

S. S.
KRESGE

1931-1932
Radio & Television
Catalog and
Service Men's
Guide

*The manufacturers have been unable to
fill orders in time of this year's merchandise
being in this catalog, and if you do not
receive all of your order, please direct, do not
be satisfied, as order will be filled as soon as
possible.*

A Complete Catalog of
Radio and Television
Parts and Accessories
for

ENGINEERS
SERVICE MEN
EXPERIMENTERS
and

RADIO SET OWNERS
offering exceptional values
made possible only by the
Efficient, Large Scale
Buying and Merchandising
Operations of the
S. S. KRESGE CO.



Illus. A



Illus. B



Illus. F



Illus. G



Illus. C



Illus. D



Illus. E

STANDARD QUALITY "A", "B" AND "C" BATTERIES

"Royal" and "Banner" Batteries are made for the S. S. Kresge Co. by two of the leading battery manufacturers in the United States.

They are made to meet the most rigid specifications and only the large quantities sold by the S. S. Kresge Stores make possible their sale at these low prices. These batteries sell so fast that fresh stocks are always on hand.

For best results and economy in operation it is important to select batteries of the proper size for the use to which they are to be put.

The Royal, Green Seal and Banner No. 6 Dry Cells are especially designed for ignition, bell ringing and "A" battery use with sets employing dry cell tubes. For best results they should be connected in series—parallel arrangements to provide the required voltage and current capacity.

Wherever space permits, the heavy duty type "B" Batteries such as the Royal Type 534 or Banner Type H-1030 are recommended.

Where space is limited, the Royal Type 533 or Banner Type H-230 batteries should be used.

The Royal Type 536 and Banner Type H-530 batteries are designed for automobile and other portable use where space is limited or the allowable weight must be kept down to reasonable limits.

The Royal Type 531 and Banner Type B-215 batteries are designed for use where a medium duty 22½-volt low height battery is required.

The Royal Type 535 and Banner Type B-515 batteries are designed for use as high voltage "C" batteries and for testing or light duty "B" battery use.

The Royal Type 530 and Banner Type B-23 batteries are designed for low voltage "C" battery use but may be used to advantage as "A" batteries for dry battery tubes for testing purposes, for ohmmeters and other similar applications where the current requirements are low.



Illus. H



Illus. I



Illus. J

BATTERY SPECIFICATIONS AND PRICES

Type No.	Ill. No.	For Use As	Max. Volt.	Voltage Taps	Dimensions			Weight		Price Each
					L	W	H	Lbs.	Oz.	
Green Seal #6 Sq.	D	"A" Bat.	1½	-A, +1½	2"	2"	6"	2		\$.29
Royal #6 Rd.	C	"A" Bat.	1½	-A, +1½	2"	6"		2		\$.25
Banner #6 Rd.	E	"A" Bat.	1½	-A, +1½	2"	6½"		2	8	\$.25
Royal 535	H	"B" or "C"	22½	(-B, +6, +18, +19½, +22½) or (+C, -3, -4½, -16½, -22½)	4½"	2½"	2¾"	1	9	\$.65
Banner B-515	H*	"B" or "C"	22½	(-B, +6, +18, +19½, +22½) or (+C, -3, -4½, -16½, -22½)	4½"	2½"	2¾"	1	8	\$.65
Royal 531	F*	"B" or "C"	22½	(-B, +6, +18, +22½) or (+C, -4½, -16½, -22½)	6¾"	4"	3½"	5		\$.89
Banner B-215	F	"B" or "C"	22½	(-B, +18, +22½) or (+C, -4½, -22½)	6½"	3½"	3"	4	11	\$.89
Royal 536	G	"B" Bat.	45	-B, +22½, +45	4½"	2½"	5½"	3		\$1.25
Banner H-530	G*	"B" Bat.	45	-B, +22½, +45	4½"	2½"	4¾"	3		\$1.25
Royal 533	A*	"B" Bat.	45	-B, +22½, +45	8½"	3½"	7½"	9		\$1.35
Banner H-230	A	"B" Bat.	45	-B, +22½, +45	8"	3½"	7"	9		\$1.35
Royal 534	B	"B" Bat.	45	-B, +22½, +45	8½"	4½"	7½"	13	12	\$1.85
Banner H-1030	B*	"B" Bat.	45	-B, +22½, +45	8"	4½"	7"	12	12	\$1.85
Royal 530	J	"C" Bat.	4½	+C, -4½	4"	1½"	3½"	14		\$.25
Banner B-23	I	"C" Bat.	4½	+C, -4½	3¾"	1½"	2½"	14		\$.25

Note: (*) Asterisk indicates battery not illustrated but similar to one shown in illustration designated

"A" Batteries, Dry	2
Adapters, Earphone	7
Adapters	
Electric Phonograph	4
Adapters, 5-prong	27
Adapters, Microphone	4
Adapters, Speaker, Extra	7
Aerial Supplies	8, 9
Aluminum Panels	26
Ammeters	27
Angle Brackets	29
Antenna Insulators	9
Antenna Supplies	8, 9
Antennas, Indoor Tape	9
Antennas, Spring	9
Attenuators	18
Audio Transformers	15
Bakelite Tubing	26
Batteries, Dry	
"A," "B" and "C"	2
"B" Batteries, Dry	2
"B" Eliminators	6
Binding Posts	28
Booklets, Free Radio	11
Books, Radio	11, 31
Brackets	
Angle	29
Subpanel Mounting	29
Bulbs, Dial Light	13
Buzzers, High Frequency	26

Cabinets, Console	6
Cables, Battery	6
Catwhiskers, Crystal	4
"C" Batteries, Dry	2
Center-Tap Resistors	21
Choke Coils, Heavy Duty	
Audio Frequency	17
Power Supply	17
Choke Coils, R. F.	15
Clamps, Ground	8
Clips	
Battery	27
Fahnestock	28
Fuse	28
Grid Leak	29
Screen Grid	13
Test	27

Code Practice Sets	26
Coil Forms, Blank	14
Coils, R. F.	14
Coil Sockets, Plug-in	13
Coil Winding Wire	9
Condenser Blocks	
Buffer	23
Bypass	23
Electrolytic	24
Filter	24
Replacement	25
Condenser Couplings	12
Condensers, Adjustable	12
Condensers, Electrolytic	24
Condensers, Mica	22
Condensers, Paper	
Bypass	22, 23, 25
Coupling	22, 23, 25
Filter	22, 23, 24, 25
Replacement	25

Condensers, Variable	12
Console Cabinets	6
Convenience Outlets	
Aerial and Ground	29
Loudspeaker	29
Cord Connectors	6
Cords	
Battery	6
Loudspeaker	6
Loudspeaker Extension	6
Phone	6
Cord Tips	28
Couplings	
Variable Condenser	12
Crystal Receivers	4
Crystals, Detector	4

Detectors, Crystal	4
Dial Lamps	13
Dials	13
Dry Batteries	
"A," "B" and "C"	2
Dynamic Loudspeakers	7
Earphone Adapters	7
Fahnestock Clips	28
Fuse Clips	28
Fuses, Radio	28
Grid Leaks	21
Ground Clamps	8



General Offices
S. S. KRESGE CO.
Detroit, Mich.

**WHY KRESGE'S OFFERS YOU
MORE VALUE FOR YOUR MONEY !**

KRESGE store managers and sales people are often asked how it is possible for Kresge's to offer such outstanding values at such low prices.

The sound, economic reason why Kresge Stores can offer such remarkable values is that the tremendous buying power and efficient merchandising methods of this large syndicate, which owns and operates hundreds of large stores throughout the country, enables it to cut the red tape and eliminate the costly buying and wasteful distribution system for which the buyer ultimately pays when he deals with inefficiently managed concerns.

Kresge savings, effected by efficient buying, low storage and turnover costs, unquestioned credit, low sales expense and the elimination of middlemen's profits are passed on to the

consumer in the form of lower prices for standard merchandise.

All Kresge merchandise is new, up-to-date, tested material, fresh from the manufacturers' factories.

In buying merchandise offered in Kresge Stores, you are assured of dependable apparatus, backed by the guarantee and resources of one of America's foremost merchandising organizations.

The prices quoted in this catalog are the prices in effect as this catalog goes to press and are subject to change without notice, up or down, with market conditions.

Whenever possible, savings effected in buying are passed on to Kresge customers in the form of lower prices, regardless of the prices quoted in our catalogs.

At Kresge Stores You Can See and Inspect Before You Buy

Hard Rubber Panels	26	Kits		Phone Cords	6
Hardware	28, 29	Blueprints	4	Phone Jacks	28
Headphones	7	Broadcast	4, 5	Phone Plug	7
Information		Short Wave	4, 5	Phones, Head	7
Condensers	11	Television	5	Phonograph Units, Electric	
Formulae	11	Knobs, Bakelite	13	Adapters	4
Hard Rubber	11	Lamps, Dial Light	13	Reproducers	4
Line Voltage Control	11	Line Voltage Controls	19	Volume Controls	4
Manufacturer Booklets	11	Loudspeaker Chassis	7	Plug, Phone	7
Resistors	11	Loudspeaker Cords	6	Potentiometers	18, 19
R. M. A. Resistor Code	11	Loudspeaker Exten. Cords	6	Potentiometers	
Useful	11	Loudspeaker Units	7	Hum Balancing	21
Voltmeter Multipliers	11	Loudspeakers, All Types	7	Power Packs	
Insulating Washers	29	Lugs, Soldering	28	"A," "B" and "C"	6
Insulation		Lugs, Solderless	28	Power Transformers	16, 17
Antenna Insulators	9	Machine Screws	29	Receiver Circuits	31
Lead-in Insulators	8	Magazines, Radio	30	Receivers	
Panels	26	Magnetic Loudspeakers	7	Broadcast	4, 5
Spaghetti Tubing	9	Magnet Wire	9	Crystal Sets	4
Tubing	26	Meter Multipliers	21	Kit	4, 5
Wire	9	Meters	27	Short Wave	4, 5
Insulators, Antenna	9	Microphones, Midget	4	Television	5
Interference Filters	10	Milliammeters	27	Tube Sets	4, 5
Jacks, Phone	28	Mountings, Resistor	20, 21	Rectifiers	
Jacks, Tip	28	Nuts, Hexagon	29	"A" Power Unit	26
Keys, Telegraph	26	Panels, Aluminum	26	"B" Power Unit	26
		Panels, Hard Rubber	26	Raytheon	32
		Phone Adapters	7	Replacement	26
				Tungar	26
				Vacuum Tube	32

Replacement Units	
Audio Transformers	15
Batteries	2
Coils, R. F.	14
Condensers, Fixed	25
Dial Lamps	13
Fixed Resistors	20, 21
Line Voltage Controls	19
Loudspeakers	7
Power Chokes	17
Power Transformers	16
Rectifiers	26
Tubes, Vacuum	32
Variable Condensers	12
Volume Controls	18
Reproducers, Phonograph	
Electric	4
Resistor Guides	11, 31
Resistor Mountings	20, 21
Resistors	
Adjustable	18, 19, 20
Resistors, Fixed	20, 21
Resistors, Variable	18, 19
Rheostats	18, 19

Screen Grid Clips	13
Screws, Machine	29
Screws, Wood	29
Service Manuals	11, 31
Sets, Receiving	4, 5
Shafts, Extension	18
Shields, Coil	29
Shields, Tube	29
Short Wave Kits	4, 5
Short Wave Magazine	30
Short Wave Manual	31
Short Wave Receivers	4, 5
Sockets, Coil	13
Sockets, Tube	13
Soldering Equipment	27
Soldering Lugs	28
Sounders, Telegraph	26
Spaghetti Tubing	9
Speakers, Loud	7
Switches	
A. C. Snap	26
Heavy Duty	26
Midget Knife	26

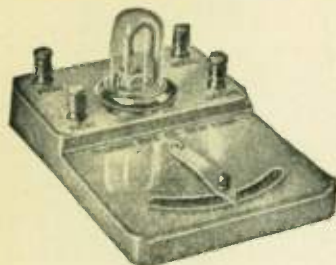
Telegraph Instruments	
Buzzer	26
Code Practice Sets	26
Sounders	26
Telegraph Keys	26

