-AMERICAN MOHAWK			
	(See Wurlitzer)		
ALLIED RADIO CORP.			
	(See Knight)		
AMRAD COMP.			
	F546	712	4.95
ARCADIA			
	(See Wells Gardner)		
ARVIN			
	5, 6, 22A, 31, 32, 42, 7, 17, 17A, 17B, 17C, 27, 37, 12, 18, 28, 38, 33, 18FW, 28EM, 33DM, 280M, 9A, 19, 29, 39	454	2.95
	15, 25, 35, 45, 2nd Series, 10A, 20A, 20B, 30A, 30B, 16	400	3.45
	15, 25, 35, 45, 1st Series	452	2.95
	61B, 62B, 517B, 527B, 518B, 617, 617B, 627B	715	4.95
ASSOCIATED RADIO			
	Non-Syn.	454	2.95
ATWATER KENT			
	126, 136, 416, 446, 556, 237Q, 467Q, 237Z	454	2.95
	816, 826, 424, 534, 2nd Series	703	5.95
	666, 776	452	2.95
AUBURN			
	A5A2	701	5.95
	A5A3	708	4.95
	980525, 980526	718	5.50
AUDIOLA			
	(See Fairbanks Morse)		
AUTOCRAT			
	23, 24, 505, 530, 518S, 618S	454	2.95
	5	400	3.45
	518, 618	438	3.95
AUTOMATIC			
	Sr., A600, Jr., Tom Thumb	400	3.45
	A1, J50, J60, J70, M70, J80	447	3.95
	A5, A6, AR600, S6, T4, Five, Deluxe, Twin Six, Automaster, 1933, 1934, 1935 Models	444	3.95
	M80	454	2.95
AUTO ROLA			
	(See Automatic)		
BALDWIN			
	54, 64	454	2.95
BELMONT			
	1932 Models	472	6.50
	566, 666, 668, 567, 661, 576A, 580 1st Series	454	2.95
	580 (2nd Series), 667, 670A, 680, 690, 880, 880A, 880B, 880C, 670	442	2.95
	660	410	4.50
	489, 415A, 415B, 804 Series A	712	4.95
BLACKHAWK			
	6U, 64	438	3.95
BOSCH			
	45 Syn., 140 2nd Series, 140 3rd Series, 150 2nd Series, 150C, 160, 45A, 45C	705	5.95
	45 Non-Syn., 78, 79, 178	452	2.95
	524, 634, 634A, 524A, 139, 149, 536, 636, 736, 737, 738, 637, 735, 858, 536B, 838, 736A2, 737A2, 738A2, V, VC, 35, 337, VT, VTC	454	2.95
	150 1st Series	710	$7.50
	189HB, 189HR	719	4.95
	79 2nd Series, 79C	438	3.95
	818, 600	715	4.95
B. O. P.			
	(See United Motors)		
CADILLAC			
	1937 Models, 5X, 6KB	723	4.95
	62-118, 62-199	728	5.50
	62, 56V1	400	3.45
	6R, 6U2 Standard	438	3.95
	06W Standard, 06W Master, (2722), *072, 2nd Series	710	7.50
	062, 1st Series, 072, 1st Series (2721)	471	6.50
CANADIAN RADIO CORP.			
	(See DeForrest, Crosley and Rogers Majestic)		
CAVALCADE			
	54, 64, 715, 725, 600, 359	454	2.95
	3511	714	4.95
CAVALIER			
	M858, M85T	454	2.95
CHAMPION			
	400	400	3.45
	500, 600, 501, 601	454	2.95
CHEVROLET			
	(See United Motors)		
CHRYSLER			
	C-1450, C-1452, C9, C10, C11, C14, C15, C17, CT10	P454	2.95
	C6, CC, CV, CZ, CT2, CT11, D, E, G, G122, R, 02861, 36-5159, 36-3157	P450	2.95
CHRYSLER-AIRFLOW			
	C1, C2, C3, CT5, De Luxe	P450	2.95
CLARION			
	TC15, 100, 110	400	3.45
	TC-50 (4 Prongs), 100-AR	454	2.95
	TC-50 (6 Prongs)	452	2.95
CLIMAX			
	66	454	2.95
CLINTON			
	801, 802, 803, 1935, 1936 Models	454	2.95
COLONIAL			
	134	711	7.25
	106 (B Power Supply)	400	3.45
	150 Non-Syn., 164B	452	2.95
	150 Syn.	705	5.95
	350	454	2.95
	164	410	4.50
	349, 355, 359, 361	704	5.50
	444, 434, 439, 440, 441	435	2.95
CONSOLE			
	6A	705	5.95
CONSOLIDATED			
	51	701	5.95
CONTINENTAL			
	U6, 78, 88, 780, 880, B660, B770, B780, B880	454	2.95
	L7, X6, Z4, Z5, AZ593, M551, M587, Z544, 965-6P, 7J, 6P, X641, X741	714	4.95
CORD			
	A245, A255, A455, 136, 137, 138, 540, 641	713	5.50
CORONADO			
	580, 680, 880C, 670, 670A	442	2.95
	31BT, 34BT, 49B, 50B, 63BC, 63BT, 68BCE, 49BT, 50BT, 68BTE	715	4.95
CORONA			
	105, 122, 130	454	2.95
CROSLEY			
	101, A5A2, 98, 99, 5A1, 102, 103	701	5.95
	A5A3, 4A1, 5A3, 6B1, 625, A155	708	4.95
	A167, A177, A156	P454	2.95
	A166, A366, A255, A355, A455, A555	713	5.50
	445, 675, 695, B899, 546, 435, 636, 6615, 46, B46	712	4.95
	A266, A267, A157	454	2.95
DEFOREST-CROSLEY (Can.)			
	513DOR, 51, 513, 510, 513C, 513D	701	5.95
	6D471	715	4.95
DELCO			
	(See United Motors)		
DE SOTO			
	SF, SF, SG, CT5	P450	2.95
DETROLA			
	180AW, 144B, 144C, 145B, 128, 129, 184, 186, 189, 145C	715	4.95
	1936 Syn.	723	4.95
	171, 166, 1111, 1112, 6M, 6R, 111, 112	454	2.95
	1100, 1100A, 6A	410	4.50
	1934, 1935 Models (Leads)	400	3.45
DE WALD			
	52, 61, 61X	400	3.45
	605R, 517R, 517, 606, 702, 527, 617, A607LW, A605, A606, 607, 608	454	2.95
	607LW (Twelve-Volt)	338	$6.00
	640	459	4.75
DODGE			
	CT11, CT10, D5, D6, D7, S3	P454	2.95
	G122, DU, E, G, R, D, SP, S	P450	2.95
DOMINION ELECTROHOME			
	All Models	400	3.45
ECHOPHONE			
	1935 Models	454	2.95
	Household	712	4.95
ELECTRIC AUTO LITE			
	(See Wells Gardner)		
ELECTRONIC			
	331 (B. Elim.)	400	3.45
EMERSON			
	U154, V-155, V-265, V-154, V, U, E, E-128, 2A, 6A, E-123, 1A (4 Prong), AS179	454	2.95
	5A, Deluxe (Syn.)	706	5.95
	640, 1933 Models	703	5.95
	F7, 34F7, 101F7	701	5.95
	667, 965, 975, KS38, 1A (6 Prong)	452	2.95
	678-1, 678-2	700	5.50
EMPIRE ELECTRIC PRODUCTS			
	60	400	3.45
ERLA			
	500, 560, 600, 601, 602, 603	400	3.45
	7M, 11M, 10M, 10MF, 111, 112, 5500	454	2.95
	Twelve-Volt Sets	338	6.00
	4400	705	5.95
	31B72, 31B74, 34B71, 34B73, 49B, 50B, 63BC, 63BT, 66BTE, 68BC, 68BCE, 68BT, 68BY	715	4.95
FADA			
	101, 102, 104, 104B	400	3.45
	166, 266, 266SD, 266SG, 266SF, 267SD, 267X, A50, 267	454	2.95
	66, 163, Household	715	4.95
	166 (Twelve-Volt)	338	6.00
FAIRBANKS MORSE			
	33A6	701	5.95
	3387, 2387, 3386, 1st Series	472	6.50
	3387, 2387, 3386, 2nd Series, S6, S7 (3 Lead)	400	3.45
	A6, S6, S7, 2387, 3386 (5 Lead)	703	5.95
	B6, 346, 347 (6 Prong), 345	449	3.95
	B6, 346, 347 (4 Prong), C6, 64, 74	454	2.95
	73, 73T3B, 73C3B, 43, 67, 6717, 6746, 48T1B, 43C1B, 4A, 4B, 6C	712	4.95
FEDERATED PURCHASER			
	(See Acratone)		
FERGUSON			
	(Plug-In)	452	2.95
FIRESTONE			
	7406-1, 7407-1	715	4.95
	54, 64, 131, 1314, R1332, Traveler	454	2.95
	R1322, R132, Deluxe	719	4.95
	R1781, R1431, 143, R1413	440	2.95
FORD			
	F, N, T, Philco, FT6, FT9	P450	2.95
	Majestic, 118, Glove Box Police	410	4.50
	4601M, 5601M, Majestic Plug-In, Zenith, Utah Repl.	452	2.95
	RCA	454	2.95
	F1442, F1540, F1542, F1440	P454	2.95
FORD (Canada)			
	(See Ford)		
FREED			
	A7, A9	710	7.50
GAMBLE-SKOGOMO			
	46L1, 26S1, 500	454	2.95
	580, 680, 880C, 670A, 670	442	2.95
	31BT, 34BT, 49B, 50B	715	4.95
	5Y	728	5.50
	6U	438	3.95
	660	410	4.50
GAROD			
	B37	454	2.95
GENERAL ELECTRIC			
	U51, U55	712	4.95
	U70, U75	725	5.50
	B40, B52, C41	702	5.95
	6U, C60	438	3.95
	123, C61	722	7.00
	D50, D52, D51	728	5.50
	N60, D72	454	2.95
	N51, 6K, M51, S725, FA60, FA61, FA80	723	4.95
	C60 (Twelve-Volt)	338	6.00
	D50, D51, D52 (Twelve-Volt)	306	7.50
	FB-53, FB57, FB73, FB77	801	5.90
GENERAL MOTORS (Can.)			
	650, 750	435	$2.95
	134, 135	701	5.95
	136, 137, 138, 540, 640, 641	704	5.50
GENERAL RADIO			
	Four-Tube Household	714	4.95
GILFILLAN			
	7A, 700, 1934, 1935, 1936 Models	452	2.95
	67A, 67R, 77R, 87, X, 8X	454	2.95
GLOBE			
	All Models	454	2.95
GOLD MEDAL			
	U6	454	2.95
	L7, X6, Z4, Z5	714	4.95
	TA	706	5.95
GOLDENTONE			
	(See Gold Medal)		
GOODRICH			
	(See Motorola)		
GOODYEAR			
	(See Belmont)		
GRAHAM			
	G1418, G1436	P454	2.95
	A355, A555	713	5.50
GRAYBAR			
	150 Chassis	705	5.95
GREBE			
	61R	400	3.45
GRUNOW			
	(General Household Utility)		
	410, 411, 4NB	715	4.95
	5AB, 508, 509, 614, 618	454	2.95
	625, 1936 Syn.	718	5.50
	G24, 40-18805, 118, 116A, 116, 66, Twin 6	410	4.50
GULBRANSEN			
	(See Wells Gardner)		
HALSON			
	199, 560, 56U, Roadmaster (4 Prong)	454	2.95
	Roadmate, Sr., 199 (Lead Type	410	4.50
	Household	715	4.95
HARLEY DAVIDSON			
	670 Non-Syn.	442	2.95
	YA. Police, 670 Syn.	705	5.95
HORN			
	(See Tiffany Tone)		
HOWARD			
	670A, Highwayman	442	2.95
	HA6	719	4.95
	HA2, 52, 502	400	3.45
	HA1, HA3, HA4, HA7, HA8, HA9	454	2.95
	68B	712	4.95
HUDSON-TERRAPLANE			
	DB-37, DB-38, CB6	719	4.95
	666, 668, 680, H6, RCA	454	2.95
	Majestic	410	4.50
	650HD, 660TD, 650HE, 651HE, 661TE	400	3.45
HUPMOBILE			
	E, G, R, G122, H122, Philco	P450	2.95
IMPERIAL			
	(Five Prong Syn.) Hsld.	714	4.95
	(Six Prong Syn.)	717	7.00
	(Six Prong Non-Syn.)	442	2.95
JACOBS			
	Hsld.	712	4.95
JOHN HOLMS			
	(Lead Type)	400	3.45
KARADIO			
	56	700	5.50
	65, 66, 68, 88, 667	715	4.95
	57B, 35, 57, 85, 150, 160, 180, Twin Cities, 1934 Models	469	2.95
KNIGHT			
	A9769, A9770, B10608	715	4.95
	F9541, F9551, G9515, G9517, G9882, F9515, F9741, G9900, G9881, G9599, 9737, T	400	3.45
	B10550-1-2-3, A9780-1-2-3-4, B10575, H9726, H9766, H9897, U6	454	2.95
	F9561	472	6.50
	6820, G9875, G9876, H9817, H9876	717	7.00
	G9751, H9850, L7, X6, 25, A9728, A9729, A9730, A9776, A9777, Z4, Z5, 46	714	4.95
LAFAYETTE			
	B52, B62	728	5.50
	660	441	3.95
	062, 062A	471	6.50
	AM20, L23, LW10 (6 Prong)	452	2.95
	J60 M44, 9682,	717	7.00
	L22	400	3.45
	D37, EB17, EB17A, EB67, 89, S79, S97, B51, JA1, JA2, D45, D48, B90 LW10 (4 Prong), C60, L30, 68	454	2.95
	68, L30, 6U	438	3.95
	S17762, L17762	710	7.50

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Make	Model	Type	List
LARKIN			
	16, 90, 91	400	$3.45
LASALLE			
	6J, 5X, 6KB	723	4.95
	06W	710	7.50
LAUREHK			
	AE6, AE5, AM6, AE79, A37, 66	454	2.95
LEWOL			
	9101, 9102	400	3.45
	9682	717	7.00
LINCOLN ZEPHYR			
	L1424, 1937 Models	P454	2.95
LIONEL			
	(Plug-In)	454	2.95
LYRIC			
	69, A60, 460	400	3.45
MAJESTIC			
	(See Grunow)		
MAJESTIC (Canada)			
	6N472	715	4.95
MALLORY			
	VP551, VP552	719	4.95
	VP553, VP554	405	2.95
	1, 2, 3, 4, 5, 6	471	6.50
	10, 10C, 10CA, 10P, 10PC, 10ST, 11, 11M, 11PC, 11P, 11CD, 11C, 12, 12C, 12PC, 13, 13S, 14, 14PX, 14C	710	7.50
MARCONI			
	48	400	3.45
	Ford	452	3.25
	69	454	2.95
MELBURN			
	45, 50	454	2.95
MIDWEST			
	7-36, 7-37, 7-38, 8-38, 12-38	715	4.95
	6-37	454	2.95
	Auto	400	3.45
MISSION BELL			
	838, 838A, 738, 3716, 3718, 3818	454	2.95
	10A, 11, 12, 14, 16, 25A	400	3.45
MONARCH			
	L7, X6, Z4, Z5	714	4.95
	U6, Chassis 54, 64	454	2.95
MONTGOMERY WARD			
	102	452	2.95
	62-327, 7Q, 78, 62-437, 62-237, 62-337, 62-427	725	5.50
	62-202, 1657, 62, 236, 242, U6, 68, 1681, 60, 5Y, 15Y1, 62-199	454	2.95
		728	5.50
	062, Auto Radio	471	6.50
	87	400	3.45
	670	442	2.95
	62-118, 62-116, 6U, 119, 202	438	3.95
MOTOMASTER			
	611	454	2.95
MOTOROLA			
	61, 88	472	6.50
	34, 62, 79, 8-30, 8-40, 8-50, 8-60, 8-70, 8-80, 50, 60, 65, 35, 45, 70	454	2.95
	86, 44A, 66, 66A, 77A	705	5.95
	44, 55, 55A	711	7.25
	77	710	7.50
	80, 90, Police, Golden Voice	405	2.95
	Dual 6, Twin 8, GM57, GM75, GM100, 57, 75, 59, 100, 110, F57, F75, F100, GM62	438	3.95
MUSIC-AIRE			
	(See Erla)		
MUSIC MASTER			
	Ten-Ten, 101, 102	400	3.45
NASH			
	J, C, D, Q, AC989, AC-1089, AC1189, AC1289, T7, T8	P450	2.95
NASH LAFAYETTE			
	1418, N1433	P454	2.95
	110	P450	2.95
NORTHERN ELECTRIC (Can.)			
	33, 40	702	5.95
	61	452	2.95
OLDSMOBILE			
	(See United Motors)		
PACIFIC			
	80, 1936 Hsld	715	4.95
	101, 102, 1935 Models	400	3.45
	H6, H7, 6V, 101B, 102B, 101C	454	2.95
	682	717	7.00
PACKARD			
	P1421, P1417, P1430, 6, 120, 1937 Models	P454	2.95
	PA, PB, PHD, PHXD, PT5, PT14	P450	2.95
PACKARD-BELL			
	25, 65, 67	452	2.95
PHILCO			
	920	454	2.95
	821P, 821PV	412	3.95
	Priorto1936,816,RT14X, 816B, T2, T3, T5, T6, NT15, ST15, PHXD, 37-S1431	P450	2.95
	810PB, 811P		
	817,818,818K,819,819H, T12, 827, 826, 827K, 828, 828K, N1418, N1433, P1417, P1430, P1432H,S1431,P1421, C1450, F1442, F1440, 1421P, P1432, G1436, G1418, B, P, DP, DVP	P454	$2.95
	624B, 624F, 624R	720	4.95
PHONOLA			
	3A61, 3A62	410	4.50
PIERCE ARROW			
	ME, MT3, Deluxe	P450	2.95
	517, 617	454	2.95
PILOT			
	605	454	2.95
	253, 255, 1st Series	717	7.00
	253, 255, 2nd Series	715	4.95
	253, 255, 3rd Series	712	4.95
PLA-PAL			
	185	712	4.95
PLA-RIGHT			
	500	454	2.95
PLYMOUTH			
	E, G, G122, PJ, Q, R	P450	2.95
PONTIAC			
	(See United Motors)		
POWERTONE			
	500	454	2.95
RADIETTE			
	54, 64	454	2.95
RADIO PRODUCTS CORP.			
	U6, 46	454	2.95
	L7, X6, Z4, Z5	714	4.95
RADOLEK			
	K16826,K16827,K16828, K16829, K16825	454	2.95
	K16743, K16746	714	4.95
R. C. A.			
	M1-7815	712	4.95
	84BT6, 85BT6	731	4.95
	CB6, 5M, 6M, 6M2, 8M3, 8M4, 67M1, 67M2, 67M3	719	4.95
	H6, 63, M109, RS-63-1, 8M1, 8M2, 67M	454	2.95
	M101, 104, 108, RC166, EG37A1	728	5.50
	M101, M104, M108 (Twelve-Volt), AVR-7A, AVR-7B, AVR-7C	306	7.50
	CV8, 6BK, 6BT, 8BK, 8BK6, 8BT, 8BT6, 6BT6, 8BT8, 6BK6, 8BK8	800	5.50
	AR4229, M34, M105, M116	702	5.95
	M107	438	3.95
	M107 (Twelve-Volt)	338	6.00
	M123	722	7.00
	BK6-6, BT6-5, RS166, RS66	715	4.95
RELIANCE			
	L7, X6, Z4, Z5	714	4.95
	U6	454	2.95
REMINGTON			
	U6	454	2.95
REMLER			
	27	400	3.45
	35	452	2.95
REO			
	RT3, Deluxe	P450	2.95
ROGERS CANADA			
	5, 8	800	5.50
	918	701	5.95
ROGERS MAJESTIC CANADA			
	6R472	715	4.95
SEARS ROEBUCK			
	(See Silvertone)		
SENTINEL			
	(See Erla)		
SERENADER			
	3A61, 3A62	410	4.50
SETCHEL CARLSON			
	40, 41, 50, 51, 52, 410, 510	715	4.95
	44, 45, 60, 608, 66, 668, 68, 688, 70, 708, 71, 718, 80	461	4.75
SHERIDAN			
	All Models	400	3.45
SILVER-MARSHALL			
	Hallicrafters	442	2.95
SILVERTONE			
	4421, 4434, 4521, Chassis 104127		
	4428A, 4448A, 4528A, 4548A	712	4.95
	1869X, 4405, 4407, 4428, 4448, 4548, 7128 (4 Prong), 1934 Models, 1935 Models, 3400, 1949A,1869,7157,7167, 566, 666	454	2.95
	7068A, 1933 Models	400	3.45
	4128, 7128 (6 Prong)	452	2.95
	1859, 1859A, 7117	705	5.95
	4400, 4400A, HA6, 107-HA62	719	4.95
	4600, 4601, 6100, 6101	435	2.95
SIMPLEX			
	T	400	3.45
	TA, T2, JT2	723	4.95
	PB, GB, FB, DB, DBK, DF, DFK, 5DB, PBT, XDB	714	4.95
	Q	454	2.95
SOLAR			
	(See Wells Gardner)		
SPARTON			
	33, 33A, 33B, Non-Syn.	400	$3.45
	36, 33, 33A, Syn	700	5.50
	333, 296	452	2.95
	887-6, S37-6	715	4.95
	D686, H686, S676	454	2.95
STANDARD			
	140	714	4.95
STAR			
	(See Wells Gardner)		
STEINWAY			
	(Lead Type)	400	3.45
STEWART RADIO			
	50, 60	400	3.45
STEWART WARNER			
	195	715	4.95
	R189, R1891	717	7.00
	163, 164, R163D, 1631D to 1639D, R164D, 1641D to 1649D	725	5.50
	1171, 1172, R1118, R117, 131, 1112, 1181, 1182, 1183, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318,1319,R118,R133, R1332, R1132	454	2.95
	132, R1322	719	4.95
	1121, 1122, R112, 112, 1123	400	3.45
	1601 to 1609, 143, R1431, R1781, R160	440	2.95
STROMBERG CARLSON			
	33, 33A, 33X, 1933, 1934 Models	710	7.50
	115	715	4.95
STUDEBAKER			
	ST3,ST12,ST15,AC266, 1431	P454	2.95
	AC206, AC236, AC265	P450	2.95
SUPERTONE			
	54, 64, U6	454	2.95
	L7, X6, Z4, Z5	714	4.95
TATRO, L			
	AM, BM, CM, EN-64,00-65, FN-66, NO-65, GN-66	712	4.95
	QP-65, SP-67, TP-67	461	4.75
	6A, H465, I465, J665, JJ565, K665, I1465	705	5.95
	M4616, 04626, P4626, Q5636, R5636, S5636, S6636, 1st Series	727	7.50
	M4616, 04626, P4626, Q5636, R5636, S5616, S6636, 2nd Series	717	7.00
TEMPLETON			
	Five Tube	400	3.45
TIFFANY TONE (Horn)			
	535, 536, 537, 538, 1936 Models	452	2.95
TIGER			
	(See Gamble-Skogomo)		
TRANSITONE			
	(See Philco)		
TRAVLER			
	601, 610, 660, 670, 710, 711, 54, 64, 542, 642	454	2.95
	76, 176, 173, 525, 733	712	4.95
TRA-AVALON			
	5 Tube	400	3.45
TRIANGLE ELECTRIC CO.			
	Five Prong Syn	714	4.95
	Six Prong Syn	717	7.00
TROPIC-AIRE			
	(See Wells Gardner)		
TROY			
	68	454	2.95
	87, 86, TR86	452	2.95
TRUETONE			
	D719, 180AW	715	4.95
	612, D706	712	4.95
	D718, D708, L7, X6, Z4, Z5	714	4.95
	D734, D740 (Wells Gardner), D737, D737B, D737C, 666, D743 D743W, D744, 6R, 6S, R131, R1311, R1312, 6U	454	2.95
	D745, 6J, 6K	723	4.95
	062 (3rd Series), D732, D733, Z6Z1	400	3.45
	580, 670A, 680, 880, D736, D739, D741, D742	442	2.95
	178, D740 (Bosch)	452	2.95
	062, 062A, D690, D691	471	6.50
	D735, 5Y, 25Y1	728	5.50
TRUEVALUE			
	6U	438	3.95
UNITED MOTORS (Buick-Oldsmobile-Pontiac)			
	1304873, 980566, 980567, 980534, 980535	726	4.95
	1 Unit Non-Syn., 2 Unit Non - Syn., 930383, 980393	400	3.45
	1 Unit Syn., 2 Unit Syn., 5T 1934, 980441, 980455, 980459	700	5.50
	1291344, 1291345, 4T 1935, 393884, 393885, 405045,405046,405057, 405062,405063,544245, 544246,544267,544268, 544289,544290,544291, 544297,544298,982006, 982007,983501,982008, 983506,983507,983508, 980535	704	$5.50
	980507, 980508, 980509, 980525,980526,980529	718	5.50
	982043, 982044, 982045, 983526,983534,983527	435	2.95
Chevrolet			
	1 Unit Non-Syn., 2 Unit Non - Syn., 36441, 980383	400	3.45
	25Y1	728	5.50
	1 Unit Syn., 2 Unit Syn., 600153,600249,600565, 600566, 600749	700	5.50
	985301, 985300	718	5.50
	985100, 985200	454	2.95
	985400, 1st Series	713	5.50
	985400, 2nd Series, 601038,601174,601176, 601177,601525,601547, 601574,601586,601662, 601814	704	5.50
	985253, 985254, 985255, 985284,985285,985252	435	2.95
Delco			
	R640, R641, R642, R663 to R669, R644, R643	435	2.95
	500, 630, 631, 632, 633, 631A	454	2.95
	626, 627, 628, 629, 625	704	5.50
	634, 635	713	5.50
	2035, 4036	400	3.45
	4037, 4038	700	5.50
	R6015, 6010, 6011, 6012	715	4.95
UNITED AMERICAN BOSCH			
	(See Bosch)		
UNITED SCIENTIFIC			
	(See De Wald)		
UNIVERSAL BATTERY CO.			
	60, 70, 80, 7232, 7332, 8332, 8432, 801, 804, 805, 807, 802, 803	454	2.95
WARWICK			
	511, 618	441	3.95
	Hsld	715	4.95
	550, 560, 660, 665, 611, 686	454	2.95
	1934 Models	400	3.45
WELLS GARDNER			
	062, 062A	471	6.50
	06W, 06W 2nd Series, 072, 072A, 06X	710	7.50
	5Y, 25Y1	728	5.50
	5Y, 25Y1 (Twelve-Volt)	306	7.50
	7Q, 78	725	5.50
	26S1, Z6U1, 6U, Z6S1, Z6R1, 6S, 5Z	438	3.95
	V6Z2, Z6W1, Z6Z1, 06Z	400	3.45
	6X,6R,61,6L,6C1,46C7	454	2.95
	6K, 5X, 6KB, 46J4, 46J3, 6J	723	4.95
	5H, 5K1, 65H	712	4.95
WESTERN AUTO			
	(See Truetone)		
WESTINGHOUSE			
	602	700	5.50
	WR500,WR501,WR502, WR503, WR25, WR26 (4 Prong)	454	2.95
	WR27, WR25, WR26 (6 Prong)	452	2.95
WESTINGHOUSE (Can.)			
	A43, A44	702	5.95
WILCOX GAY			
	3R6	442	2.95
	4R6, 4R6-2, 5F8-90, 5F8-790, 1935 Models	452	2.95
	Roadmate, Roadmaster	400	3.45
WURLITZER			
	A60, 460	400	3.45
	U50, U500	700	5.50
ZENITH			
	Junior 7	452	2.95
	663, 664, 5M190, 5510, 8M195, 5803	440	2.95
	5F133, 5F166, 5F134	801	5.50
	7, 460, 462, 650HD, 660TD,661TE,651HE, 2057, 651HD, 426	400	3.45
	666, 668, 680, 6M90, 6M91, 7M91, 6M92, 6M294,8M295,6M293, 6M292,5M291,7M91D, 7M918, 6J230, 6J257, 5642, 7J232, 7J259, 5711, 5615, 5M191, 6M193, 6M194, 5610, 5616, 6M908, 6M90D, 5630, 5706, 6M918, 6M91D, 5631, 5J217, 5J247, 5J255, 5524	454	2.95
	4V31, 4V59, 6V27, 6V59, 6V62, 4B106, 4B131, 4B132, 6B107, 6B129, 6B164, 5405, 5406, 5621, 5635	712	4.95
ZEPHYR			
	3M5, 3M7	454	2.95
	2M7, 20B6, 22P6	723	4.95

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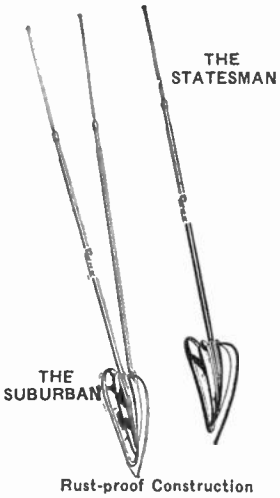
World Radio History

WARD AUTOMOBILE ANTENNAS

TOP TYPE ANTENNAE



Rust-proof Construction

The new Ward Top Aerials for automobiles harmonize with the beauty of modern streamlining. Of Ward's own MOL-EN-AC, Bakelite and Rubber. Simple to install. Eliminates tampering with headlinings and drilling into the top. One model fits all cars and permits windshields to open.

THE STATESMAN

Single bar top type. Top bar extends from 19½" to 32". Cowl bar telescopic to fit all cars.

Model ST.....List Price $3.95

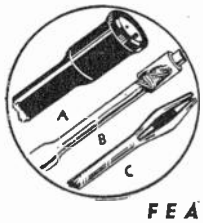
THE SUBURBAN

Double-bar top type. Top bar extends from 20" to 32¾". Cowl bar Telescopic to fit all cars.

Model SU.....List Price $4.25

Top Type list prices include a full length shielded cable.

HINGE TYPE ANTENNAE



FEATURES

- Heavy chromium plating. Admiralty bronze seamless tubing. Telescopic sections that "stay-put" at any length. Ferrule caps topping all movable sections, with special chemically treated packing. Dust and moisture cannot enter tubes.
- SIMILAR CONTACTS—Prevents corrosion at contacts.
- NEOPRENE BALL — A weatherproof, resilient synthetic rubber, guaranteeing PERMANENT SPRING TENSION.
- "Adjusta-Tilt" Bracket, full length shielded lead.
- STREAMLINED BEAUTY Conforming to specifications of major car manufacturers for 1938. Insuring PUBLIC ACCEPTANCE.

THE FLEXOR
(With "Adjusta-Tilt" Bracket)

One piece construction. Total length 43½".
Model FL.....List Price $2.75

THE FRANKLIN
(With "Adjusta-Tilt" Bracket)

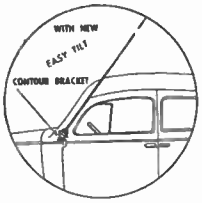
2 section telescopic. Collapsed 30½", extended 51½".

Model CON.....List Price $2.25

THE FALCON
(With "Adjusta-Tilt" Bracket)

3 section telescopic. Collapsed 20", extended 43".

Model FT.....List Price $2.90



THE CHALLENGER
(With Figure 8 Bracket)

2 section telescopic. Extends to 44 inches.

Model CO.....List Price $1.95

A quality shielded lead cable now included with all Hinge Type Aerials at NO EXTRA COST.

BUMPER TYPE ANTENNAE

Model P.D. Model B.F.

THE FISH POLE

Easily installed on bumper bracket — No Drilling. Durable, Efficient, Flexible.
Telescopic — Extends to eight feet.
Molded WARD POWER-HOUSE TYPE INSULATORS. An exclusive Ward Feature.
Positive Weatherproof insured.

List price includes 12 feet Plain Lead Wire.

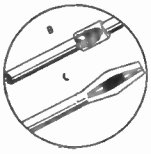
Model BF.....List Price $3.00

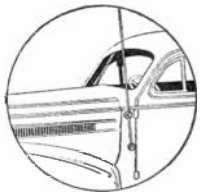
THE TRANS-CEPTOR

Model PD the "Trans-Ceptor"—10½' fully extended 41½" collapsed. Four Section Telescopic. 8' produces a fine half wave five meter band Vertical Radiator. Ideal on the 31 meg. Experimental Band—ultra-high frequency Police Transceiver and intermediate Police. Receiving Bands. Non-Directional—made of bronze. Mounts rigid to bumper bracket List Price $15.00

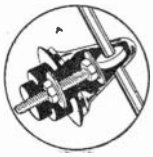
Model PDT the "Captain"—Two Section Telescopic. Chromium plated bronze. Extending to 8½'. Otherwise same as Model PD.....List Price $14.00

SIDE COWL ANTENNAE





THE MARQUIS
Model MR



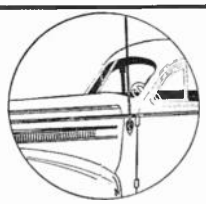
Two stanchion type with insulated lower bolt. Two section telescopic. Extends from 27½" to 48½". Chromium plated seamless bronze tubing.