Television	
Instruction Book	5
Kits	5
Magazine	30
Parts	5
Terminals	28
Testing Equipment	27
Tip Jacks	28
Tips, Cord	28
Tone Controls	6
Tools	27
Transformers, A. F.	
Output	15
Push-Pull Input	15
Push-Pull Output	15
Single Stage	15

Transformers, Power	
"B" and "C"	16, 17
Filament	16, 17
Heavy Duty	16
Transformers, R. F.	14
Transmitting	
Handbooks	31
Variable Condensers	12
Troubleshooting	31
Tube Sockets	13
Tubes, Vacuum	32
Tubing, Bakelite	26
Tuners, R. F.	14

Vacuum Tubes	32
Voltage Controls	19
Voltage Dividers	20
Voltmeters, All Types	27
Volume Control Guides	31
Volume Controls	18, 19
Volume Controls	
Electric Phonograph	4
Wall Plate Outlets	
Aerial and Ground	29
Loudspeaker	29
Washers, Brass	29
Washers, Fibre	29
Wire, All Types of	9
Wood Screws	29

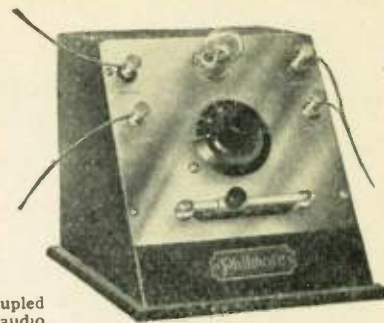
**ALL PARTS AND ACCESSORIES LISTED IN THIS CATALOG ARE FOR SALE
AT ALL S. S. KRESGE CO. 25c to \$1.00 STORES**



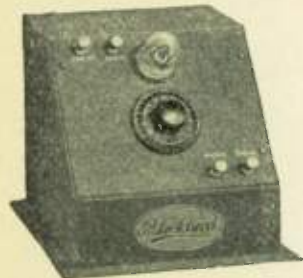
Illus. B



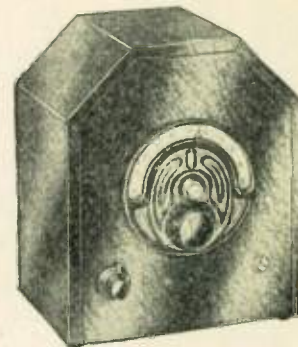
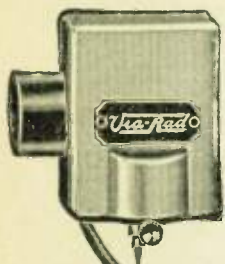
Illus. A



Illus. G



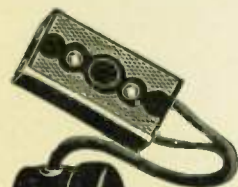
Illus. C



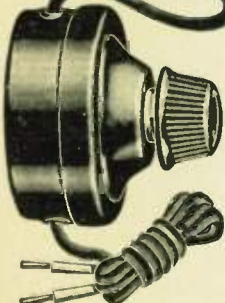
Illus. H



Illus. D



Illus. E



Illus. F

ILLUSTRATION A:—

Pilot Type K-115 Super Wasp A. C. Receiver Kit (exclusive of tubes and power pack).

Price **\$34.50**

Pilot Type K-110 Super Wasp D.C. Receiver Kit (exclusive of tubes and batteries).

Price **\$29.50**

The Pilot Super Wasp Receiver Kits are the best-known universal receivers.

Electrically, the K-115 A. C. Super Wasp consists of one stage of screen grid tuned r. f. amplification, a regenerative

detector, one stage of resistance coupled and one stage of transformer coupled audio frequency amplification.

The K-110, D. C. Super Wasp has all the features of the K-115 kit, except that it is designed for battery operation. Its audio amplifier consists of two transformer coupled stages.

The Super Wasp kits, both A. C. and D. C. contain everything necessary to assemble the receivers themselves. No power equipment is included with the A. C. Super Wasp but the Pilot Type K-111 Power Pack described on page 6 is recommended for use with that receiver.

PILOT SUPER WASP BLUEPRINTS

Pilot No. BP-110 Blueprint for Pilot D. C. Super Wasp Receiver.

Price **10c**

Pilot No. BP-115 Blueprint for Pilot A. C. Super Wasp Receiver.

Price **10c**

PHILMORE 2-TUBE RECEIVER

ILLUSTRATION H:—

Philmore 2-Tube Receiver (exclusive of tubes).

Price **\$4.95**

This fine-looking, inexpensive 2-tube receiver, incorporating an efficient non-re-

generative circuit recognized as the most efficient of its kind, gives clear and loud earphone reception of distant stations and loudspeaker volume on powerful stations.

It can be operated either with dry cells, using 199 tubes or with a storage battery using 201A tubes.

PHILMORE CRYSTAL RECEIVERS

ILLUSTRATION I:—

Philmore "Little Wonder" Crystal Set, including Philmore supersensitive, adjustable open crystal.

Price **59c**

ILLUSTRATION B:—

Philmore "Supertone" Crystal Set, including a Philmore supersensitive, adjustable enclosed crystal.

Price **89c**

ILLUSTRATION C:—

Philmore "Blackbird" Crystal Set, including a Philmore supersensitive, adjustable enclosed crystal.

Price **\$2.00**

ILLUSTRATION G:—

Philmore "Selective" Crystal Set, including a Philmore supersensitive, adjustable enclosed crystal.

Price **\$3.25**

These crystal sets, the best available in their respective price classes make possible efficient radio reception of extremely fine tone quality.

The "Little Wonder" and "Supertone" set can be depended upon to give good results within a range of about 25 miles of good stations when used with an efficient antenna, and will bring in more distant stations under good conditions.

The other crystal receivers will give loud, clear reception on more distant stations.

CRYSTAL DETECTORS AND CATWHISKERS

Star Catwhiskers of special spring wire, particularly suited for making contact with crystal detectors. Packed three in a box.

Price, per box of three **25c**

Philmore Dustproof Crystal Detector, rigidly mounted on metal base and covered with a glass top which makes it proof against dust and dirt. Can be adjusted easily to obtain the most sensitive spot.

Price **25c**

ILLUSTRATION J:—

Star Galena Crystal **10c**
Star Steel Galena Crystal **10c**
Star Pyrite Crystal **10c**
Star Silicon Crystal **10c**
Star "B-Metal" Crystal **25c**
Philmore Galena Crystal **10c**
Philmore Synthetic Crystal **20c**

All the crystals listed on this page are of the finest grades obtainable and are carefully tested for sensitivity. They are furnished mounted in holders and carefully packed in individual metal boxes.

GEM MIDGET HAND MICROPHONE

ILLUSTRATION L:—

Essence "Gem" Midget Hand Microphone with complete instructions for installation and operation.

Price **\$4.25**

INSULINE MICROPHONE ADAPTER

ILLUSTRATION K:—

Insuline Molded Bakelite Microphone Adapter.

Price **60c**

B. M. S. "VIA-RAD" PHONOGRAPH REPRODUCER

ILLUSTRATIONS D, E, F:—

B. M. S. "Via-Rad" Phonograph Reproducer complete with reproducer, volume control and adapter.

Price **\$4.98**

This combination changes any ordinary phonograph into a radio operated instrument of unsurpassed fidelity of reproduc-

tion. Volume can be controlled from a whisper to maximum volume.

It consists of an electric phonograph reproducer (Illustration D), which replaces the ordinary phonograph reproducer, an adapter (Illustration F), which fits into the detector socket of any good radio receiver and a volume control (Illustration E), which is connected between the adapter and the reproducer.



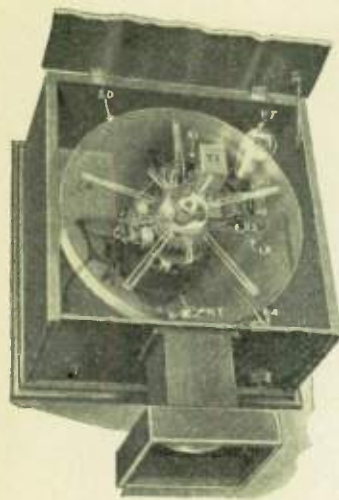
Illus. J



Illus. K



Illus. L



PHANTOM VIEW OF
TELEVISION UNIT

The Baird Universal Shortwave and Television Kits are the last words in perfected assemblies that provide all the pleasures of shortwave and television reception at a fraction of the usual cost for thoroughly practical outfits.

The Baird Universal Shortwave Receiver is actually **UNIVERSAL** in its application. It is simple to build, and easy to operate. It can be used with either a magnetic or dynamic speaker and produces a quality of reproduction equal to any high class broadcast receiver.

It is completely a. c. operated, yet there is no trace of hum **EVEN AT LOW WAVE LENGTHS BELOW 50 METERS.**

The Simplest and Most Efficient
SHORT WAVE AND TELEVISION KITS
Ever Offered to the Public

Earphone jack, phonograph pickup plug-in jack, all-aluminum chassis, two stages of individually shielded r. f. screen grid radio frequency amplification, high quality resistance coupled amplifier with uniform response characteristic from 10 to 40,000 cycles and 245 power tube output are a few of the outstanding features of this remarkable receiver.

While this receiver has been designed with special features that make it specially adapted for television it is by no means limited to television reception. It can be used with equal efficiency on the entire shortwave and broadcast band from 15 to 520 meters, and especially to tune in short wave stations all over the world.

A receiver such as this one, capable of amplifying uniformly the television frequencies is absolutely necessary for television reception. Ordinary short wave receivers are not suitable for television reception.

The Baird Television Kit has been especially designed to eliminate all the doubtful points and troubles. It is by no means a novelty or toy, but a thoroughly practical receiver for the many television programs now on the air.

The standard unit is provided with scanning belt and accessories for tuning in the standard 60-hole transmissions but it can readily be adapted to receive 45-hole or 48-hole programs or any other standard system.

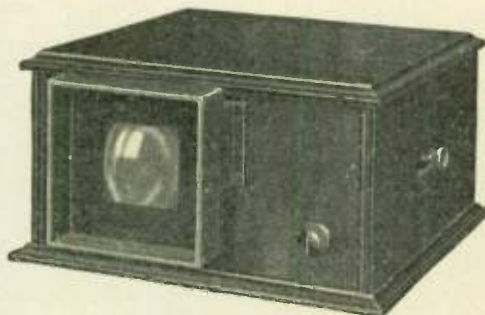
**LIST OF PARTS AND
SINGLE UNIT PRICES FOR
TELEVISION RECEIVER**

No. Req.	Part and Type No.	Price Each
1	No. 151 Television Cabinet	\$10.50
1	No. 152 Baird Giant Power Rheostat	1.50
1	No. 153 A. C. Switch	.40
1	No. 154 Magnet Mounting	5.50
1	No. 155 Synchronizing Wheel	3.00
1	No. 156 Spider	4.50
1	No. 157 Scanning Belt	3.95
1	No. 158 Oil Condenser	2.55
1	No. 159 Baldor Motor	18.00
1	No. 160 Audio Transformer	1.95
1	No. 161 Baird Bypass Condenser	.75
2	No. 162 Baird Filter Condensers	.55
1	No. 163, No. 30 Vitreous Resistor	.10
1	No. 164, No. 10 Vitreous Resistor	.40
1	No. 165 Pigtail Resistor	.20
1	No. 166, 3" Lens	2.25
1	No. 167 Television Lamp, 1" plate	2.50
2	No. 168, 4-prong Tube Sockets	.15
1	No. 169 Fixture Cord and Plug	.45
1	No. 170 Hookup Wire, 25 feet	.25
1	No. 171 Special Cable and Plug	.95
1	No. 173 Hardware Assembly	.20



This book gives complete information on short wave and television reception. It contains a complete description with constructional data on how to build a very efficient short wave receiver and also on how to build a television receiver.

In addition it gives a very simple explanation of the theory of television and a complete list of shortwave and television stations all over the world. The Romance and Reality of Television. Price **15c**



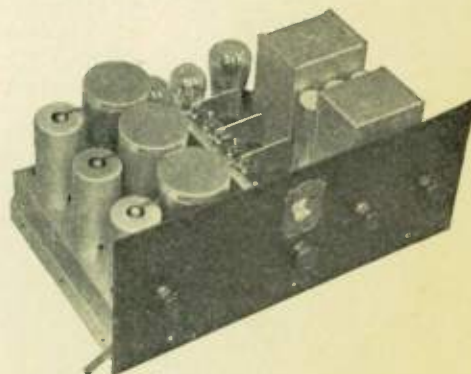
TELEVISION UNIT IN CABINET



SHORT WAVE RECEIVER IN CABINET

**LIST OF PARTS AND
SINGLE UNIT PRICES FOR
SHORT WAVE RECEIVER**

No. Req.	Part and Type No.	Price Each
1	No. 51 Chassis with 8 sockets, 3 coil shields, 3 tube shields, 2 condensers and one 3-post binding post unit already riveted to chassis	\$8.70
3	No. 52 Coil Sockets	.20
2	No. 53 Pigtail Resistors	.25
3	No. 54, .0001 mfd. Condensers	.15
3	No. 55 Screen Grid Clips	.10
2	No. 56, .02 mfd. Molded Condensers	.75
2	No. 57 Jacks	.45
1	No. 58 Condenser Block	2.25
1	No. 59 Condenser Block	2.75
3	No. 60 R. F. Chokes	.75
1	No. 61 Baird 3-gang Variable Condenser	5.25
3	No. 62 Electrolytic Condensers	1.30
1	No. 63 Baird Power Transformer	5.25
1	No. 64 Baird Power Choke	4.60
1	No. 65 Baird Gang Resistor	2.30
1	No. 66, 3-Condenser Strip	1.50
4	No. 67 Knobs	.15
1	No. 68, 2-pole Toggle Switch	.40
1	No. 69 Speaker Dual Jack Terminal Unit	.20
1	No. 70 Combination Potentiometer and Switch	.95
1	No. 71, No. 9 Baird Midget Condenser	.85
1	No. 72, No. 15 Baird Midget Condenser	.85
1	No. 73 Buffer Condenser	.85
1	No. 74 Voltage Divider	1.35
1	No. 75 Baird Dial and Escutcheon	1.35
1	No. 76 Baird Front Panel	2.30
2	No. 77 Grid Resistors	.15
1	No. 78 Hookup Wire, 40 feet	.45
1	No. 79, 3-pole Switch	.50
1	No. 80 Dial Bracket and Lamp	.25
1	No. 500 Hardware Assembly	.75
1	Set of 15 Octocoils to cover 15 to 520 meter Wave Band. Complete Set	12.75



TOP VIEW OF RECEIVER CHASSIS

**SPECIAL
EXPERIMENTER'S PRICES FOR
COMPLETE KITS**

Baird Complete Kit containing all parts necessary to build the shortwave receiver, exclusive of cabinet and tubes.

Price **\$56.25**

Cabinet for Shortwave Receiver.

Price **\$10.50**

Baird Complete Kit containing all parts necessary to build the Television Unit, exclusive of UX-245 amplifier tube, but including Television Neon Lamp and lens to obtain a 3" picture.

Price **\$58.00**

No. 172, 6" Lens for larger picture, if desired.

Price **\$10.00**

PARTS FOR TELEVISION OR SHORT WAVE RECEIVER CAN BE BOUGHT INDIVIDUALLY OR IN COMPLETE KITS

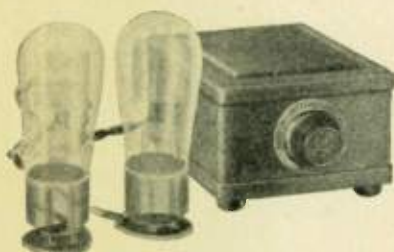
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



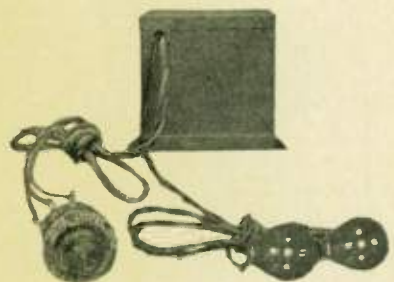
Illus. D



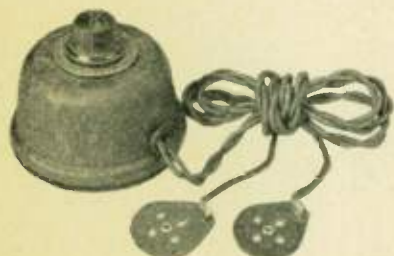
Illus. E



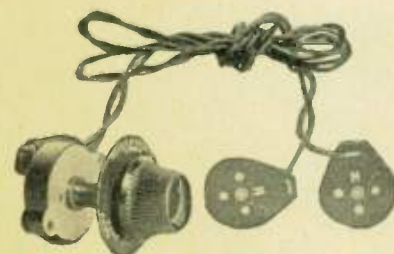
Illus. F



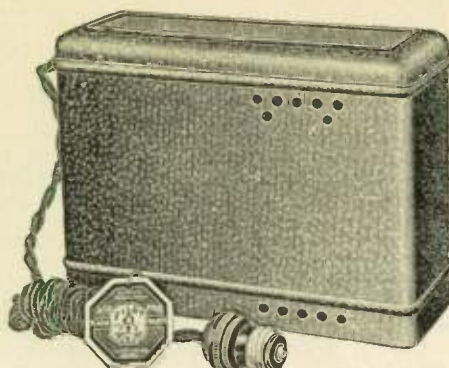
Illus. G



Illus. H



Illus. I



Illus. A



Illus. B



Illus. C

PILOT FACTORY-ASSEMBLED POWER PACKS

ILLUSTRATION A:—
Pilot No. K-111 Power Pack for receivers using Type 171A power tubes.
Price **\$16.50**
Pilot No. K-112 Power Pack for receivers using Type 245 power tubes.
Price **\$19.50**

These high grade power supply units, factory assembled and wired, are enclosed in steel cases, 10" long, 7" high and 3 3/4" wide, attractively finished in black Japanese lacquer. They are provided with suitable ventilating holes and removable tops.

In the No. K-111 unit, the 280 tube fits in the case. In the No. K-112 unit, the tube must be mounted externally.

The No. K-111 power pack has a maximum d. c. output of 60 milliamperes at 220 volts. Lower voltages

of 180, 135, 90 and 45 are available. There are three low voltage windings for a. c. tube filaments: a 5-volt, 1-ampere winding for two 171A tubes; a 2 1/2 volt, 8-ampere winding for two 227, 224 or other tubes of similar filament characteristics and a 1 1/2 volt, 4-ampere winding for four 226 tubes. This power pack is ideally suited for use with the A. C. Super Wasp Receiver.

The No. K-112 power pack will deliver 90 milliamperes at 300 volts with lower voltage; taps at 180, 135, 90 and 45 volts. A variable resistance provides control of these lower voltages. There are three filament windings; a 5-volt, 2-ampere winding for the 280 rectifier tube; a 2 1/2-volt, 12-ampere winding for six or seven 224, 227 or other tubes of similar characteristics and a 2 1/2-volt, 3.6-ampere winding for two 245 tubes.

Both power packs are designed for use on 110 to 120-volt, 50 to 60 cycle a. c. power lines.

LOUDSPEAKER EXTENSION CORDS

ILLUSTRATION B:—
Birnbach Radio Co. or American Braiding Co., 18-foot Loudspeaker Extension Cords.
Price, Each **25c**
Birnbach Radio Co. or American Braiding Co., 30-foot Loudspeaker Extension Cords.
Price, Each **39c**

These extension cords permit a speaker to be used

Birnbach Radio Co. or American Braiding Co., 50-foot Loudspeaker Extension Cords.
Price, Each **60c**

at a considerable distance from the receiver. Longer extension cords than the standard length cords listed can be made by connecting two or more extension cords together by means of the extension cord connectors shown in Illustration C and described below.

EXTENSION CORD CONNECTORS

ILLUSTRATION C:—
Birnbach Bakelite Extension Cord Connector.
Price **10c**
American Braiding Co. Bakelite Extension Cord Connector.
Price **10c**

These sturdy Bakelite Extension Cord Connectors are designed to connect together two or more extension cords when longer than standard length extension cords are required.

They are neat in appearance and easy to use. Cord tips can be inserted or pulled out quickly without the use of tools.

PHONE AND LOUDSPEAKER CORDS

ILLUSTRATION D:—
American Braiding Co. Lusterized Loudspeaker Cord. Length—5 feet.
Price **15c**

These phone and loudspeaker cords are made of the highest grade American tinsel covered with closely

American Braiding Co. Lusterized Double Headphone Cord. Length—5 feet.
Price **20c**

woven Mercerized braid. Standard Cords are furnished with pin type terminals but may be had with spade terminals if desired.

STANDARD BATTERY CABLES

ILLUSTRATION E:—
These battery cables are made of high grade, rubber covered, stranded copper wire.

The individual wires are in turn covered with braided coverings of different colors and bound together in a sheath that leaves only a few inches at both ends uncovered.

Cables are all 4 1/4 feet long.

They serve as the ideal means of making connections between batteries or battery eliminators and receivers.

Trade Name	Type No.	No. of Wires	Price Each
Birnbach	450	5	25c
Lusterized		5	25c
Birnbach	451	6	30c
Birnbach	452	7	30c
Lusterized		7	30c
Birnbach	453	8	39c
Birnbach	454	9	39c
Lusterized		9	39c

RADIART TONE CONTROLS

ILLUSTRATION F:—
Radiart De Luxe Full Range Tone Control Wired Complete in Metal Case.
Price **\$2.75**

ILLUSTRATION G:—
Radiart Type KGP Full Range Skeleton Model Tone Control for Panel Mounting.
Price **\$2.50**

This series of units is designed to permit the addition of the popular tone control feature to new and existing receivers in which the tone control feature has not been incorporated. Their use permits the operator to control the entire audible scale from deep bass to high treble.

ILLUSTRATION H:—
Radiart Standard Type Tone Control, Wired Complete in Metal Case.
Price **\$1.75**

ILLUSTRATION I:—
Radiart Type KFP Standard Skeleton Model Tone Control for Panel Mounting.
Price **\$1.50**

They may be installed easily and quickly in about two minutes. Complete installation instructions are included with all units.

The Full Range Controls are designed for use only on push-pull amplifiers. The Standard Controls may be used with either push-pull or single output tube amplifiers.

ASSEMBLED AND KNOCKDOWN CONSOLE CABINETS

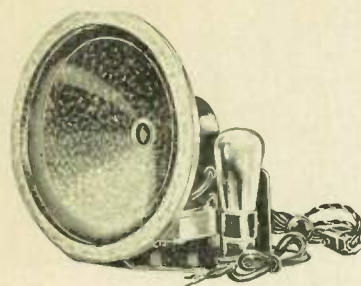
St. John's No. 101 Assembled Radio Console, complete with Speaker Compartment.
Price **\$1.75**

St. John's No. 112 Knockdown Radio Table Console. All pieces varnished and polished and ready to be assembled.
Price **\$4.25**

These radio table console cabinets are the finest bargains available in radio furniture.

Before placing your order for a radio console or cabinet, visit your nearest Green Front Store and examine these inexpensive, finely built and handsomely finished consoles.

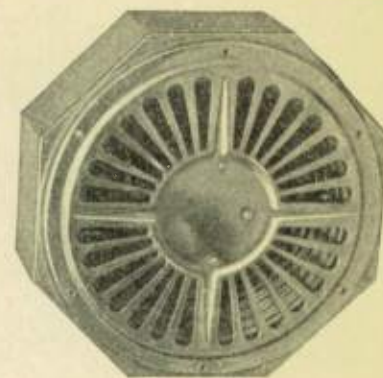
KRESGE'S TREMENDOUS BUYING POWER AND EFFICIENT MERCHANDISING METHODS
MAKE POSSIBLE THE EXCEPTIONAL VALUES OFFERED IN THIS CATALOG



Illus. A



Illus. B



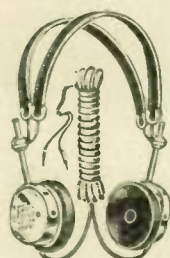
Illus. C



Illus. D



Illus. E



Illus. F



Illus. G

MUTER ULTRADYNAMIC A. C. SPEAKER

ILLUSTRATION A:—
 Muter Type 4610 Ultradynamic A. C. Speaker.
 Price (less rectifier tube) **\$7.50**

The Muter Ultradynamic A. C. Speaker gives exceptionally realistic

reproduction. This model uses a 280-type tube and a highly efficient circuit.