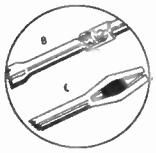
List Price.....$2.70

A quality shielded lead cable now included with all Side Cowl Aerials at NO EXTRA COST.

FEATURES

- Heavy chromium plating. Admiralty bronze seamless tubing. Telescopic sections that "stay-put" at any length. Ferrule caps topping all movable sections, with special chemically treated packing. Dust and moisture cannot enter tubes.
- SIMILAR CONTACTS—Prevents corrosion at contacts.
- NEOPRENE BALL—A weatherproof, resilient synthetic rubber, guaranteeing PERMANENT SPRING TENSION.
- STREAMLINED BEAUTY—Conforming to specifications of major car manufacturers for 1938. Insuring PUBLIC ACCEPTANCE.
- QUICK INSTALLATION—Ward Side Mounting types are most easily installed. Antenna is attached to insulator "A" for simplicity and permanence.





THE QUINLAN
Model QR

With single molded bakelite insulator. Two section telescopic. Extends from 29½" to 51". Chromium plated seamless bronze tubing.

List Price.....$2.95

THE QUENTON
Model QT

With single molded bakelite insulator. Three section telescopic. Extends from 25" to 63". Chromium plated bronze tubing.
List Price.....$3.50
A quality shielded lead cable now included with all Side Cowl Aerials at NO EXTRA COST.

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WE STOCK ALL NEW WARD ANTENNAE AS THEY ARE ANNOUNCED

World Radio History

WARD AUTOMOBILE ANTENNAS

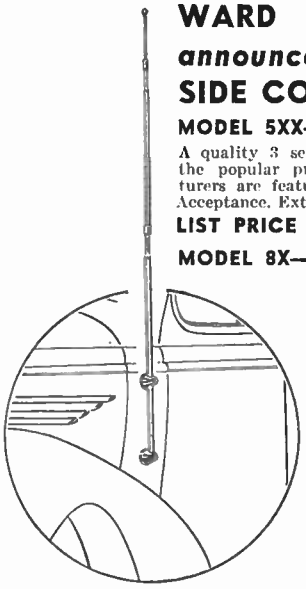
Free!! DISPLAYS

These versatile Ward Aerial Sales Promoting Displays will attract customers and be Bright Spots in your window trims.

These Colorful Wall and Window Displays are packed one to a carton of ten aerials of a kind. Display is designed so that eight different hinge and side mounting aerials may be featured on the same board.

All necessary fittings are included with each board. Approximate size of display 11" x 30". Price Stickers furnished.

WARD *announces "2" new* SIDE COWL AERIALS . . .



MODEL 5XX—

A quality 3 section cowl mounting antenna in the popular priced field. Major car manufacturers are featuring this type, insuring Public Acceptance. Extends 23½" to 60".

LIST PRICE $2.95

MODEL 8X—

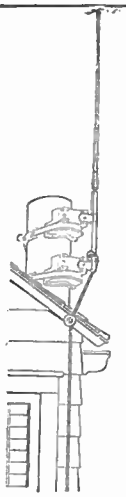
Same as the above but extends 38" to 92". Recommended especially for rural districts where reception is difficult also an excellent aerial for police.

LIST PRICE.....$3.90

Features:

Three Section . . . Beautiful Bright Plated Finish . . . Rust-Proof Construction Guaranteed . . . For Police and Rural Use . . . Easily Installed.

List prices include a full length shielded lead cable.



De Luxe HOME ANTENNA MAST

This most modern in last-minute vertical reception equipment is tuned to the vertical radiators now in wide use by broadcasting stations the world over.

Designed for maximum signal strength and minimum noise level.

Constructed of Super-size bronze tubes for extra rigidity; four-sectional; twelve-foot. Mounts vertically with Low-loss porcelain insulators on suitable surface, such as Soil pipe (as shown); chimney; window; garage; apartment, etc. Easy to install. Obsoletes clothes-line type aerials.

This antenna represents the latest in radio engineering. Guaranteed rust-proof.

Special lightning arrestor contains a .002 MFD. condenser to obtain additional capacity on both old and new radio sets.

MODEL 118 LIST PRICE $4.50

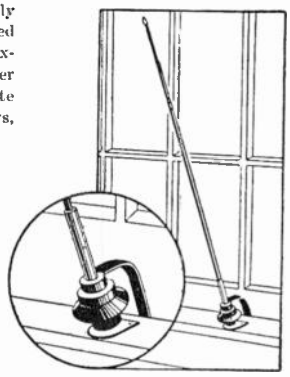
THE "WINDEX ANTENNA"

For Homes and Apartments. Easily attached to Window sill. Plated to resist rust. Is telescopic — extends to eight feet. Molded Power House Type Insulators. Complete with Mounting Flange, Screws, and Lead in Strip.

MODEL WI

List Price

$2.45



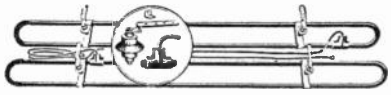
THE "SUPER RANGE TWINS"

100% Rubber sealing • Molded Rubber WARD POWERHOUSE TYPE INSULATORS • No drilling in running board • Weather Resisting • America's Foremost Under car Aerial.

MODEL HPR

$4.00

LIST PRICE



(72" Shielded Lead included)

THE "STREAMLINER"

Approved for all radio sets—automobiles • 10 Minute installation—No drilling • Molded Lead Connections 100% rubber covered • Molded Ward Powerhouse Type Insulators and Magic Bracket • A Single Aerial of MAXIMUM EFFICIENCY and PERFORMANCE.

MODEL 4RC

$2.95

Recommended Lead AL66.....List Price $0.85

WARD APPROVED LOW-LOSS LEAD WIRE

No.		List Price
AL66	72"—Lead Cable—Male Fitting 1 end	$0.85
AL36MS	36"—Lead Cable—Male 1 end, Shield Can 1 end	.75
AL30	36"—Shielded Lead Cable without outside cotton braiding	.50
P36	36"—Shielded Lead Cable with outside cotton braiding for Hinge Type	.60

Heavy Lacquered Lead Wire — Protecting Processed Braid — Shielded Loom Male Plug-In to fit All Radios — Heavy Construction

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WE STOCK ALL NEW WARD ANTENNAE AS THEY ARE ANNOUNCED

World Radio History

P. R. MALLORY & CO. Inc.

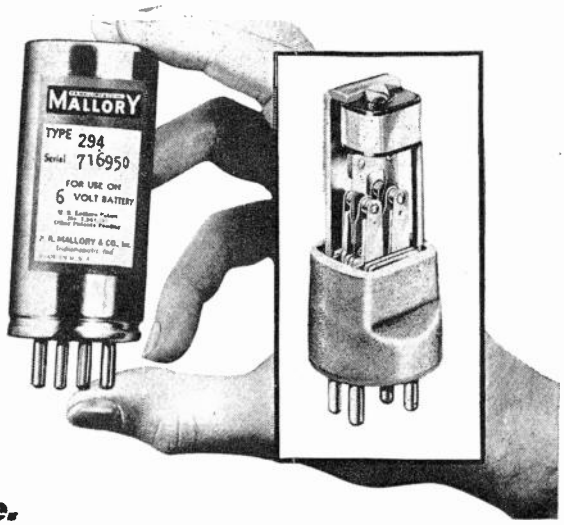
MALLORY REPLACEMENT

VIBRATOR CHART . . . for Auto Radio and Battery-Operated Household Receivers

8 Contacts

Mean longer life and greater dependability!

That's one reason why 3 out of 4 Vibrators are MALLORY—over 5 million now in use.



Use MALLORY—they cost no more.

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
Acratone	40, U6	294	$2.95
	49, 51, 92, 92A, 94A, 460	292	3.45
Addison	531, 631	292	3.45
Admiral	U6, 66, 77, 78, 88	294	2.95
Aircastle	603	292	3.45
	U6	294	2.95
Airline—See Montgomery-Ward & Co.			
Airmate—See United Motors Service.			
All-American Mohawk	A60	292	3.45
Allied Radio Corp. (Knight)	F9515, F9541, F9551, G9515, G9517, G9881, G9882, T (Auto)	292	3.45
	U6	294	2.95
Arcadia—See Wells-Gardner.			
Arvin—See Noblitt-Sparks.			
Atwater Kent	424, 534, 816	226	5.95
	126, 136, 416, 446, 556	294	2.95
	666, 776	296	2.95
Audiola—See Fairbanks-Morse.			
Autocrat	5	292	3.45
	505, 518, 618	294	2.95
Automatic	1933, 1934, 1935, Junior, Senior, Junior Twin Six, A600, AR600, Jr.	292	3.45
	A1, A5, J50, J60, J80, M70	503	3.95
	M80	294	2.95
Baldwin	Chassis 54, 64	294	2.95
Balkeit	Chassis 54, 64, U6	294	2.95
Belmont	660	292	3.45
	1932 Models	311S	7.50
	566, 576A, 580, 666, 666 "A"-"B," 690	294	2.95
	580 REV., 667, 670, 670A, 680, 680A, 680B, 680C, 880A, 880B, 880C	296	2.95
Blackhawk	6U	253	3.95

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
"Bosch"—See United American Bosch.			
Buick-Olds-Pontiac—See United Motors Service.			
Cadillac	06W Standard	210	$7.50
	06W Master	237	7.50
	2721 (062)	206	6.50
	2722 (072A)	211	7.50
	6U2	253	3.95
	56V1	221	3.95
	1937 Models 6KB	248	4.95
Canadian Radio Corp.	513C, 513DOR	223	5.95
Cavalcade	Chassis 54, 64, 359	294	2.95
Champion	500, 501, 600, 601	294	2.95
Chevrolet—See United Motors Service.			
Clarion	100AR	294	2.95
	TC 50		
	4-prong Socket	294	2.95
	6-prong Socket	296	2.95
Climax	66	294	2.95
Clinton	803, 1935, 1936	294	2.95
	6V6	245	4.95
Colonial	106B-Power Supply	221	3.95
	150	271	5.95
	164	220B	4.50
	164B	296	2.95
	434, 439, 440, 441, 444	294C	2.95
Consolidated	51	223	5.95
Continental	"Admiral" U6, 77, 770	294	2.95
Crosley	98, 99, 102, 103, 5A1	223	5.95
	4A1, 5A3, A155	247	4.95
	A166, A255, A355, A366, A455, A555	273C	5.50
	A156, A266	501P	2.95
	A167, A177	294	2.95
DeForest Crosley (Canada)	51, 510, 513C, 513D	223	5.95
Delco—See United Motors Service.			

*Requires Special Cup Adapter. Supplied with Vibrator at $.50 list, or separately at $1.00 list. †See CAUTION note at end of table.
The prefix letter "F" designates Vibrator designed for 32-volt Service. The prefix letter "G" designates Vibrator designed for 12-volt Service.

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World Radio History

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—continued

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
Detrola	6A-1100-1100A	220B	$4.50
	6M, 6R, 112	294	2.95
	1934, 1935	292	3.45
	144B, 144C, 145B, 145C	245	4.95
Dewald	52	221	3.95
	61	292	3.45
	517, 527, 606, 607, 617, 702	294	2.95
	605	253Y	3.95
Electric Autolite—See Wells-Gardner.			
Electronic	B. Eliminator, 331	292	3.45
Emerson	965, 667	296	2.95
	5A	277S	5.95
	678-1 and 2	222	5.50
	6A	253Y	3.95
	E128, F122, F133, F135, F141, G127, V154, V155	294	2.95
Erla-Sentinel	10M, 11M, 5500	294	2.95
	600-602-603	292	3.45
Fada	101-102-104-104B	221	3.95
	163	245	4.95
	166	253Y	3.95
	266, 266SD, 266SG, 267, 267SD, 267SF, 267SG	294	2.95
Fairbanks-Morse	23-S-7, 33-S-6, 33-S-7 (1st Series)	312T	6.50
	23-S-7, 33-S-6, 33-S-7 (2nd Series)	292	3.45
	33-A-6	225	5.95
	346, 347, B6	297	3.95
	C6, 64, 74	294	2.95
Federated Purchaser	92, 92A, 94A, 460	292	3.45
	40 Auto	294	2.95
Firestone	R-1322 (R-132)	289Y	4.95
	54, 64, R-1332 (R-133)	294	2.95
	Traveler (1314)	294	2.95
	R-1431, 1781	294SW	2.95
Ford (Majestic)	40-18805	220B	4.50
	Glove Box Police	220B	4.50
(Philco)	All	500P	2.95
(Lincoln)		296	2.95
Ford (Canada)	Majestic (Utah Carter Pack) Marconi	296	2.95
	Majestic	220B	4.50
	Philco (Prior to 1936), 816	500P	2.95
	Philco (1936), 817, 818, 819	501P	2.95
Freed	A7, A9	210	7.50
Galvin Mfg. Corp. (Motorola)	8-30, 8-40, 8-50, 8-60, 8-70, 8-80, Motorola Police	294	2.95
	34, 35, 45, 50, 60, 65, 70, 80, 90 (Golden Voice)	294	2.95
	88	302S	6.50
	61	303S	6.50
	77	230	7.50
	77A, 44A, 66, Super 6	270B	5.95
	55	231	7.25
	55A	234	7.25
	44	235	5.95
	57, 62, 75, 79, 100, 110	253T	3.95
	Dual 6 and Twin 8	253	3.95
Gamble-Skogmo	6J	248	4.95
	6U, 26SI	253	3.95
	670, 670A, 680	296	2.95
	5Y	286S	5.50
	5Y (12-volt)	G286S	7.50
	26R1, 46L1, 580	294	2.95
	660	220B	4.50
General Electric (Also Canadian General Electric)	B40-C41	273*	5.95
	B52 Arm-Rest Model	273*	5.95
	C60	253	3.95
	C61	224	7.00
	D50, D51, D52	287M	5.50
	D72, N-60	294	2.95
	N51, FA60, FA61, FA80	248	4.95
General Motors (Canada)	134, 135	223	5.95
	136, 137, 138, 640, 641, 540	273C	5.50
Gilfillan	All 1933-34-35-36	296	2.95
	8X, 67A, 67R, 77R, 87	294	2.95
B. F. Goodrich Rubber Co.—See Galvin (Motorola).			
Goodyear Service Stores—See Belmont.			
Goldentone	U6	294	2.95
Gold Medal	U6	294	2.95
Graybar	150 (Chassis)	271	5.95
Grebe	61-R	292	3.45
Grigsby-Grunow Co. (Majestic)	66, 116, 116A, 118	220B	4.50
	40-18805 (Ford)	220B	4.50
Grunow	614-618	294	2.95
	625	273D	5.50
Gulbransen—See Wells-Gardner.			
Halson	199, Roadmaster	220B	$4.50
Harley-Davidson	All	271HD	5.95
Horn (Herbert H.)	535, 536, 537, 538	294	2.95
Howard Radio Co.	HA4, HA1 (670A), HA7, HA8, HA9	294	2.95
	HA6	249	4.95
	Highwayman	296	2.95
	HA2	292	3.45
Hudson Terraplane	Majestic Head	220B	4.50
	650HD, 651HE	292	3.45
	660TD, 661TE	292	3.45
	666, 668, 680, H-6	294	2.95
Hudson Terraplane (Canada)	Marconi, 650, 660	292	3.45
	680, H6	294	2.95
International	K-60 (K-6)	296	2.95
Karadio	57, 63; 65, 66, 88, 150, 160, 180, 57B	296	2.95
Knight—See Allied Radio Corp.			
Lafayette	S17762	210	7.50
	B62	286S	5.50
	B92	248	4.95
	062-062A	206	6.50
	L-30, 6S	253	3.95
	L-23, AM20	296	2.95
	C-60, LW 10	294	2.95
Larkin Company	91	292	3.45
"Lewol"	9101, 9102	292	3.45
Lyric (Canada)	A60	292	3.45
Majestic—See Grigsby-Grunow Co.			
Mallory Eliminator	Type 1	201	6.50
	Type 2	202	6.50
	Type 3	203	6.50
	Type 4	204	6.50
	Type 5	205	6.50
	Type 6	206	6.50
	Types 10, 10C, 10CA, 10P, 10PC, and 10ST	210	7.50
	Types 11, 11M, 11C, 11CD, 11P, and 11PC	211	7.50
	Types 12, 12C and 12PC	212	7.50
	Types 13 and 13S	213	7.50
	Types 14, 14C and 14PN	214	7.50
Mallory Vibrapack	VP551, VP552	725	5.50
	VP553, VP554	825	4.50
	VP-G556	G725	6.50
Marconi (Canada)	48	292	3.45
	Ford	296	2.95
	69	294	2.95
Midwest	6-37	294	2.95
Mission Bell	10A, 11, 12, 14, 16, 25A	292	3.45
	16, 17, 18, 3818	294	2.95
Monarch	Chassis 54, 64, U6	294	2.95
Montgomery-Ward (Airline)	87	292	3.45
	62-166, 62-118 (6U)	253	3.95
	Auto Radio, 62, 062	206	6.50
	62-199 (5Y)	286S	5.50
	102	296	2.95
	62-202, 62-236	294	2.95
Motomaster	611, DeLuxe	504	3.95
Motorola—See Galvin Mfg. Corp.			
Music Master	Ten-Ten	292	3.45
Noblitt-Sparks (Arvin)	15, 25, 35, 45 (1st Series)	296	2.95
	15, 25, 35, 45 (2d Series)	292	3.45
	10A, 16, 20A, 20B, 30A, 30B	292	3.45
	7, 17, 17A, 18, 19, 27, 28, 29, 33, 37, 38, 39	294	2.95
	61B, 62B, 517B, 527B, 617B, 627B	245	4.95
Northern Electric (Canada)	33, 40	273*	5.95
	61	296	2.95
Pacific	101, 102	292	3.45
	6V, 101B, 102B, 101C	294	2.95
Packard Bell Co.	25, 6 tube Auto	294	2.95
Philco (Also Canadian)	Police (810PB, 811P)	501P	2.95
	Prior to 1936, 816	500P	2.95
	1936 and 817, 818, 819	501P	2.95
	1937, 1938	505P	2.95
	(Police) 821-P, 821-PV	506P	3.95
Phonola (Canada)	3A61, 3A62	220B	4.50
Pierce-Arrow	517 Auto, 617	294	2.95

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World Radio History

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—continued

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
Radiart	B. Eliminator	292	$3.45
	Majestic Replacement Unit	292	3.45
Radiette	Chassis 54, 64	294	2.95
RCA Victor (Also Canadian RCA)	5M, 6M, 6M2, 67M1, 67M2, 67M3	249	4.95
	M34-M105	273*	5.95
	M116 (Arm-Rest Model)	273*	5.95
	M107	253	3.95
	M107 (12-volt)	G253	6.00
	AR 4229	273*	5.95
	H 6 (Hudson), RS 63-1	294	2.95
	M123	224	7.00
	M101, M104, M108	287M	5.50
	M101, M104, M108, 12-V. Automotive	G287M	7.50
	67M, M109	294	2.95
Radio Products Corporation	U6	294	2.95
Radolek	K16825	294	2.95
Reliance	U6	294	2.95
Remler	27 (Scotty)—35	292	3.45
Rogers (Canada)	918	223	5.95
Sears-Roebuck	4400, 107HA62	249	4.95
	3400	504	3.95
	7128 4-prong Socket, 566, 666	294	2.95
	6-prong Socket	296	2.95
	7117, 1859, 1859-A	271	5.95
	7157, 7167, 1869	294	2.95
	4600, 4601	294C	2.95
Sentinel—See Erla-Sentinel.			
Serenader (Canada)—See Phonola (Canada).			
Setchell-Carlson	40, 41, 50, 51, 52, 410, 510	245	4.95
Shelly Radio Co.	65, 67	294	2.95
Sheridan	5 Tube	292	3.45
Simplex	T	292	3.45
	Q	294	2.95
	TA	248	4.95
Solar—See Wells-Gardner.			
Sparton (Also Canadian)	33-33A, 33B	292	3.45
	333	292	3.45
	36	222	5.50
Star—See Wells-Gardner.			
Stewart Radio	50, 60	292	3.45
Stewart Warner	R117 (1171, 1172), R118 (1181, 1182, 1183), R131, (1311-1319), R133 (1332)	294	2.95
	R112 (1121, 1122, 1123)	292	3.45
	R132 (R1322)	289Y	4.95
	R143 (R1431), R160 (1601, 1609), R1781	294SW	2.95
Stromberg-Carlson (Also Canadian)	33, 33A	236	7.50
Supertone	U6	294	2.95
Tiffany Tone (Herbert Horn)	535, 536	296	2.95
Transformer Corp. of America	TC50, 100AR	294	2.95
Trav-ler	54, 64, 542	294	2.95
Tropic-Aire—See Wells-Gardner.			
Troy	TR-86	296	2.95
Truetone—See Western Auto.			
Truevalue	6U	253	3.95
United American Bosch	139 (Types V, VC, VT, VTC), 149 (Types V, VC, VT, VTC), 524A-536-634-634A, 636, 637	253Y	3.95
	140 (Ed. 2 & 3)	271	5.95
	150 (Edition 1)	219	7.50
	150 (Edition 2)	271	5.95
	160, 45A, 45C	271	5.95
	189HB, 189HR (Police)	249	4.95
	79C	253	3.95
	736, 737, 738, 838	294	2.95
	600	245	4.95
United Motors Service Buick-Olds-Pontiac	393884-393885	273C	5.50
	405045-405046, 405047	273C	5.50
	405057	273C	5.50
	405062-405063	273C	5.50
	544245-544246	273C	5.50
	544267-544268-544289-544290-544291-544297-544298	273C	5.50
United Motors Service—*Continued* Buick-Olds-Pontiac (*Continued*)	364441, 980393	221	$3.95
	980441	222	5.50
	980455-980459	222	5.50
	980507-980508	273D	5.50
	980509, 980525, 980526, 980529	273D	5.50
	982006-982007	273C	5.50
	982008	273C	5.50
	983506-983507	273C	5.50
	983526, 983527, 982044, 983534, 983569, 983570, 985200	294C	2.95
	1291344-1291345	273C	5.50
	980534-5	514	4.95
	980566, 980567, 1304873	715	4.95
	982043, 982045, 982083,4,5	294C	2.95
Chevrolet	364441	221	3.95
	600153-600566	222	5.50
	600249-600565	222	5.50
	601038	273C	5.50
	601176-601177	273C	5.50
	601525, 601574	273C	5.50
	601586	273C	5.50
	601662, 601814	273C	5.50
	985100-985200	294	2.95
	985252, 3, 4, 5, 985283, 4, 5	294C	2.95
	985300	273D	5.50
	985400	273C	5.50
Delco	626, 627, 628, 629, 634, 635	273C	5.50
	630, 631, 632, 633, 500, 631A	294	2.95
	2035, 4036	221	3.95
	4037, 4038	222	5.50
	R640, R641, R642, R643, R644	294C	2.95
Universal Battery	60, 70, 80, 802, 803, 7232, 7332, 8332, 8432	294	2.95
Utah	"B" Eliminator Non-synchronous	221	3.95
Warwick	6-Tube Auto	504	3.95
Wells-Gardner	O6Z, V6Z2†, Z6Z1†	292	3.45
	25Y1	286S	5.50
	25Y1-12 volt	G286S	7.50
	062-062A	206	6.50
	072-072A	211	7.50
	06W (1st Series), 06X	210	7.50
	06W (2d Series)	237	7.50
	26U1 (6U), 26S1,(6S)	253	3.95
	6J, 6K	248	4.95
	6C1, 6L, 6N, 6R	294	[illegible].95
Western Auto (Truetone)	S-732 (Z6Z1)†, S-733 (V6Z2)†, 06Z	292	3.45
	S-690, (062), S-691 (062-A)	206	6.50
	S-740 (6U), 670 (6S)	253	3.95
	S-735 (25Y1)	286S	5.50
	D734, D743, D744, S-743, 1312 (R-131)	294	2.95
	06W	210	7.50
	670	296	2.95
Westinghouse	WR-25, WR-26 4-prong Socket	294	2.95
	6-prong Socket	296	2.95
	WR-500-501	253Y	3.95
	WR503	294	2.95
Westinghouse (Canada)	A43, A44	273*	5.95
Wilcox-Gay	4B6, Roadmate	292	3.45
	3R6	296	4.95
Wurlitzer	460-A60	292	3.45
Zenith	5M90 (Chassis 5510), 663-4	294SW	2.95
	460-462 (2057)	221	3.95
	650HD-651HE 660TD-661TE	292	3.45
	Ford	296	2.95
	7	296	2.95
	666, 668, 680, 6M91D, 7M91S, 7M91D, 6M90S, 6M90D, 6M92, 5M191, 6M192, 6M193, 6M194, 6M195	294	2.95

6-VOLT HOUSEHOLD RECEIVERS

Acratone	L7, X6, Z4, Z5	245C	$4.95
Addison	N-655	285XS	7.00
Admiral	L7, X6, Z4, Z5, X641, X741	245C	4.95
Aircastle	BA41, L7, X6, Z4, Z5	245C	4.95
Allied Radio Corp. (Knight)	L7, Z4, Z5	245C	4.95
Amrad	F546	246	4.95
Atwater Kent	237Q, 467Q	294	2.95
Balkeit	GT156BA, L7, X6, Z4, Z5	245C	4.95

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World Radio History

MALLORY REPLACEMENT VIBRATOR CHART

for Auto Radio and Battery-Operated Household Receivers—continued

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
Cavalcade	3511	245C	$4.95
Continental	L7, Z4, Z5, 6P	245C	4.95
Crosley	6B1	247	4.95
	435, 546, 636, 6615	246	4.95
	557	W246	4.95
Delco	6010	281	4.95
Detrola	180	245	4.95
Erla-Sentinel	31B, 34B, 50B, 63B, 66B, 66BE, 68, 68BE	285	4.95
	73B, 78B, 96BE	245	4.95
Fada	246, 1246	W245	4.95
	NK (126, 127, 128)	285	4.95
Fairbanks-Morse	4A, 4B, 6C, 43 (43TIB, 43CIB), 67 (6717, 6746), 73 (73T3B, 73C3B)	246	4.95
Federated Purchaser	32C, 33C	245C	4.95
Gamble-Skogmo	31BT, 34BT	285	4.95
Garod	2B6, 2B6-1, 3B6, 3B6-3	W245	4.95
General Electric	U51, U55	246	4.95
	FB52, FB53, FB56, FB57, FB72, FB73, FB76, FB77	W246	4.95
Goldentone	L7, X6, Z4, Z5, PF	245C	4.95
Goldmedal	L7, X6, Z4, Z5	245C	4.95
Grunow	4NB (410, 411), 7NB (711)	245	4.95
	5AB	294	2.95
Howard	6BA, 6BT	245	4.95
Jacobs	None	246	4.95
Knight	L7, X6, Z4, Z5	245C	4.95
	(Chassis 6820)	285XS	7.00
LeWol	9682	285XS	7.00
Lafayette	J60	285XS	6.00
Midwest	7-36, 7-37, 8-38, 12-38	245	4.95
Monarch	L7, X6, Z4, Z5	245C	4.95
Noblitt-Sparks (Arvin)	517B, 527B, 617B, 627B	245	4.95
Pacific	682	285XS	7.00
Packard-Bell	75, 76, 78	294	2.95
Philco	37-34, 37-624	246	4.95
	624	P285Y	4.95
Pilot	253, 255 (1st)	285XS	7.00
	253, 255 (2nd)	245	4.95
	253, 255 (3rd), G56, G57 (G50 Series)	245A	5.50
RCA Victor	6BK6, 6BT6, 8BK8, 8BT8	W285	5.50
	BC6-6, BT6-5	285	4.95
	84BT6	722A	4.95
	85BT6	728A	4.95
Radio Products Corp.	L7, Z4, Z5	245C	4.95
Radolek	K16743, K16746, N16704	245C	4.95
	K16780	285	4.95
Reliance	L7, X6, Z4, Z5	245C	4.95
Sears-Roebuck	4405, 4407, 4428, 4448, 4548	294	2.95
	4428A, 4448A, 4521, 4528A, 4548A	246	4.95
	1924, 1934	285	4.95
Sentinel	68BC, 68BT	285	4.95
Simplex	DB, PB, GB, GBE	245C	4.95
Sparton	638-6, 688-6	245	4.95
Stewart-Warner	R189	285XS	7.00
Supertone	L7, X6, Z4, Z5	245C	4.95
L'Tatro	6A, K665, J665, H465, I465	275	5.95
	R5636, S5636, Q5636, P4626, O4626, M4616, All 1st Series	275XS	7.50
L'Tatro (*Continued*)	R5636, S5636, Q5636, P4626, O4626, M4616, All 2nd Series	285XS	$7.00
Trav-ler	76, 173, 525, 733	246	4.95
Ultramar	345, 355	246	4.95
United Motors Service (Delco)	6010, 6011	245	4.95
	6012, 6015	285	4.95
Universal Battery	50A6, 61A6 (1937)	246	4.95
	72A6, 61A6 (1936)	245C	4.95
Warwick	651, 751, 761	246	4.95
Wells-Gardner	5H, 65H	246	4.95
Western Auto (Truetone)	D719	245	4.95
	D706	246	4.95
	L7, X6, Z4, Z5	245C	4.95
Westinghouse	WR603, WR606, WR610	245	4.95
	B718A, B718X, B819A, B819X	W245A	4.95
Zenith	4B106, 4B131, 4B132 (5406), 4V31, 4V59 (5405), 6B107, 6B129, 6B164 (5635), 6V27, 6V62 (Chassis 5621), 4B231 (5409)	246	4.95
	5J217, 5J247, 5J255 (5524), 6J230, 6J257 (5642), 7J232, 7J259 (5711)	294	2.95
	4F133 (5407), 5F134, 5F166 (5518)	W246	4.95
Zephyr	DB, DF, GB, GBE	245C	4.95

32-VOLT HOUSEHOLD RECEIVERS

Name of Set	Model Number	Correct Mallory Replacement Vibrator Number	List Price
Allied Radio Corp.	G9515	F253	$4.45
	F9777	F292	4.45
Atwater Kent	135Z, 215Z, 265Z, 305Z, 565Z	F297	4.95
Crosley	119, 159	F223	5.95
Delco	4050, 4051	F223	5.95
	3203	F247	5.50
Electronic	332	F292	4.45
Erla-Sentinel	5600	F253	4.45
	6100, 6101, 6102	F292	4.45
Fairbanks-Morse	33-S-8 (1st Series)	F312	7.50
	33-S-8 (2d Series)	F221	4.45
Fordson	FP32V	F221	4.45
Gamble-Skogmo	26B5	F253	4.45
Lafayette	B64	F253	4.45
Majestic	490, 491, 493 (Transformer Type)	F220C	5.95
	490, 491, 493 (Plug-in Type)	F294	4.45
Montgomery-Ward (Airline)	62-136, 62-138	F253	4.45
Philco	32, 121	F502P	5.95
Radolek	10968	F292	4.45
Sears-Roebuck	1855 (4 Pr.)	F294	4.45
	1855 (6 Pr.)	F297	4.95
Simplex	P	F292	4.45
	DF	245C	4.95
L'Tatro	Admiral F293	F204	6.75
	Captain F913	F204	6.75
	Commander E83	F204	6.75
	Governor N54	F211	7.50
	Governor N74	F251	4.45
	Lt. Governor L54	F211	7.50
	Lt. Governor L74	F251	4.45
	Pilot J5, G63	F204	6.75
	President 084	F211	7.50
	President 094	F251	4.45
	F725, D625, C625	F251	4.45
	Recorder P54	F251	4.45
	Recorder P64	F251	4.45
	1N25, X6236, W6236, Y6236, V5226, U5226, T6216	F251	4.45
United Motors Service	4049, 4051	F223	5.95
Wells-Gardner	26B1, 26B5	F253	4.45

Prices subject to change without notice.

*Requires Special Cup Adapter. Supplied with Vibrator at $.50 list, or separately at $1.00 list.

†CAUTION! If the vibrator being replaced in one of these radio sets is a DeVry Carbon Point Vibrator, it will be necessary to replace the power transformer with one of a later type. This transformer is available from the Radio Set Manufacturer.

The prefix letter "F" designates Vibrator designed for 32-volt Service.

The prefix letter "G" designates Vibrator designed for 12-volt Service.

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World Radio History

RADIART® VIBRATORS *"Come through" in the toughest test of* **VIBRATOR DEPENDABILITY**

- **CLOSED FRAME** of heavy steel — protects mechanism and assures permanent adjustment.
- **MICA and STEEL STACK** — Rigid, permanent, unaffected by heat or pressure.
  (This feature is now demanded by many leading makers of auto radios)
- **SWEDISH STEEL MAIN REED** — (Synchronous types pierced with ROUND hole — the SAFEST Form)

RADIART VIBRATORS NOW GUARANTEED ONE YEAR (Normal Service)

SECTION "A"—ALPHABETICAL LISTING BY SET AND MODEL

ALL PRICES SHOWN ARE LIST PRICES

*Where DeVry carbon point vibrator is the original equipment, replace transformer with our type 2821 transformer. List $2.50.

Manufacturers' Vibrator Part Numbers appear, thus: [[F10096]]

Make and Model	Type	Price
Acratone—49, 51, 92, 92A, 94A, 460	2867	$3.45
640	3308	5.95
40	3888	3.95
2608, 2598, 2608	4260	3.95
42D, 43D, 44D, 53D, U6, 32C, 33C, 167B, 167D, 168B, 163D, K6, L7, X6, Z4, Z5 [[P402]]	5300	2.95
	5110	4.95
Addison—531, 631	2867	3.45
N655	4608	7.50
6 Tube DeLuxe	5300	2.95
Admiral—BA41, L7, X6, X641, Z4, Z5, 950-6A, 965-6A, 965-6P	5110	4.95
PH-16, U6, 5F, 55, 69	5300	2.95
F923 (L'Tatro)	3162	6.75
Aircastle—BA41, L7, X6, Z4, Z5, 330P	5110	4.95
U6	5300	2.95
603	3375	3.95
611, 660 [[3400]]	4318	3.95
[[3407]]	5111	4.95
Air Chief—66	3308	5.95
Air Line—670 [[142-1]]	4320	3.95
62-130	3442	3.95
6B, 62-136, 62-138 [[P2153]]	3395	4.45
Sync-32 Volt	3651	6.50
62-258 [[19A26, 19A30]]	5400	4.95
5Y, 5Y1, 15Y1, 54, 62-199 [[P2229]]	3883	5.50
6U, Z6S1, 199, 202, 62-118, 62-166 [[P2080, P2110, 19A14, 19A16]]	3417	3.95
U6, U66S, 6S, 16S1, 60, 62, 119, 165L, 62-202, 62-236, 62-242, 62-263 [[126-1, 19A25]]	5300	2.95
7Q, 7S, 62-327, 62-337, 62-427, 62-437 [[19A27]]	5422	5.50
87 [[P1804, 19A11]]	*2819	3.45
Auto Radio, 062	3413	6.50
102	3263	2.95
[[19A28]]	5411	4.95
Airmaster—31B, 34B, 49B, 50B, 63BC, 63BT, 68BCE, 68BTE	5413	4.95
Air Mate—(See also B.O.P.)—65	3315	5.50
All-American Mohawk—(See Wurlitzer)		
Allied Radio Corp.—(See Knight)		
Amrad—F546 [[37216]]	5411	4.95
Andrea—616, 617, 618 [[FM235]]	5407	4.95
Arcadia—(See Wells-Gardner)		
Arvin—7, 17A, 17B, 17C, 18, 18FW, 27, 23, 33, 33DM, 37 [[17-4732, 17-14552]]	3888	3.95
5, 9A, 19, 22A, 28EM, 28OM, 29, 32, 42, 38, 39 [[17-4929, 17-14352, 17-14747]]	5300	2.95
10A-1, 10A-2, 16, 20A, 20B, 25 (1st), 30A, 30B [[29-2169-B, 29-2169-C]]	2867	3.45
15, 25 (2nd), 35, 45 (1st and 2nd Series) [[29-4186, 29-4186-B]]	3263	2.95
61B, 62B, 517, 517B, 518B, 527B, 617, 617B, 627B [[17-13187, 17-15589, 17-15831]]	5409	4.95
Associated Radio—Plugin (Non-Sync.)	5300	2.95
32 Volt (Plugin)	4314	4.95
Atwater Kent—132, 138, 135Z, 215Z, 265Z, 305Z, 565FF, 565Z [[28449]]	4314	4.95
237Q, 237Z, 467Q, 126, 136, 416, 446, 556 [[31554, 32318]]	5300	2.95
424, 534 (1st and 2nd) [[25595]]	3308	5.95
666, 776 [[27005]]	3223	2.95
816, 626 [[26863]]	3848	5.95
Auburn—(See also Cord)—A5A2	3317	5.95
A5A3 [[6SA4]]	3789	4.95
980525,-526 [[5041376]]	4611	5.50
Audiola (Fairbanks Morse)—A6, 33A6, 33	3308	5.95
86, 345, 346, 347	3356	3.95
C6, 73, 74	5300	2.95
SD8224, 33S3 (2nd), 816 [[14602]]	3608	4.45
23S7 (1st), 33S6 (1st), 33S7 (1st)	3444	6.50
23S7 (2nd), 33S6 (2nd), 33S7(2nd)	2867	3.45
23S7 (5 leads), 33S6 (5 leads)	4500	5.95
33S3 (1st)	3462	6.75
43C1B, 43T1B, 73C2B, 73C3B, 73T3B, 43, 67, 73, 6717, 6746	5411	4.95
Autocrat—(Herbert H. Horn)—6D32	3225	4.45
518S, 613S, 23, 24, 503, 530 [[505V]]	5300	2.95
5	2867	3.45
518, 618	3417	3.95
Automatic—A1, A5, A6, J50, J60, J70, J80, M10, M20, M30, M60, M67, M70, M80, S5, T4, Automaster, DeLuxe, Five, Junior, Jr. Twin Six, Senior [[AV2, J50]]	3227	3.95
A600, AR600, A600 Jr.-Sr., Tom Thumb	2867	3.45
1936 Plugin Models	5300	2.95
Autophone—(See Cavalier)		
Auto-Rola—J50, J60, J70, J80	3227	3.95
Baldwin—54, 64	5300	2.95
Ballsolt—GT156BA, L7, X6, Z4, Z5, 1578A	5410	4.95
U6, 54, 64	5300	2.95
Belmont—566, 661, 666, 666A, 666B, 667, 668, Wings [[126-1]]	5300	2.95
590, 670, 670A, 680, 680A, 680B, 680C, 690, 880, 880A, B, C [[142-1, 142-4]]	4320	3.95
660 (Head)	3442	3.95
660 (Pack)	3314	8.00
415A, 415B, 804 [[126-4]]	5411	4.95
1932 Models	3444	6.50
Blackhawk—6U, 64	3417	3.95
B. O. P.—(Buick, Oldsmobile, Pontiac) 544245-246-267-268 [[5037400, 5039661]]	3461	5.50
990333,-393 [[1207758]]	3313	3.95
980441,-455,-459 [[5035120]]	3315	5.50
Bosch—45, 45A, 45C, 140A, 140-2, 140-3, 159-2, 160 [[SA105499, SA106450]]	3283	5.95
78, 178	3223	2.95
79, 79C, 139, 149, 337, 524A, 536B, 634, 634A, 735, 736, 736A2, 737, 737A2, 739, 739A2, 838, 858 [[SA103562, V1955]]	5321	2.95
160-1 [[SA104601]]	3310	7.50
189HR (Police), 189HR (Police)	5306	4.95
536, 636, 637 [[1959, V1951, V1951]]	5300	2.95
600, 813 [[V1957, V1952]]	5407	4.95
Buick—(B.O.P.)—405047, 544245,-246, 1291344,-345, [[5037400, 5039661]]	3461	5.50
364441, 980333-393 [[1207758]]	3313	3.95
980441-455-459 [[5035120]]	3315	5.50
980507-8-9-525-526-529, 985300 [[5041376]]	4611	5.50
980534,-535,-566,-567, 1304873 [[81454, 5050498, 7232741]]	5426	4.95
Cadillac—5X, 6KB [[19A26, 19A30, 19A31, 1421914, 1427129]]	5400	4.95
06W (Std.), 06W (Master), 072 (2nd), 2722 (2nd) [[P1765]]	3318	7.50
6R, 6U2 [[2030, 2110]]	3317	3.95
56V1, 62	3313	3.95
62-118, 62-199	3883	5.50
072 (1st), 2721 (1st)	3443	6.50
Captain (L'Tatro)—F913	3162	6.75
Cavalcade—54, 64, 359	5300	2.95
5311	5410	4.95
Canadian Radio Corp.—513C, 513DOR	3317	5.95
Cavalier (Autophone)—M85T, M85S	5300	2.95
Champion—500, 501, 600, 601	5300	2.95
400	2867	3.45
Chevrolet (B.O.P.)—A245, A255, 985400 [[5041245]]	4613	5.50
364441, 980383-393 [[1207758]]	3313	3.95
600153-249,-565,-566,-749 [[1208152-239, 5035120]]	3315	5.50
601038 [[1208614, 5038055]]	4614	5.50
601174-176-177-525-574-586-662-814 [[5037400, 5039661]]	3461	5.50
985100-200 [[5040000]]	5321	2.95
985252-253-254-255-283-284-285 [[1211594-595, 1212660, 5050673]]	5303	2.95
985300-301 [[5041376]]	4611	5.50
Chrysler—(See Philco—Custom-built)		
Clarion (T.C.A.)—AR-100, 110 [[P4763, G1746]]	5300	2.95
TC15, 100	2867	3.45
TC50	3223	2.95
Clinton—801, 802, 803, 804, 805, 806, 807	5300	2.95
Colonial—105B [[UE-104]]	3313	3.95
150 (Non-Sync.), 164, 164B, 240, [[R9723, R10270]]	3223	2.95
134	3290	5.95
349, 355, 359, 361 [[ML-47, 5041245]]	4613	5.50
350	5300	2.95
1934-32 Volt Models [[R11207]]	4314	4.95
434, 439, 440, 441, 444 [[R11228, R15187, 1211594-595, 1212660, 5050673]]	5303	2.95
150 (Sync.)	3283	5.95
[[R14840]]	5411	4.95
Commander (L'Tatro)—E83, F283	3462	6.75
Console (L'Tatro)—6A	3283	5.95
Consolidated—51	3317	5.95
Continental—AZ593, L7, M551, M587, X6, X641, X741, Z4, Z5, Z544, 6P, 7J, 965-6P [[P402]]	5110	4.95
U6, 77, 78, 88, 770	5300	2.95
Cord—A245, A255, A455, 136, 137, 138, 540, 641 [[5041245]]	4613	5.50
Cornell-Dubilier—3-Lead (Non-Sync.)	2867	3.45
Corona—105, 122 [[468]]	5300	2.95
212, 214 [[5113]]	5411	4.95
Coronado—6C1, 26R1, 46L1 [[19A25]]	5300	2.95
6U, 26S1	3417	3.95
5Y [[P-2229]]	3883	5.50
61A, 63B [[19A26, 19A30]]	5400	4.95
26BS	3395	4.45
31RT, 34RT, 49B, 49BT, 50B, 50BT, 63BC, 63BT, 68BCE, 68BTE [[2269, 3069, 3698]]	5413	4.95
580, 670, 670A, 680, 880C [[142-1, 142-4]]	4320	3.95
500	5321	2.95
660	3442	3.95
2605, 6101 [[8701]]	3225	4.45
Crosley—A5A2, 5A1, 98, 99, 101, 102, 103, 119 (6 Volt), 167 [[L28949, L29160, LB28064, W29160]]	3317	5.95
A5A3, A155, 4A1, 5A3, 6B1, 156, 625 [[6SA4]]	3789	4.95
A156-157-167-177 [[G6-38000, 5040000]]	5321	2.95
A156, A157, A167, A177 [[G6-38000, 5040000]]	5321	2.95
A266, Roamio Fiver	5300	2.95
A366	3461	5.50
B46, 46, 416, 435, 546, 636, 661S [[37216]]	5411	4.95
119 (32 Volt), 159 [[228949]]	3607	6.50
645, 4049	4404	5.50
De Forrest Crosley (Canada) 513C, 513D, 51, 510, 513	3317	5.95
Delco—(See also Chevrolet, Buick, Oldsmobile, Pontiac, United Motors) 600, 630, 631 631A, 632, 633 [[5040000]]	5321	2.95
625, 626, 627, 628, 629, 405047 [[1209282, 5039661-757, 5037400]]	3461	5.50
634, 635 [[5040700, 5041245]]	4613	5.50
2035, 4036 [[1209048, 1207758, 5053699]]	3313	3.95
3203, 3204 [[1203920]]	4401	5.50
4037-8 [[1208600-152-239, 5035120]]	3315	5.50
4049, 4050, 4051 [[1208115]]	3607	6.50
6010, 6011, R5012, R6015 [[1211375, 5041125, 5050651]]	5413	4.95
R640, R641, R642, R643, R644, R663, R664, R665, R666, R667, R668, R669 [[5050573]]	5303	2.95
993500 [[5041376]]	4611	5.50
De Luxe—6 Prong Non. Sync. [[3400]]	4318	3.95
6 Prong Sync. [[3407]]	5411	4.95
De Soto—(See Philco—Custom Built)		
Detrola—6A, 1100, 1100A	3442	3.95
6M, 6R, 1935 Plugin, 111, 112, 166, 1112, 1938 Models [[294, 2032, 3000]]	5300	2.95
1448, 144C [[3421]]	5409	4.95
1934-1935 Models (3 Leads) [[1238]]	2867	3.45
1935 Sync.	4502	5.95
1936 Sync.	5400	4.95
De Wald—(See Pierce-Airo)		
Dodge—(See Philco—Custom-built)		
Dominion Electrohome—[[K182]]	2867	3.45
Echophone—1935 Models	5300	2.95
Household Models [[FI0]]	5411	4.95
Electric Auto-Lite—(See Wells-Gardner)		
Electronic—25	5313	4.95
331, B Eliminator	2867	3.45
332	3225	4.45
Emerson—AS179, E, E123, E128, U154, V155, 2A, 6A [[QQV5, 3DV8, 3VV10]]	5300	2.95
DeLuxe, 5A (Sync.) [[00V4]]	3850	5.95
F7, 34F7, 101F7, 640, 678-1,-2 [[2KV-6]]	3308	5.95
KS38, 1A, 667, 965, 975	3263	2.95
P117, P135 [[3PV9-4 volt]]	5431	5.50
[[46V-11]]	5411	4.95
Empire—60	2867	3.45
Erla—(See Sentinel)		
Fada (Motosat)—101 (RK), 102 (RP), 104, 103B (RV) [[4-1252-M]]	3313	3.95
A70, 165, 265, 266SD, 266SF, 266SG, 267, 267SD, 6F,-5G,-X [[90.17, 90.63]]	5300	2.95
6 Volt Household	5413	4.95
126, 127, 128 [[5-1298MS]]	5409	4.95
246 [[90.147]]	5427	5.50
Fairbanks Morse—(See Audiola Also) 4A, 4B, 6C, 43C1B, 43ZB, 73C3B, 73T3B [[806-1]]	5411	4.95
Federated Purchaser—(See Acratone)		

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World Radio History

RADIART VIBRATORS *"Come through" in the toughest test of* **VIBRATOR DEPENDABILITY**

- **WIPING ACTION (exclusively Radiart) plus large contact area keep Radiart points SMOOTH.** SMOOTH POINTS DO NOT STICK
- **LEADS EXTRA FLEXIBLE — unbreakable. Exclusive Radiart woven fabric insulation withstands heat.**
- **BALANCED DESIGN — output voltage holds up throughout Radiart's long life. No flutter.**

RADIART VIBRATORS NOW GUARANTEED ONE YEAR (Normal Service)

Continuing Section "A"—Alphabetical Listing by Set and Model

ALL PRICES SHOWN ARE LIST PRICES

Make and Model	Type	Price
Ferguson—F205	5409	4.95
6 Prong	3263	2.95
75-105A	3888	3.95
Firestone—R112, 1121	2867	3.45
DeLuxe, R132, 1322 [[85244]]	4414	4.95
R118, 1182, Traveler [[84828, 84904]]	4260	3.95
R131, R133, 54, 64, 1314, 1332	5300	2.95
R143, 1431, 1781 [[89156, 89157, 110432]]	5331	2.95
7406-I, 7407-I	5409	4.95
Ford (Including Marconi, Canada)—118, 40-18805, Glove-box Police, Majestic	3442	3.95
5601M, Lincoln, Utah Pack, Zenith	3263	2.95
Packs for Ford Majestic: With Rectifier	3312	10.00
Without Rectifier	3310	8.00
N, N-FND, FT6, T6	3320	2.95
FT9, 816	5323	2.95
F1440, F1442, F1540, F1542	5320	2.95
Fordson—FP32V	3608	4.45
Freed—A7, A9	3318	7.50
Froshman—(See Belmont)		
Galvin Mfg. Corp.—(See Motorola)		
Gamble-Skogmo—(See Coronado)		
Garod—837	5300	2.95
General Electric—Armrest B40, B52, C41, C60, 6U	3319	5.95
	3417	3.95
C61, 123 Deluxe	4415	7.00
D50, D51, D52	3883	5.50
D72, N60 [[RV750, 19A25]]	5300	2.95
6K, M51, N51, S725, S745, FA-60, FA-61, FA-80 [[K11J994, RV200, 19A26]]	5400	4.95
FB-53,-57,-73,-77 [[K11J993, RV201]]	5127	5.50
U51, U55, [[RBV200, 19A23]]	5411	4.95
U70, U75 [[RBV201, 19A27]]	5122	5.50
General Household Utilities—(See Grunow)		
General Motors (Canada)—134, 135	3315	5.50
136, 137, 138	3461	5.50
540, 640, 641, 985400	4613	5.50
General Transformer—B Eliminators:		
6 Prong Plug-in	3226	3.95
3-Lead, No. 3061 Pack	2867	3.45
Gilfillan—7A, 700, X, 8X	3263	2.95
Globe—1936 Models	5300	2.95
Goldentone—(See Gold Medal)		
Gold Medal—L7, X6, Z4, Z5	5410	4.95
TA	4501	5.95
U6	5300	2.95
Goodrich—50, 60, 65, 80, 90, Wings	5300	2.95
670	4320	3.95
Goodyear—(See Belmont)		
Governor (L'Tatro)—N54	3463	7.50
N74	3395	4.45
Graham (Graham-Paige)—A355, A555	4613	5.50
G1418, G1436	5320	2.95
Graybar—150 (Chassis)	3283	5.95
Grebe—61R	2867	3.45
Grigsby-Grunow—(See Majestic)		
Grunow—4NB, 410, 411, 711 [[35211]]	5409	4.95
614, 618 [[35433]]	5321	2.95
625 [[35312]]	4504	5.50
[[34373]]	4611	5.50
Gulbransen—(See Wells Gardner)		
Halson—56U, 560, 199, Roadmaster 4-prong [[1857]]	5300	2.95
199, Roadmaster Sr., Roadmate	3442	3.95
Harley-Davidson—560	5313	4.95
670, Highwayman	4320	3.95
Police, YA	4505	5.95
Horn—(See Tiffany Tone)		
Howard—HA1, Highwayman, 670A [[142-1, 142-2]]	4320	3.95
HA2, 52, 502	2867	3.45
HA3, HA4	4260	3.95
HA6 [[9600]]	5406	4.95
HA7, HA8, HA9	5300	2.95
688 [[9605, 9605-1]]	5411	4.95
Hudson-Terraplane—C86, D837 [[80783]]	5406	4.95
650,-HD, 651HE, 660-TD, 661TE, Marconi	2867	3.45
H6, 656, 668 [[80985]]	5300	2.95
680	5321	2.95
Majestic Head	3442	3.95
Hupmobile—(See Philco—Custom-Built)		
Imperial—6-Prong	4320	3.95
Household	5410	4.95
International (Kadette)—56	3308	5.95
90	4260	3.95
K6, K60 [[G100]]	3263	2.95
Jacobs—Household	5411	4.95
John Holmes—3-Lead (Non. Sync.)	2867	3.45
Kadette—(See International)		
Karadio—35, 57, 68, 85, 150, 160, 180 [[914, 3261]]	3223	2.95
55 Police, 578 Sheriff, 757 Sheriff	5312	4.95
56	3308	5.95
65, 66, 675, 88	3263	2.95
667 [[1216]]	5409	4.95
Kennedy—670 [[142-4]]	4320	3.95
Kent—4-Prong	5300	2.95
Knight—A9728, A9729, A9730, A9776, A9777, A9778, G9751, H9850, L7, X6, Z4, Z5, 25, 46	5410	4.95
A9780-1-2-3-4, B10550-1-2-3, H9726, H9766, H9897, U6	5300	2.95
B10575	3888	3.95
A9769, A9770, B10608	5413	4.95
F9515, F9541, F9551, F9737, F9741, G9515, G9517, G9599, G9881, G9882, G9900	2867	3.45
F9561	3444	6.50
F9777, G9615 [[1381]]	3225	4.45
G9875, G9876, H9817, H9876, 6820, 6826	4608	7.50
Lafayette (Nash)—(See Philco—Custom-built)		
Lafayette—AM20	3225	4.45
B51	4260	3.95
B52, B62	3883	5.50
B64	3395	4.45
B90, D37, D45, D46, EB17, EB17A, EB67, JA1, JA2, S9, S79	5300	2.95
C60	3888	3.95
J60, M-44, 9632	4608	7.50
L22	*2819	3.45
L23	3263	2.95
L30, 65, 6U	3417	3.95
L17762, S17762	3318	7.50
LW10	3786	3.95
062, 062A	3443	6.50
6-Prong Sync. [[3407]]	5411	4.95
[[3400]]	4318	3.95
Larkin—16, 90, 91	2867	3.45
La Salle—06W	3318	7.50
6J, 6K, 6KB	5400	4.95
Laurehk—AE5, AE6, AE79, AM6, 66, A37	5300	2.95
Lewol—9101, 9102	2867	3.45
9682	4608	7.50
Lieutenant Governor (L'Tatro)—L54	3463	7.50
L74	3395	4.45
Lincoln, Lincoln-Zephyr—Utah Pack	3263	2.95
LT14X3	3320	2.95
L1420, L1424, L1425, L1427, L1429	5320	2.95
Lion Radio—612 [[1405113]]	5411	4.95
Lionel—4-Prong	5300	2.95
L'Tatro—A255, A525, B525, C625, C925, D625, D925, F725, F925, IN-25, L74, N74, O94, P54, P64, T6216, U5226, V5226, W6236, X6236, Y6236	3395	4.45
EN6-4	5411	4.95
E23, F283, F913, F923, G63, J5	3462	6.75
F, H465, I455, I465, J565, J665, K665, SA	3283	5.95
L54, N54, O84	3463	7.50
L-, M-, N4616, O4626,-5636, P,-Q4626, Q5636, R5236, R5636, S5636, S6636	4608	7.50
Lyric (Canada)—A60, 69, 460	2867	3.45
Majasco—[[V6]]	5410	4.95
[[V7]]	4501	5.95
Maestro—32V H. H.	5410	4.95
Majestic—490, 491, 493:		
Replacement Head	3460	4.95
Plug-in Vibrator	4314	4.95
Replacement Pack	3316	10.00
G24, 116A, 116-1, 116-2, 116-3, 118:		
Replacement Head	3442	3.95
Pack with 84 Tube	3311	9.00
Pack without 84 Tube	3310	8.00
Hudson-Terraplane, Twin Six	3442	3.95
Utah Pack	3263	2.95
Mallory—VP-551-552	5406	4.95
VP-553-554	5313	4.95
Eliminators, Types 1-6	3443	6.50
Eliminators, Types 10-14	3318	7.50
Mathcson-Bell—6-34	3263	2.95
Melburn—45, 50	5300	2.95
Midwest—Auto	2867	3.45
6-37	5300	2.95
7-36, 7-37, 7-38, 8-38, 12-38	5409	4.95
Mission Bell—5, 19, 19A, 19B	3443	6.50
10A, 11, 12, 14, 16, 17, 18, 25A	2867	3.45
638,-A, 738,-A, 3716, 3718,-DeLuxe	5300	2.95
Monarch—U6, YU6, 54, 64	5300	2.95
L7, X6, Z4, Z5	5410	4.95
Montgomery Ward—(See Airline)		
Motomaster—511 (Trans. Type)	3442	3.95
611, (Plug-In)	5300	2.95
DeLuxe [[65]]	4318	3.95
Motorola—(See Fada)		
Motorola—34, 35, 45, 50, 60, 65, 70, 80, 90, 8-30, 8-40, 8-50, 8-60, 8-70, 8-80, Companion, Golden Voice [[2404, 3333, 3340, 3552, 38X3333]]	5300	2.95
44 [[1943]]	3290	5.95
44A, 66,-A, 77A,-AB, Super 6(S6) [[942]]	4502	5.95
55, 55A	4607	7.25
57, 62, 75, 79, 100, 110 [[1784]]	3815	3.95
61, 88 [[537]]	3444	6.50
77 [[735]]	3445	7.50
Dual Six (D6), Twin Eight (T8) [[1062]]	3417	3.95
Police, Police Cruiser	5313	4.95
Railroad	3395	4.45
[[59H37825]]	5411	4.95
Musicraire—31B, 34B, 49B, 50B, 63BC, 63BT, 66BCE, 66BTE, 68BC, 68BT	5413	4.95
Music Master—101, 102, Ten-Ten	2867	3.45
Nash-Lafayette—(See Philco—Custom-built)		
Noblitt-Sparks—(See Arvin)		
Northern Electric—33, 40	3319	5.95
61	3263	2.95
Northland Radio (Kartone)—66A	3263	2.95
Oldsmobile (B. O. P.)—393984-885, 405045-016-057-062-063 [[5037400, 5039661]]	3461	5.50
980383-393 [[1207758]]	3313	3.95
980441-455-459 [[5035120]]	3315	5.50
982006-007-003 [[5040700]]	4613	5.50
502043-044-045-083-034-085 [[1211594-595, 1212660, 5050673]]	5303	2.95
Pacific—H6, H7, 6V, 101B, 101C, 102B	5300	2.95
80 [[480]]	5409	4.95
101, 102	2867	3.45
682, 9682	4608	7.50
Packard Bell—65, 67, 76	5300	2.95
25	3263	2.95
Packard-Motor Co.—(See Philco—Custom-built)		
Packard Radio Co.—6 Tube Auto	5300	2.95
Parmac—6V. H.H.	5410	4.95
Pathfinder—3060	2867	3.45
Philco (Transitone)—5, 6, 7, 8, 9, 10, 10 (122), 11, 11 (122), B, C, D, D (122), E, G, G (122), H, H (122), J, N, O, R, A-PAB, B-PBD, CGO, EF, EG, J-NJD, Q-NOD, Q-SOD, R-HRD, C (121) NCD, C (122) NCD, D (122) NDD, H (121)-HHD, H (122) HHD, H (122) PHD [[38-5036]]	3320	2.95
32 [[38-5639, 38-5640]]	4319	5.95
624, 624B, 624H, 624R [[41-2015]]	5428	4.95
700, 800, 800 (122), 802, 805, 806, 803, 809 [[38-5036]]	3320	2.95
DP, DPV, 810PA, 810PB, 810PV, 811PA, 811PV (Police)	5322	4.95
816, 816B, 816C, 816P [[41-3106]]	5323	2.95
817, 817B, 817C, 817P, 818, 818K, 819, 819H, 826, 827, 827K, 828, 828K, 926, 927, 928K [[41-3170]]	5320	2.95
821P, 821PV (Police) [[41-3315]]	5324	3.95
37-34, 37-624, 38-39 [[41-3222]]	5411	4.95
920 [[41-3398]]	5300	2.95
Philco Custom-Built:		
Chrysler and Chrysler Airflow—CA, CB, CGD, CU, CV, CZ, D, G, G (122), R, C1, C2, C3, C6, T2, T5, Custom-Built	3320	2.95
C12, CT5, CT10, CT11	5323	2.95
C9, C10, C11, C14, C15, C16, C17, C1540, C1542, C1550	5320	2.95
De Soto and Airflow—G(122), SE, SF, SG	3320	2.95
CT5, CT10, CT11	5323	2.95
S3	5320	2.95
Dodge—CGD, DR, DS(G122)	3320	2.95
DU	5323	2.95
D5, D6, D7, C1452	5320	2.95
Ford—N, N-FND, FT6, T6	3320	2.95
FT9	5323	2.95
F1440, F1442, F1540, F1542	5320	2.95
Graham—G1418, G1436	5320	2.95
Hupmobile—G, H, G(122), H(122), R, T2	3320	2.95
HT11X	5323	2.95
Lincoln, Lincoln-Zephyr—LT14X3	3320	2.95
L1420, L1424, L1425, L1427, L1429	5320	2.95
Nash-Lafayette—C, D, D (122), J, Q, 110, AC989, AC989 (122), AC1089, AC1189, AC1289, AC1989, NT12X,-12X2,-15,-15X	3320	2.95

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World Radio History

RADIART VIBRATORS *"Come through" in the toughest test of* **VIBRATOR DEPENDABILITY**

- **RIVETED ASSEMBLY**—No brazing or welding to injure tempered parts by extreme heat.
- **LARGE POINTS** (Radiart specification—genuine tungsten)—lower current density, minimum wear.
- **LONG LIFE**—No showy records of exceptional vibrators, but UNIFORM LONG LIFE.