It can be used with either a single-tube or push-pull amplifier output.

The overall dimensions are: height—10 $\frac{3}{8}$ "", width—10 $\frac{1}{4}$ "", depth—7".

MAGNAVOX DYNAMIC SPEAKER

ILLUSTRATION B:—
 Magnavox Type 410 Dynamic A. C. Speaker.
 Price, complete **\$12.00**

This speaker is designed for operation direct from a 105 to 120-volt, 60-cycle, a. c. line. It is provided with

a complete, self-contained rectifier system to furnish the necessary current for the speaker field.

The cone is 7 $\frac{3}{4}$ " in diameter. The overall dimensions are: height—9 $\frac{1}{8}$ "", width—8 $\frac{7}{8}$ "", depth—6 $\frac{5}{32}$ ".

UTAH AUTOMOBILE DYNAMIC SPEAKER

ILLUSTRATION C:—
 Utah Midget Dynamic Speaker for Automobile Use. Type 510B.
 Price **\$7.50**

This speaker makes it possible to enjoy the same high quality Utah Dynamic Speaker reception in the car as at home. It consists of a Utah No. 510, 7" dynamic chassis, with field coil

designed to operate from the 6-volt storage battery (current draw—only 1 amp.)

The unit is mounted in an attractive octagon-shaped baffle box cabinet, 8 $\frac{1}{2}$ " wide and 4" deep. The front, metal grille is silk lined to make it dustproof. It is supplied complete with mounting brackets and 5-ft. cord.

UTAH AUTOMOBILE MAGNETIC SPEAKER

ILLUSTRATION C:—
 Utah Midget Magnetic Speaker for Automobile Use. Type 400.
 Price **\$6.00**

In outward appearance, this speaker is the same as the Type 510B de-

scribed above, and is mounted in an octagon-shaped box, 8 $\frac{1}{2}$ " wide and 3 $\frac{1}{2}$ " deep.

A Utah magnetic chassis is used in place of the dynamic unit.

NEW UTAH MAGNETIC AND DYNAMIC SPEAKERS

The following Utah Speakers were added to the Kresge line of speakers just before this catalog went to press, but too late to permit detailed descriptions and illustrations to be included. Ask for details at your nearest Kresge Green Front Store.

No. 6A, 6" Dynamic Speaker	\$3.00
No. 8S, 8" Dynamic Speaker	3.25
No. 8A, 8" Dynamic Speaker	3.75
Auto Type Dynamic Speaker	4.95
Auto Type Magnetic Speaker	4.95
Unmounted Magnetic Cone	2.50

UTAH MOUNTED POWER INDUCTOR SPEAKER

ILLUSTRATION D:—
 Utah Power Inductor Speaker Chassis mounted in Baffle Box.
 Type XB.
 Price **\$4.00**

This unit consists of the Type XM chassis shown in Illus. H, mounted in an efficient, well constructed baffle box, 9 $\frac{1}{2}$ " high, 9 $\frac{1}{2}$ " wide and 5" deep.

UTAH LOUDSPEAKER UNITS

ILLUSTRATION E:—
 Utah Standard Speaker Unit.
 Price **\$3.25**

Utah Big Chief Speaker Unit.
 Price **\$2.50**

The popularity of Utah loud speaker

units is due to their sensitivity, ability to handle great volume without distortion and faithful reproduction. Both units are 3" in diameter, have a $\frac{7}{8}$ " thread and are supplied with 5-ft. cords.

STANDARD HEADPHONES

ILLUSTRATION F:—
 Frost No. 174, 2,000-ohm Phones.
 Price **\$1.50**

ILLUSTRATION G:—
 Cannon Ball Dixie, 2,200-ohm Phones.
 Price **\$1.50**

Brandes Superior, 2,200-ohm Phones. (Not illustrated but similar in appearance to those shown in Ill. G.)
 Price **\$2.00**

These high quality phones are ideal for testing work, portable sets, sick-rooms and for long distance reception.

INSULINE EXTRA SPEAKER OUTPUT ADAPTER

ILLUSTRATION I:—
 Insuline Extra Speaker Output Adapter.
 Type 353.
 Price **50c**

This adapter is designed to permit the connection of additional speakers to the output of push-pull amplifier receivers without requiring any change in the wiring of the receiver.

INSULINE EARPHONE ADAPTER

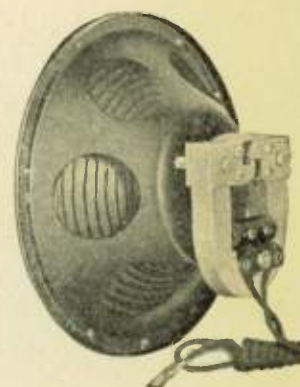
ILLUSTRATION J:—
 Insuline Earphone Adapter.
 Type No. 78.
 Price **89c**

Makes it possible to plug in earphones and disconnect speaker when the rest of the family does not wish to be annoyed by loudspeaker volume.

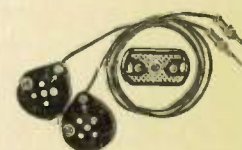
B. M. S. BAKELITE AUTOMATIC PHONE PLUG

ILLUSTRATION K:—
 B. M. S. No. 309 Bakelite Automatic Phone Plug.
 Price **25c**

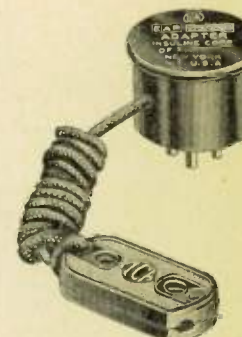
This safe, automatic phone plug eliminates all pushing of levers or other manipulation to insert or remove cord tips.



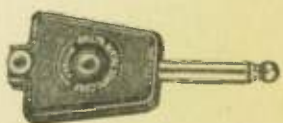
Illus. H



Illus. I



Illus. J



Illus. K

ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
 AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



Illus. B



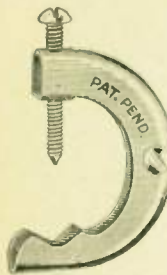
Illus. C



Illus. D



Illus. E



Illus. F



Illus. G



Illus. A

WARD RUNNING BOARD CAR ANTENNA

ILLUSTRATION A:—
Ward Automobile Antenna.
Price **\$3.00**

This simple, ingenious running board antenna solves the heretofore troublesome problem of making a suitable car antenna installation quick-

ly. The Ward car antenna fits under the running board of any automobile and can be installed in ten minutes at a fraction of the cost of any other type of installation. All metal parts are rust-proof and every exposed part is protected against damage.

CORNISH WIRE CO. ANTENNA KITS

ILLUSTRATION I:—
Cornico Type B Outside Antenna Kit.
Price **89c**

ILLUSTRATION J:—
Cornico Indoor Antenna Packet.
Price **50c**

These antenna kits contain all the essential parts necessary to construct antenna and

ground systems of various types and furnish an economical combination of such elements.

The Type B Antenna Kit contains all materials such as wire, lightning arrester, insulators, leadin strip and ground clamp for an outdoor installation while the Indoor Antenna Packet contains wire, ground clamp and insulated staples for an indoor installation.

MUTER LIGHT SOCKET ANTENNA PLUG

ILLUSTRATION B:—
Muter Light Socket Antenna Plug.
Price **25c**

This black molded Bakelite Antenna Plug screws into any standard lighting socket and eliminates the necessity of an outside antenna.

INSULINE INSULTENNA AERIAL ELIMINATOR

ILLUSTRATION C:—
Insuline No. 87 Insultenna.
Price **\$1.75**

The Insultenna Aerial Eliminator is a radical departure in antenna devices. It is not a

light socket antenna and has no connection with the electric light current line, hence it eliminates any possibility of a. c. hum.

The unit is remarkably compact and may be installed anywhere. It may be placed conveniently in the radio console or cabinet.

INSULINE ANTENNAVOLT AERIAL AND VOLTAGE CONTROL

ILLUSTRATION K:—
Insuline No. 98 Antennavolt Combination Aerial and Voltage Control.
Price **\$1.50**

The Insuline Antennavolt is an ingenious

unit designed to combine the features of an antenna plug to provide a simple and effective antenna connection for a receiver, and a Resistovolt automatic line voltage control to provide voltage regulation of the power supply.

GILLETT AERIAL CONNECTORS

ILLUSTRATION G:—
Gillett Aerial Connectors.
Price, Each **10c**

Three Gillett Aerial Connectors on every aerial, one at each end of the aerial span and

another at the point where the leadin is taken, will prevent those annoying, rasping noises, often attributed to static and electrical interference but in reality due to poor contacts at the leadin and twisted strands rubbing against each other at each end of the aerial.

ANTENNA LEADIN STRIPS

ILLUSTRATION L:—
Birnbach Leadin Strip.
Price **10c**
Fahnestock Leadin Strip.
Price **10c**
Muter Flexo Leadin Strip.
Price **10c**
Cornico Leadin Strip.
Price **5c**

ILLUSTRATION H:—
Muter No. 1,000 Porcelain Lightning Arrester. For indoor or outdoor use. Air gap type with cleanable carbon brushes.
Price **25c**
ILLUSTRATION M:—
Union No. 8816 Porcelain Lightning Arrester. For indoor or outdoor use. This is a carbon type arrester.
Price **25c**
ILLUSTRATION N:—
Birnbach No. 650 Blue Porcelain Lightning Arrester.
Price **15c**

STANDARD APPROVED LIGHTNING ARRESTERS

ILLUSTRATION O:—
Porcelain Products Co. Brownie Lightning Arrester. Especially suited for outdoor installation.
Price **25c**

The Board of Fire Underwriters and Fire Insurance Companies specifically require that every outside aerial installation be protected by the use of an approved outdoor or indoor lightning arrester. The lightning arresters listed on this page are the best buys on the market and provide full protection at a nominal cost.

STANDARD GROUND CLAMPS

ILLUSTRATION D:—
Muter Stamped Ground Clamp.
Price **10c**

ILLUSTRATION E:—
Muter Adjustable Ground Clamp.
Price **5c**

ILLUSTRATION F:—
Mueller Channel Construction Ground Clamp. For use on 1/2" to 1 1/8" diameter pipes.
Price **10c**

ILLUSTRATION I:—
Fahnestock Type B, Strip Type Ground Clamp fitted with a Fahnestock Clip.
Price **5c**

Much poor reception is caused by the use of inefficient ground connections which result in high resistance joints in the antenna and ground system. The inexpensive ground clamps listed on this page are designed to provide positive, efficient, negligible resistance ground connections. They are the cheapest insurance for good radio reception.