RADIART VIBRATORS NOW GUARANTEED ONE YEAR (Normal Service)

Continuing Section "A"—Alphabetical Listing by Set and Model

ALL PRICES SHOWN ARE LIST PRICES

Make and Model	Type	Price
T7, T8	5323	2.95
N1418, N1433, N1433H, N1434H	5370	2.95
Packard—B, H (122), F8, PHD, PT5, T5	3320	2.95
PHXD, PT14	5323	2.95
P1417,-21,-22,-26,-30,-32H,-39, P1535	5320	2.95
Pierce-Arrow—E, ME, MT3, T3	3320	2.95
Plymouth—CGD, G, G (122), PE, PF, PJ, SF, SG	3370	2.95
P3, P4	5320	2.95
Pro—RT3 (5485), T3	3320	2.95
R1415	5320	2.95
Studebaker—D, J, Q, ST3, ST12, ST15, T3, AC206, AC236, AC266	3320	2.95
S1416, S1431, S1437	5320	2.95
Willys-Overland—W1419	5320	2.95
Phonola (Canada)—3A61, 3A62	3442	3.95
Pickwick	2867	3.45
Pierce-Airo (Dewald) (United Scientific)—A604, A605, 517, 527, 605, 606, 607, 617, 702 [[8463, 8608]]	5300	2.95
A606, A607LW (6 Volt), 608	3888	3.95
Motortone, 61, 61X [[8304]]	2867	3.45
52	3313	3.95
640 [[8409]]	3786	3.95
Pierce-Arrow—(See Philco—Custom-Built)		
Pilot—G-56, G-57, 253 (2nd), 255 (2nd)	5109	4.95
G-63, J5 (L'Tatro)	3462	6.75
253 (1st), 255 (1st) [[85X]]	4608	7.50
253 (3rd), 255 (3rd)	5411	4.95
605	5300	2.95
Pla-Pal—185 [[F10]]	5411	4.95
Pla-Right—500	5321	2.95
Plymouth—(See Philco—Custom-Built)		
Pontiac (B. O. P.)—544245-246-267-268-289-290-291-297-298 [[5037400, 5039661]]	3461	5.50
980383-393 [[1207758]]	3313	3.95
980441-455-459 [[5035120]]	3315	5.50
983506-507 [[5040700]]	4613	5.50
993526-527-534-569-570 [[1211594-595, 1212660, 5050673]]	5303	2.95
Powertone—500	5321	2.95
President (L'Tatro)—084	3163	7.50
094	3395	4.45
R. C. A. Victor—AR4229, DeLuxe, M34, M105, M116 (Arm Rest) [[7604, 7694]]	3319	5.95
BC5-6, BT6-5, RS66, RS166 [[80429-1]]	5113	4.95
CV8, 6BK, 6BK6, 6BT, 6BT6, 8BK, 8BK6, 8BT, 8BT6 [[11656, 80429-4-5, 81270]]	5315	5.50
F537A1, M101, M104, M108, RC166 [[7357, 68916]]	3883	5.50
116, 8M, 8M1, 8M2, 63, 67M [[5067, 80535, 80022]]	5200	2.95
M107 [[7780, 68690]]	3417	3.95
M109, RS61, RS63-1	4260	3.95
M123 [[7757]]	4415	7.00
5M, 6M, 6M2, 8M3, 8M4, 67M1, 67M2, 67M3 [[12236, 80783]]	5306	4.95
84BT6, 85BT6 [[81657]]	5434	4.95
Radiart—B-Eliminator, 3310	2867	3.45
3311, 3312, 3314	3263	2.95
3316	4314	4.95
4200	5300	2.95
Radiette—54, 64	5300	2.95
Radio Products—L7, X6, Z4,-5 [[P402]]	5410	4.95
U6, 46	5300	2.95
Radotek—K16743, K16746	5410	4.95
K16525	5300	2.95
10963	3225	4.45
Recorder (L'Tatro)—P54, P64	3395	4.45
Reliance—L7, X6, Z4, Z5	5410	4.95
U6	5300	2.95
Remington—U6	5300	2.95
Remler—27	2867	3.45
35, 38	3263	2.95
Rco—(See Philco—Custom-Built)		
Rogers (Canada)—918	3317	5.95
Sears Roebuck—(See Silvertone)		
Sentinel (Erla)—7M, 10M, 10MF, 11M, 111, 112 [[1893, 1974, 4105]]	3888	3.95
31B, 31B72, 31B74, 34B, 34B71, 34B74, 34M73, 49B, 50B, 63B, 63BC, 63BT, 63BCE, 66B1E, 68BC, 68BCE, 68BT, 68BTE [[2269, 2270, 3069, 3698, 1211375, 5050651]]	5413	4.95
500, 503, 560, 600, 601, 602 [[9535, 9536]]	2867	3.45
603 [[1245]]	3375	3.95
5500 [[1187]]	4260	3.95
5600 [[1381]]	3395	4.45
6100, 6101, 6102 [[8701]]	3225	4.45
4400 [[1140]]	3283	5.95
Serenader (Canada)—(See Phonola)		
Setco (Setchell-Carlson)—40, 41, 50, 51, 52, 410, 510	5409	4.95
54, 45, 60, 60S, 66, 66S, 63, 63S, 70, 70S, 71, 71S, 80, 605	5301	3.95
67, 77, 87	5300	2.95
Shelley—65, 67, 75 [[V16]]	5300	2.95
Sheridan—5-Tube	2867	3.45
Silver-Marshall—Hallicrafters 6-volt Household [[1045113]]	4320	3.95
	5111	4.95
Silvertone (Sears Roebuck)—556, 666, 1869,-X, 1949, 3400, 4405-7, 4428, 4448, 4450, 4548, 4550, 7157, 7167 [[105V]]	5300	2.95
1733	3462	6.75
1855 (6-Prong)	4314	4.95
1855 (4-Prong)	3395	4.45
1859, 1859A, 7117 [[1140]]	3283	5.95
HA6, 4400, 107HA62	5406	4.95
4128 (4-Prong), 7128 (4-Prong)	4260	3.95
4128 (6-Prong), 7128 (6-Prong)	3263	2.95
4418, 4417, 4421, 4430, 4434, 4441, 4451, 4459, 4519, 4521, 4559 [[1045113]]	5111	4.95
4600, 4601, 6100, 6101 [[1211594-595, 1212660, 5050673]]	5303	2.95
7058-A	2867	3.45
Simplex—DB, DBK, DF, DFK, FB, GB, GBF, PB, PBT, XDB, 5DB, 1935T [[V-6]]	5410	4.95
O, 1935 (Non-Sync.)	5300	2.95
T	2819	3.45
TA (1st and 2nd Series) T-2 [[V-7]]	4501	5.95
P32, 1933PF, 1934PF	3225	4.45
Sky-Ranger—500 [[5040000]]	5321	2.95
Sobol—6C1 [[19A25]]	5300	2.95
Solar—062, 062A	3443	6.50
Sparton—476, 685, D686 [[A12726, A12750]]	5300	2.95
33, 33A, 338, 333 [[85417]]	3313	3.95
33 (Sync.), 33A (Sync.), 36 [[A10345]]	3315	5.50
637-6, 687-6 [[A14344]]	5409	4.95
Star—062, 062A	3443	6.50
6U	3417	3.95
Steinway—3-Lead (Non. Sync.)	2867	3.45
Stewart Radio—50, 60	2867	3.45
Stewart Warner—R112, 1121,-23 [[83371]]	2867	3.45
R118, R133, 1132, 1181, 1182, 1183, 1332 [[83800, 84828, 84904]]	4260	3.95
R117, R131, 1171, 1172, 1311 to 1319	5300	2.95
R132, 1322 [[85244]]	4414	4.95
R143, R160, R178, 1431, 1601 to 1609, 1781 [[80156, 88157, 110432]]	5331	2.95
R163, R163D, R164, R164D, 1631D to 1639D, 1641D to 1649D [[89272]]	5422	5.50
R189	4608	7.50
195	5413	4.95
[[89868, 110800]]	5411	4.95
St. Regis—K6, K60 [[G-100]]	3263	2.95
Stromberg-Carlson—33, 33A, 33X, 34 [[P23466]]	3318	7.50
115 [[P25993, P26028]]	5409	4.95
Studebaker—(See Philco—Custom-Built)		
Supertone Products, Inc.—L7, X6, Z4, Z5	5410	4.95
U6, 54, 64	5300	2.95
Tatro—(See L'Tatro)		
Templeton—5-tube Super	2867	3.45
Torraplane—(See also Hudson)—DB-37	5406	4.95
Tiffany Tone (Herbert Horn)—535, 536, 537, 538, 557	3263	2.95
Tiger—26S1	3417	3.95
670, 670A	4320	3.95
Trans. Corp. of America (TCA) (See Clarion)		
Transitone—(See Philco)		
Traveler—54, 64, 542, 601, 610, 642, 660, 670, 710, 711	5300	2.95
76, 173, 176, 525, 733	5411	4.95
1934 Models, 1935 Models	4260	3.95
Tropic-Aire—06W	3318	7.50
Troy—TR86, 86, 87	3263	2.95
68	5300	2.95
Truetone (Western Auto)—D690, D691, 062, 062A, S690, S691	3443	6.50
D732, D733, 06Z, S757, V6Z2	2867	3.45
D735, S735, 5Y, 25Y1 [[P2229]]	3883	5.50
D736, D739, D741, D742, 580, 670, 670A, 678A, 680, 749, 880 [[142-1, 142-4]]	4320	3.95
D737, D737B, D737C, D740 (Wells Gardner), D743, D743W, D744, R131, S743, 666, 1311, 1312 [[126-1, 19A25, 84905]]	5200	2.95
D740 (Bosch), 178	3263	2.95
D745, S745, 61, 6K [[19A26, 19A30]]	5400	4.95
17, X6, Z4, Z5	5410	4.95
S732, S733, Z6Z1, 042 (3rd), [[P-1926]]	*2819	3.45
S740, 65, 6U [[P2080, P2110, 19A14, 19A16]]	3417	3.95
S737, S737C, 6R	4260	3.95
612 [[1045113]]	5111	4.95
Truevalue—6U	3417	3.95
United American Bosch—(See Bosch)		
United Motors (Delco)—B-101, 2035, 4036 [[1207758]]	3313	3.95
66	3442	3.95
3201, 3204 [[1208920]]	4409	5.50
4037, 4038 [[1208000, 5035120]]	3315	5.50
4049, 4050, 4051 [[1203115]]	3607	6.50
405047 [[5037400, 5039661]]	3461	5.50
United Scientific—(See Pierce-Airo)		
Universal Batt. Co. (Clinton)—60, 70, 80, 801, 802, 803, 804, 805, 806, 807	5300	2.95
Utah—B Eliminators:		
Half-Wave	3443	6.50
Non-Sync.	3313	3.95
32-Volt	3395	4.45
Majestic Pack	3263	2.95
Warwick—Sync. Models	5400	4.95
5T Auto, 6T Auto, 511, 618 [[3400]]	4318	3.95
550, 560, 646, 660, 665 [[30-100]]	5300	2.95
611	4760	3.95
1934 (J. Holmes) [[3403]]	2867	3.45
1935-1936 Household	5409	4.95
651 [[3407]]	5411	4.95
Webster—Amplifier	5410	4.95
Western Auto—(See Truetone)		
Wells-Gardner—V6Z2, V622, Z6W1, Z6Z1, 06Z [[P1804, 19A11]]	*2819	3.45
Z6R1, Z6S1, 65, 6U, 26S1, 26U1 [[P2110, 19A14, 19A16]]	3417	3.95
Z6U1, 6C1, 6L, 6N, 6P, 6R, 46C1, 46C1-41, 61 [[19A25]]	5300	2.95
05W (1st), 06W (2nd), 06X, 072, 072A, 172, 3722A	3318	7.50
062, 062A, 3622A	3443	6.50
5H, 5K1, 65H [[19A28]]	5411	4.95
5X, 6J, 6K, 6K8, 46J3 [[19A26, 19A30, 19A31]]	5400	4.95
5Y, 25Y1 [[P2229]]	3883	5.50
6R, 26B1, 26B5, 26R1, 36D510, 36D560	3395	4.45
7Q, 7S [[19A27]]	5422	5.50
Westinghouse—A43, A44	3319	5.95
WR25, WR26, WR501 [[ZV3]]	3223	2.95
WR27	4320	3.95
WR260	4260	3.95
WR500	5321	2.95
WR502, WR503	5300	2.95
602	3315	5.50
Wholesale Radio—(See Lafayette)		
Wilcox-Gay—3R6	4320	3.95
4B6, 4B6-2, 5F8, 5F8-90, 5F8-790, 5F8-890		
Roadmate [[1332-A]]	3223	2.95
Roadmaster	2867	3.45
Willys-Overland—(See Philco—Custom-Built)		
Wilson—32-Volt H. H.	3225	4.45
1936 Models	5300	2.95
Wurlitzer (All-American Mohawk)		
A60, 460 [[Y4288-RA]]	2867	3.45
U50, U500	3315	5.50
Zenith—4B106, 4B131, 4B132, 4B231, 4V31, 4V59, 6B107, 6B129, 6B164, 6V27, 6V59, 6V62 [[190-5, 190-6]]	5411	4.95
5F133, 5F134, 5F166 [[190-8]]	5427	5.50
5M291, 6M292, 6M293, 6M294, 8M295, 666, 668, 680 [[190-4, 190-13]]	5321	2.95
5J217, 5J247, 5J255, 5M90, 5M191, 6J230, 6J257, 6M90, 6M90D, 6M90S, 6M91D, 6M91S, 6M92, 6M192, 6M193, 6M194, 7J232, 7J259, 7M91D, 7M91S, 8M195, 663 [[190-7, 190-9, 190-11]]	5300	2.95
460, 462, 65CHD, 65IHE, 660TD, 661TE [[190-1, 190-2]]	2867	3.45
7, Jr. 7, 664 (Ford), [[P7142-1, 190-3]]	3263	2.95
190-12	3395	4.45
Chassis Numbers—2057	2867	3.45
5404, 5405, 5406, 5621, 5635	5411	4.95
5510,-20,-24, 5610,-15,-31,-32,-37,-42, 5711, 5303	5300	2.95
5518	5427	5.50
5616, 5645, 5805	5321	2.95
Zephyr Radio Co.—(Also See Lincoln-Zephyr)		
2M7, 2086, 2186, 2286, 20,-21,-22P6 [[Z6]]	5400	4.95
3M5, 3M7	5200	2.95

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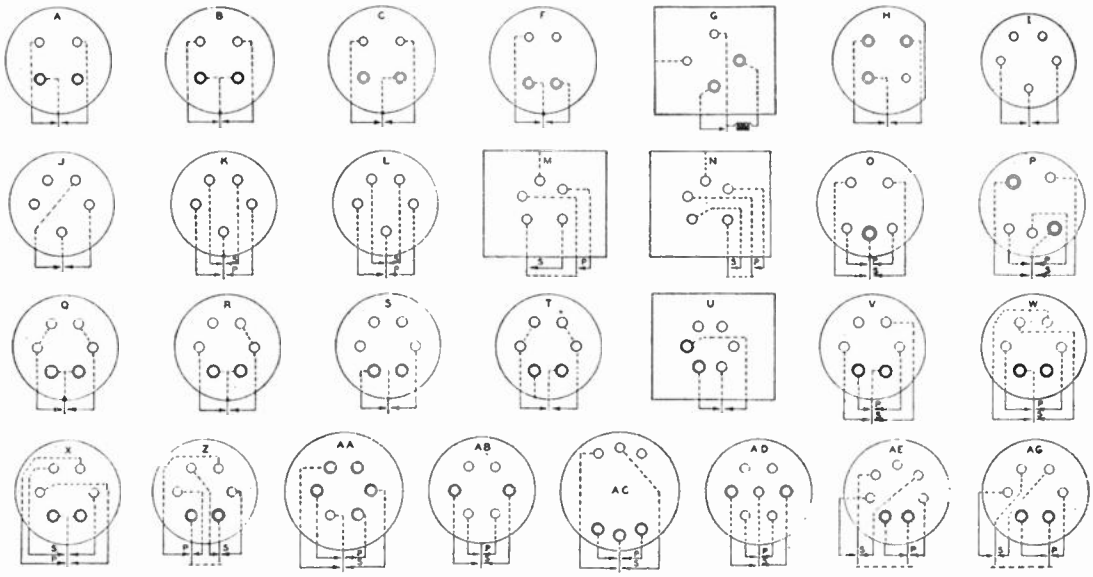
RADIART VIBRATORS *"Come through" in the toughest test of* VIBRATOR DEPENDABILITY

BASE DIAGRAMS



SECTION "C"—VIBRATOR SPECIFICATIONS

ALL PRICES SHOWN ARE LIST PRICES

V—Voltage
App.—Application
A—Automotive
H—Household
D—Diameter and Depth
H—Height
W—Width
P—Prongs
N.S.—Non Sync.
S—Synchronous
PK.—Pack
L—Leads

*Radiart Type 3200, List Price $3.45, may be used in this application when exact duplicate is not required.

†Contains built-in buffer condenser.

No.	V	App.	Type	Leads or Prongs	Base Diagram	D	H	W	Code	Price
2742	Use	2867								
2743	Use	2867								
2747	Use	2867								
*2819	6	A	N.S.	3L		1 25/32	3 3/8	1 9/16	Veal	$3.45
2864	Use	2819								
*2867	6	A	N.S.	3L		1 5/16	2 1/8	1 3/16	Vary	3.45
3200	6	A	N.S.	3L		1 3/16	2 3/8	1 1/8	Bade	3.45
3223	6	A	N.S.	6P	Q	1 11/16	2 7/8		Vale	2.95
3225	32	H	N.S.	3L		1 23/32	3 5/8	1 9/16	Room	4.45
3226	6	A	N.S.	6P	U	2 1/4	3	2	Babe	3.95
*3227	6	A	N.S.	3L		Special Case			Back	3.95
3260	Use	4260								
3261	Use	3263								
3262	Use	3888								
3263	6	A	N.S.	6P	Q	1 1/2	3 1/8		Vent	2.95
3264	Use	3417								
†3283	6	A	S.	5P	K	1 15/16	4 1/2		Veto	5.95
†3290	6	A	S.	4L		2 1/32	5	2 5/16	Rush	5.95
3299	Use	3263								
3300	Use	2867								
3302	Use	3223								
†3308	6	A	S.	5L		1 3/4	4 1/2	1 1/2	Viva	5.95
3310	6	A	PK			4 1/2	4 7/16	3 1/2	Void	8.00
3311	6	A	PK			4 3/8	4 5/32	3 5/16	Rude	9.00
3312	6	A	PK			4 3/8	4 5/32	3 5/16	Raid	10.00
*3313	6	A	N.S.	3L		1 7/16	3 15/16	1 1/4	Volt	3.95
3314	6	A	PK			3 15/16	4 5/16	2 3/4	Rend	8.00
†3315	6	A	S	5L					Vote	5.50
3316	32	H	PK			4 3/8	4 5/32	3 5/16	Root	10.00
3317	6	A	S	5L		2	4 15/16	1 3/8	Wade	5.95
†3318	6	A	S	5P	N	2 1/4	5 1/4	2 1/2	Real	7.50
†3319	6	A	S	4L		2 1/4	4 1/2		Welt	5.95
3320	6	A	N.S.	4P	A	2 1/4	4 3/4		Wage	2.95
3356	6	A	N.S.	6P	T	1 11/16	2 7/8		Vino	3.95
*3375	6	A	N.S.	3L		1 11/16	2 7/8		Roll	3.95
3395	32	H	N.S.	4P	A	1 1/2	3 1/8		Roof	4.45
3397	Use	4314								
3398	Use	3227								
3399	Use	3417								
3417	6	A	N.S.	4P	B	1 15/16	4 1/2		Rind	3.95
*3442	6	A	N.S.	3L		1 3/16	2 3/8	1 1/8	Race	3.95
3443	6	A	N.S.	4P	G	2 13/16	5 7/16	2 13/16	Rill	6.50
3444	6	A	N.S.	Spec.		2 13/16	6 5/32	2 23/32	Rust	6.50
†3445	6	A	S	5P	M	2 1/4	5 1/4	2 1/2	Rule	7.50
3460	32	H	N.S.	3L		1 3/16	2 3/8	1 1/8	Rage	4.95
†3461	6	A	S	5P	O	2 1/4	4 1/2		Rain	5.50
3462	32	H	N.S.	4P	G	2 13/16	5 3/16	2 15/16	Read	6.75
†3463	32	H	S	5P	N	2 1/4	5 1/4	2 1/2	Rest	7.50
3481	Use	4314								
3503	Use	4314								
3588	Use	3225								
3607	32	H	S	5L		2	4 15/16	1 3/8	Ramp	6.50
3608	32	H	N.S.	3L		1 5/16	3 13/16	1 1/4	Ruin	4.45
3651	32	H	S	5P	K	1 11/16	4 1/4		Road	6.50
3679	Use	5410								
3741	Use	3888								
3782	Use	5300								
3786	6	A	N.S.	5P	J	1 15/16	3 5/8		Vine	3.95
3789	6	A	S	6P	AA	1 11/16	3 1/2		Vase	4.95
3806	Use	5300								
3815	6	A	N.S.	4P	B	1 15/16	4 1/2		Vang	3.95
3842	Use	3815								
3848	6	A	S	5L					Vice	5.95
†3850	6	A	S	6P	AB	1 15/16	4 1/2		Sane	5.95
3865	Use	5300								
3880	Use	2867								
3883	6	A	S	6P	AB	1 15/16	4 1/2		Vial	5.50
3888	6	A	N.S.	4P	B	1 11/16	2 3/4		Sard	3.95
4260	6	A	N.S.	4P	B	1 1/2	3 1/8		Walk	3.95
4301	Use	3417								
4313	Use	3417								
4314	32	H	N.S.	6P	T	1 1/2	3 1/8		Warp	4.95
4318	6	A	N.S.	6P	S	1 1/8	3 1/8		Want	3.95
4319	32	H	N.S.	4P	H	2 1/4	4 3/4		Wart	5.95
4320	6	A	N.S.	6P	R	1 1/2	3 1/8		Wake	3.95
4402	Use	5409								
4403	Use	5413								
4404	32	H	S	6P	AA	1 11/16	3 1/2		Tael	5.50
4414	6	H	S	7P	AD	1 11/16	4 1/4		Wane	4.95
†4415	6	A	S	6P	AC	2 1/4	4 3/4		Warm	7.00
4416	Use	5411								
4417	Use	5415								
†4500	6	A	S	5L		1 3/4	4 1/2	1 1/2	Wind	5.95
†4501	6	A	S	6P	AB	1 1/2	3 1/2		Sell	5.95
†4502	6	A	S	5P	L	1 15/16	4 1/2		Wait	5.95
†4504	6	A	S	5P	P	1 15/16	4 1/2		Well	5.50
†4505	6	Police	S	5P	K	1 15/16	4 1/2		Poll	5.95
†4607	6	A	S	4L		2 1/8	4 27/32	2 1/4	Tack	7.25
†4608	6	H	S	6P	Z	1 15/16	4 1/2		Waul	7.50
4610	Use	3318								
†4611	6	A	S	5P	P	2 1/4	4 1/2		Waif	5.50
4612	Use	5411								
†4613	6	A	S	5P	O	1 15/16	4 1/2		Side	5.50
†4614	6	A	S	5P	O	2 1/16	4 1/2	2 5/16	Wall	5.50
5300	6	A	N.S.	4P	A	1 1/2	3 1/8		Nail	2.95
5303	6	A	N.S.	4P	F	1 3/8	3 1/2		Name	2.95
5304	6	A	N.S.	5P	I	1 3/4	3 1/8		Newt	3.95
5305	Use	5300								
5306	Use	3263								
5310	Use	5300								
5312	6	Police	N.S.	6P	Q	1 1/2	3 1/8		Pole	4.95
5313	6	Police	N.S.	4P	A	1 1/2	3 1/8		Pole	4.95
5320	6	A	N.S.	4P	A	1 15/16	3 5/8		Nard	2.95
5321	6	A	N.S.	4P	A	1 5/8	3 5/16		Nave	2.95
5322	6	Police	N.S.	4P	A	2 1/4	4 3/4		Polk	4.95
5323	6	A	N.S.	4P	A	1 3/8	4 5/8		Neap	2.95
5324	6	Police	N.S.	6P	V	1 15/16	3 5/8		Nile	3.95
5330	Use	4260								
5331	6	A	N.S.	4P	C	1 1/2	3 1/8		Navy	2.95
5400	6	A	S	6P	AB	1 1/2	3 1/8		Near	4.95
5405	Use	5410								
5406	6	A	S	7P	AD	1 1/2	3 1/8		Neat	4.95
5409	6	H	S	5P	K	1 1/2	3 1/8		Neck	4.95
5410	6	H	S	5P	O	1 1/2	3 1/8		Need	4.95
5411	6	H	S	6P	V	1 1/2	3 1/8		Nest	4.95
5413	6	H	S	5P	K	1 15/16	3 1/4		Nose	4.95
5415	4	H	S	5P	K	1 15/16	3 5/8		Nosy	5.50
5422	6	H	S	7P	AE	1 3/8	3 1/8		Note	5.50
5426	6	A	S	5P	P	1 15/16	3 1/2		Next	4.95
5427	4	H	S	6P	V	1 1/8	3 1/8		Nice	5.50
5428	6	H	S	6P	X	1 11/16	4 1/4		Nick	4.95
5430	Use	5434								
5431	4	H	S	6P	AG	1 1/2	3 1/8		Nira	5.50
5434	6	H	S	6P	W	1 15/16	3 5/8		Nine	4.95

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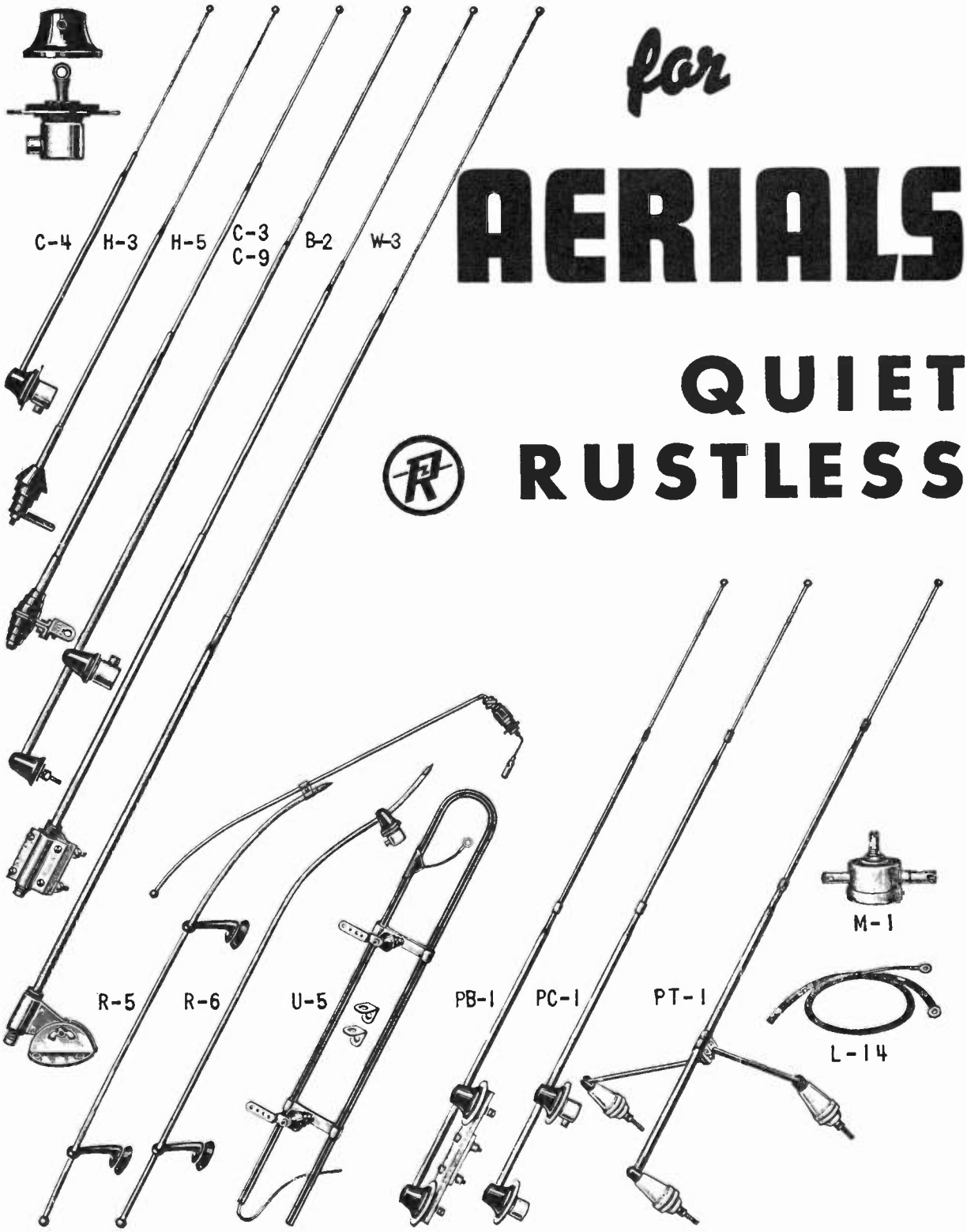
It's RADIART for AERIALS

QUIET RUSTLESS



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World Radio History

It's RADIART for AERIALS

Called the most Beautifully Styled aerial of all—lines flow into car body in perfect harmony of design—mechanically and electrically RIGHT, because created by Radiart engineers in close cooperation with engineers of some of the largest auto radio and motor car manufacturers. No wonder it's GOOD!

QUICK REFERENCE CHART. Description and List Prices of Popular Types

DESCRIPTION	LENGTH	LENGTH LEAD	STD PKG	TYPE NO	LIST PRICE
COWL AERIALS					
3-section, 2-insulator - Standard Model (Improved 1939 model is Type C-9)	24-60"	30"	6	C-3	$2.95
2-section, 1-insulator	31-51"	30"	6	C-4	2.25
2-section, 2-insulator	31-51"	30"	6	C-5	2.45
3-section, 1-insulator	21-51"	30"	6	C-6	2.95
3-section, 2-insulator	41-84"	36"	6	C-7	3.95
4-section, 2-insulator	39-100"	36"	6	C-8	4.95
3-section, 2-insulator 1939 DeLuxe	24-60"	36"	6	C-9	3.45
Twin 3-section, 2-insulator	24-60"	"Y"	6	TC-3	5.95
Twin 2-section, 2-insulator	31-51"	"Y"	6	TC-5	4.95
HINGE AERIALS					
2-section, Bakelite insulator	24-44"	42"	6	H-3	1.95
3-section, Tilt-Hinge	21-51"	42"	6	H-4	3.45
2-section, Tilt-Hinge	31-51"	42"	6	H-5	2.75
1-section, Tilt-Hinge, Whip	42"	42"	6	H-6	2.95
ROOF AERIALS					
Speedline, Cowl Lead-in	52"	30"	6	R-5	4.95
Speedline, Header Lead-in	52"	66"	6	R-6	4.25
Zephyr, Header Lead-in	20-36"	66"	6	R-7	2.95
Zephyr, Cowl Lead-in	20-36"	30"	6	R-7c	3.45
BUMPER AERIALS					
3-section, Steel	36-96"		6	B-1	2.45
3-section, Admiralty and Stainless	41-84"		6	B-2	2.95
4-section, Admiralty and Stainless	39-100"		6	B-3	3.95
UNDERCAR AERIALS					
Monoboard, no lead	49"		6	U-1NL	2.95
Monoboard, with lead	49"	66"	6	U-2	3.75
Single Unit, no lead	49"		6	U-5NL	1.45
Double Unit, with lead	49"	66"	6	U-6	3.75
POLICE AERIALS (Lock Nuts to Desired Length)					
3-section, Bumper Mount	41-84"	66"		PB-1	8.50
3-section, Bumper Mount	40-100"	66"		PB-2	10.00
3-section, 2-insulator, Cowl Mount	41-84"	36"		PC-1	7.50
3-section, 2-insulator, Cowl Mount	40-100"	36"		PC-2	9.00
3-section, Trunk Mount	41-84"	36"		PT-1	13.50
3-section, Trunk Mount	40-100"	36"		PT-2	15.00
Replacement Rod Assembly	41-84"			PR-1	4.50
Replacement Rod Assembly	40-100"			PR-2	6.00
WINDOW AERIALS					
3-section, Steel	36-96"			W-1	2.45
3-section, Admiralty and Stainless	41-84"			W-2	2.95
4-section, Admiralty and Stainless	39-100"			W-3	3.95
VERTICAL MAST ANTENNA					
To be announced					
MATCHING RESONATOR			6	M-1	1.50
LEADS AND FITTINGS					
Shielded Lead, Lug & Male Connector		66"	6	L-1	.85
Shielded Lead, Lug & Male Connector		36"	6	L-2	.60
Shielded Lead, Cup & Male Connector		36"	6	L-5	.75
Shielded Lead, Bushing for Cup & Male Conn.		36"	6	L-7	.50
Shielded Lead, Male & Female Connectors		30"	6	L-10	.50
Shielded Lead, for Hinge Aerials		42"	6	L-14	.60
Shielded Lead, "Y" type for TC-4 and TC-3			6	L-15	1.00
Snap-in Button to close 3/8" hole in body			6	F-5	.15

NOTE: Lead included with all Types except those marked: NL

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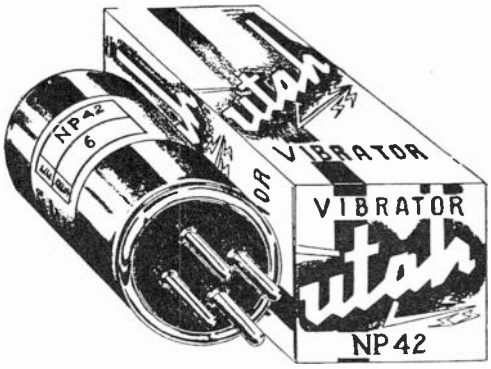
World Radio History

UTAH Replacement Vibrators

UTAH ORIGINATED EVERY MAJOR VIBRATOR IMPROVEMENT



Utah has always been the leader in vibrator design and the recognized and leading source of the radio industry for this part. Well over a million radio sets are equipped with Utah vibrators today. All the well-known Utah qualities of workmanship and design are found in these vibrators, yet they cost no more than ordinary vibrators. Replace with Utah and be sure of a satisfied customer.

Set	Model	Vibrator	List Price
Acratone	42D-43D-44D-40-259B-260B-U6	NP42	$2.95
	49-51-92-92A-94A-460	NL3	3.45
	L7-K6-Z4-Z5-X6	SP55	4.95
Addison	531-631	NL3	3.45
	N-655	SP67	7.00
Admiral	U6	NP42	2.95
Aircastle	BA41-L7-X6-Z4-Z5	SP55	4.95
	603-BA-41-6 Tube	NL3	3.45
	U6	NP42	2.95
	6SYN	SP63	5.95
Airchief	66	SL5	5.50
Airline	See Montgomery Ward		
Airmate	See United Motors Service		
All-American Mohawk	A60-U50-U500	NL3	3.45
Allied Radio Corp.	F9515-F9551-F9541-G9515	NL3	3.45
	G9517-G9881-G9882-T (Auto)	NL3	3.45
	L7-Z4-25-Z5	SP55	4.95
	U6	NP42	2.95
	F9777	32NL3	4.45
Arcadia	See Wells-Gardner		
Arvin	See Noblitt Sparks		
Atwater Kent	666-776-926-936	NP6	2.95
	816-424-534	SL5	5.50
	126-136-416-556-237Z-467Q	NP42	2.95
Audiola	See Fairbanks Morse		
Autocrat	Model 5	NL3	3.45
	518-618-505-530-618S	NP42	4.45
Automatic	SRA600-JRA600-Tom Thumb-A5-J70-J80-J50-A1-M70-J60-JR-Twin Six 1933-Models 1934	NL3	3.45
	Deluxe Auto Master		
Baldwin	Chassis 54-64	NP42	2.95
Balkeit	GT156BA, L7 (36), Z4-Z5-X6	SP55	4.95
	Chassis 54-64-U6	NP42	2.95
Belmont	660	NL3	3.45
	680C-580-670-680A-680B-667	NP6	2.95
	566-666-666 "A" "B"-670A-690-880A	NP42	2.95
	880B-880C	NP42	2.95
	580-670-680-A B C	NP63	3.95
Blackhawk	6U	NP42	2.95
Bosch	See United American Bosch		
Buick-Olds-Pontiac	See United Motors Service		
Cavalcade	Chassis 54-64-359	NP42	2.95
	3511	SP55	4.95
Cadillac	06W Standard-06W Deluxe 2722 (072A)	SP5H	7.50
	6U2	NP42	2.95
	56V1	NL3	3.45
	62 (62-6218) (62-199)	SP62	4.95
Canadian Radio	513C-513 DOR	SL5	5.50
Chevrolet	See United Motors Service		
Clarion	100-TC-15	NL3	$3.45
	TC 50 4 pr. socket 100AR 110	NP42	2.95
	TC 50 6 pr. socket	NP6	2.95
Champion	500-600	NP42	2.95
Clinton	803-1935-1936-801-802	NP42	2.95
Continental	U6	NP42	2.95
	"Admiral" 17-Admiral Z4-Admiral Z5	SP55	4.95
Consolidated	51	SL5	5.50
Colonial	1063 Power Supply	NL3	3.45
Colonial	159 Sync	SP53	5.95
	159 Non-Sync.-164B	NP6	2.95
	164	NL3M	3.95
Cord	A245-A255-A455	SP51	5.50
Crosley	98-99-102-103-5A1-119-159-A5A2-167	SL5	5.50
	4A1-6B1-5A3-A155-A5A3-156	SP6	4.95
Crosley	435-546-636-6615	SP66	4.95
	A166-A255-A355-A366-A455-A555	SP51	5.50
	A156-A266	NP44	2.95
Corona	105-122	NP42	2.95
Coronada	509-670	NP42	2.95
Delco	See United Motors Serivce		
Detrola	1109-1100A-6A	NL3M	3.95
	6M-6R-1935 Plug in-1111-1112	NP42	2.95
	1934-1935 3 Lead Models	NL3	3.45
	1935 Sync	SP5	4.95
	1936 Sync	SP62	4.95
De Forest Crosley Canada	51 510-513C—513D	SL5	5.50
De-Wald	52-61-61X	NL3	3.45
	517-606-607-605-608-617-A604	NP42	2.95
Electro Autolight	See Wells-Gardner		
Electronic	B Eliminator 331	NL3	3.45
Emerson	965-667-975-KS38	NP6	2.95
	2A-6A-1A-E123	NP42	2.95
	678-1-678-2-1933 Models-640	SL5	5.50
	5A De Luxe	SP63	5.95
	1A-6 Prong	NP6	2.95
Empire	60	NL3	3.45
ERLA SENTINEL	600-602-603-500-560-601-503	NL3	3.45
	500-7M-10M-11M	NP42	2.95
Fada	101-102-104-104B	NL3	3.45
	166-266-266SD-266SG	NP42	2.95
Fairbanks Morse	23S7-33S6-5 Leads (1st Series)-S6-S7	SLH	6.50
	23S7-33S6 (2nd Series,-S6-S7	NL3	3.45
	33A6-A6	SL5	5.50
	345-346-347 (6 Prong)-B6	NP61	3.95
Fairbank Morse (Cont'd)	346-347-C6-64-74	NP42	$2.95
	43 (43TB) (43CIB)(-67-6717-6746-73 (73T3B) (73C3B)	SP66	4.95
Federated Purchaser	92-92A-94A-460	NL3	3.45
	40 Auto 42D-43D-44D-259B-260B	NP42	2.95
Firestone	R1332-1314 Traveler-54-64 (R133)	NP42	2.95
	R1322-(R132)	SP62	4.95
	R1431-(R143)	NP43	2.95
Ford Majestic	40-18865-Glove Box Police	NL3M	3.95
Ford	Lincoln-Zenith	NP6	2.95
Ford	Philco	NP41	2.95
Ford	Zephyr-L1424-1937	NP44	2.95
Ford Canada	Marconi	NP61	3.95
	Majestic	NL3M	3.95
	Philco (Prior to 1936)	NP41	2.95
	Philco (1936) 816-818-819	NP44	2.95
Freed	A7-A9	SP5H	7.50
General Electric (General Electric Canada)	6K-M51-N51-S745-D50-D51-D52-FA60-FA61-FA80	SP62	4.95
	B40-B52-C41	SP53	5.95
	C60-6U-D72-N60	NP42	2.95
	C61-123 DeLuxe	SP61	7.00
	M40	SL51	5.95
Goodyear (Wings)	5 Tube-880	NP42	2.95
	6 Prong	NP6	2.95
Globe		NL42	2.95
Graybar	159	SP53	5.95
Grebe	61B	NL3	3.45
Gulbransen	See Wells-Gardner		
Gamble Skogmo	26S1	NP42	2.95
	670	NP62	3.95
General Motors (Canada)	134-135	SL5	5.50
	136-137-138-640-641-540	SP51	5.50
B. F. Goodrich Rubber	See Galvin (Motorola)		
Goldentone	U6	NP42	2.95
	X6-L7-Z4-Z5	SP55	4.95
Gold Medal	U6	NP42	2.95
	L7-Z4-Z5	SP55	4.95
Grigsby Grunow Co.	See Majestic		
Grunow	1936 Non-Sync.-614-618	NP42	2.95
	1936 Sync.-625	SP52	5.50
	4NB (410-411)	SP5	4.95
Halson	199	NL3M	3.95
	56U-Road Master	NP42	2.95
Harley Davidson	560	NP42	2.95
Howard Radio	HA4-Hal-(670A)-HA3	NP42	2.95
	HA6	SP62	4.95
	HA2-52-502	SP53	5.95

(Continued on Reverse Side)

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World Radio History

ATR *Replacement* VIBRATOR GUIDE

For all Popular Auto Radio Receivers -- *continued*

MAKE	MODEL	Vibrator Number	List Price
Ford (Majestic)	40-18805	307	$2.50
	Glove Box Police	307	2.50
(Philco)	All	330	2.75
(Lincoln)		326	2.90
Ford (Canada)	Majestic (Utah Carter Pack)		
	Marconi	326	2.90
	Majestic	307	2.50
	Philco (Prior to 1936), 816	330	2.75
	Philco (1936), (1937), 817, 818, 819	324	2.75
Freed	A7, A9	594	6.50
Galvin Mfg. Corp. (Motorola)	Motorola Police	334	3.00
	34, 50, 60, 80, 90, Golden Voice, 35, 45, 65, 70	324	2.75
	88, 61	392	6.00
	77	593	6.50
	77A, 44A, 66	503	4.75
	55, 55A, 44	592	6.50
	57, 62, 75, 79, 100, 110	316	3.00
	Dual 6 and Twin 8	314	3.00
Gamble-Skogmo	26S1	314	3.00
	670	326	2.90
Garod—See Grebe.			
General Electric (Also Canadian General Electric)	B40-C41	505	4.90
	B52 Arm-Rest Model	505	4.90
	C60	314	3.00
	C61	531	5.25
	D50, D51, D52	536	3.90
	D72, N-60	324	2.75
	N51, FA-60, FA-61, FA-80	524	3.90
General Motors (Canada)	134, 135	553	4.25
	136, 137, 138, 640, 641, 540	508	4.75
Gilfillan	All 1933-34-35-36	326	2.90
B. F. Goodrich Rubber Co.—See Galvin (Motorola).			
Goodyear Service Stores—See Belmont.			
Goldentone	U6	324	2.75
Gold Medal	U6	324	2.75
Graybar	150 (Chassis)	504	4.75
Grebe	61 R	303	2.50
Grigsby-Grunow Co. (Majestic)	66, 116, 116A, 118	307	2.50
	40-18805 (Ford)	307	2.50
Grunow	625	507	4.75
	614-618	324	2.75
Gulbransen—See Wells-Gardner.			
Halson	199, Roadmaster	307	2.50
Harley-Davidson	All	506	4.75
Hetro	15566	326	2.90
Howard Radio Co.	HA4	324	2.75
	HA6	525	3.90
	HA7-HA9	323	2.75
Hudson Terraplane	Majestic Head	307	2.50
	650HD, 651HE	303	2.50
	660TD, 661TE	303	2.50
	666, 668, 680, H-6	324	2.75
Hudson Terraplane (Canada)	Marconi, 650, 660	303	2.50
	680, H6	324	2.75
International	K-60 (K-6)	326	2.90
Karadio (Northland Mfg. Co.)	57, 65, 66, 88, 150, 160, 180	326	2.90
	All 1937 Models	326	2.90
	All 1938 Models	324	2.75
Kartone	1936	324	2.75
Knight—See Allied Radio Corp.			
Lafayette	S17762	594	6.50
	B62	536	3.90
	062-062A	393	5.50
	L-30, 6S	314	3.00
	L-23, AM20	326	2.90
	C-60, LW 10	324	2.75
Larkin Company	91	303	2.50
"Lewol"	9101, 9102	303	2.50
Lyric (Canada)	A60	303	2.50
Majestic—See Grigsby-Grunow Co.			
Mallory Eliminator	Types, 1, 2, 3, 4, 5, 6	393	5.50
	Types 10, 10C, 10CA, 10P, 10PC, and 10ST	594	6.50
	Types 11, 11M, 11C, 11CD, 11P, and 11PC	594	6.50
	Types 12, 12C and 12PC	594	6.50
	Types 13 and 13S	594	6.50
	Types 14, 14C and 14PN	594	6.50
Marconi (Canada)	48	303	2.50
	Ford	326	2.90
	69	324	2.75
Mission Bell	10A, 11, 12, 14, 16, 25A	303	2.50
Monarch	Chassis 54, 64, U6	324	2.75
Montgomery-Ward. (Airline)	87	303	2.50
	62-166, 62-118 (6U)	314	3.00
	Auto Radio	393	5.50
	62-199 (5Y)	536	3.90
Motomaster	611	332	2.90
Motorola—See Galvin Mfg. Corp.			
Music Master	Ten-Ten	303	2.50
Noblitt-Sparks (Arvin)	15, 25, 35, 45 (1st Series)	326	2.90
	15, 25, 35, 45 (2nd Series)	303	2.50
	10A, 20A, 30A	303	2.50
	20B, 30B, 16	303	2.50
	7, 17, 17A, 27, 37	324	2.75
	18, 28, 33	324	2.75
	9A, 19, 29	323	2.75
	39	324	2.75
Northern Electric (Canada)	33, 40	505	$4.90
	61	326	2.90
Pacific	101, 102	303	2.50
Philco (Also Canadian)	Police (810PB, 811P)	334	3.00
	Prior to 1936, 816	330	2.75
	1936 1937 and 817, 818, 819	324	2.75
Phonola (Canada)	3A61, 3A62	307	2.50
Radiart	B Eliminator	303	2.50
	Majestic Replacement Unit	303	2.50
Radlette	Chassis 54, 64	324	2.75
RCA Victor (Also Canadian RCA)	5M, 6M, 6M2, 67M1, 67M2, 67M3	525	3.90
	M34-M105	505	4.90
	M116 (Arm-Rest Model)	505	4.90
	M107	314	3.00
	M107 (12-volt)	315	3.25
	AR 4229	505	4.90
	H 6 (Hudson), RS 63-1	324	2.75
	M123	531	5.25
	M101, M104, M108	536	3.90
	M101, M104, M108, 12-V. Automotive	538	4.50
	M109, 67M	324	2.75
Reliance	U6	324	2.75
Remler	27 (Scotty)—35	303	2.50
Rogers (Canada)	918	553	4.25
Sears-Roebuck	4400	525	3.90
	3400	332	2.90
	7128 4-prong Socket	324	2.75
	6-prong Socket	326	2.90
	7117, 1859, 1859-A	504	4.75
	7157, 7167, 1869	324	2.75
Sentinel—See Erla-Sentinel.			
Setchell-Carlson	44, 45, 60, 60S, 66, 66S, 68, 68S, 70, 70S, 71, 71S, 80	320	2.90
Serenader (Canada) See Phonola (Canada).			
Sheridan	5 Tube	303	2.50
Simplex	T	303	2.50
	DB, PB	521	3.75
	Q	324	2.75
Solar—See Wells-Gardner.			
Sparton	33-33A, 333	303	2.50
(Also Canadian)	36	550	4.50
Star—See Wells-Gardner.			
Stewart Radio	50, 60	303	2.50
Stewart Warner	1171, 1172, 1181, 1182, 1183	324	2.75
	R-117, R-118	324	2.75
	R-112, 1121, 1122, 1123	303	2.50
	1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319	324	2.75
	R-131	324	2.75
	R-132, R-1322	537	3.90
	R-133, R,1332	324	2.75
	1601, 143	328	2.75
Stromberg-Carlson. (Also Canadian)	33, 33A	594	6.50
Supertone	U6	324	2.75
Tiffany Tone (Herbert Horn)	535, 536	326	2.90
Trav-ler	54, 64	324	2.75
Tropic-Aire—See Wells-Gardner.			
Troy	TR-86, 46, 68, Early 86	326	2.90
	L te 86, 1937	324	2.75
Truetone—See Western Auto.			
Truevalue	6U	314	3.00
United American Bosch	524A-634-634A	317	3.00
	140 (Ed. 2 & 3)	504	4.75
	150 (Edition 1)	594	6.50
	150 (Edition 2)	504	4.75
	160, 45A, 45C	504	4.75
	1891IB, 1891HR (Police)	525	3.90
	79	314	3.00
	536, 636, 637, 736, 737, 738	324	2.75
United Motors Service Buick-Olds-Pontiac	393884-393885	508	4.75
	405045-405046	508	4.75
	405057	508	4.75
	405062-405063	508	4.75
	544245-544246	508	4.75
	544267-544268-544289-544290-544291-544297-544298	508	4.75
	980393	303	2.50
	980441	550	4.50
	980455-980459	550	4.50
	980507-980508	507	4.75
	980509, 980525	507	4.75
	982006-982007	508	4.75
	982008	508	4.75
	983506-983507	508	4.75
	1291344-1291345	508	4.75
	All 1937 Sets	335	2.75
Chevrolet	364441	303	2.50
	600153-600566	550	4.50
	600249-600565	550	4.50
	601038	508	4.75
	601176-601177	508	4.75
	601525,601574	508	4.75
	601586	508	4.75
	601662, 601814	508	4.75
	985100-985200	324	2.75
	985300	507	4.75

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World Radio History

ATR *Replacement* VIBRATOR GUIDE
For all Popular Auto Radio Receivers -- *continued*

MAKE	MODEL	Vibrator Number	List Price
United Motors Service			
Chevrolet (Continued)	985400	508	$4.75
	All 1937 Sets	335	2.75
Delco	626, 627, 628, 629, 634, 635	508	4.75
	630, 631, 632, 633, 500	324	2.75
	2035, 4036	303	2.50
	4037, 4038	550	4.50
	R-640, R-641, R-642, R-643, R-644	335	2.75
Universal (Universal Bat. Co.)	802, 803, 804, 805, 60, 70, 80	324	2.75
Utah	"B" Eliminator Non-synchronous	303	2.50
Wells-Gardner	V6Z2*	303	2.50
	Z6Z1*	303	2.50
*Caution! If the vibrator being replaced in one of these radio sets is a DeVry Carbon Point Vibrator, it will be necessary to replace the power transformer with one of a later type. This transformer is available from the Set Manufacturer.	25Y1	536	3.90
	25Y1-12 volt	538	4.50
	062-062A	393	5.50
	072-072A	594	6.50
	06W (1st Series)	594	6.50
	06W (2nd Series)	594	6.50
	26U1 (6U)	314	3.00
	26S1 (6S)	314	3.00
	06X	594	6.50
	6K	524	3.90
	6R	314	3.00
	6N	324	2.75
	6C1	324	2.75
	6J	524	3.90
Western Auto (Truetone)	S-732 (Z6Z1),*		
	S-733, (V6Z2)*	303	2.50
	S-690, (062), S-691, (062-A)	393	5.50
	S-740 (6U)	314	3.00
*See above	S-735 (25Y1)	536	3.90
	S-743, 1312 (R-131)	324	2.75
	670 (6S)	314	3.00
Westinghouse	WR-25, WR-26 4-prong Socket	324	2.75
	6-prong Socket	326	2.90
	WR-500-501	317	3.00
Westinghouse (Canada)	A43, A44	505	4.90
Wilcox-Gay	4B6, Roadmate	303	2.50
Wurlitzer	460-A60	303	2.50
Zenith	7	326	2.90
	460-462 (2057)	303	2.50
	650HD-651HE, 660TD-661TE	303	2.50
	Ford	326	2.90
	666, 668, 680, 6M90, 7M91S, 7M91D	324	2.75
	5M191, 6M192, 6M193, 6M194, 8M195	324	2.75

6-VOLT HOUSEHOLD RECEIVERS

MAKE	MODEL	Vibrator Number	List Price
Addison	N-655	535	$6.00
Admiral	L7, X6, Z4, Z5	521	3.75
Aircastle	BA41, L7, X6, Z4, Z5	521	3.75
Acratone	L7, X6, Z4, Z5	521	3.75
Arvin (Noblitt-Sparks)	6 volt models, 517, 517B, 617, 617B	520	3.75
Balkeit	L7, X6, Z4, Z5	521	3.75
Cavalcade	3511	521	3.75
Crosley	6615, 435	522	3.75
Delco	6010	534	3.90
Detrola	128, 129, 144, 145, 180, 184, 186, 189	520	3.75
Fada	1246, 246	528	3.75
	66	520	3.75
General Electric	FB-53, FB-57, FB-73, FB-77	529	3.75
	U-51, U-55	527	3.75
Goldentone	L7, X6, Z4, Z5	521	3.75
Goldmedal	L7, X6, Z4, Z5	521	3.75
Grebe	2B2, 2B6, 3B6, 3B2	528	$3.75
Grunow	1936 models, 410, 411, 711	520	3.75
	4NB	520	3.75
	5AB, 508, 509	321	3.25
Hetro	16010	526	3.75
Howard	6B, 6BA, 6BT, 7BT	526	3.75
Jacobs	None	522	3.75
Knight	L7, X6, Z4, Z5	521	3.75
	(Chassis 6820	535	6.00
LeWol	9682	535	6.00
Lafayette	J60	535	6.00
Monarch	L7, X6, Z4, Z5	521	3.75
Pacific	682	535	6.00
Reliance	L7, X6, Z4, Z5	521	3.75
Setchell-Carlson	40, 50, 41, 51, 410, 510	520	3.75
	61, 62, 610, 620, 622, 630	320	2.90
Stromberg-Carlson	115	534	3.90
Supertone	L7, X6, Z4, Z5	521	3.75
L'Tatro	6A, K665, J665, H465, I465	509	4.75
	R5236, Q5636, P4626, Q4626, M4616, All 1st Series	590	6.50
	R5236, Q5636, P4626, Q4626, M4616, All 2nd Series	535	6.00
	AM, BM, CM, EN-64, FN-66, GN-65, NO-65, OO-65	522	3.75
	QP-65, SP-67, TP-67	320	2.90
RCA Victor	6BK6, 6BT6, 8BK8, 8BT8	525	3.90
Universal (Universal Bat. Co.)	61A6, 63A6, 72A6, 73A6, (1936 Models)	530	3.90
	61A6, 63A6, 72A6, 74A6, 50A6, (1937 Models), 66T, 56T	522	3.75
Western Auto (Truetone)	L7, X6, Z4, Z5	521	3.75
Wilcox-Gay	6J4, A-24, A-25	522	3.75
Zenith	4V31, 4V59, 6V27, 6V62, 5J217, 5J247, 5J255, 6J230, 6J257, 7J232, 7J269	324	2.75
	4B231	529	3.75

32-VOLT HOUSEHOLD RECEIVERS

MAKE	MODEL	Vibrator Number	List Price
Atwater Kent	135Z, 215Z, 265Z, 305Z	2327	3.50
Crosley	119, 159	2553	5.00
Delco	4050, 4051	2553	5.00
	3203	2401	4.50
Erla-Sentinel	5600	2404	3.65
	6101	2304	3.00
Fairbanks-Morse	33-S-8 (1st Series)	2392	6.50
	33-S-8 (2nd Series)	2309	3.00
Lafayette	B64	2404	3.65
Majestic	490, 491, 493 (Transformer Type)	2400	3.27
	490, 491, 493 (Plug-in Type)	2324	3.50
Montgomery-Ward (Airline)	62-136, 62-138	2404	3.65
Philco	32	2337	4.00
Simplex	P	2304	3.00
L'Tatro	F293, F913, E83, J5, G63	2395	6.00
	N54, L54, 084	2396	6.50
	N74, L74, 094, F725, D625, C625, P54, P64, X6236, W6236, V5226, U5226, T6216, IN24, JN27, KN27, UP36, VP38	2403	3.65
United Motors Service	4049	2401	4.50
Universal (Universal Bat. Co.)	26B, 26B3, 7232, 7332	2404	3.65
	8232, 8432	2325	3.50
Wells-Gardner	26B1, 26B5	2404	3.65
Zenith	5x230, 5x248, 5x274	2324	3.50

ATR *Replacement* VIBRATORS -- *Cross Reference*

Vibrator Number	Price	Used in	Model Number
303	$2.50	Acratone	49, 51, 92, 92A, 94A, 460
		Addison	531, 631
		Aircastle	603
		All-American Mohawk	A60
		Allied	F9541, F9551
		Arvin	10A, 20A, 20B, 25 (2nd Series), 15 (2nd Series), 16, 30A, 30B, 35 (2nd Series), 45 (2nd Series)
		ATR B Eliminator	Type 1, 2, 3
		ATR	60, 70, Duo
		Autocrat	5
		Automatic	1933, 1934, 1935, Jr. Sr., Jr. Twin Six, A600, AR600
		Belmont	660
		B. O. P.	980383
		Cadillac	56V 1
		Chevrolet	364441
		Colonial	106B, Power Supply
		Delco	2035, 4036
303 (Continued)	$2.50	Detrola	1934 and 1935 Models
		Dewald	52, 61
		Electronic	B Eliminator
		Erla Sentinel	600, 602, 603
		Fada	101, 102, 104, 104B
		Fairbanks-Morse	23S7 (2nd Series), 33S6 (2nd Series)
		Federated Purchaser	92, 92A, 94A, 460
		Grebe	61R
		Hudson-Terraplane	650HD, 651HE, 660TD, 661TE
		Hudson-Terraplane (Canada)	Marconi 650, 660
		Larkin	91
		Lewol	9101, 9102
		Lyric (Canada)	A-60
		Marconi (Canada)	48
		Mission Bell	10A, 11, 12, 14, 16, 25A
		Montgomery-Ward	87
		Music-Master	Ten-Ten
		Pacific	101, 102
303 (Continued)	$2.50	Radiart	B Eliminator, Majestic Replacement Unit
		Remler	27, 35
		Sheridan	5-tube
		Simplex	T
		Sparton	33, 33A, 333
		Stewart Radio	50, 60
		Stewart-Warner	R112, 1121, 1122, 1123
		Utah	"B" Eliminator
		Wells-Gardner	V6Z2, Z6Z1
		Western Auto	S732 (Z6Z1), S733 (V6Z2)
		Wilcox-Gay	4B6, Roadmate
		Wurlitzer	A60, 460
		Zenith	460 (2057), 462, 650HD, 651HE, 660TD, 661TE
305	2.65	Automatic	A1, J80
307	2.50	Colonial	164
		Detrola	1100, 1100A, 6A
		Ford	Glove Box Police, 40-18805

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ATR *Replacement* VIBRATORS -- *Cross Reference*

Vibrator Number	Price	Used in	Model Numbers
307 (Continued)	$2.50	Ford (Canada)	Majestic
		Halson	199, Roadmaster
		Hudson-Terraplane	Majestic
		Majestic	66, 116, 116A, 118, 40-18805
		Phoncla (Canada)	3A61, 3A62
314	3.00	Blackhawk	6U
		Bosch	79
		Cadillac	6U2
		Gamble-Skogmo	26S1
		General Electric	C60
		Lafayette	L30, 6S
		Montgomery-Ward	62-118 (6U) 62-166
		Motorola	Dual 6, Twin 8
		RCA Victor	M107
		Truevalue	6U
		Wells-Gardner	26S1 (6S), 26U1 (6U), 6R
		Western Auto	S740 (6U) 670 (6S)
315	3.25	RCA Victor	M107 (12-volt)
316	3.00	Motorola	57, 62, 75, 100, 79, 110
317	3.00	Bosch	524A, 634, 634A
		Emerson	6A
		Fada	166
		Westinghouse	WR500, WR501
318	2.90	ATR "B" Elim	Type 4
320	2.90	L'Tatro	QP-65, SP-67, TP-67
		Setchell-Carlson	44, 45, 60, 60S, 61, 62, 66, 66S, 68, 68S, 70, 70S, 71, 71S, 80, 610, 620, 622, 630
321	3.25	Grunow	5AB, 508, 509
322	2.90	Emerson	U-154, U-155
		Dewald	517, 527, 605, 606, 607, 617, 702
323	2.75	Detrola	111, 112, 166, 171
		Howard	HA-7, HA-9
		Noblitt-Sparks	9A, 19, 29
324	2.75	Acratone	40, U6
		Admiral	U6
		Aircastle	U6
		Allied	U6
		Arvin	7, 17, 17A, 27, 37, 18, 28, 33, 39
		Baldwin	(Chassis 54, 64)
		Balkeit	(Chassis 54, 64), U6
		Belmont	566, 666, 668
		Bosch	536, 636, 637, 736, 737, 738
		Cavalcade	(Chassis 54, 64)
		Chevrolet	985100, 985200
		Clarion	100AR, TC50 (4 prong)
		Delco	630, 631, 632, 633, 500
		Detrola	6M, 6R
		Erla Sentinel	5500
		Fada	266, 267
		Fairbanks-Morse	C6, 64, 74
		Firestone	R1332 (R133), Trav-ler (1314)
		General Electric	D72, N-60
		Goldentone	U6
		Goldmedal	U6
		Grunow	614-618
		Howard	HA4
		Hudson-Terraplane	666, 668, 680, H6
		Hudson Terraplane (Canada)	680, H6
		Kartone	1936
		Karadio	1938
		Lafayette	C60, LW10
		Marconi (Canada)	69
		Monarch	(Chassis 54, 64), U6
		Motorola	34, 50, 60, 80, 90, 35, 45, 65, 70
		Philco	(1936) 817, 818, 819 1937 Models
		RCA Victor	M109, RS63-1, H6 (Hudson), 67M
		Radiette	(Chassis 54, 64)
		Reliance	U6
		Sears-Roebuck	7128 (4-prong), 7157, 7167, 1869
		Simplex	Q
		Stewart-Warner	R117, 1171, 1172, R118, R131, 1311, 1312, 1314, 1315, 1316, 1317, 1318, 1319, 1181, 1182, 1183, R133, R1332
		Supertone	U6
		Trav-ler	(Chassis 54, 64)
		Troy	Late 86, 1937
		Universal	802, 803, 804, 805, 60 70, 80
		Wells-Gardner	6N, 6C1
		Western Auto	S743, 1312 (R131)
		Westinghouse	WR25, WR26 (4-prong Socket)
		Zenith	666, 668, 680, 6M90, 7M91S, 7M91D 5M191, 6M192, 6M193, 6M194, 8M195, 5J217, 5J247, 5J255, 6J230, 6J237, 7J232, 7J269
326	2.90	Arvin	15 (1st Series), 25 (1st Series), 35 (1st Series), 45 (1st Series)
		Atwater Kent	666, 776
		Belmont	580, 667, 670A, 680, 680A, 680B, 680C, 690, 880, 880A, 880B, 880C
326 (Continued)	$2.90	Clarion	TC50 (6 prong)
		Colonial	164B
		Emerson	667, 965
		Ford	Lincoln
		Ford (Canada)	Majestic (Utah Carter Pack), Marconi
		Gamble-Skogmo	670
		Gilfillan	All 1933-4-5-6
		Hetro	1556G
		International	K60 (K6)
		Karadio	57, 65, 66, 8S, 150, 160, 180 1937
		Lafayette	L23, AM20
		Lincoln	Ford
		Northern Electric (Canada)	61
		Sears-Roebuck	7128 (6 prong)
		Tiffany Tone	535, 536
		Troy	TR86, 46 68, Early 86
		Westinghouse	WR26, WR25 (6-prong Socket)
		Zenith	7, Ford
327	2.90	Fairbanks-Morse	346, 347
328	2.75	Firestone	R1431
		Stewart-Warner	1601, 143
330	2.75	Philco (Prior to 1936)	816
332	2.90	Motomaster	611
		Sears-Roebuck	3400
334	3.00	Galvin	Motorola Police
		Philco	Police, 810PB, 811P
335	2.75	Delco	R-640, R-641, R-642, R-643, R-644
		B. O. P	All 1937 Sets
		Chevrolet	All 1937 Sets
392	6.00	Motorola	88, 61
		Belmont	1932 Models
		Fairbanks-Morse	23S7 (1st Series), 33S6 (1st Series)
393	5.50	Mallory "B" Elim	Type 1, 2, 3, 4, 5, 6
		Cadillac	2721 (062)
		Lafayette	062, 062A
		Montgomery-Ward	Auto-Radio
		Wells-Gardner	062, 062A
		Western Auto	S690 (062) S691 (062A)
503	4.75	Motorola	44A, 66, 77A
504	4.75	Bosch	45A, 45C, 140 Ed. 2 and 3 150 Ed. 2, 160
		Colonial	150
		Graybar	150
		Sears-Roebuck	1859, 1859A, 7117
505	4.90	General Electric	B40, C41, B52
		Northern Electric (Canada)	33, 40
		RCA Victor	M34, M105, M116, AR4229
		Westinghouse (Canada)	A43, A44
506	4.75	Harley-Davidson	All
507	4.75	B. O. P.	980507, 980508, 980509, 980525
		Chevrolet	985300
		Grunow	625
508	4.75	B. O. P.	393884, 393885, 405045, 405046, 405057, 405062, 405063, 544245, 544246, 544267, 544268, 544289, 544290, 544291, 544297, 544298, 983506, 983507, 982006, 982007, 982008, 1291344, 1291345
		Chevrolet	601038, 601176, 601177, 601525, 601574, 601586, 601662, 601814, 985400
		Delco	626, 627, 628, 629, 634, 635
		General Motors (Canada)	136, 137, 138, 640, 641, 540
509	4.75	L'Tatro	6A, K665, H465, J665, 1465
520	3.75	Arvin	6-volt models, 517, 517B, 617, 617B
		Detrola	128, 129, 144, 145, 180, 184, 186, 189
		Fada	66
		Grunow	1936 models 410, 411, 711 4NB
		Setchell-Carlson	40, 41, 50, 51, 410, 510
521	3.75	Aircastle	BA41, L7, X6, Z4, Z5
		Admiral, Acratone, Balkeit, Goldentone, Goldmedal, Knight, Monarch, Reliance, Supertone, Truetone, Simplex	All L7, X6, Z4, Z5
			DB, PB
		Cavalcade	3511
522	3.75	Crosley	6615, 435
		Emerson	All AS Models
		L'Tatro	AM, BM, CM, EN-64, FN-66, GN-66, NO-65, OO-65
		Jacobs	None
		Universal	61A6, 63A6, 72A6, 74A6, 50A6, 1937 Models, 66T, 56T
		Wilcox-Gay	6J4, A-24, A-25
		Zenith	4V31, 4V59, 6V27, 6V62
523	3.90	Crosley	4A1, 6B1, 5A3
524	3.90	General Electric	N51, FA-60, FA-61, FA-80
		Wells-Gardner	6K, 6J
525	$3.90	Howard	HA6
		RCA Victor	5M, 6M, 6M2, 6BK6, 6BT6, 8BK8, 8BT8
		Sears-Roebuck	4400
		United American Bosch (Police)	189HB, 189HR
526	3.75	Hetro	16010
		Howard	6B, 6BA, 6BT, 7BT
527	3.75	General Electric	U-51, U-55
528	3.75	Grebe	2B2, 2B6, 3B6, 3B2
		Fada	1246, 246
529	3.75	General Electric	FB-53, FB-57, FB-73, FB-77
		Zenith	4B231
530	3.90	Universal	61A6, 63A6, 72A6, 73A6, 1936 Models
531	5.25	General Electric	C61
		RCA Victor	M123
534	3.90	Delco	6010
		Stromberg-Carlson	115
535	6.00	Addison	N655
		Allied	(Chaseis 6820)
		Lafayette	J60
		Lewol	S682
		L'Tatro	R5236, Q5636, P4626, Q4626, M4616, (2nd Series)
		Pacific	682
536	3.90	General Electric	D50, D51, D52
		Lafayette	B62
		Montgomery-Ward	62-199 (5Y)
		RCA Victor	M101, M104, M108
		Wells-Gardner	25Y1 (5Y)
		Western Auto	S735 (25Y1)
537	3.90	Firestone	R1322
		Stewart-Warner	R132, R1322
538	4.50	Wells-Gardner	25Y1 (12-Volt)
		RCA	12V, M101, M108, M104
550	4.50	Atwater Kent	424, 534
		B. O. P.	980441, 980455, 980459
		Chevrolet	600153, 600249, 600565, 600566
		Delco	4037, 4038
		Emerson	678
		Sparton	36
551	4.25	Atwater Kent	816
553	4.25	Canadian Radio Corp.	513C, 513DOR
		Consolidated	51
		Crosley	98, 99, 102, 103, 5A1
		DeForest Crosley (Canadian)	51, 510, 513C, 513D
		General Motors (Canada)	134, 135
		Rogers (Canada)	918
554	5.00	Emerson	678-1
		Fairbanks-Morse	33A6
590	6.50	L'Tatro	R5236, Q5636, P4626, Q4626, M4616 (1st Series)
591	5.25	Emerson	5A
592	6.50	Motorola	55, 55A, 44
593	6.50	Motorola	77
594	6.50	Bosch	150 (Ed. 1)
		Cadillac	06W Standard, 06W Master, 2722 (072A)
		Freed	A9, A7
		Lafayette	S17762
		Mallory "B" Elim	Type 10, 10C, 10CA, 10P, 10PC, 10ST 11, 11M, 11C, 11CD, 11P, 11PC, Type 12, 12C, 12PC, 13, 13S, 14, 14C, 14PN
		Stromberg-Carlson	33, 33A
		Wells-Gardner	06W (1st Series), 06X, 072, 072A, 06W (2nd Series)
2304	3.00	Erla-Sentinel	6101
		Simplex	P
2309	3.00	Fairbanks-Morse	33S8 (2nd Series)
2324	3.50	Majestic	490, 419, 493 (Plug-in type)
		Zenith	5x230, 5x248, 5x274
2325	3.50	Universal	8232, 8432
2327	3.50	Atwater Kent	135Z, 215Z, 265Z, 305Z
2337	4.00	Philco	32
2392	6.50	Fairbanks-Morse	33S8 (1st Series)
2395	6.00	L'Tatro	F913, E83, F293, J5, G63
2396	6.50	L'Tatro	L54, N54, 084
2400	3.25	Majestic	490, 491, 493 (Transformer Type)
2401	4.50	Delco	3203
		United Motors	4049
2403	3.65	L'Tatro	L74, N74, F725, D625, C625, P54, P64, 094, X6236, W6236, V5226, U5226, T6216 IN-24, JN-27, KN-27, UP-36, VP-38
2404	3.65	Erla-Sentinel	5600
		Lafayette	B64
		Montgomery-Ward	62-136, 62-138
		Universal	26B, 26B3, 7232, 7332
		Wells-Gardner	26B1, 26B5
2553	5.00	Crosley	159, 119
		Delco	4050, 4051

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World Radio History

RADIO BATTERIES

BURGESS "B" and "C" BATTERIES Are Available With FAHNESTOCK CLIP or PLUG-IN CONNECTIONS

New BURGESS

PORTABLE "B" BATTERIES

Small, efficient Portable "B" Batteries, especially designed for use in trans-receivers, portable radio equipment, laboratory and medical instruments. They are minimum in size, with a maximum long service life.