Illus. H



Illus. I



Illus. J



Illus. K



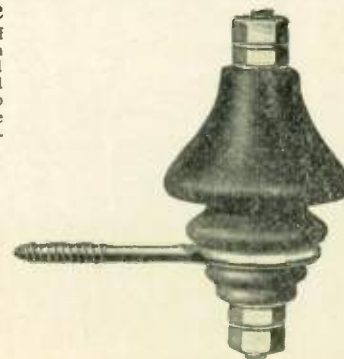
Illus. L



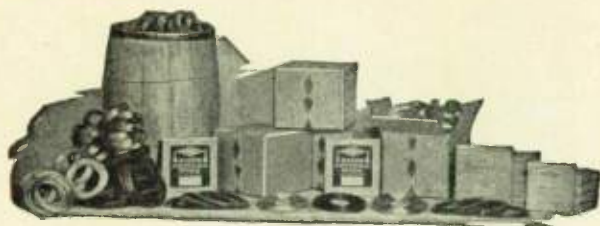
Illus. M



Illus. N



Illus. O



Illus. A



Illus. B

**AERIAL, LEADIN AND GROUND
BARE AND INSULATED WIRE**

BARE WIRE

Corwico Type 55, Size No. 15 Solid Copper Wire.	15c
50-foot Coil	25c
Eureka Type 31, Size 7/23 Stranded Copper Wire.	15c
50-foot Coil	30c
100-foot Coil	30c
Corwico Type 30, Size 7-Strand Copper Wire.	25c
85-foot Coil	75c
Corwico Type 64, Size 7/20 Stranded Copper Wire.	
100-foot Coil	

INSULATED WIRE

Corwico Type 36, Size No. 15 Solid, Enamel Insulated Copper Wire.	15c
50-foot Coil, in carton	30c
100-foot Coil, in carton	40c
Eureka Type 33, Size 7/23 Stranded, Enamel Insulated Copper Wire.	20c
50-foot Coil, in carton	40c
100-foot Coil, in carton	40c
Corwico Type 161, Size No. 14 Solid, Rubber Insulated Copper Wire.	50c
50-foot Coil	\$.50
Cambricoid Varnished Cambric Insulated Copper Wire.	\$1.25
100-foot Coil	\$2.50
250-foot Coil	\$5.00
500-foot Coil	8 feet for \$.05
1,000-foot Coil	
Available in spools at	
Corwico Type 740, Stranded, Rubber and Weatherproof Braid Insulated Copper Wire.	35c
100-foot Coil, in carton	25c
Birnbach Colored Rubber Covered Leadin Wire	50c
25-foot Coil	
50-foot Coil	

SHIELDED WIRE

Corwico Type 191, Size No. 16 Solid, Rubber Insulated and Shielded Copper Wire.	75c
50-foot Coil	40c
Birnbach, Size 7/24 Stranded, Rubber Insulated and Shielded Copper Wire.	75c
25-foot Coil	
50-foot Coil	

HOOKEUP AND BUS BAR WIRE

Corwico, Size No. 18 Solid, Double Cotton Covered Annunciator Hookup Wire.	10c
25-foot Coil, in carton	10c
Flexibus, Stranded, Flexible Varnished Cambric Insulated Hookup Wire. Available in Red, Black, Green and Yellow colors.	10c
5-foot Coil	10c
Corwico, Size No. 18 Stranded, Rubber Covered Hookup Wire. Available in Red, Black and Green.	10c
10-foot Coil	10c
Corwico, Size No. 18 Twisted Pair, Stranded, Rubber Covered Hookup Wire. Specially designed for filament wiring.	5c
Available in spools. Price	5 feet for 10c
Braidite Solid Hookup Wire. Covered with a special cotton wrap and cotton braid. Eliminates necessity for stripping insulation for wiring since insulation can be pushed back while soldering. Available in Red, Green and Black colors.	10c
10-foot Coil	75c
Corwico General Purpose Size No. 18 Stranded, Rubber Covered Wire.	10c
100-foot spool	5c
Corwico, Size No. 15 Solid, Square Bare Hookup Wire. Available in 2-foot straight lengths.	5c
Price	Three, 2-foot lengths for 5c
Corwico, Size No. 15 Solid, Round Bare Hookup Wire. Available in 2-foot straight lengths.	5c
Price	Three, 2-foot lengths for 5c



Illus. C



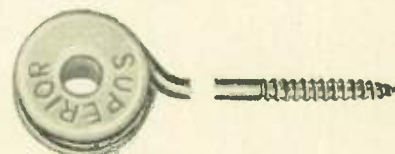
Illus. D



Illus. E



Illus. F



Illus. G



Illus. H



Illus. J



Illus. I



Illus. K

MAGNET WIRE

Corwico Magnet Wire in all standard sizes and insulation. Price, per spool, all types. 25c

Available in the following standard insulations and sizes. Figures in parentheses indicate length of wire in each spool of the given size of wire.

ENAMEL INSULATION

Sizes: 22 (175); 24 (300); 26 (320); 28 (505).	
GREEN SILK OVER COTTON	
Sizes: 18 (43); 20 (52); 22 (62); 24 (90); 26 (106); 28 (125).	
GREEN DOUBLE SILK	
Sizes: 30 (180); 32 (190); 34 (205); 36 (220).	
WHITE DOUBLE COTTON	
Sizes: 18 (55); 20 (83); 22 (110); 24 (140).	

SPAGHETTI TUBING INSULATION

Mitchell-Rand Type M. R. 10 Spaghetti Tubing Insulation. Available in Black, Red, Yellow and Green in 21-inch lengths. 5c

Price, per length Mitchell-Rand Spaghetti Tubing Insulation is made of the highest grade cambric tubing impregnated with the finest insulating varnish obtainable.

SPECIAL AERIAL WIRES AND TAPES

ILLUSTRATION C:— Royale Tape Aerial, a modern convenient adhesive tape aerial that can be strung around a room in a few minutes without tacks or tools. 50c

ILLUSTRATION D:— Mackenzie Spring Aerial. Contains 125 feet of highly conductive wire in spring form. Ideal for both indoor and outdoor use. Will not rust or tarnish. 69c

ILLUSTRATION E:— Blue Sireak Indoor Aerial. Consists of 65 feet of specially processed stranded wire of high radio frequency conductivity for indoor use. 50c

ILLUSTRATION F:— Corwico Crimped Indoor Aerial. A crimped, flexible pure copper ribbon designed to provide a large surface and high radio frequency conductivity. 25c

ILLUSTRATION G:— Corwico "Echo Tape" Indoor Aerial. A flexible metallic ribbon antenna especially designed for indoor use. Can be concealed behind the picture moulding. 25c

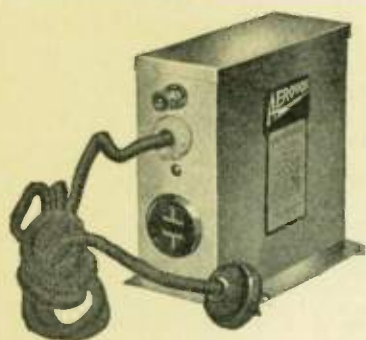
**AERIAL SYSTEM INSULATORS
LEADIN INSULATING SCREW EYES**

ILLUSTRATION H:—	
Union No. 9000 Screw Eye, 3" Overall	5c
Porcelain Products No. 1926 Insulating Screw Eye, 3" Overall	5c
Union No. 9001 Screw Eye, 6" Overall	5c
Porcelain Products No. 1925 Insulating Screw Eye, 7 1/4" Overall	5c

ANTENNA SUPPORT INSULATORS

ILLUSTRATION I:—(GLASS)	
Union No. 8130 Glass Insulator, 3 1/2" long	5c
Jenkins No. 8 Glass Insulator, 3 1/2" long	5c
Cornish No. 2 Glass Insulator, 3 1/2" long	5c
Jenkins No. 3 Glass Insulator, 4 1/2" long	5c
Jenkins No. 5 Glass Insulator, 5 1/4" long	10c
ILLUSTRATION J:—(PORCELAIN)	
Porcelain Products No. 3A Med. Joe Brown Glaze Porcelain Insulator, 4" long	5c
ILLUSTRATION K:—(PORCELAIN)	
Porcelain Products No. 8117 White Glaze Porcelain Insulator, 2 1/2" long	2 for 5c
Union No. 8128 Porcelain Insulator, 2 1/2" l. 2 for 5c	
Union No. 8122 Porcelain Insulator, 3" long	5c

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AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



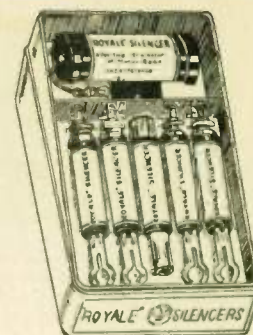
Illus. A



Illus. B



Illus. C



Illus. D

NOISE INTERFERENCE FILTERS

ILLUSTRATION A:—

Aerovox Type IN-24 Interference Filter. Universally adapted to all circuits and designed for all general installations. Price **\$4.00**

ILLUSTRATION F:—

Aerovox Type IN-25 Interference Filter. Designed for light duty work to mount on standard wall plate outlets. Screw which mounts it on wall plate serves as ground connection. Price **\$1.50**

ILLUSTRATION G:—

Aerovox Type IN-26 Interference Filter. Designed for insertion into extension leads and for connection close to interfering appliance. Light Duty Type. Price **\$1.50**

ILLUSTRATION C:—

Muter Type 4800 Junior Interference Filter. Light Duty Type for small motors, etc. Price **\$2.25**

Muter Type 4810 Senior Interference Filter. Heavy Duty Type for suppression of serious interference. Consists of combination capacity and inductance filter and can be used with appliances drawing up to 5 amperes on 110-volt a. c. lines or up to 220 volts d. c. lines. Must not be used with appliances drawing over 5 amperes. Price **\$4.25**

ILLUSTRATION E:—

Dongan No. X-319 Junior Interference Filter. Light Duty Type for small motors, etc. Price **\$2.25**

Dongan No. X-320 Senior Interference Filter. Heavy Duty Type for suppression of serious interference. Consists of combination capacity and inductance filter and can be used on appliances drawing up to 3 amperes on 110-volt a. c. lines. Must not be used with appliances drawing over 3 amperes. Price **\$4.00**

ILLUSTRATION H:—

Insuline No. 94 Filtervolt Jr. Interference Filter. Light Duty Type for small motors, etc. Price **\$1.75**

The Interference Filters listed above are designed to eliminate interference caused by electrical appliances such as motors, refrigerators, vacuum cleaners, drink mixers, etc.

They are most effective when connected between the appliance which is causing the disturbance and the line so as to prevent the disturbance from being transmitted over the line or radiated through space. When used in that manner, the device should be plugged in between the appliance and the line and the binding post of the interference filter should be connected to the frame of the interfering appliance. If connection to the frame is impossible, the binding post should be connected to ground.

The more expensive, heavy duty types are most effective for troublesome interference but where the interference is not very strong, the less expensive light duty types will often be found completely satisfactory.

Where the interfering appliance cannot be located, the interference can usually be eliminated by connecting the filter between the receiver and the power line outlet, with the binding post of the filter connected to ground.



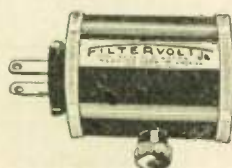
Illus. E



Illus. F



Illus. G



Illus. H



Illus. I



Illus. J



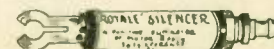
Illus. K



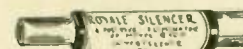
Illus. L



Illus. M



Illus. N



Illus. O

IGNITION INTERFERENCE FILTERS

ILLUSTRATION J:—

International Resistance Co. Spark Plug Type Interference Suppressor. Price, Each **35c**

ILLUSTRATION K:—

International Resistance Co. Distributor Cap Type Interference Suppressor. Price, Each **35c**

ILLUSTRATION L:—

International Resistance Co. Cable Type Interference Suppressor for cars that have spark plug cables enclosed, such as Buicks, Chevrolets, La Salles, etc. Price, Each **35c**

ILLUSTRATION M:—

Ward Model A, Generator Type Silencer. Price **69c**

ILLUSTRATION N:—

Ward Model C, Spark Plug Type Silencer. Price **50c**

ILLUSTRATION O:—

Ward Model L, Distributor Type Silencer. Price **50c**

ILLUSTRATION D:—

Ward Royale Silencer Kits, consisting of a complete assortment of spark plug, distributor and generator silencers required to completely filter cars of various classes.

Ward Type 6A Kit for 4-cylinder cars. Price **\$3.00**

Ward Type 8A Kit for 6-cylinder cars. Price **\$3.50**

Ward Type 10A Kit for 8-cylinder cars. Price **\$4.00**

To make a satisfactory automobile radio installation which is to be operated while the engine is running, it is important to filter the ignition system of the car, since otherwise, the ignition noises will ruin reception.

To do this, it is necessary to use silencers or suppressors in the spark plug, distributor and generator leads. The units listed above have proved to be the most rugged and effective means of eliminating ignition noises in automobile radio installations.

AERIAL INTERFERENCE ELIMINATORS

ILLUSTRATION B:—

Essenbee "Clar-A-Tone" Aerial Interference Eliminator. Price **\$1.10**

ILLUSTRATION I:—

Steinite Aerial Interference Eliminator. Price **69c**

These Interference Eliminators are designed for connection between the aerial and the receiver. They serve to increase the selectivity of the receiver, thus permitting the operator to tune from station to station without interference from stations on adjoining wavelength bands.