No. A30BP—45 Volt "B." Depth 2⅝", Width 4⅜", Height 4 1/16". Wt. 2 lbs.
List Price.....$1.90

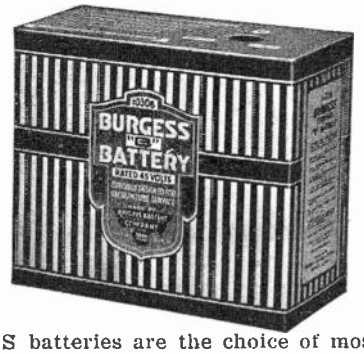
No. Z30N—45 Volt "B." Depth 1⅞", Width, 3", Body Height 4 17/32", Overall Height 4 31/32". Wt. 1 lb. 4 oz.
List Price.....$1.70

No. Z30NX—Same as Z30N except contains special heavy duty No. AA cells for high drain service.
List Price.....$2.20

No. W30BPX—45 Volt "B." Depth 1⅛", Width 2 13/16", Body Height 3 9/16", Overall Height 4 1/16". Wt. 10 oz.
List Price.....$2.55

No. X30BP—45 Volt "B." Depth 1 21/32", Width 2 15/16", Height 4 5/32". Wt. 15½ oz.
List Price $2.55

BURGESS BATTERIES



BURGESS batteries are the choice of most experimenters, radio amateurs and others to whom performance and reliability are important. Because of their uniformity, Burgess Batteries assure uniform tone quality, better reception, and maximum economy.

Burgess No.	Volts	Size, Inches D.	W.	H.	Shpg. Wt. Each	Unit Pkg. Quan.	List Price
SUPER "B" BATTERIES							
21308	45	4½	8	8¼	16	6	$2.85
22308	45	3⅜	8	8¼	10½	6	2.15
STANDARD "B" BATTERIES							
F30-3	135	4	12	13¾	33	2	7.75
10308	45	4⅜	8	8¼	14	6	2.35
2308	45	3⅛	8	8¼	11	6	1.85
5308	45	2½	4¼	6⅜	11	5	1.60
5156	22½	2½	4⅛	2¾	5	4	.95
4156	22½	2 1/16	3⅜	2-9/16	2	4	.85
STANDARD "C" BATTERIES							
5360	4½	2-7/16	13/16	2⅝	1	4	$0.40
2370	4¾	1⅜	4	3	2	10	.40
5540	7½	⅞	4	2¾	3	4	.65

BURGESS

"B" & "C" PLUG-IN BATTERIES

The Nos. F90-D6, G90-D6 and G90-D8 have been especially designed for battery operated Philco radio receivers.

The exclusive features of Burgess "B & C" packs definitely increase the useful service and assure economy. Yet, they are no more expensive.

No. F90-D6—7-Prong B & C Pack for Philco radios. Smaller than G90-D6, but has the same low operating cost.
List Price.....$8.50

No. G90-D6—7-Prong B & C Pack for Philco Models 33, 37, 38, 623, 643
List Price.....$9.50

No. G90-D8—8-Prong B & C Pack for Philco Models 34 and 39
List Price.....$9.50

No. 10908—Similar in construction to above packs, this B & C is designed for Grunow Models 502 and 503, and Crosley Models B345, B425, and B499.
List Price.....$7.95

BURGESS

"POWERHOUSE" 3-VOLT "A PACK"

For use with 2-Volt radio receivers. 400 to 1250 hours service—based on ½ ampere discharge 3 to 8 hours per day, using an end point voltage of 1.8 volts per 3.0-Volt battery.

The Burgess Power House is scientifically designed for 2-Volt tubes. Costs less than 1c per hour to operate. There is no recharging; no servicing; no filling with water; nothing to spill; no creeping or dangerous liquids. Under intermittent service, "Chrome the Preservative" gives this new pack remarkable recuperative powers. It is necessary that a suitable resistor be used to step down the voltage to the required 2-Volts.

2F2H—(Screw Terminal 3-Volt. Radio "A" Type. List Price....$0.60

Burgess 20F2 "Power House"—(Depth 3-15/16", Width 11⅝", Height 6½") without resistor. 400 hr. List Price.....$3.40

Burgess 40F2 "Power House"—Heavy Duty Type (11-9/16" x 8⅛" x 6¾"). 900 hr. List Price.....$7.00

Burgess 48G2 "Power House"—Super Heavy Duty Type (7⅜" x 9⅛" x 13"). List Price.....$9.50

RESISTOR—For voltage control, having four positions and a switch which can readily be moved from one position to the next. This is essential on receivers without a built-in voltage regulator.
List Price $0.25

BURGESS "LITTLE-SIX" DRY BATTERIES

Replacing the now obsolete Standard No. 6 type of battery, the new Burgess Little-Six saves 40% in weight and 30% in space, but retains all the electrical capacity of the No. 6 cell. It can be used successfully wherever Standard No. 6 cells are employed, and maintains a higher voltage than the Standard No. 6 cells. Weight 1 lb. 6 oz. Size: 2⅝" x 2⅝" x 4-5/16".

It is also made in twin-six, tri-six, and special type for radio "A" use.

			List Price
4FH —(Screw Terminal)	1½	Volt—Ignition Type	$0.38
4FH —(Spring Clip)	1½	Volt—Ignition Type	.38
4F2H—(Spring Clip)	3	Volt—Ignition Type	.75
4F3H—(Spring Clip)	4½	Volt—Ignition Type	1.30
4F4H—(Screw Terminal)	6	Volt—Ignition Type	1.95
4FA —(Screw Terminal)	1½	Volt—Radio "A" Type	.45

BURGESS UNICEL BATTERIES

Ideal for testers, analyzers, flashlights, and penlights. Burgess Uni-Cel batteries are available in four sizes—No. 1, small size; No. 2, large size, No. 4, Snap-Lite refill, and No. Z, Pen-Light cell.

Nos. 4 and Z—List Price, Each.....$0.05
Nos. 1 and 2—List Price, Each..... .10

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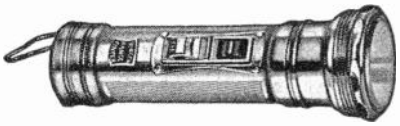
World Radio History

BURGESS

RANGE FINDER FLASHLIGHTS

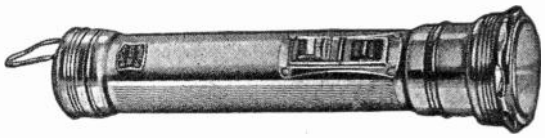
Range Finder Flashlights are of beautiful design and sturdy construction. Equipped with foolproof switch, special position provided for Boy Scout signaling, and instant focusing made possible by adjusting, with the thumb, the Range Finder button located ahead of the switch. The case is seamless brass, all chrome plated, and insulated with bakelite. The reflector, of parabolic construction, is silver plated to assure maximum light.



No F22

Two-cell type incorporates all of the fine features of an outstanding flashlight. "Thumb focusing" with the Range Finder button is a new thrill in "flashlighting."

No. F22—2-Cell—Lists Complete.....$1.58



No. F23

The three-cell Range Finder is a most powerful light, and will outdistance a five-cell of competitive lines. It cuts a clean, sharp, spot into the darkness and "handles" with great ease.

No. F23—3-Cell—Lists Complete.....$1.98

READY-SPOT FLASHLIGHTS

The Ready-Spot Flashlight is the result of the latest development in flashlight engineering. The new construction provides a fixed, permanent focus that gives greatly improved distance and spot by use of a specially designed lamp and reflector. No hand adjustment is necessary.

Burgess leadership presents another innovation in the Ready-Spot flashlight.

No. RS3

No. RS3—3-Cell—Lists Complete.....$1.98

Study the advanced features of this leader:

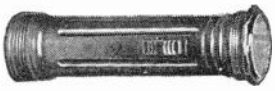
- Prefocused lamp
- Streamlined styling
- Chrome finish on heavy seamless brass
- Spare lamp compartment
- Locking switch

No. RS2

No. RS2—2-Cell—Lists Complete.....$1.25

STANDARD

The Burgess Standard No. F27 features a narrow head construction in a spotlight flashlight. The heavy brass barrel is nickel plated. Positive action switch, convenient size, and rugged construction are other outstanding features.

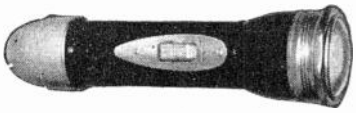


No. F27

No. F27—Complete .....$.69
No. F27—Case Only ..... .49

FLOOD-LITE

The Burgess Flood-Lite flashlight is a general purpose flashlight. It is designed not for a small spot of light, but to throw a medium beam of light uniformly distributed.



No. TR2

TR2—Complete $1.25
TR2—Case Only 1.05

ECONOMY LINE

Every popular case in the Burgess Economy line has been restyled and improved. Ratchet locking focus, compartment for spare lamp, lamp-protecting bumper block . . . modern styling . . . these are the new quality features. The new construction also permits easy extraction of old cells lodged in the barrel. Burgess Economy flashlights offer excellent values. The No. F-19 is a baby focusing type, while the F-29, F-90, F-150, and F-195 are standard size in 2, 3, 5, and 8-cell cases respectively.

No. F-19

No. F-29

No. F-90

No. F19—2-Cell Baby Focusing, List.....$ .79
No. 22—2-Cell Broadbeam, List..... .75
No. 23—3-Cell Broadbeam, List..... .98
No. F29—2-Cell Focusing, List..... .89
No. F90—3-Cell Focusing, List..... 1.69
No. F150—5-Cell Focusing, List..... 2.18
No. F195—8-Cell Focusing, List..... 2.95

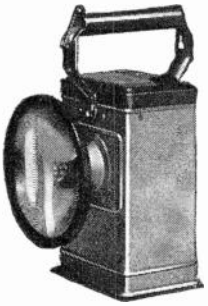
WHIRLWIND

Burgess Whirlwind Flashlights are sturdy, well-built, and made to sell at competitive prices. It has a positive action switch, nickel plated head and end caps, attractively lithographed in black and silver, a long wearing durable finish. Manufactured in two and three-cell styles.

No. F-35

No. F35—2-Cell—Lists Complete .....$.59
No. F55—3-Cell—Lists Complete ..... .98

No. TW-2 LANTERN



This Burgess Twin-Six Lantern operates on the Burgess 4F2H Twin-Six Battery, which replaces two old round No. 6's. 2 lbs. lighter in weight and 35% reduction in size without affecting useful lighting service. The lantern is ruggedly constructed. It is weatherproof, has unbreakable lens, switch on handle, space bulb carrier, and is attractively finished in silver lacquer with ebony trim.

No. TW-2—List Price Complete.....$3.00
FL-22—Lantern operates on 2 regular flashlight cells—Complete ..... .70
FL-24—Lantern operates on 4 regular flashlight cells—Complete 1.90

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World Radio History

Mueller Electric Co.

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,965,151; 1,994,251; 1,999,613

For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity. Screw connections

MUELLER ALLIGATOR CLIP

WITH OR WITHOUT RUBBER INSULATOR

No. 85 Clip **No. 87 Insulator**

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Teeth really mesh. Screw and barrel connection.

LIST.....$0.06 LOTS OF 10.....$0.04

No. 87—Insulators. Red and black. Cover entire clip except nose. Prevents shorts and shock.

No. 45-C SOLID COPPER TEST CLIP

No. 45-C Clip **No. 47 Insulator**

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous.

LIST.....$0.08 LOTS OF 10.....$0.055

Use No. 47 Insulator.

No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½" long. Jaw spread ⅜". Steel, cadmium plated.

LIST $0.05
LOTS OF 10 ..... $0.03

Use No. 47 Insulator.

No. 48-B TEST AND BATTERY CLIP

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread $\frac{9}{16}$". Steel, cadmium plated.

LIST $0.05
LOTS OF 10.....$0.0325

No. 48-C—Solid copper. Same size as 48-B.

LIST $0.10
LOTS OF 10.....$0.07

Use No. 49 Insulator for Clips 48-B and 48-C.

LARGER SIZES OF CLIPS

No. 21-A—Heavy Duty. Steel, lead plated. 4" long. LIST.....$0.16
LOTS OF 10.....$0.11
No. 11A — 100 Amp. Steel, lead plated. 6" long. LIST.....$0.60
LOTS OF 10.....$0.42
No. 11 — 200 Amp. Solid copper. 6" long. LIST.....$1.00
LOTS OF 10.....$0.70
No. 33 — 300 Amp. Solid copper. 7¾" long. LIST.....$1.80
LOTS OF 10.....$1.25
(Above furnished with lug connections.)

RADIO CLIP KIT

No. 104

A handy and useful assortment of clips, ground clamps, insulators, etc. for the radio shop. Includes two No. 99 Snappers and a free battery carrier.

Have what you want when you want it. A real value in a convenient package. The 77 items cost much less when purchased in this kit than they would separately.

LIST PER KIT.....$6.67
Dealers wholesale price.....$4.00 Net

NEW! WEE-PEE-WEE No. 88

Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; entirely non-ferrous; spring-temper phosphor bronze. Ideal for close-wound coils. 1$\frac{1}{16}$" long; jaw spread ¼". Use with rubber insulators to gain full advantage of its features.

No. 88—LIST PRICE EACH.....$0.09
LOTS OF 10 ..... 0.06
No. 93 Insulator.—LIST PRICE EACH.....$0.05
LOTS OF 10..... 0.03

No. 27

A high trade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work. 2½" long. Jaw spread ⅝". Steel, cadmium plated.

LIST $0.10
LOTS OF 10..... $0.07

No. 27-C—Solid copper. Same size as No. 27.

LIST $0.17
LOTS OF 10..... $0.12

Use No. 29 Insulator for clips 27 and 27-C.

No. 24-A

A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞" long. Jaw spread 1". Steel, lead plated.

LIST $0.10
LOTS OF 10..... $0.06

No. 24—Solid copper. Same size as No. 24-A.

LIST $0.20
LOTS OF 10..... $0.14

Use No. 26 Insulator for Clips 24-A and 24.

U. S. Patents Nos. 1,779,442-1,965,151

THE NEW MUELLER INSULATED GRID CLIP ASSEMBLY

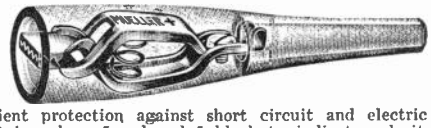
One Universal Clip That Fits Them All

This assembly is made up of a Pee-Wee Clip with jaws specially constructed to give a firm grip on all sizes of grid caps, a rubber insulator over the clip, 10 inches of flexible, rubber-covered wire and a standard phone tip.

FEATURES: ● Will Never Weaken or Break ● Bull-Dog Grip—in either vertical or horizontal position, will not come off cap no matter how hard tube is pounded. ● Will Not Injure or Break Grid Cap—if clip itself is struck accidentally it will pull loose without damaging cap. ● Wire Will Not Pull Loose from Clip—soldered connection at both ends. ● Quick and Easy Application—fits all sizes of grid caps.

No. 106—Ins. Grid Clip Assembly. List, ea., $0.20; lots of 10, $0.13

RUBBER INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

Insulator No.	For Use with Clip No.	LIST	Lots of 10
13	11, 11-A	$0.70	$0.49
23	21, 21-A	0.35	0.245
26	24, 24-A	0.20	0.14
29	27, 27-C	0.12	0.082
35	33	0.80	0.56
47	45, 45-C	0.08	0.057
49	48-B, 48-C	0.10	0.065
87	85	0.05	0.03
93	88	0.05	0.03

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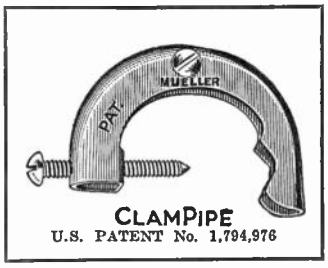
World Radio History

Mueller Electric Co.

CLAMPIPE GROUND CLAMP



No. 58

The exclusive, patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe ⅜" to 1⅜" outside diameter.

Packed 10 in a box

LIST.....$0.08 LOTS OF 10.....$0.05

BATTERY POST ADAPTER

For Making Non-Corrosive, Semi-Permanent Connections to Storage Batteries

No. 103

No. 103—Is simply pressed, not burned, on to battery post. The wire is quickly and easily connected under the thumb nut.

Made of non-corrosive antimonial lead. Ideal for use on battery operated home appliances.

Packed 10 in a box

LIST.....$0.15 LOTS OF 10.....$0.10

BATTERY CHARGING JUMPERS

No. 89—MUELLER CLIP JUMPER

A complete jumper, ready to use. Two No. 24-A clips and 14" of rubber covered copper wire.

Packed 10 in a box

LIST.....$0.20 LOTS OF 10.....$0.15

No. 57—MUELLER TAP-TITE SPIKE JUMPER

Hard, pointed steel pins soldered to ends of wire and held firmly in lead coated steel jackets. Drive into battery posts.

Packed 10 in a box

LIST.....$0.20 LOTS OF 10.....$0.15

No. 38—MUELLER PRES-TITE JUMPER

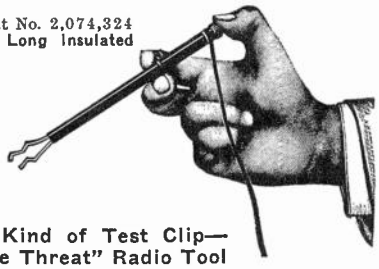
Is simply pressed over battery posts. Made of non-corrosive, antimonial lead.

Packed 10 in a box

LIST.....$0.20 LOTS OF 10.....$0.15

THE SNAPPER

U. S. Patent No. 2,074,324
No. 99 7" Long Insulated



A New Kind of Test Clip—
A "Triple Threat" Radio Tool

The long tube is of insulating material and is fitted with spring contact jaws on the far end. The jaws are operated by a push of the thumb on the near end.

IT MAY BE USED AS

1. **A "Deep Sea" Electric Test Clip—**
   Test contacts may be made with ease, deep in the recess of a radio chassis with no danger of short circuits. You can reach spots you never thought of reaching before without tearing down the whole chassis.
2. **An Electric Contact Prod—**
   The clip jaws may be used to make quick prod contacts. Or better still—clip one Snapper on the ground circuit and prod with another.
3. **A Starter and Retriever for Screws and Nuts—**
   Hold screws and nuts in the jaws of the Snapper to get them started in spots that are difficult to reach with the hand. Use the tool also to pick up small parts accidentally dropped out of reach.

Low Potential Loss—The current flows through phosphor bronze and brass only.

LIST PRICE.....$0.65 each

Dealers wholesale price.....$0.39 Net

Snappers are generally used in pairs—1 red and 1 black.

BATTERY CARRIER

No. 73

No. 73—MUELLER COCK-EYED CARRIER

A handy way to carry batteries. The holes slip over the battery post and grab hold as you lift the flexible, rubber covered strap.

LIST.....$0.35 LOTS OF 10.....$0.25

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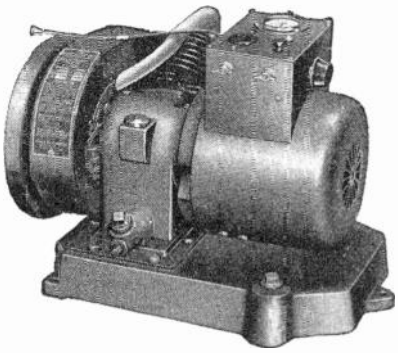
World Radio History

Pioneer
POWER SUPPLY DEVICES



THE NEW BLUE DIAMOND A.C. - D.C. GAS - ELECTRIC PLANT

Same as "Power Co." Electricity — Also Charges Batteries

Thousands of **Blue Diamond** Plants are now in use throughout the world. The NEW **Blue Diamond** portable TWO in ONE Electric Plant is the outstanding value in A.C. plants, yet, this unit will also furnish an adequate supply of D.C. for charging batteries. The A.C. is 110 volts, 60 cycles, without a flicker, the same as furnished by power companies.

FEATURES—Capacity—300 watts, 110 volts A.C. 60 cycles, without a flicker, and from the same plant 200 watts, 6 volts D.C.; 250 watts, 12 volts D.C., or 325 watts, 32 volts D.C.—**Generator**—4-pole—direct connected on to crankshaft of engine (*no coupling*)—steel shell—all parts easily accessible by merely removing end cover.—**Engine**—4 cycle, single cylinder, air-cooled, ⅝ H.P. engine with mechanical governor to maintain constant speed of 1800 R.P.M.—cast-iron fuel tank base—ignition shielding.—**Starting**—All Models—push-button starting—also auxiliary rope-pull starter (except type DD110).—**Filter**—If the plant is used to operate a radio, the filter is recommended.—**Fuel Consumption**—Operates 12 to 16 hours on one gallon of gasoline—Base tank one gallon capacity.—**Compact Design**—Overall dimensions, 19½" long, 14" high, 14" wide, making the Blue Diamond the ideal plant where space is valuable.—**Remote Control Type**—Push-button starting and stopping from a remote point—built into the plant, not furnished separately.

NEW BLUE DIAMOND A.C. - D.C. PLANT

Type	Description	Output Watts A.C.*	or D.C.	Approx. Net Weight	Code	List Price
BD6	110 Volts A.C.; or D.C. for charging 6-volt batteries	300	200	106 lbs.	BLAZE	$ 79.95
BDR6	110 Volts A.C.; or D.C. for charging 6-volt batteries, with remote control, ammeter and voltmeter in control box	300	200	110 lbs.	BLAST	104.95
BD12	110 Volts A.C.; or D.C. for charging 12-volt batteries	300	250	106 lbs.	BLURB	87.45
BDR12	110 Volts A.C.; or D.C. for charging 12-volt batteries, with remote control, ammeter and voltmeter in control box	300	250	110 lbs.	BLOOM	112.45
BD32	110 Volts A.C.; or D.C. for charging 32-volt batteries	300	325	106 lbs.	BLACH	91.95
BDR32	110 Volts A.C.; or D.C. for charging 32-volt batteries, with remote control, ammeter and voltmeter in control box	300	325	110 lbs.	BLINT	116.95

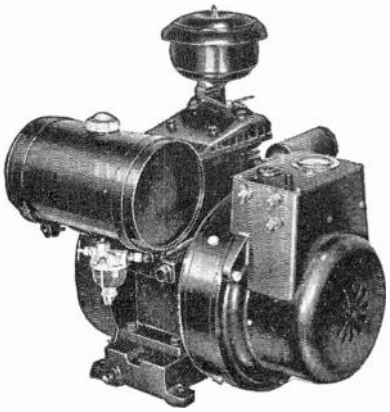
*At 1.0 power factor. Rheostat shown in illustration furnished only on type DD6-12.
These A.C.-D.C. Plants furnish either A.C. or D.C. (not designed to develop full rating of both at same time).

NEW BLUE DIAMOND D.C. PLANT

DD6-12	6 or 12 Volts D.C.—6 volts 175 watts, 12 volts 350 watts		108 lbs.	BLETH	$59.95
DD32	32 Volts D.C.—350 watts		108 lbs.	BLEAK	69.95
DD-110	110 Volts D.C.; 350 watts; rope starter only		108 lbs.	BLEEN	73.95
BDF	Filter (for either "BD" or "DD" series)		2 lbs.	BLIGE	6.00

The "Pincor" Champion Gas-Electric Plant S-6 (NACRE) for charging 6-volt batteries; S-12 (NAMAZ) for charging 12-volt batteries; 175 watts; 51 lbs. ..... List Price $49.95

ANNOUNCING THE NEW "PINCOR" GOLD CROWN HEAVY DUTY GAS - ELECTRIC PLANTS



The NEW "Pincor" GOLD CROWN Gas-Electric Plants provide a full line of units that fill every heavy-duty requirement. They answer the ever-increasing demand for generators of greater output with attending low first cost, economical operation and minimum space requirements. The NEW "Gold Crown" is the result of many years of developmental work and tests by pioneer Gen-E-Motor Corporation engineers.
FEATURES—Capacity—600, 1000 or 1500 watts.—All voltages: 32 volts, 110 volts A.C. or D.C. or 220 volts A.C. or D.C. The 32-volt D.C. plants are designed for use with 32-volt storage batteries, the average charging rate (depending on condition of battery) 600-watt plant, 18 amperes; 1000-watt plant, 25 amperes; 1500-watt plant, 38 amperes. The 110-volt D.C. and A.C. plants are for direct connection to load. **Generator**—4-pole—self-excited—mounted on the crankshaft of engine (NO COUPLING)—Large fan mounted on the armature assures cool operation and prevents the accumulation of dust or dirt.—All windings thoroughly impregnated with insulating compound.—Large commutator and collector rings.—Accurately balanced armature.—1800 R.P.M.—All parts easily accessible by merely removing end cover.—**Engine**—4-cycle, single cylinder L head, air cooled—High-tension moisture-proof flywheel Magneto.—Pump and splash Lubrication.—Float feed, adjustable Carburetor.—Flyball type, adjustable, full-enclosed Governor, operating in oil.—S.A.E. babbitt-lined Bearings.—One-piece, special alloy Cams and Cam Gear.—1045 S.A.E. steel, heat-treated Crankshaft, counter-weights drop-forged integral with shaft.—Alloy steel, completely enclosed Valves.—Aluminum alloy Connecting Rod, large split bearing on crank pin.—Aluminum alloy Piston, fitted with two compression rings and one oil control ring.—Oil bath Air Cleaner.—Heat resisting enamel finish.—**600-Watt Plant Engine**—1 h.p.; bore 2¼"; stroke 2¼"; fuel tank capacity 1 gallon for approximately 7 hours' operation at rated load.—**1000-Watt Plant Engine**—2 h.p.; bore 2⅜"; stroke 2⅜"; fuel tank capacity 1 gallon for approximately 4 to 5 hours' operation at rated load.—**1500-Watt Plant Engine**—3 h.p.; bore 2¾"; stroke 3¼"; fuel tank capacity 1¼ gallon, approximately 3 hours operation on 1 gallon at rated load.—**Starting**—Push-button electric starting is standard on the 32-volt D.C. and 110-volt A.C. plants (12-volt battery required for electric starting of 110-volt A.C. plant) also auxiliary rope-pull starter. The 110-volt D.C. type has rope-pull starter in 600 and 1000 watt and hand-crank starter in 1500 watt.—**Remote Control Type**—Push-button starting and stopping from a remote point an optional extra feature available on the 110-volt A.C. plants. The Remote Control feature is built into the plant—not furnished separately. Operates from a 12-volt battery which is included in the price of the Remote Control feature.—**Filter and Shielding**—For operating a radio, the filter and ignition shielding should be used. (Optional extra equipment.)

NEW "GOLD CROWN" AIR COOLED PLANTS

Type No.	Code	Voltage	Capacity	DIMENSIONS Length	Width	Height	Approx. Net Weight	List Price
BA-60	SABOT	110 Volts A.C.	600 Watts	20¾"	18¾"	20"	140 lbs.	$179.50
BA-100	SABER	110 Volts A.C.	1000 Watts	24½"	19½"	21¾"	170 lbs.	259.50
BA-150	SABLE	110 Volts A.C.	1500 Watts	32½"	29"	24½"	275 lbs.	315.00
CC-60	SAGUM	for 32-volt batteries	600 Watts	20¾"	18¾"	20"	140 lbs.	157.50
CC-100	SAIGA	for 32-volt batteries	1000 Watts	24½"	19½"	21¾"	170 lbs.	185.00
CC-150	SALAL	for 32-volt batteries	1500 Watts	32½"	29"	24½"	275 lbs.	287.50
DC-60	SAHIB	110 Volts D.C.	600 Watts	20¾"	18¾"	20"	140 lbs.	157.50
DC-100	SABAN	110 Volts D.C.	1000 Watts	24½"	19½"	21¾"	170 lbs.	185.00
DC-150	SALIS	110 Volts D.C.	1500 Watts	32½"	29"	24½"	275 lbs.	287.50
BT-12	STATT	12-Volt Starting Battery for 110-Volt A.C. Plants ("BA" Series)					60 lbs.	14.50

Remote Control Feature—for 600 and 1000-watt plant add $42.00 to list price of standard plant. For 1500-watt plant add $47.50 to list price of standard plant. This includes a 12-volt starting battery. For REMOTE CONTROL use code word "GOMAT" in addition to code word for standard plant.
Filter and Shielding—$15.00 list—use code word "GORAD" in addition to code word for the plant.
For 220 volts D.C. or A.C. (60 cycle) add 5% to the list price of 110-volt plant—For 220 volts D.C. use code word "DIDOZ" in addition to code word for 110-volt plant—For 220 volts A.C. (60 cycles) use code word "ACTTO" in addition to code word for 110-volt plant. For 110-volt 50-cycle output add 15% to the list price of 60-cycle plant.—Use code word "FIFCY" in addition to code word for 110-volt, 60-cycle unit. NOTE: The maximum wattage for 50 cycles of 1500-watt plant (BA-150) is 1200 watts—BA-100 is 700 watts—BA-60 is 400 watts.

"PINCOR" PRODUCTS Manufactured by Pioneer Gen-E-Motor Corporation

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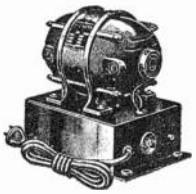
Pioneer
POWER SUPPLY DEVICES

PIONEER ROTARY CONVERTERS



Converts 6, 12, 32, 110, 220 Volts Direct Current to 110 Volts Alternating Current

Rotary converters with and without filters for operation of: Public Address Systems, Power Amplifiers, Radio Receivers, Electric Phonographs, A. C. Motors, Neon Signs, and any other similar apparatus requiring a reliable source of A. C.

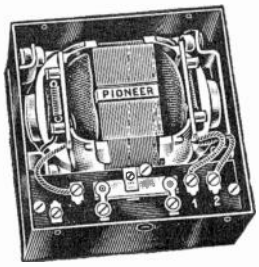
Here's a PIONEER double-wound rotary converter of dynamotor construction with separate D. C. and A. C. windings. Less heating and longer brush life result from the engineered PIONEER converter design! The double-wound converter results in more efficient commutation than is obtainable with "tapped" winding.

Converters are rated in volt amperes—the Power Factor of the load determines the size of converter to be used—all PIONEER converters are engineered for the apparatus with which they are to be used.

		INPUT		OUTPUT		LIST PRICE	
CODE	Type No.	D.C. Volt.	D.C. Current	A.C. Volt.	Volt-Amps	Less Filter	With Filter
Daily	**640**	6	13.3 amps	110	40	**$48.50**	**$56.50**
Dance	**660**	6	19. "	110	60	**61.00**	**69.00**
Darky	**1240**	12	7.5 "	110	40	**36.50**	**44.00**
Daunt	**1280**	12	11.8 "	110	80	**44.50**	**52.00**
Death	**1212**	12	17.5 "	110	120	**52.00**	**60.00**
Debar	**1216**	12	20.0 "	110	160	**72.50**	**81.00**
Debit	**3240**	32	2.78 "	110	40	**36.00**	**42.00**
Decay	**3280**	32	4.7 "	110	80	**37.50**	**43.00**
Defer	**3211**	32	5.6 "	110	110	**39.00**	**45.50**
Deity	**3215**	32	7.8 "	110	150	**43.00**	**51.00**
Delta	**3220**	32	10.0 "	110	200	**48.00**	**56.00**
Delve	**3225**	32	13.0 "	110	250	**53.00**	**61.00**
Demos	**3230**	32	15.0 "	110	300	**61.00**	**71.00**
Denim	**1140**	110	0.8 "	110	40	**36.00**	**42.50**
Dense	**1180**	110	1.30 "	110	80	**37.50**	**43.00**
Depot	**1111**	110	1.78 "	110	110	**39.00**	**45.50**
Depth	**1115**	110	2.23 "	110	150	**43.00**	**50.50**
Derby	**1120**	110	2.80 "	110	200	**48.00**	**56.00**
Derma	**1125**	110	3.55 "	110	250	**53.00**	**61.00**
Deter	**1130**	110	3.85 "	110	300	**61.00**	**71.00**

All Pioneer 6 and 12-volt converters operate on ball bearings. Can be supplied on other units—add $3.50 to the list price.

PIONEER GEN-E-MOTOR Auto "B" Eliminators



New Compact Models

Complete with built-in filter units, for use as battery eliminators for auto receivers using "B" batteries, and for installation in auto sets where it is desired to remove the filter system used with the old vibrator unit. The entire unit is housed in a sturdy metal case measuring 2 7/8"x5 5/16"x5 7/8". The Gen-E-Motor is floated in rubber, assuring complete freedom from vibration. The armature is supported by two sets of ball bearings. Shpg. Wt. 7¼ lbs.

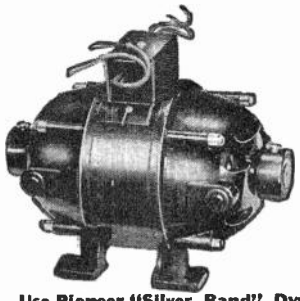
Code	No.	Output Volts	Output M.A.	Battery Drain	List Price
Baggy	**5135-A**	135	30	1.80	**$19.50**
Balmy	**5180-A**	180	30	2.50	**19.50**
Balsa	**5200-A**	200	40	3.15	**19.50**
Bandy	**5225**	225	50	4.3	**19.50**
Banjo	**5250**	250	50	4.7	**19.50**

The above units may be furnished with intermediate tap for 50c additional. Use code word "TAPPO" in addition to code word for standard unit. Shipping weight 7¼ lbs.

Model "H" For Amplifiers and Sound Trucks

Code	No.	Output Volts	Output M.A.	Battery Drain	List Price
Basic	**7565**	265	75	7.75	**$34.00**
Baste	**7300**	300	100	9.5	**37.50**

PIONEER DYNAMOTORS



Use Pioneer "Silver Band" Dynamotors for Better Performance in Sound Systems, Police Units, Aircraft, Marine and Broadcast Service.

FEATURES

No ripple or voltage variation.
Nothing to adjust!
Compact, light weight, and completely enclosed in dust-tight case.
Welded steel ring construction—end brackets of tough, high quality malleable iron.
Armature, dynamically balanced, runs on grease-sealed bearings insures quiet, smooth operation.

Code	Type No.	Output Volts	Output M.A.	Input Volts	Input A.	Wt. Lbs.	SIZE Lgth. Ins.	SIZE Width Ins.	SIZE Hgt. Ins.	List Price
Gavel	E1W272	250	50	6	4.7	7½	5⅝	4 5/16	4 5/16	$35.00
Gayal	E2W353	250	50	6	4.8	9¼	6⅛	4 5/16	4 5/16	40.00
Galea	E1W339	250	100	6	7.5	7½	5⅝	4 5/16	4 5/16	35.00
Gecko	E2W397	250	150	6	13.2	9¼	6⅛	4 5/16	4 5/16	40.00
Genet	E2W351	300	100	6	9.7	9¼	6⅛	4 5/16	4 5/16	40.00
Gatch	E2W243	300	150	6	14.0	9¼	6⅛	4 5/16	4 5/16	40.00
Genus	E2W256	350	150	6	15.2	9¼	6⅛	4 5/16	4 5/16	42.00
Giant	E2W438	400	125	6	14.2	9¼	6⅛	4 5/16	4 5/16	42.00
Gaily	E3W413	500	100	6	15.0	11	6⅝	4 5/16	4 5/16	47.50
Girth	RAGW158	300	200	6	18.0	16	8	5¾	5⅞	75.00
Given	RA1W201	400	225	6	25.0	17½	8 7/16	5¾	5⅞	82.50
Glade	RA1W189	500	200	6	27.0	17½	8 7/16	5¾	5⅞	85.00
Glair	RA1W331	600	200	6	31.0	17½	8 7/16	5¾	5⅞	87.50
Grate	RA1W549	750	125	6	25.0	17½	8 7/16	5¾	5⅞	90.00
Glint	RA3W550	750	250	12	24.0	23¼	9¼	5¾	5⅞	97.50
Gonad	RA2W475	1000	150	12	20.0	19¼	8 7/16	5¾	5⅞	105.00
Grist	RA3W534	1000	250	12	32.0	23¼	9¼	5¾	5⅞	115.00

All units may be furnished for any D.C. input other than listed above at an addition of 15% to list price. Add "X" to code word and follow with input voltage required.

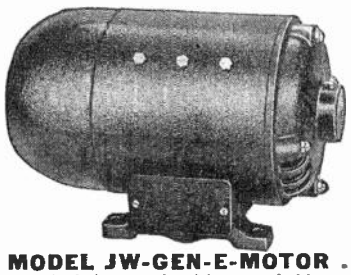
	List Price		List Price
Standard Filter for "E" units....	$19.50	Transient Filter for "RA" units..	$25.00

"EA" units, using aluminum wherever possible to reduce weight $10.00 additional to list price of corresponding "E" unit.

Most "RA" units may be furnished in "DA" frame at 15% less than "RA" list.

Prices Slightly Higher in West and South

TYPE T ROTARY CONVERTER



FEATURES

4-pole construction, 1800 R.P.M., ball bearings, cast-iron end brackets, windings thoroughly impregnated with insulating compound, large D.C. commutator, specially designed brush holders assuring correct commutation. Cool operation. Quiet. Available with or without filter. Prices on request.

MODEL JW-GEN-E-MOTOR . WITHOUT FILTER

It is being used with remarkable success to replace vibrators in auto radio receivers—as it can be easily installed usually within the set itself. It is excellent for this service because it is extremely compact (4⅛"x5½"x2⅞") and can be used without circuit alterations—complete instructions included.

Supplies a uniform voltage output, eliminating noisy or weak reception.

Code	No.	Output Volts	Output M.A.	Battery Drain	List Price
Abate	**JW-18**	180	30	2.5	**$14.50**
Abbey	**JW-20**	200	40	3.15	**14.50**
Abhor	**JW-25**	225	50	4.3	**14.50**
Abide	**JW-50**	250	50	4.7	**14.50**
For 32-Volt Radios					
About	**JW-32**	210	45	.7	**$18.00**

Shipping weight, each 6 lbs.

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World Radio History

"A" BATTERY ELIMINATOR • ATR • BATTERY CHARGER

Increase Your Sales with the ▶

ATR AUTO RADIO "A" BATTERY ELIMINATOR

SPECIALLY DESIGNED FOR DEMONSTRATING AND TESTING AUTO RADIO SETS ON REGULAR A.C. LINES, 105-125 VOLTS 50-60 CYCLES

- **Eliminates Storage Batteries and Battery Chargers.**
- **Prevents the Possibility of Spoiling a Sale Because of a Run-Down Battery.**
- **Operates the Set at Maximum Efficiency at All Times.**
- **Delivers Pure Direct Current at the Correct Voltage for the Proper Operation of Any Auto Radio Set.**
- **Equipped with Full-Wave Dry-Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and extreme Long Life and Reliability.**
- **Fully Automatic and Fool-Proof.**

Illustrating "Standard" Model With Meter

Other Suggested Uses:

As a power supply for field coils, exciter lamps, and relays.

In the laboratory, for supplying various low D.C. voltages by simply using rheostat in one side of the A.C. cord.

All ATR Eliminators have as standard equipment: On- Off Switch, Pilot Light Indicator, 10-Ampere Fuse, Rubber Mounting Feet, 6-Ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having attractive black wrinkled finish.

		Dealer's Net Price Complete
ATR STANDARD Model—Rated output 6.3 volts at 6.5 amps. (without meter). Size 7⅝ in. x 7⅝ in. x 5¼ in.; shipping weight, 20 lbs.	Packed one to a carton.	$13.95
ATR HEAVY DUTY Model—Rated output 6.3 volts at 14 amps. (without meter). Size 8⅝ in. x 13 in. x 5¼ in.; shipping weight, 32 lbs.	Packed one to a carton.	$21.00

Any of the above models equipped with indicating voltmeter as illustrated, add $1.00 additional.

ATR AUTOMATIC TAPERING BATTERY CHARGERS

FOR KEEPING AUTO BATTERIES FULLY CHARGED RIGHT IN THE CAR! !

An Automotive Necessity — Needed More Now Than Ever Before Makes Cold Weather Starting Easy

Illustrating Model 600.

- **LOW PRICED**
- **ECONOMICAL**
- **EFFICIENT**
- **CONVENIENT**
- **FOOL PROOF**
- **NOISELESS**
- **RUGGED CONSTRUCTION**
- **LONG LIFE**
- **NO RADIO INTERFERENCE**

Illustrating Model 400.

The additional appliances—such as auto radios, spot lights, heaters, fans, cigarette lighters, etc.—operated from the battery of the modern automobile impose a severe drain on the battery making the normal "hard starting" in cold weather still more difficult.

The ATR Automatic Tapering CHARGER solves this problem by boosting or charging the battery right in the car conveniently and economically. No need to remove the battery! Simply attach plug to dash receptacle which connects to ammeter and frame of car and flip the charger toggle switch "ON." Cannot overcharge battery due to automatic tapering charge feature.

Operates from any 110-120 volt 50-60 cycle A.C. line. Utilizes a full-wave dry disc type rectifier assuring extreme long life and reliability.

	List Price
ATR STANDARD Charger—Model 400—Charging rate 4 to 2 amperes. Complete as illustrated with polarized dash receptacle and plug, fuse, 9 feet D.C. cord, 6 feet A.C. cord, and complete instructions. Shipping weight 7½ lbs.	*$7.95
ATR DELUXE Charger—Model 600—Charging rate 6 to 3 amperes. Complete as illustrated with polarized dash receptacle and plug, fuses, 9 feet D.C. cord, 12 feet A.C. cord, on-off toggle switch and complete instructions. Shipping weight 9 lbs.	*$11.45

Special Note: All ATR prices 10% higher west of the Rockies.

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NET *40

World Radio History

D.C. – A.C. INVERTERS • ATR • FULL WAVE VIBRATORS

A. C. CURRENT ANYWHERE

In CARS . . . On FARMS . . . In D. C. DISTRICTS with new 1938 model . . . **ATR**

D.C.-A.C. INVERTERS

Cut showing general appearance of all ATR Inverters except Types 6 and 12.

FEATURING

- **Quiet Radio Operation**
- **Long Life Vibrators**
- **Four Point Voltage Regulators**

FOR OPERATING
STANDARD 110-VOLT OR 220-VOLT A.C. RADIOS, PUBLIC ADDRESS SYSTEMS, ELECTRICAL TESTING EQUIPMENT

Vacuum Cleaners, Fans, Mixers, Hair Dryers, Curling Irons, Medical Appliances, Etc.

Cut showing general appearance of Types 6 and 12 Inverters only.

PROVEN — DEPENDABLE — GUARANTEED

A simple, inexpensive device for producing standard 110- or 220-volt alternating current from 6-volt storage batteries, 32-volt farm plants, and 110 or 220 D.C. systems. No need to purchase special appliances! The ATR D.C.-A.C. Inverter will supply regular A.C. power for operating standard A.C. devices at an efficiency of approximately 80%; the current input being proportional to the load. There are no rotating parts, and the only element that moves is the vibrator which plugs in just like a radio tube.

APPROVED AND RECOMMENDED BY LEADING RADIO AND ELECTRICAL MANUFACTURERS

SPECIFICATIONS: A COMPLETE LINE

Type	D.C. Input	A.C. Output 50-60 Cycles	Wattage Max. Output	Without Filter: Code Word	Without Filter: List Price	With Filter: Word Code	With Filter: Price List
6	6-volts	110-volts	50-watts	ATSIX	$20.00	SIFIL	$22.50
6-S	6-volts	220-volts	50-watts	ATWSX	21.50	STFIL	24.00
12	12-volts	110-volts	100-watts	ATWEL	20.00	TWFIL	22.50
12-S	12-volts	220-volts	100-watts	AWELT	21.50	WETFL	24.00
32	32-volts	110-volts	100-watts	ATHIR	21.00	THIFL	24.00
32-S	32-volts	220-volts	100-watts	ATEEN	22.00	THTFL	25.00
50	50-volts	110-volts	125-watts	ATFIF	22.00	FIFIL	25.00
50-S	50-volts	220-volts	125-watts	AFIFY	22.00	FITFL	25.00
90	90-volts	110-volts	200-watts	ANINE	22.00	NIFIL	25.00
90-S	90-volts	220-volts	200-watts	ANITW	22.00	NITFL	25.00
110	110-volts	110-volts	200-watts	AHUND	21.00	HUFIL	24.00
110-S	110-volts	220-volts	200-watts	AHRED	22.00	HUTFL	25.00
150	150-volts	110-volts	200-watts	AHUFI	22.00	HEFIL	25.00
150-S	150-volts	220-volts	200-watts	AHUFT	22.00	HETFL	25.00
220	220-volts	110-volts	200-watts	ATWEN	21.00	TWEFL	24.00
220-S	220-volts	220-volts	200-watts	ATITY	22.00	TITFL	25.00

The above Inverters are recommended for use with high power factor devices only. For the operation of low power factor appliances, with the exception of neon signs and synchronous electric clocks, special Inverters can be supplied at slightly higher prices. Special Inverters can also be supplied for various D.C. Inputs and A.C. Outputs. Write for complete information.

ATR Replacement Inverter Vibrators, any type, **List price $5.95.** (Be sure to specify which type vibrator when ordering.) Replacement Vibrator, exchange, **List Price $4.00.**

FEATURES: THE ATR D.C.-A.C. INVERTER HAS THE FOLLOWING OUTSTANDING FEATURES:

1. Dependability
2. Guaranteed Long Life
3. Quiet Operation
4. Fuse Protection
5. Compactness
6. No Oiling or Greasing
7. More Power
8. Higher Efficiency
9. Rugged Construction
10. Plug-in Full Wave Vibrator Unit*
11. Four-Point Voltage Regulator**
12. Six Foot All-Rubber Cord and Plug
13. On-Off Switch
14. Resilient Mounting Feet
15. Attractive Brown Crackle-Finished Metal Cabinet

* **Improved Plug-In Vibrator Unit of new design and construction having dual arms and using eight ¼" diameter contacts assures increased long life and reliable service.**

** **Four Point Voltage Regulator makes possible the correct output voltage for minimum to maximum loads and also helps compensate for input voltages which are lower or higher than normal.**

WEIGHTS AND DIMENSIONS: For all ATR Inverters overall dimensions and weights are approximately: 7¾"x8"x4½"; net wt., 17 lbs.; weight, packed for shipment, 19 lbs.

T-12

ATR Full Wave Vibrators for All ATR Inverters

These plug-in vibrator units are of the non-synchronous heavy duty type and are of new design and construction having dual arms and using eight ¼" diameter tungsten contacts which assure increased long life and reliability. Shipping weight 1 lb. Type 6, 12, 32, 50, 90, 110, 110-2, 150 and 220. (When ordering, be sure to specify type desired.)

List Price—Each $5.95

Special Note: All ATR prices 10% higher west of the Rockies.

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World Radio History

Kato A.C. Plants
Katolight Jr.
Kato Generators

Kato 32 Volt Plants
Kato Diesel Plants
Kato Konverters

KATOLIGHT JR. 110 VOLT 60 CYCLE A.C. POWER PLANT

The Katolight Jr. plants, furnish a constant source of standard 110 volt 60 cycle A.C. current for light and power in small summer homes, construction camp buildings, trailers, sound trucks, etc. They are easily installed. Equipped with convenient terminal panel for simple connection to line or load. It is unnecessary to bolt plants down, just set on floor or pedestal, connect wires and **PLANT IS READY TO GO.**

Fuel Consumption: 10 hours to one gallon of gasoline at 300 watts. Oil consumption 2 oz. for each 10 hours operation.

Engine: ¾ h.p. air-cooled, single vertical cylinder with L head, 4-cycle type, speed 3600 r.p.m. Flyball type governor, splash type lubrication. Ball bearings on crankshaft.

Generator: Armature connected to engine shaft, self excited, high speed ball bearings. JRA3 will charge 6 volt battery up to 10 amps. JR35 up to 20 amperes.

Equipment: Convenient terminals, generator filter condenser, ignition cable shielded, suppressor, carrying handle, V-belt pulley, muffler and instruction manual.

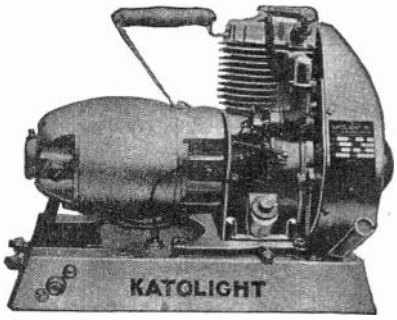
Model	Code	Watts	Volts	Cycles	Weight	List Price
JRA3	Kora	350	110	60	50	$89.60
*JR35	Kris	300	110	60	55	98.00

*The Model JR35 is self cranking by connecting to one 6 volt battery. JRA3 must be cranked by hand.

Electric Starting Hand Switch (code ESHS) or Remote Control (REMOTE) can be attached to Model JR35. These may be attached or detached to plants at any time after leaving factory by anyone. See prices below. Battery cables and connectors furnished with either control. Batteries not included.

Special Muffler (SPMF) and noise reducing cover should always be used on sound truck installations.

BOTH AC and DC IN ONE PLANT



KATOLIGHT JR. 6-12-32 VOLT D.C.

The Katolight Jr. is made in five efficient, inexpensive Direct Current plants for operating D.C. lights and appliances or for charging 6, 12 or 32 volt D.C. battery sets.

One of the advantages of Direct Current is the fact that it can be stored in batteries and then drawn as needed. This means that the plant does not have to be operated each time power is wanted, as is the case with the A.C. plant.

Models JR32 and JR10 have magneto ignition engines and may be run independent of battery if desired. Models JDS6, JDS12 and JDS32 are equipped with battery ignition engine and must be used with battery, to supply the ignition for the engine. All other features same as A.C. plants.

The Katolight Jr. 32 Volt Models can be used with five 6 volt auto batteries connected in series for operating lights and radio without running engine. 32 volt appliances having ¼ h.p. motors, such as washing machines, automatic water pumps, etc., may also be operated from the batteries. Katolight plants burn gasoline or kerosene.

Model No.	Code Word	Watts	Volts	Weight	List Price
JDS6	KARS	180	6	50	$49.95
JDS12	KARE	280	12	50	59.95
JDS32	KASE	300	32	50	78.40
JR32	KODE	300	32	50	91.00
JR10	KIDE	300	110	50	78.00

PUSH-BUTTON STARTING

All Katolight Jr. models have PUSH-BUTTON STARTING, with the exception of AC Model JRA3 and DC Model JR10. Remote Control can be used with all self-cranking Katolight Jr. models if desired.

110 VOLT 60 CYCLE SINGLE PHASE KATO LIGHT AND POWER PLANTS

Capacities from 300 to 10,000 Watts

KATO AC lighting plants are ideal for use anywhere that regular high line service is not available and will furnish a steady source of standard 110 volt 60 cycle AC current wherever it is desired at low costs.

Model 21A is made self-cranking with one 6 volt battery. All other models made self-cranking with two or three batteries, depending on model. Cranking feature is made possible by the use of a heavy excitation winding. This winding may be used, after the plant has attained running speed, to charge batteries, furnish power for operation of small DC appliances, etc.

Plants may be equipped with remote control, to start and stop from convenient places, by simply pressing push button.

KATO plants up to and including the 2000 watt model use a four cycle Aircooled magneto ignition single cylinder engine. Accurate mechanical governor assures minimum voltage variation between no load and full load.

Engine and Generators are mounted on common base, direct connected with flexible type coupling which assures a steady non-flickering light. Speed 1800 R.P.M.

See page T-16 regarding Model 20AJ and Model 21A.

Code Word	Watts	Weight	Model	List Price
ABBEX Belt Drive	300	80	20AJ	$ 89.95
ABLE	300	125	21A	120.00
ABAY	450	164	22A	196.50
ABATE	550	180	12A	220.00
ABBAY	750	260	24A	284.00
ABBOT	1000	260	26A	294.00
ABEAR	1500	330	28A	380.00
ABIDE	2000	360	30A	490.00

Electric Starting Hand Switch: For use wherever switch may be placed within 15 feet of plant.....List Price $12.00

Remote Control: For use in starting and stopping plant by use of push buttons located in convenient places ..... List Price $35.00

Special Muffler: Necessary for sound truck installations. Includes noise-reducing cover. For Jrs., 20AJ, 21A, 22A, and 12A only. List Price $13.50

KATO 32 VOLT LIGHTING PLANTS

These plants are suitable for use in connection with any standard set of 14, 15 or 16 farm lighting plant battery cells.

Model	Code	Watts	Volts	Weight	List Price
12DC	DAYS	550	32	180	$213.50
31D	DAZY	1000	32	260	235.00
28DC	DANE	1500	32	330	355.00
30DC	DALE	2000	32	360	402.00

A KATO 32 volt plant will charge a 160 ampere hour battery in from three to five hours. A battery of this size will supply current without running plant in many homes from three to seven days with one charge.

KATO 32 volt plants are started by pushing a button on switchboard. They use an air-cooled single cylinder four cycle engine with high tension magneto ignition.

The KATO 32 volt plant is efficient. The user can save fuel, as, when the batteries are being charged, the plant works at full capacity.

Two Compartment tank, for starting on gasoline and running on kerosene .....List Price $8.00

SPECIAL CUT-RATE MODELS

JR55—A 550 watt, intermittent duty, 110 volt 60 cycle AC portable, Katolight plant. Has one cylinder, four cycle air-cooled engine, operates at 3600 rpm. Ball bearing generator. Rope cranking. Net weight approximately 85 pounds. Equipped with carrying handles. Filtered and shielded. Code Word: KATE.....$130.00

(Note: JRA3, JA12, JR35 and JR55 are designed for intermittent duty only)

12AL—A 550 watt, constant heavy duty, 110 volt 60 cycle AC Katolight plant. Similar to the model 12A. No filtering or ignition shielding. Rope cranking. Speed 1800 rpm. Code Word: ABEL. $187.00

26AL—A 1000 watt, constant heavy duty, 110 volt 60 cycle AC Katolight plant. Same as 12AL. Code Word: ABASH.....$228.00

NOTE: Models 12AL and 26AL use same engine and generator as models 12A and 26A. However, they are strip models. They are not filtered or shielded. Have no generator terminal panel, aircleaner, muffler, coupling shield, cushion mounting, etc.

Additional for filtering and shielding 12AL and 26AL.....$12.00

Models 12AL and 26AL can be equipped for self cranking with regular controls at a cost of $12.00 plus the control desired.

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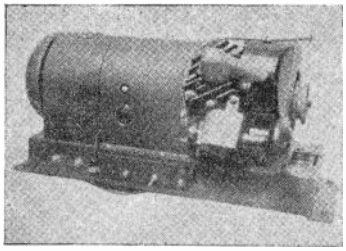
World Radio History



KATO "QUIET LIGHT" MODEL 21A

300 WATTS AC CAPACITY

25 Amps DC at 6 Volts

Very quiet in operation. Speed of only 1800 r.p.m. Rugged, "heavy duty" construction. Suitable for continuous operation of five to ten hours day after day. Specially recommended for Sound Amplifiers, Radio Transmitters, Radio Receivers, and all AC equipment requiring not over 300 watts.

Like all Katolight AC Plants, the "Quiet Light" furnishes both AC and DC in one unit. Has a full load capacity of 300 watts standard 110-volt, 60-cycle AC, and about 25 amperes of DC at 6 volts.

Equipped with special Kato four-pole heavy-duty generator. Direct-connected to a Johnson ⅝ horsepower "Iron Horse" four-cycle air-cooled engine. Flexible coupling removes all "flicker." Mechanical governor assures very close regulation between no load and full load. Engine and generator mounted on one steel base, housing fuel tank with capacity for about 12 hour's operation.

Self-cranking by simply connecting to one ordinary 6-volt auto battery. Standard equipment includes equivalent of "ESHS." No further starting control needed for distances less than 6 feet. Remote Control can be furnished for greater distances. **Price INCLUDES filter and shielded ignition.**

Length, 26". Height, 14". Width, 17". Weight, 125 pounds.

Model 21A, Code Word "ABLE," with Filter, Shielding and ESHS. .....**List Price, $120.00**

KATO GENERATORS

SELF-EXCITED, ALTERNAING CURRENT

REVOLVING ARMATURE TYPE

110 or 220 Volts, 60 Cycles, AC, Single Phase

Model	Watts Capacity	Frame No.	Net Wt.	Speed	List Price Rheostat Extra	List Price Rails Extra	List Price
A3G	300	J-155	30	3600	$8.00	$4.50	$44.50
21AG	300	BB1-3	46	1800	8.00	4.50	62.25
22AG	450	BB1-3	48	1800	8.00	4.50	85.00
12AG	550	BC1-2	70	1800	8.00	9.00	115.00
24AG	750	BD1	87	1800	8.00	9.00	145.00
26AG	1000	BD1	89	1800	8.00	9.00	150.00
28AG	1500	BF1-2	130	1800	10.00	10.00	183.00
30AG	2000	BF1-2	140	1800	10.00	10.00	200.00
33AG	3500	CA	250	1800	10.00	10.00	232.00
35AG	5000	CB	295	1800	14.00	14.00	315.00

REVOLVING FIELD TYPE WITH BUILT ON EXCITER

110/220 or 220/440 Single or Three Phase

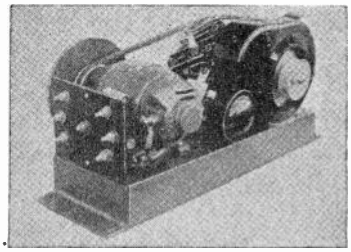
43AG	3500	718	263	1800	14.00	12.00	390.00
44AG	3500	1502	383	1200	14.00	18.00	500.00
45AG	5000	1502	383	1800	14.00	18.00	500.00
46AG	5000	802	490	1200	14.00	18.00	589.00
47AG	7500	802	490	1800	14.00	18.00	660.00
48AG	7500	802	490	1200	14.00	18.00	716.00
49AG	10,000	802	490	1800	14.00	18.00	733.00
50AG	10,000	1202	785	1200	24.00	24.00	893.00

DC may be taken from the exciter armature winding of the Revolving Armature Type generators. The exciter voltage of the A3G to and including the 12AG is six volts. 24AG through 35AG is 36 volts.

The Revolving Field Type generators are recommended for heavy-duty jobs requiring close voltage regulation. These are the separately-excited type, with a built on exciter. A small amount of DC may be drawn from the exciter if needed.

These generators may be furnished with a cranking exciter, in order to start engines electrically from storage batteries. This can be furnished at a slight extra charge.

DC generators can be furnished in sizes corresponding to the above models. Write for prices and specifications.



KATO "Silent Light" Model 20AJ

BELT DRIVE

300 Watts AC 20 Amps. DC

The Kato Model 20AJ is a combination of the Model 21A and the Model JR35 Katolight Jr. Equipped with same generator as the Model JR35. Same engine as the Model 21A. Has "V" belt drive. This combination makes it possible to furnish an inexpensive plant with little mechanical noise.

Suitable for same uses as Model 21A. Specially recommended where voltages and cycles other than standard 110-volt, 60-cycle AC are required. Belt drive permits varying the pulley ratios for operating generators with odd frequencies, such as 25 or 50 cycles. Generator can be built to provide any specified AC voltage, such as 110, 230, etc.

Provides about 20 amperes DC at 6-volts. Angle steel base houses gas tank.

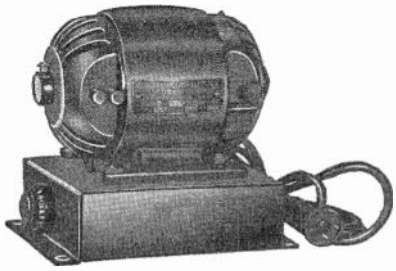
Cranked by hand with a rope-starter. Can be furnished with ESHS and electric-cranking (Model 20AJS) at additional $15, list. Price **INCLUDES filter and shielded ignition.**

Length, 27". Height, 14". Width, 17" Weight, 80 pounds.

Model 20AJ, Code Word, "ABBEX," with Filter and Shielded Ignition. .....**List Price, $89.95**

KATO ROTARY KON-VERTERS

6, 12, 32 and 110 Volts DC to 110 Volts, 60 Cycles, AC



KATO VIBRATOR TYPE KONVERTERS

Model No.	Cap. in Watts	DC Input Volt.	DC Input Amp.	Net Wt.	List Price† Less Filter	List Price† With Filter	Code Word
V6	50	6	11.0	17	.....	$30.00	VIBE
V32	100	32	4.0	17	.....	30.00	VIKO

KATO ROTARY KONVERTERS

3600 R.P.M.—Ball Bearing

46	40	6	15.0	27	49.00*	57.00	REED
66	60	6	24.0	27	62.00*	71.50	REEM
92	80	12	15.0	27	49.00*	52.00	REAL
129	120	12	18.0	27	56.50*	60.50	REAK
10	80	32	5.0	27	38.00*	43.00	RABAT
131	110	32	6.5	27	40.00*	46.00	RAIN
181	150	32	8.0	27	44.00*	51.00	RANT
231	200	32	11.0	30	49.00*	56.00	RAN
281	250	32	13.0	30	55.00*	61.50	RAY
331	300	32	15.0	33	61.50*	71.50	RANK
20	80	110	1.4	27	38.00*	43.00	RAVEN
221	110	110	2.0	27	40.00*	46.00	RUN
261	150	110	2.5	27	44.00*	51.00	RAMP
311	200	110	3.0	30	49.00*	56.00	RUNT
361	250	110	3.5	30	55.00*	61.50	RAID
461	350	110	4.8	33	61.50*	71.50	RADIX
611	500	110	6.5	45	85.50*	96.50	RAIL

110-Volt DC to 110-Volt 60-Cycle Single Phase AC
1800 R.P.M.—Ball Bearing

S611	500	110	6.5	85	177.00*	199.00	RACE
S861	750	110	9.5	91	211.00*	235.00	RATE
S1110	1000	110	12.0	98	230.00*	255.00	RACK
S1610	1500	110	19.5	135	289.00*	313.00	RAFT

* A filter is not necessary for operating amplifying equipment, phonograph, neon signs, etc. Necessary for radio operation only. If filter is not desired, add "LF" to Code Word or Model Number when ordering.

Note: 32-volt input Konverters may also be furnished in the larger sizes, ranging from 500 to 1500 watts. However, low voltage Konverters in large sizes are not recommended, due to heavy current drain.

Kato Konverters may also be furnished for 220-volt DC input at $2.00 NET increase in price over 110-volt DC quotations. For other special voltages, add $3.00 NET to above quotations.

For 50-cycle Konverters, the wattage rating are about 10% less. For 230-volt Konverters, the amperes are about one-half those shown for 110-volt units. Unless specified, 60-cycle Konverters are furnished.

The 300-watt sizes, and smaller, are equipped with a DC attachment cord and AC receptacle. To install, just plug into a light socket. Kato Konverters having capacities of 500 watts and over are furnished with a starting switch. No other starting box is needed.