They also help to reduce to some extent electrical interference and static noise which is brought in most strongly by broad tuning receivers.

USEFUL FORMULAE

Ohm's Law for D. C. Circuits

The relation of electromotive force (E) in volts, the current (I) in amperes and the resistance (R) in ohms in an electrical circuit is called Ohm's Law. It is the fundamental rule governing most electrical calculations and may be expressed in various forms, depending upon the factor for which the equation is to be solved.

The most commonly used form is:

$$E = IR$$

It is remembered easily in this form because the symbols appear in alphabetical order, with the equal sign after the first symbol. Simple transposition gives the other two forms of the equation:

$$I = \frac{E}{R} \text{ and } R = \frac{E}{I}$$

Ohm's Law for A. C. Circuits

For alternating circuits, impedance (Z) or combined effect of ohmic resistance, capacitive reactance and inductive reactance must be substituted for the simple resistance of the circuit and the equation becomes:

$$E = IZ$$

where Z is the impedance of the circuit.

Capacitive Reactance of a Condenser

The capacitive reactance of a condenser in an a. c. circuit is given by the equation:

$$X_c = \frac{1}{6.28 \times f \times C}$$

where X_c is the capacitive reactance in ohms, f is the frequency in cycles per second and C is the capacity in farads.

Inductive Reactance of an Inductance

The inductive reactance of an inductance in an a. c. circuit is given by the equation:

$$X_l = 6.28 \times f \times L$$

where X_l is the inductive reactance in ohms, f is the frequency in cycles per second and L is the inductance in henries.

Impedance of an A. C. Circuit

The total impedance of an a. c. circuit due to the combined effect of ohmic resistance, inductive reactance and capacitive reactance is given by:

$$Z = \sqrt{R^2 + (X_l - X_c)^2}$$

in which the symbols represent the impedance, resistance and reactances of the circuit in ohms.

Peak Value of A. C. Voltage

In a sine wave a. c. circuit, the peak value of voltage is equal to the effective or nominal voltage of the circuit multiplied by 1.4.

Resonance in an A. C. Circuit

When the capacitive reactance in an a. c. circuit just balances the inductive reactance in the circuit, the circuit is said to be in resonance, the only factor acting to limit the flow of current being the ohmic resistance of the circuit.

The frequency at which resonance takes place in a circuit is expressed by the equation:

$$f = \frac{1}{6.28 \sqrt{L \times C}}$$

where f is the frequency in cycles per second, L is the inductance in henries and C is the capacity in farads.

Wavelength—Frequency Conversion

To change wavelength in meters to frequency in kilocycles, or vice versa, use the following equation:

$$W = \frac{300,000}{F}$$

where W is wavelength in meters and F is the frequency in kilocycles. The answer is approximately correct for all practical purposes.



The Store Front of a Typical
S. S. Kresge Co. 25c to \$1.00 Green Front Store
Where Thrifty Buyers from Miles Around Find
"HIGHEST QUALITY" and
"BIGGEST VALUES"
in Radio, Electrical and General Merchandise

Resistances in Series

The total resistance of several resistances connected in series is equal to the sum of the resistances.

$$R_t = R_1 + R_2 + R_3 \text{ etc.}$$

where R_t is the total resistance and R_1, R_2, R_3 etc. are the resistances of the various units which are connected in series. If the resistances are all equal, the total resistance is equal to the resistance of one multiplied by the number connected in series.

Resistances in Parallel

The total resistance of several resistances connected in parallel is given by the equation:

$$R_t = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \text{ etc.}}$$

If the resistances are all equal, the total resistance is equal to the resistance of one divided by the number connected in parallel.

For Complete Information on
Radio Magazines and Handbooks
see pages 30 and 31.

Condensers in Parallel

The total capacity of a number of condensers connected in parallel is equal to the sum of the capacities:

$$C_t = C_1 + C_2 + C_3 \text{ etc.}$$

If the capacities are all equal, the total capacity is equal to the capacity of one condenser multiplied by the number of condensers connected in parallel.

Condensers in Series

The total capacity of a number of condensers connected in series is given by the following equation:

$$C_t = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} \text{ etc.}}$$

where C_t is the total capacity and C_1, C_2, C_3 are the capacities connected in series. If the capacities are equal, the total capacity will be equal to the capacity of one divided by the number of condensers connected in series.

Power in a Circuit

The power in a circuit is obtained by using the following equation:

$$P = E \times I = I^2 R$$

where P is the power in watts, E is the voltage, I is the current in amperes and R is the resistance in ohms.

USEFUL DATA AVAILABLE FROM MANUFACTURERS

Aerovox Research Worker

The Aerovox Research Worker is a free monthly publication issued by the Aerovox Wireless Corporation to keep radio engineers, experimenters and servicemen abreast of the latest developments in receiver and power supply design, and especially with the proper use of condensers and resistors. The Aerovox Wireless Corporation, Dept. K, 70 Washington St., Brooklyn, N. Y., will be glad to place you on the mailing list for this monthly publication without charge or obligation.

Condensers and Resistors

Complete specifications and much valuable information on condensers and resistors and their use is contained in the "Aerovox Condenser and Resistor Manual and Catalog," a copy of which can be obtained free of charge on request to the Aerovox Wireless Corp., Dept. K, 70 Washington St., Brooklyn, N. Y. A very complete line of Aerovox Condensers and resistors is carried by all Kresge Green Front Stores.

Dry Electrolytic Condensers

"The Aerovox Hi-Farad Dry Electrolytic Condenser" is the title of a 32-page book containing a wealth of information on all types of electrolytic condensers. It treats in detail the various important factors that affect the operation and life of different electrolytic condensers; the characteristics necessary in filter and bypass condensers to perform their functions satisfactorily and many other subjects of vital importance in the proper use of such condensers. A copy of the booklet can be had free of charge on request to the Aerovox Wireless Corp., Dept. K, 70 Washington St., Brooklyn, N. Y.

Aerovox Dry Electrolytic Condensers are sold in all Kresge Green Front Stores.

Hard Rubber

Complete information on the qualities which make hard rubber the ideal dielectric for radio use is contained in a folder "Rubber as a Dielectric for Radio Use," a copy of which can be obtained, free of charge, from the B. F. Goodrich Rubber Co., Dept. K, Akron, Ohio.

Goodrich Hard Rubber Panels are carried in stock in all Kresge Green Front Stores.

Line Voltage Control

The importance of Line Voltage Control, a table which shows the proper Lin-A-Trol to use for the various new and old commercial sets now in use, and complete information on the installation of these units in receiver cabinets is contained in a folder titled "Lin-A-Trol Self-Regulating Line Voltage Control. Descriptive Bulletin L-12," a copy of which can be obtained free of charge on request to Lin-A-Trol, Dept. K, 88 Prince St., New York City, N. Y. A complete line of Lin-A-Trols are sold at all Kresge Green Front Stores.

Mershon Electrolytic Condensers

"Puncture-Proof Filter Condensers" is the name of a 64-page booklet on the principles and construction of electrolytic condensers and their application to high voltage filter circuits. A copy of this interesting book can be obtained for ten cents on request to the Amrad Corp., Dept. K, 155 E. Ohio St., Chicago, Ill. Mershon Electrolytic Condensers are sold at all Kresge Green Front Stores.

Resistors

The "Electrad Catalog" contains complete information and data on the use of Electrad Truvalt Resistors, Royalty Potentiometers and Electrad Attenuators. A copy of this 32-page catalog and manual can be obtained free of charge on request to Electrad, Inc., Dept. K, 175 Varick St., New York City, N. Y. Electrad Resistors, Potentiometers and Attenuators are carried in stock by all Kresge Green Front Stores.

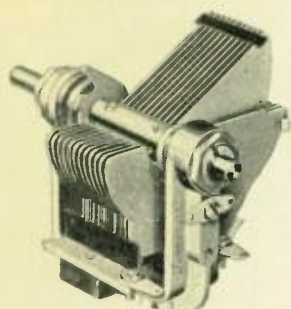
R. M. A. Resistor Color Code

A handy Resistor Color Code Chart has been introduced by the International Resistance Co. for the use of engineers and servicemen and can be obtained free of charge on request to the International Resistance Co., Dept. K, 2006 Chestnut St., Philadelphia, Pa. International resistors for replacement use are for sale at all Kresge Green Front Stores.

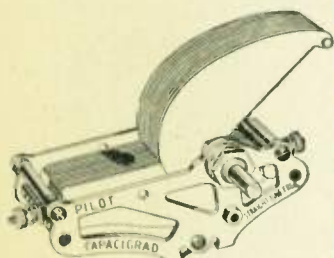
Voltmeter Multipliers

Complete information on how to extend the range of voltmeters and the use of precision resistors to convert milliammeters into high resistance voltmeters is contained in a folder called "Precision Wire Wound Resistors" a copy of which can be obtained free of charge on request to the International Resistance Co., Dept. K, 2006 Chestnut St., Philadelphia, Pa. The resistors required for such purposes can be bought at all Kresge Green Front Stores.

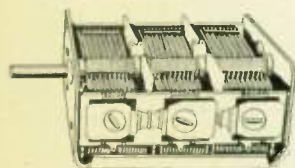
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



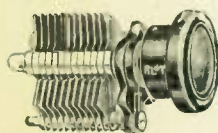
Illus. A



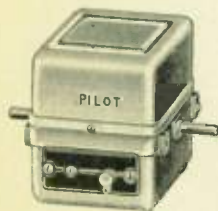
Illus. B



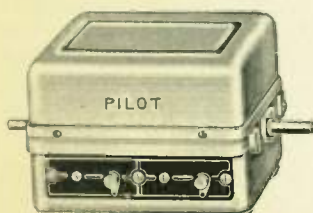
Illus. C



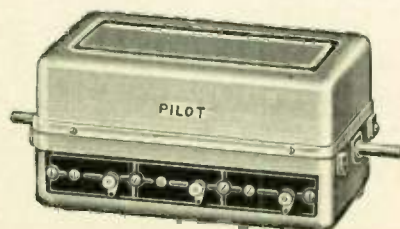
Illus. D



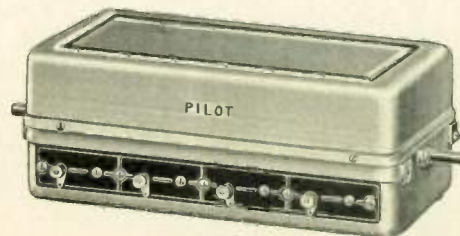
Illus. E



Illus. F



Illus. G



Illus. H

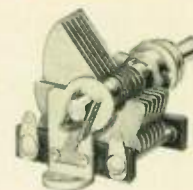
The Hammarlund, Pilot and Eureka variable and adjustable condensers listed on this page represent the finest selection of low cost and high grade condensers available in radio.

Hammarlund condensers need no introduction to radio engineers and experimenters. Their rugged construction, accuracy and low loss characteristics have made them standard for the highest grade receivers and test equipment. Their features include "Parmica" insulation, specially shaped brass plates, full floating rotors, positive contacts, removable shafts and ball and cone bearings.

The Pilot and Eureka units are the best low-priced units available. Pilot "Vaultype"

condensers shown in Illustrations E, F, G and H are completely enclosed in aluminum covers which serve the double purpose of shielding the units and making them dustproof.

All units have been arranged in the table below for convenience in selecting the proper units. The first group includes single, double, triple and quadruple section variable condensers listed according to the capacity of the sections. The second group includes the various midget variable condensers. The third group includes both single and double section adjustable condensers of the types used for balancing, trimming, neutralizing, oscillator padding and intermediate frequency transformer tuning.