REMOTE CONTROL STARTING, additional to list.....**$35.00**
AUTOMATIC STARTING, additional to list.....**$77.00**

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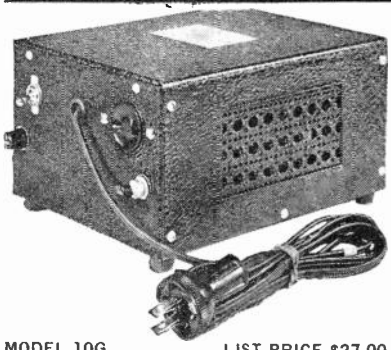
Electronic
CONVERTERS *and* VIBRAPACKS



MODEL 10G.....LIST PRICE $27.00
MODEL 141.....LIST PRICE $38.00

Electronic CONVERTERS for 32 VOLT SYSTEMS

to Operate 110 AC Radios, Amplifiers, Public Address Systems

Electronic Model 10G—32 Volts DC to 110 Volts AC—100 to 125 Watts
Electronic Model 141—32 Volts DC to 110 Volts AC—180 to 200 Watts

Wherever the operation of 32 volt power plants is prevalent, these two converters have made it possible to operate standard 110 volt AC equipment. Specific applications where such conversion is necessary include rural districts, railroad trains, small yachts, fishing boats and other marine uses. The converters operate on voltage from 24 to 45 volts and have an 85% efficiency at full load.

The model 10G converter is used primarily for operating radios—thus giving listeners the opportunity to select any make or model 110 volt AC radio rather than be limited to battery sets or a few 32 volt models that have low trade-in value.

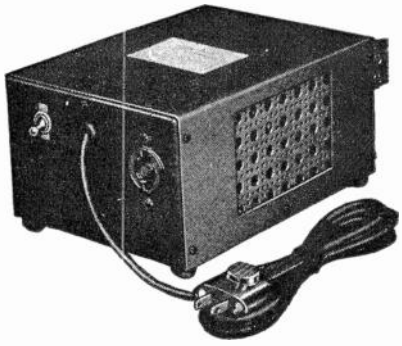
The Model 141 converter is a more powerful unit designed for operating 110 volt AC radios, amplifiers and P. A. systems from 32 volt power plants. Consult the valugraph chart shown on page four.

Electronic CONVERTERS for 110 DC to AC

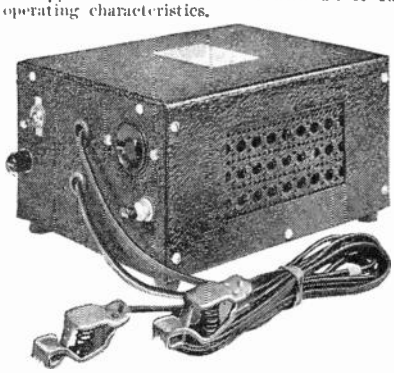
to Operate 110 Volt AC Radios, Public Address Systems, Electrical Appliances, Intercall Systems, Phonographs, Radio Test Equipment, etc.

Electronic Model 201—110 Volts DC to 110 Volts AC—150 to 200 Watts
Electronic Model 221—110 Volts DC to 110 Volts AC—200 to 300 Watts

With direct current covering large areas in most big cities and being used on steamship and from Kohler farm and marine power plants, it is necessary to have individual power supplies that will permit the use of 110 volt AC equipment under such conditions. These two Electronic models are designed especially for this 110 volt DC to 110 volt AC conversion. The Model 201 Electronic converter is recommended for the operation of AC radios from direct current, while the Model 221 is a more powerful unit for large radios and electrical appliances and devices with synchronous motors having low power factors (with the exception of electric clocks and neon signs) that come within its wattage rating. Ideal for demonstrating AC appliances in stores wired with direct current. See valugraph chart on back page for operating characteristics.



MODEL 201 ..... LIST PRICE $31.00
MODEL 221 ..... LIST PRICE $38.50



MODEL 301.....LIST PRICE $27.50
MODEL 501.....LIST PRICE $27.50

Electronic CONVERTERS OPERATING from 6 and 12 VOLT STORAGE BATTERIES

Electronic Model 301— 6 Volts DC to 110 Volts AC— 75 to 90 Watts
Electronic Model 501—12 Volts DC to 110 Volts AC—100 to 125 Watts

For those who find it necessary to operate 110 volt AC equipment from storage batteries, here are two ideal units for making that possible.

The Model 301 Electronic converter is used primarily for the operation of small 110 volt AC radio sets and amplifiers from 6 volt batteries.

The Model 501 converter does exactly the same type of job as the Model 301, only it converts 12 volts DC to 110 AC. This particular model is used extensively as a power supply for radio and public address systems mounted in trucks which have 12 volt storage batteries. Check carefully the outstanding characteristics of these two converters as set forth on the Electronic valugraph chart found on page four.

Electronic VIBRAPAKS

to Operate Portable Transmitters and Public Address Systems, Transceivers, and for Laboratory Use

Electronic Model 25— 6 Volts DC to 300 Volts DC—30 to 40 Watts
Electronic Model 31— 6 Volts DC to 250 to 325 DC—50 to 125 M. A.
Electronic Model 51—12 Volts DC to 250 to 325 DC—50 to 125 M. A.
Electronic Model 55—12 Volts DC to 300 Volts DC—35 to 40 Watts

The Models 31 and 51 vibrapaks are for operation on 6 volts and 12 volts DC respectively, and have a variable output ranging from 250 volts at 50 milliamperes DC to 325 volts at 125 milliamperes DC. The tap switch, for varying the voltage, is always at ground potential, eliminating possibilities of high voltage short circuits. Exclusive 8-contact converter type vibrator used—not auto radio type—increases the life of the power supply three to four times.

The Models 25 and 55 are 6 volt and 12 volt DC power packs respectively—delivering 300 volts at 100 milliamperes DC. All Electronic vibrapaks are completely filtered for RF interference and can be used on five meter transmission without additional filtering. These models are equipped with high voltage filter systems. The output is pure DC—no other filter is necessary. See valugraph chart on following page.

MODEL 25.....LIST PRICE $25.00
MODEL 31.....LIST PRICE $30.00
MODEL 51.....LIST PRICE $30.00
MODEL 55.....LIST PRICE $27.00

SEE REVERSE FOR ELECTRONIC CONVERTER VALUGRAPH CHART

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ELECTRONIC

THE *Electronic* CONVERTER VALUGRAPH CHART

Complete Characteristics for All Converter Models—DC to AC

Model No.	D. C. Input Voltage	Output Voltage	Output Frequency	Rated Continuous Wattage	Rated Intermittent Wattage	% Efficiency at Full Load	% Regulation	Current Drain Full Load	% Minimum Load Power Factor	Radio Frequency Interference Suppressed	Replacement Vibrator No.	Shipping Weight	Dimensions in Inches	Best Adapted For	Revised List Price Effective December 15, 1937
25	6	300	D.C.	30	40	57	80	9.0	....	Yes	421	10	8 9/16x5¾x3¼	Transmitters, Portable, P. A., Etc.	$25.00
31	6	250 275 300 325	D.C.	50 MA 75 MA 100 MA 125 MA	....	60 to 55	80	12.2	....	Yes	421	11	8¾x5½x3½	Transmitters, Portable, P. A., Etc.	30.00
85	6	110	60	35	50	90	75	6.0	75	No	426	5	6x5½x3½	Electric Razors Small AC Motors	15.00
301	6	110	60	75	90	85	84	14.7	60	Yes	4301	14	8¾x6¼x4½	Radio, P A.	27.50
60	6	7500	A.C.	10 MA	.....	....	....	2.5	....	Yes	475	16	12⅛x3¾x6¾	Mobile Neon Signs	18.75
51	12	250 275 300 325	D.C.	50 MA 75 MA 100 MA 125 MA	....	55 to 60	80	6.2	....	Yes	321	11	8¾x5½x3½	Transmitters, Portable, P. A., Etc.	30.00
55	12	300	D.C.	35	40	57	80	5.0	....	Yes	321	10	8 9/16x5¼x3¼	Transmitters, Portable, P. A., Etc.	27.00
86	12	110	60	35	50	90	75	3.0	75	No	327	5	6x5½x3½	Electric Razors Small AC Motors	15.00
501	12	110	60	100	125	85	94	10.	60	Yes	3501	14	8¾x6¼x4½	Radio, P. A.	27.50
8	32	110	60	100	125	80	80	3.7	50	No	3240	13	8¾x6¼x4½	Pin Ball Games	17.75
10GE	32	110	60	100	125	85	80	3.7	85	Yes	3217	15	8¾x6¼x4½	Radio	27.00
89	32	110	60	35	50	90	75	1.3	75	No	3240	5	6x5½x3½	Electric Razors Small AC Motors	15.00
141	32	110	60	180	200	85	80	5.5	60	Yes	32141	19	9⅜xx8⅞x6	Amplifiers, P. A., Radio	37.00
151	32	110	60	100	125	78	77	4.0	60	No	3240	18	12¼x5 7/16x4 1/16	Sound on Film Amplifiers	35.00
28	110	110	60	100	125	80	80	1.1	50	No	11028	13	8¾x6¼x4½	Pin Ball Games	17.75
38	110	110	60	300	400	90	95	3.2	50	No	11028	15	8¾x6¼x4½	Pin Ball Games	22.50
201	110	110	60	150	200	85	91	1.6	85	Yes	110201	15	10 5/16x8⅜x6	Radio	31.00
211	110	110	60	100	125	80	80	1.1	50	Yes	110211	14	8¾x6¼x4½	Radio, Small Syn. Motors, Etc.	27.50
221	110	110	60	200	300	87	85	3.2	80	Yes	110221	19	9⅜x8⅜x6	Radio, P. A.	38.50
231	110	110	60	350	500	87	83	5.3	60	No	110231	21	9⅜x8⅜x6	Coin Operated Phonographs	50.00
241	110	110	60	125	150	80	80	1.1	60	No	11028	19	12¼x5 7/16x4 1/16	Sound on Film Amplifiers	37.50
271	110	110	60	150	200	85	91	1.6	85	Yes	110271	19	9⅜x8⅜x6	Radio, Amplifiers, P. A., Etc.	36.50
291	110	110 220	60	150	200	85	91	1.6	85	Yes	110201	17	13 13/16x5 11/16x4⅜	Radio, P. A., Foreign Use	42.00
35	110 220	110 220	60	150	250	90	95	1.6	75	No	11028	17	13 3/16x5 11/16x4⅜	Amplifiers Foreign Use	70.00
32D	220	110	60	300	.....	90	95	1.6	50	No	11028	16	8¾x6¼x4½	Pin Ball Games	30.00
87	220	110	60	35	50	90	75	.22	75	No	11028	5	6x5½x3½	Electric Razors Small AC Motors	15.00
321	220	110 220	60	150	250	90	95	.76	75	Yes	220321	17	12¼x5 11/16x4⅜	Radio, P. A., Foreign Use	47.00

Prices subject to change without notice. Slightly higher in Canada and Foreign Countries.

Electronic converters are designed to convert 6, 12, 32, 110 and 220 volts D.C. into 110 volts A.C. and are available in many models—each designed for a particular type of converting performance. These converters have many exclusive features and are recognized as the best and most efficient on the market today. There are also Electronic Vibrapaks for converting 6 and 12 volts D.C. to 300 volts D.C. All fully guaranteed.

(SEE US FOR DISCOUNTS)

Recommended and used by all leading manufacturers. For further information write

Electronic Laboratories, Inc.
Indianapolis, Ind.

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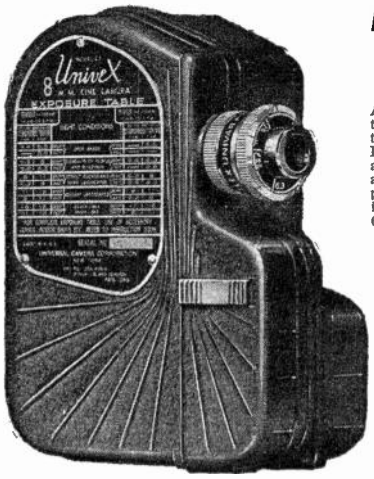
UniveX MOVIE CAMERAS PROJECTORS and SUPPLIES



NEW! EXPOSITION MODEL 8mm. MOVIE CAMERA

Model C-8

A remarkably efficient personal Movie Camera designed to give professional quality results. Sixty advanced features, many found only on highly expensive models. Built-in, brilliant vision optical view finder insures accurate alignment of subjects. The shutter compensates automatically for sky glare, and always stops in closed position. New powerful quiet-running motor. Lens mount is interchangeable. Uses UniveX Cine film costing only 69c per roll (equivalent to 60 ft. of expensive 16 mm. film)—quickly loaded through a new mechanism. Handsome, sturdily constructed metal case, finished in antique bronze, trimmed with chromium. Hinged, quick-closing cover with self-locking catch. Backed by written guarantee.

With f:4.5 Univar Lens.....No. C-845 **$15.00**

With f:3.5 Wollensak Anastigmat Lens .....No. C-835 **21.50**

With f:2.7 Wollensak Anastigmat Lens .....No. C-827 **27.50**

With f:1.9 Wollensak Anastigmat Lens and Micrometer focusing mount .....No. C-819 **47.25**

NEW! UNIVEX 8 mm. TRUE VIEW CAMERA

With f:5.6 lens and built-on optical view finder.
No. B-856—(Not illustrated).....**$9.95**

UNIVAR HIGH SPEED CAMERA LENSES

UNIVAR f:3.5 LENS (By Wollensak). Permits "shots" under adverse light conditions because it has 150% more speed than the Univar f:5.6.
No. L-35..... **$12.45**

UNIVAR f:2.7 LENS (By Wollensak). Particularly recommended for indoor shots, as well as those under very adverse light conditions. Over 350% more speed than the Univar f:5.6.
No. L-27 ..... **$20.00**

UNIVAR f:1.9 LENS (By Wollensak). Nearly 800% faster than the Univar f:5.6 Lens. With micrometer focusing mount which produces movies of greater sharpness. (Must be fitted at factory.) No. L-19..... **$39.75**

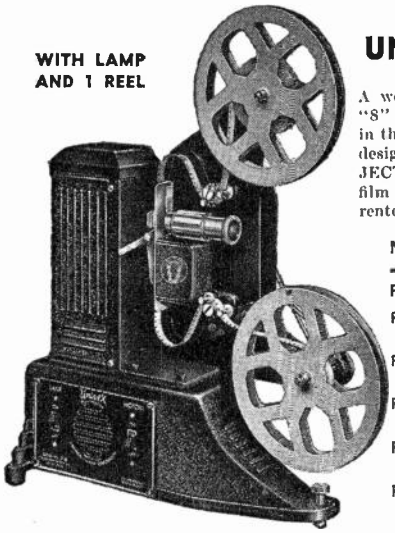
UNIVAR TELEPHOTO f:3.5 (By Wollensak). Makes possible long distance shots by having scenes appear one-third as far away. No. LT-35.....**$37.50**

EXPOSURE METER

(CINE TYPE)

The only exposure meter with automatic adjustments for types of subjects, frames per second, film speeds, filter factors, and lens speeds. General Electric molded construction, with official Weston film speed ratings. Calibrated for color film. Insures proper exposure under all conditions; case included .....No. M-11 **$1.95**

WITH LAMP AND 1 REEL



UNIVEX 8 mm. PROJECTORS

A worthy companion to the sensational UniveX Cine "8" movie camera! The lowest-priced 8 mm. projector in the world! Light-weight, precision-built, beautifully designed, finely-balanced, the UniveX 8 mm. PROJECTOR takes ALL 8 mm. FILMS, including color film and professionally-made movies which may be rented or bought for your film library.

No.	Model	Price
P-83	— P-8—A.C. with Standard Lens	$14.95
P-82	— P-8—A.C. with Hi-Lux 1" f:2 Lens	18.70
P-81	— P-8— A.C. with H-Lux ¾" f:1.65 Lens	19.70
PU-83	—PU-8—A.C.-D.C. with Standard Lens	17.95
PU-82	—PU-8—A.C.-D.C. with Hi-Lux 1" f:2 Lens	21.70
PU-81	—PU-8—A.C.-D.C. with Hi-Lux ¾" f:1.65 Lens	22.70

UNIVEX FILMS

No. 100 Standard. A fine-grain movie film with special anti-halo coating. Yields scenes that sparkle with life. Daylight loading. In the red box. 30 ft. spool. No. 100-S.....**69c**

No. 100 UP Ultrapan. Twice as fast as No. 100 Standard. For outdoor movies under adverse light conditions, and for indoor movies. Recommended for winter use. Daylight loading. In blue box. 30 ft. spool. No. 100-UP.....**95c**

UNIVEX PROCESSING STATIONS are located in New York, Chicago and Hollywood, and in 48 foreign countries. UNIVEX FILM speedily and dependably processed at only **15 CENTS** per roll, including small Projector Reel and return postage.

UNIVEX PROJECTOR CASES

STANDARD PROJECTOR CASE

A handsome, sturdy, compact case specially constructed with compartments for holding the UniveX Projector, UniveX Movie Camera, two 200-ft. reels in humidor cans, and an extra lamp. A convenient carrying handle and sturdy metal catches makes this case ideal for transporting and protecting your complete UniveX outfit.
No. K-3 .....**$2.95**

DE LUXE PROJECTOR CARRYING CASE

Heavier construction. Felt lined throughout. Waterproof cover, locked corners. No. KD-6..**$3.95**

OPTICAL VIEW FINDER

The UniveX Optical View Finder is an ingenious device for perfect centering. It fits any model A-8 UniveX Cine "8." Can be attached in a jiffy to Univex f:5.6, 3.5 and 2.7 lenses. The Optical View Finder is highly accurate and gives a brilliant, undistorted view of the subject being photographed. Designed so that camera can be loaded and unloaded without dismounting view finder. No. M-25....**$1.95**

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UniveX MOVIE ACCESSORIES

EVEREADY CAMERA CASE

No. K-1 — Heavily constructed, with leather shoulder strap. Permits movie-taking without removing the camera from the case. Protects camera against damage, loss, or theft $2.00

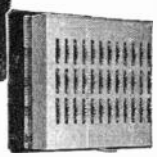
SPECIAL EVEREADY CASE FOR TRUE VIEW CAMERA

All features of regular Eveready Case, plus extension for built-on view finder. No. K-12.....$2.50

UNIVERSAL AUTOMATIC TITLER

FOR ALL MAKES OF 8 and 16 mm. MOVIE CAMERAS

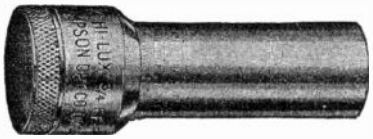
Front View



Rear View

Completely automatic. No lettering of cards. Easy to operate. Three rows of letters—12 letters to a row—sets a total of 36 letters at one time. Each letter individually operated by small wheel on back of titler. Pocket-size. Easily accessible for titling as each scene is shot. Eliminates splicing later on. Complete with instructions. No. M-31.....$3.95

HI-LUX SUPER PROJECTION LENSES

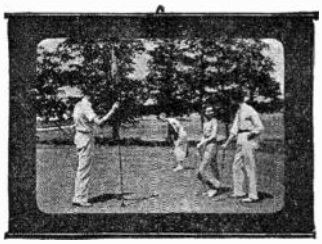


Special Projection Lenses, specially recommended for extra brilliance, large-sized projection, and for showing color films.

HI-LUX ¾" f:1.65 PROJECTION LENS. No. L-165—The fastest and finest 8 mm. projection lens available. Specially ground for projecting large, brilliant images in a SMALL room. Color corrected $5.95

HI-LUX 1" f:2 PROJECTION LENS. No. L-20—A high quality projection lens, recommended when maximum brilliance is required. Particularly recommended when large images are desired in a LARGE room. Ideal for color films. $4.95

UNIVEX CRYSTALUX MOVIE SCREENS



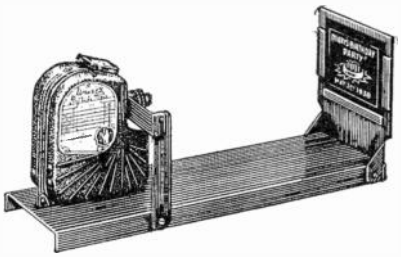
Quality Beaded Screens — Surfaced with brilliant glass crystal beads, same as used by largest movie theatres. Highly reflective and permit viewing from any angle without loss of brilliance.

No. S-2230—22" x 30".....$2.50
No. S-2736—27" x 36"..... 4.00
No. S-3040—30" x 40"..... 5.00
No. S-3648—36" x 48"..... 7.50

UNIVEX SILVERLUX SCREEN. No. S-2434—A good, ample sized, silver surfaced screen. Size 24" x 34".....$1.95

(Send for Special Screen Catalog)

TITLER FOR UNIVEX CINE "8"



No. M-9 — The UniveX Titler is constructed of heavy pressed steel and includes a mount for the camera with a thumb screw to which the camera attaches. The lens is removed from the camera, the shim put in position and the lens replaced, which brings the lens exactly in focus with the title card. Black title cards and titling kit are supplied. Excellent titles can be made on any typewriter or by hand....$2.50

LAMPS, REELS, HUMIDORS, ETC.

UNIVEX PROJECTOR LAMPS. No. B-81—P-8 Standard 8 Volt, 50c.
No. B-82—P-8 High Intensity (35% more light but shorter life)..... 60c.
No. B-88—PU-8 Standard 125 Watt $1.50
No. B-89—PU-8 High Intensity 150 Watt 1.95

UNIFLOOD. No. B-2—No. 2 Photo Flood Lamp. For indoor movies.....50c

UNIVEX REELS AND HUMIDORS. 200 ft. capacity. Will fit any 8 mm. Projector. Each 40c

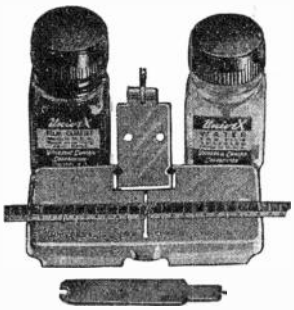
UNIVEX FILM CEMENT. No. M-2—¾ oz. bottle with applicator..... 25c

FILM CLEANER AND PRESERVATIVE. No. M-3—Per bottle 25c

UNIVEX PROJECTOR OIL. No. M-5—Specially compounded for the UniveX Projector. Per bottle 25c

UNIVEX HUMIDIFIER SOLUTION. No. M-4—To keep your film fresh. Per bottle 25c

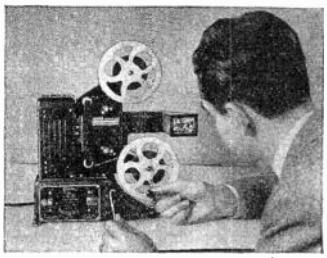
UNIVERSAL FILM SPLICER



No. M-1—A fine professional splicer, that makes strong splices quickly, on any 8 mm. film. Includes cutting knife, scraper and special UniveX pressure plate, together with highest quality cement. Packed in compact carton $1.00

FILM VIEWER AND EDITOR

For best results, films should be edited — and with this new, ingenious UniveX product the film can be viewed clearly, quickly and easily for editing. It does work that formerly required 3 individual units, yet it is priced at only one-fifth the cost of similar devices. Winds by hand or power. Compact, simple to operate, always dependable.



No. M-8.....$1.95 In Operation

8 mm. and 16 mm.

CARTOON AND COMEDY FILMS As Low as 60c per Reel

- MICKEY MOUSE
- POPEYE THE SAILOR
- BETTY BOOP
- OUR GANG

And Other Hollywood Films

NOW—entertain yourself and your friends—with professionally-made Hollywood movies, right in your own home. Complete list of subjects available on request.

Lowest Prices in History—Special UniveX Comedies, Travelogs, Western and Feature Films. All UniveX Feature Films are of the finest quality—clean, sharp, and carefully printed. As low as 60c per reel. Send for UniveX Hollywood film catalog.

"HOW TO MAKE MOVIES" Booklet

No. M-24—A book of useful information for the amateur as well as the expert. Gives the "DO'S" and "DONT'S" for getting the best results with 8 mm. equipment. Interestingly written, profusely illustrated, and finely printed on glazed paper. Convenient pocket size, 48 pages 25c

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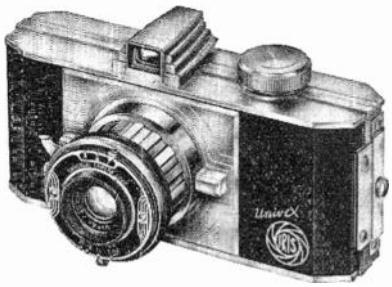
UniveX CANDID CAMERAS AND SUPPLIES

IRIS CANDID CAMERA



The best candid ever offered at this amazingly low price; fast, color-corrected lens; 3 speeds; precision shutter; cable release attachment; precision type optical view-finder; hinged back for quick loading; only candid at the price with 4-stop Iris diaphragm; uses economical, super-fast Univex 15c film; takes sharp 1½" x 1⅛" pictures, makes excellent enlargements.

Deluxe Model (illustrated) with focusing mount, full chromium with leatherette cover.
No. CD-79—List Price $7.50

Standard Model (not illustrated) satin black finish with chromium trim.
No. C-79—List Price $5.95

IRIS EVEREADY CAMERA CASE

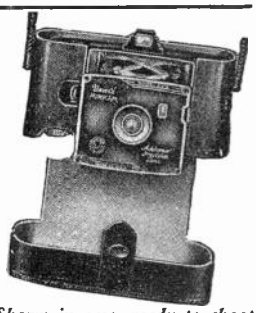
Shown in case, ready to shoot

Swings camera into instant action for fast, candid shots; sturdy, handsome with rich finish; suede-lined to protect lens and camera; water-proof and dust-proof; complete with top-grain, cowhide shoulder and hand-strap.

No. K-9—List Price $2.00

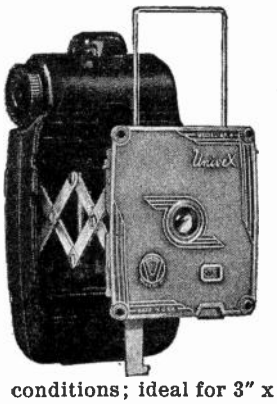
MINICAM AF-5

Fitted with new type Achromar Lens — individually focused, adjusted and tested on every camera; shutter speeds for time exposures and 1/60th of a second; spy-glass view finder with two hand-polished lenses; self-opening with rigid extension mechanism; attractively finished with antique bronze body and front plate. **No. AF-5, $3.50**



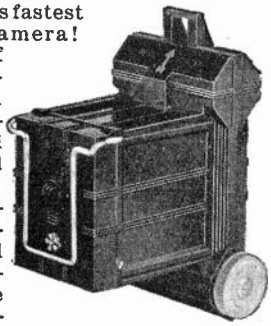
Shown in case, ready to shoot
Minicam AF-5 Eveready Case, with shoulder cord.
No. K-5 ..... $1.00

UNIVEX AF-4 FOLDING CAMERA



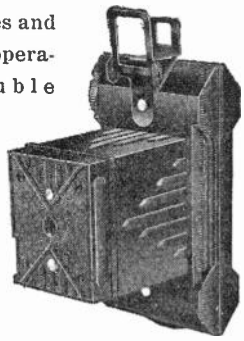
Sturdily constructed of cast aluminum; finished in oxidized silver and black baked enamel; self-opening; improved shutter assures even exposure under all conditions; ideal for 3" x 4" enlargements.
No. AF-4—List Price $1.95

STANDARD BOX CAMERA



The world's fastest selling camera! Made of GE Textolite with cadmium-plated metal parts; double-ground imported lens; dependable fast shutter; direct vision view-finder.
No. A—List Price $0.50

NORTON UNIVEX



Noted for its fine, sharp pictures and low cost of operation; double ground lens; dependable fast shutter; direct vision view-finder.
No. NU-1—List Price $0.50

EXPOSURE METER

Candid-type with automatic adjustment for film speeds, filters and subject types; settings for shutter speeds up to 1/1250 of a second, and for "F" stops from F1.5 to F22; GE molded construction; official Weston film speed ratings; calibrated for color film; complete with case.

No. M-12—List Price $1.95

UNIVEX FILM ROLLS

Ultrachrome: Super-fine; fits all* Univex cameras; sold all over the world; makes excellent 3" x 4" enlargements at slight extra cost; 6 exposures.
No. 00-C—Ultrachrome—List Price $0.10

Ultrapan: Brand new! Fast, panchromatic fine-grain film of superior quality; fits UniveX Minicam and all* UniveX candids; ideal for adverse weather conditions; 6 exposures. *except "Mercury"
No. 00-P—Ultrapan—List Price $0.15

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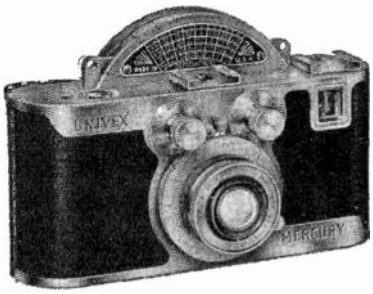
UniveX CANDID CAMERAS AND SUPPLIES

MERCURY *SUPER-SPEED* CAMERA



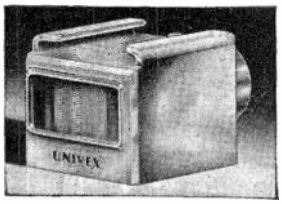
Contains features of high-priced, foreign-made speed cameras

- Shutter speeds to 1/1000th of a second
- Built-in photoflash synchronizer
- Built-in exposure calculator
- Accurate all-metal focal plane shutter
- No double exposures
- Automatic film transport
- Quick-loading UniveX 35 mm. film . . . cuts cost about 60%

Complete with Tricor F3.5 35 mm. focus lens.

No. C-635—List Price **$25.00**

MERCURY EXPOSURE METER



Highly accurate, easy-to-use; compact extinction type; mounts easily on standard equipment clip; eliminates costly, disappointing guess-work by assuring scientifically correct exposures before every shot.

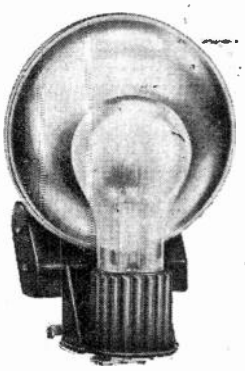
No. M-30—List Price **$2.00**

MERCURY EVEREADY CASE

Specially designed to protect Mercury's fine mechanism and exterior finish; front of case drops open, leaving case ready for fastest candid-shooting; made of genuine top-grain cowhide, expertly scored and plush-lined for shock and scratch protection. Complete with shoulder and hand-strap.

No. K-10—List Price **$5.00**

MERCURY *PHOTOFLASH*



Now, you can get those "impossible" shots; attaches to camera in two seconds; flash synchronizes perfectly with shutter; takes remarkable action shots in pitch darkness; gives added depth and detail in daylight shots; consists of chromium-plated, silvery reflector, compact battery case, special molded flashbulb housing, with special attachment clip. Uses small, inexpensive flashbulbs and standard 2-cell battery.

No. M-29—List Price **$3.95**

5" AUXILIARY REFLECTOR

For use with No. 2 Photolamp, listed below. (2 inch reflector on Standard Photoflash Unit will not fit No. 2 Photolamp.)

No. M-32—List Price (Reflector only) **$1.00**

UNIVEX MERCURY 35mm. FILM

Versatile, sensitive film insuring fine, clear, grainless negatives. Be sure to use UniveX films for best results with the Mercury.

ULTRACHROME: orthochromatic film for normally lighted action.

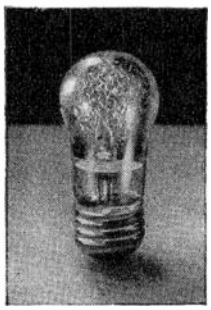
No. 218C—35 mm. 18 exposures—List Price **$0.30**
No. 236C—35 mm. 36 exposures—List Price **$0.40**

MICROTOMIC: fine-grained, medium speed, panchromatic detail film.

No. 218M—35 mm. 18 exposures—List Price **$0.35**
No. 236M—35 mm. 36 exposures—List Price **$0.45**

ULTRAPAN SS: super-speed, all-around fast panchromatic film.

No. 218SS—35 mm. 18 exposures—List Price **$0.40**
No. 236SS—35 mm. 36 exposures—List Price **$0.50**



WABASH *SUPERFLASH* PHOTOLAMPS

RECOMMENDED FOR USE WITH MERCURY CAMERA

No. 0—23,000 Lumen Seconds 1/30th sec. $0.16
No. 1—30,000 Lumen Seconds 1/25th sec. ..... .20
Special Press 40,000—40,000 Lumen Seconds 1/22nd sec. ..... .20
No. 2—56,000 Lumen Seconds 1/20th sec. ..... .25

SUBJECT TO TRADE DISCOUNTS

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