Illus. I



Illus. J



Illus. K



Illus. L



Illus. M



Illus. N



Illus. O

VARIABLE AND ADJUSTABLE CONDENSERS

Manufacturer	Type No.	Number of Sections	Cap. of Each Section Minimum Mmfs.	Maximum Mmfs.	Type of Plates†	Illus. No.	Price Each
STANDARD BROADCAST AND SHORT WAVE TUNING CONDENSERS							
Pilot	3022	2	74	125	CL*	F	\$2.75
Hammarlund	MLW-125	1	10	125	ML*	A	\$2.75
Hammarlund	ML-7	1	6	140	ML	A	\$2.75
Hammarlund	MLW-150	1	14	150	ML*	A	\$2.75
Pilot	1611	1	10	160	CL*	B	\$1.00
Hammarlund	ML-11	1	8	250	ML	A	\$2.75
Hammarlund	ML-17	1	12	350	ML	A	\$2.75
Pilot	1617	1	15	350	CL	B	\$1.00
Pilot	3021	1	20	365	CL	E	\$1.50
Pilot	1623	1	20	500	CL	B	\$1.00
Eureka	450	2	30	350	MWF	C	\$2.00
Pilot	3042	2	20	365	CL	F	\$3.00
Eureka	451	3	30	350	MWF	C	\$3.00
Pilot	3063	3	20	365	CL	G	\$4.50
Eureka	452	4	30	350	MWF	C	\$3.50
Pilot	3084	4	20	365	CL	H	\$6.00

MIDGET VARIABLE CONDENSERS

Pilot	J-5	1	10	15	SCL	D	\$.50
Pilot	J-7	1	12	25	SCL	D	\$.50
Hammarlund	MC-35S	1	4	35	SCL	I	\$1.00
Hammarlund	MC-50S	1	5	50	SCL	I	\$1.00
Pilot	J-13	1	18	50	SCL	D	\$.50
Hammarlund	MC-100S	1	6	100	SCL	I	\$1.25
Pilot	J-23	1	23	100	SCL	D	\$.60
Hammarlund	MC-140M	1	7	140	ML	I	\$1.50
Hammarlund	MC-250M	1	10	260	ML	I	\$2.00

ADJUSTABLE TRIMMING AND TUNING CONDENSERS

Hammarlund	EC-35	1	2	35		J	25c
Hammarlund	MICS-60	1	10	60	SCL	K	35c
Hammarlund	EC-80	1	20	100		J	25c
Hammarlund	MICS-140	1	70	140	SCL	K	40c
Hammarlund	MICS-220	1	140	220	SCL	K	50c
Hammarlund	MICD-60	2	10	60	SCL	L	75c
Hammarlund	MICD-140	2	70	140	SCL	L	75c
Hammarlund	MICD-220	2	140	220	SCL	L	85c
Hammarlund	ICD-220	2	140	220	SCL	M	85c

Note †: ML—Midline; CL—Centraline; SCL—Straight Capacity Line; MWF—Midway between straight wavelength and straight frequency line.

Note *: Indicates condensers with extra wide spacing between plates for shortwave transmitters and receivers.

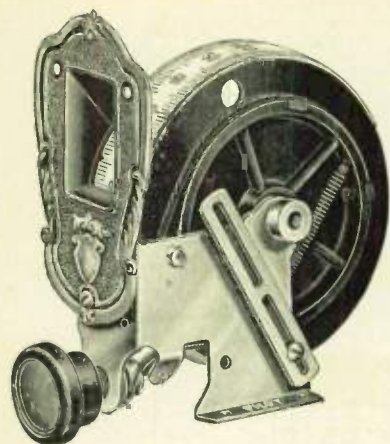
FLEXIBLE, INSULATED VARIABLE CONDENSER COUPLINGS

ILLUSTRATION N:—
Hammarlund Flexible, Insulated Variable Condenser Coupling.
Type No. FC.
Price **50c**

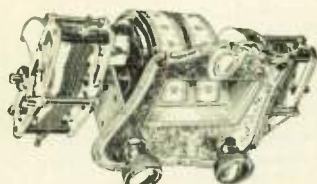
ILLUSTRATION O:—
Pilot Flexible, Insulated Variable Condenser Coupling.
Type No. 12A.
Price **25c**

Both of these couplings are designed to permit operation of any number of variable condensers or other similar units in tandem without requiring exact shaft alignment.

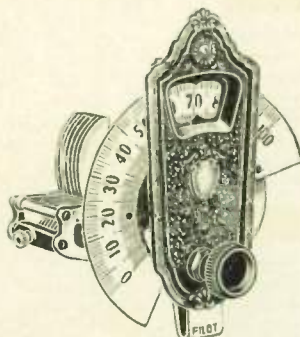
The opposite sides of the coupling are insulated from each other, allowing the operation of the mechanically connected pieces of apparatus as independent electrical units.



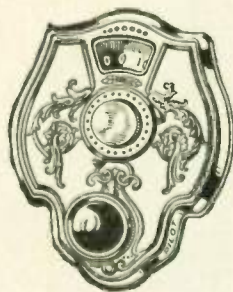
Illus. A



Illus. B



Illus. C



Illus. D



Illus. E

ILLUSTRATION A:—
 Pilot Type 1285 Single Drum Dial with Knob Control.
 Price **\$1.50**

ILLUSTRATION B:—
 Pilot Type 1283 Double Drum Dial with Knob Control.
 Price **\$2.75**

ILLUSTRATION C:—
 Pilot Type 1282 Pilot-Lite Dial with Bronze Plate.
 Price **\$1.00**
 This illuminated dial has large figures

ILLUSTRATION D:—
 Pilot Type 1278 Black Art Dial. **50c**
 Price
 Pilot Type 1279 Walnut Art Dial. **50c**
 Price
 These highly ornamental dials, available in black or walnut finishes can be used to replace less decorative dials.

ILLUSTRATION E:—
 Pilot Plain Molded Bakelite Dial. **25c**
 Price
 This dial is designed for use wherever

ILLUSTRATION F:—
 Eureka Type 501 Escutcheon Plate for use with Type 500 Drum Dial. **25c**
 Price

ILLUSTRATION G:—
 Pilot Type 1259 (Large Size) Black or Walnut Finish Variable Control Adjusting Knob. Diameter of Knob—1.5 16". **10c**
 Price
 Pilot Type 1261 (Small Size) Black or Walnut Finish Variable Control Adjusting Knob. Diameter of Knob—7/8". **10c**
 Price

ILLUSTRATION H:—
 Type T-3, Mazda No. 40, 6-volt, .15-amp. Panel Lamp. **10c**
 Type T-3, Mazda No. 41, 2 1/2-volt, .45-amp. Panel Lamp.
 Price, each

ILLUSTRATION I:—
 Pilot Type 216, 4-prong Base Mounting Socket for use where wiring is done on socket side of subpanel. **15c**
 Price, Each
 Pilot Type 217, 5-prong Base Mounting Socket. Exactly the same as the Type 216 socket except that it is made for 5-prong tubes.
 Price, Each **15c**

ILLUSTRATION J:—
 Pilot Type 214, 4-prong Subpanel Socket with screw type terminals. **10c**
 Price
 Pilot Type 215, 5-prong Subpanel Socket with screw type terminals. **15c**
 Price

NOT ILLUSTRATED.
 Manufacturer's Type Sockets. **10c**
 Price, All Types, Each
 Eureka Type 700, 4-prong Wafer Type Socket with Cadmium Plated Positive Wiping Contacts.
 Eureka Type 701, 5-prong Wafer Type Socket with Cadmium Plated Positive Wiping Contacts.
 Muter Manufacturer's Type 4-prong Socket with Guide.

ILLUSTRATION L:—
 American Radio Hardware Co. Type 80 Screen Grid Clip complete with 6" soldered lead. **10c**
 Price

These screen grid tube clips are designed for use with coils or other apparatus which

PILOT DRUM DIALS WITH KNOB CONTROL

In these Pilot Single and Double Drum Dials, the solid, molded Bakelite drums which carry the condensers are driven by a specially treated cord which is wound around the drum and connects with the pulley on the shaft turned by the control knobs. The dials turn easily, smoothly and without backlash even when used with the heaviest bathtub type variable condensers.

PILOT-LITE BRONZE PLATE DIAL

which are easily read. The vernier action is smooth and accurate and the frame is sturdy enough to support fairly heavy multiple condensers. Its handsome appearance, low cost and easy mounting features make it a very popular unit.

PILOT KNOB CONTROL ART DIALS

A positive friction drive prevents slipping or backlash, even when they are used with heavy triple gang variable condensers. The dial mounts with a single machine screw. The scale is double reading making it suitable for use with both clockwise and counterclockwise condensers.

PILOT PLAIN BAKELITE DIALS

an inexpensive dial is required. It is 4 inches in diameter and is fitted with a bushing designed for 1/4" shafts. It is graduated from 0 to 100.

EUREKA DRUM DIAL AND ESCUTCHEON PLATE

This simple drum dial unit is ideally suited for use where low cost is a primary consideration. It consists of a simple drum mechanism, the outer edge of the large drum serving as the adjusting control. It is designed for use with condensers having a 1/4" shaft.

PILOT VARIABLE CONTROL ADJUSTING KNOBS

These knobs are molded in genuine Bakelite and are fitted with brass bushings to take 1/4" shafts. All are provided with high grade set screws.

They are ideally suited for use on rheostats, volume controls, trimming condensers and other adjustable controls mounted on the panel. Their use throughout gives a uniform appearance to the controls.

MAZDA RADIO PANEL LAMPS

These G. E. Mazda Radio Panel Lamps are the standard units for use in illuminated dials and pilot lights.

The two voltage ratings, 6-volt and 2 1/2-volt, make them adaptable for use in practically every type of d. c. and a. c. receiver.

PILOT TUBE AND PLUG-IN COIL SOCKETS

ILLUSTRATION K:—
 Pilot Type 206, 4-prong Cushion Socket for microphonic tubes. **25c**
 Price

All Pilot Tube Sockets are made of genuine Bakelite. They are designed to hold the tube prongs firmly but not too tightly. The contact springs and soldering terminals of the sockets are actually one-piece construction so that there is no danger of loose contacts, high resistance joints or noises. All binding posts and terminal lugs are marked by letters molded into the Bakelite forms.

MANUFACTURER'S TYPE SUBPANEL SOCKETS

Muter Manufacturer's Type 5-prong Socket with Guide.

Spaulding Manufacturer's Type 4-prong Socket with fibre locating plate.

Spaulding Manufacturer's Type 5-prong Socket with fibre locating plate.

These compact, inexpensive and efficient subpanel sockets are of the same construction as those used in the chassis of many of the largest set manufacturers.

SCREEN GRID TUBE CONTROL GRID CLIPS

Eureka Type 300 Screen Grid Clip, designed to eliminate terminal breakage. **2 for 5c**
 Price

requires a means of making contact with the cap (control grid) terminal of screen grid tubes.



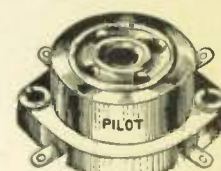
Illus. F



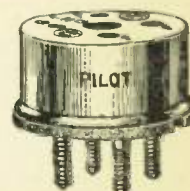
Illus. G



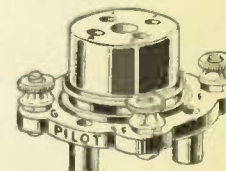
Illus. H



Illus. I



Illus. J

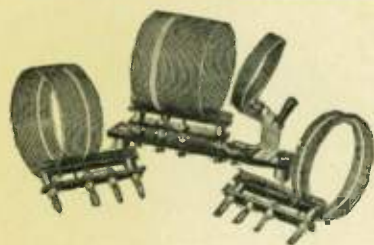


Illus. K



Illus. L

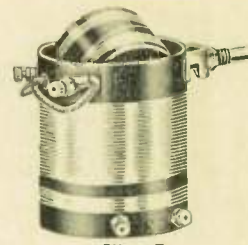
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
 AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



Illus. A



Illus. B



Illus. C

HAMMARLUND S. W. PLUG-IN COILS

ILLUSTRATION A:—
Hammarlund Type LWT-4 Set. **\$7.00**
Price
Hammarlund Type LWC-4 Set. **\$7.00**
Price

These efficient short wave coil sets are built around the famous Hammarlund self-supporting, space-wound coil material acknowledged as standard for low resistance at high frequencies.

Coil mounts are made of "Parmica" insulation to reduce losses

to an absolute minimum.

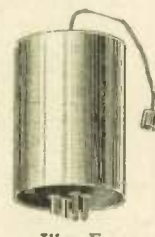
The LWT-4 Coil Set consists of a variable primary, plug-in coil mounting base and four plug-in coils to cover the range from 15 to 110 meters.

The LWC-4 coil set consists of a plain base (no variable primary) and four plug-in coils to cover the range from 15 to 110 meters.

The center unit in Illus. A, shows one of the coils plugged into the variable primary base of the LWT-4 Coil Set.



Illus. D



Illus. E



Illus. F

PILOT MIDGET R. F. TRANSFORMERS

ILLUSTRATION D:—
Pilot No. 125 Midget Coil Set consisting of 3 coils complete with mounting brackets. **75c**
Price

These midget r. f. transformers are designed for use where space

is very limited. They are wound with enamel wire on Formalite tubing forms, 1 1/4" long and 1/4" in diameter.

They are designed to cover the 200 to 550 meter broadcast band with .00035 mfd. condensers.

PILOT SCREEN GRID TUNER

ILLUSTRATION C:—
Pilot No. 133 Screen Grid Tuner. **\$1.00**
Price

The use of this screen grid tuning transformer between a screen grid r. f. amplifier tube and a 201A or 227 detector gives a simple, inexpensive and ex-

traordinarily efficient circuit.

A standard screen grid r. f. coupler should be used in the antenna stage.

A .00035 mfd. variable condenser should be used with the tuner to cover the 200 to 550 meter broadcast band.

EUREKA SCREEN GRID R. F. TRANSFORMERS

ILLUSTRATION F:—
Eureka No. 100 Coil Kit consisting of three matched r. f. coils, for 2-stage circuits. **\$1.75**
Price
Eureka No. 101 Coil Kit consisting of four matched r. f. coils, for 3-stage circuits. **\$2.00**
Price

These highly efficient screen grid circuit r. f. transformers are

space-wound on molded Bakelite forms, using enameled copper wire.

They are sold in matched sets consisting of an aerial coupler and r. f. transformers.

They can be used in practically all circuits employing Type 222, 224 and 232 screen grid tubes and also with the new variable mu, Types 235 and 551 tubes.

PILOT SPACE-WOUND TRANSFORMERS

ILLUSTRATION G:—
Pilot Type 175, Space-Wound R. F. Transformers. **\$1.50**
Price per set of three coils

ILLUSTRATION H:—
Pilot Type 176, Plug-In Type Space Wound R. F. Transformers. **\$1.50**
Price per set of three coils

The No. 175 and No. 176 r. f. transformers are the same electrically, the only difference between them being that the No. 176 units are provided with prongs for use as plug-in units. All coils are space-wound on molded Bakelite forms, 2 1/4" high and 1 3/4" in diameter. Their small size and confined magnetic field makes them ideally suited for use where space is limited. They are designed to tune from 200 to 550 meters with a .00035 mfd. variable condenser.



Illus. G



Illus. H

OCTOCOIL PLUG-IN COILS

ILLUSTRATION B:—

Color of Coil	Wavelength Range Meters	Price Each
Green	16 to 30	85c
Brown	29 to 58	85c
Blue	54 to 110	85c
Red	103 to 225	85c

Complete Set of 4 Octocoils—Green, Brown, Blue and Red to cover range from 16 to 225 meters. **\$3.40**
Price

BLANK COIL FORMS

Blank Octocoil Winding Forms for experimenters. **35c**
Price, each

Octocoils represent the latest developments in the construction of efficient and rugged short wave coils.

The scientifically designed, ribbed forms are molded of genuine Bakelite and the coils are space-wound, using Nos. 12, 14, 16 and 25 enameled wire, to tolerances seldom attained in commercial production.

A rugged rim is provided to grasp the coils so as to prevent breakage in inserting or withdrawing the coils from their sockets.

The coils for different wavelength bands are distinguished by different colors. They are 3 3/4" high and 1 1/4" in diameter.

They should be used with .00015 mfd. variable condensers to cover the wavelength ranges indicated.

PILOT "WASP" PLUG-IN COILS

ILLUSTRATION J:—
Pilot No. 180-4, "Wasp" Short Wave Plug-In Coils. Set of 5 coils. **\$4.45**
Price

This set of coils consists of five plug-in coils, each coil designed to cover a separate wavelength range. The entire set, when used in a Pilot "Wasp" or similar straight regenerative

circuit, with a .00016 mfd. variable condenser will cover the range from 17 to 485 meters.

Each coil consists of a molded Bakelite ribbed form with a primary, secondary and tickler winding. The coils are fitted with a handy pull ring to make withdrawal from the socket easy and also to eliminate danger of breakage.

PILOT SCREEN GRID PLUG-IN COILS

ILLUSTRATION E:—
Pilot No. 230 Screen Grid Plug-In Coil Kit consisting of one antenna coupler and three interstage transformers. **\$4.00**
Price

Circuits using the screen grid tubes require radio frequency transformers of special design.

The No. 230 combination, consisting of an antenna coupler and three interstage transformers is ideally suited for use where a receiver of very high sensitivity

is desired. The coils themselves are enclosed in aluminum cans, 2 1/4" in diameter and 3 1/4" high. Prongs, projecting through the insulating base connect to the terminals of the coils which are rigidly fastened inside the case. The antenna coupler fits into a 5-prong socket. The other coils fit into four prong sockets.

The 200 to 550 meter broadcast band is covered by using .00035 mfd. variable condensers with these coils.

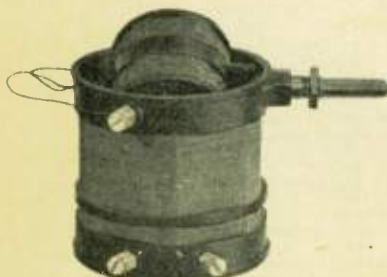
ROSENBLUM TRANSFORMER AND TUNER

ILLUSTRATION I:—
Rosenblum Three-Circuit Tuner. **\$1.00**
Price

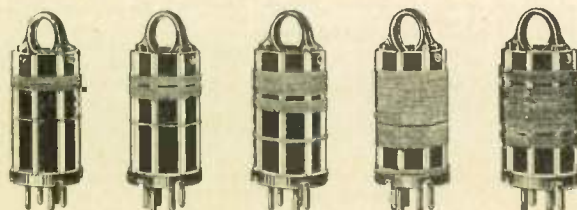
ILLUSTRATION K:—
Rosenblum R. F. Transformer. **75c**
Price

These units are the last word in transformers and three-circuit tuners. The three-circuit tuner consists of a primary, secondary and movable tickler coil winding. The winding forms are made of molded Bakelite. Rugged construction, high efficiency, interlocked rotor coil and shaft to prevent loosening are a few of the features of this unit.

The R. F. Transformer is designed for use with the tuner, but is suitable for practically all r. f. circuits requiring a high grade r. f. transformer. Both units are designed to cover the broadcast band with a .00035 mfd. variable condenser.



Illus. I



Illus. J



Illus. K

RADIO FREQUENCY CHOKE COILS
HAMMARLUND R. F. CHOKE COIL

ILLUSTRATION A:—
 Hammarlund No. RFC-85 R. F. Choke Coil.
 Inductance—85 millihenries. D. C. Resistance—
 215 ohms. Capacity—3 mmfds.
 Price **\$1.25**

These choke coils are made by a special
 helical winding and impregnating process which

HAMMARLUND SHIELDED R. F. CHOKE COIL

ILLUSTRATION G:—
 Hammarlund No. SPC, 10-millihenry, Radio
 Frequency Choke Coil.
 Price **\$1.00**

This shielded, polarized r. f. choke coil has
 proved its superiority for use in high-gain
 screen grid receivers.

PILOT RADIO FREQUENCY CHOKE COIL

ILLUSTRATION H:—
 Pilot No. 130 R. F. Choke Coil. Inductance
 80 millihenries.
 Price **50c**

This inexpensive radio frequency choke coil

EUREKA RADIO FREQUENCY CHOKE COIL

ILLUSTRATION B:—
 Eureka No. 200 R. F. Choke Coil. Inductance
 —85 millihenries.
 Price **25c**

AUDIO FREQUENCY TRANSFORMERS
PUSH-PULL AUDIO FREQUENCY TRANSFORMERS
INPUT TRANSFORMERS

ILLUSTRATION C:—
 Dongan No. 5110 Push-Pull Input Audio Fre-
 quency Transformer.
 Price **\$1.75**

ILLUSTRATION K:—
 Dongan No. 2130 Diatonic Push-Pull Input
 Audio Frequency Transformer.
 Price **\$2.50**

ILLUSTRATION F:—
 Pilot No. 426 Push-Pull Input Audio Frequency
 Transformer.
 Price **\$2.75**

The use of push-pull circuits, with the high
 grade push-pull transformers listed in this
 section make possible the highest quality repro-
 duction possible, free from distortion. When
 these units are used in properly designed cir-
 cuits, hum is reduced to an absolute minimum.
 The Type 3111 push-pull output transformer
 is provided with both low and high impedance
 secondary windings so that it can be used to
 couple the output of the push-pull stage to

SINGLE STAGE OUTPUT TRANSFORMERS

ILLUSTRATION K:—
 Dongan No. 2129 Diatonic Output Audio Fre-
 quency Transformer.
 Price **\$2.50**

ILLUSTRATION D:—
 Dongan No. 3112 Output Transformer.
 Price **\$4.98**

Because of the high current in the plate cir-
 cuits of 171A and 245 power tubes, and the
 necessity for properly matching the output im-
 pedance of the power tube and the speaker, an
 output transformer should be employed to con-

HIGH GRADE SINGLE STAGE A. F. TRANSFORMERS

ILLUSTRATION K:—
 Dongan No. 2128, 3 to 1 Ratio Audio Fre-
 quency Transformer.
 Price **\$2.00**

ILLUSTRATION F:—
 Pilot No. 423, 3½ to 1 Ratio Audio Frequency
 Transformer.
 Price **\$2.35**

LOW COST SINGLE STAGE A. F. TRANSFORMERS

ILLUSTRATION J:—
 Dongan No. 74, 3 to 1 Ratio Audio Frequency
 Transformer.
 Price **\$1.00**

ILLUSTRATION E:—
 Pilot No. 413, 3½ to 1 Ratio Audio Frequency
 Transformer.
 Price **\$1.35**

ILLUSTRATION I:—
 Dongan No. 2127, 3 to 1 Ratio Audio Fre-
 quency Transformer.
 Price **\$1.50**

ILLUSTRATION J:—
 Dongan No. 5164, 6 to 1 Ratio Audio Fre-
 quency Transformer.
 Price **\$1.50**

makes possible the formation of a large in-
 ductance with a minimum of distributed capac-
 ity. They have no resonant period within the
 broadcasting band. At the same time, their
 extremely low distributed capacity makes them
 exceptionally well suited for short wave work.
 They are sealed in a Bakelite case.

The coil unit is shielded in an aluminum
 shell resulting in a construction that gives a
 minimum external field, permits close, compact
 design and eliminates undesirable coupling. It
 has no resonant peak within the broadcast
 band.

Polarity of winding is indicated on the unit.

is designed for use in broadcast and short
 wave receivers, and may be used effectively on
 wavelengths down to 20 meters.

Its distributed capacity is very low. It is
 1" in diameter and 1¼" in height.

This choke coil is made with an open honey-
 comb coil type winding which reduces distrib-
 uted capacity to a minimum, giving very high
 choking effect on wavelengths down as low as
 20 meters.

OUTPUT TRANSFORMERS

ILLUSTRATION K:—
 Dongan No. 2131 Diatonic Push-Pull Output
 Audio Frequency Transformer.
 Price **\$2.50**

ILLUSTRATION F:—
 Pilot No. 427 Push-Pull Output Audio Fre-
 quency Transformer.
 Price **\$2.75**

ILLUSTRATION D:—
 Dongan No. 3111 Push-Pull Output Audio Fre-
 quency Transformer, with low and high imped-
 ance secondaries. For 245 tubes.
 Price **\$4.98**

either the low impedance voice coil of a
 dynamic speaker or to a high impedance mag-
 netic speaker.

The other push-pull output transformers have
 high impedance secondary windings for coup-
 ling to standard magnetic speakers.

They can be used, however, with dynamic
 speakers which are provided with impedance
 matching coupling transformers.

nect the speaker to the output of the power
 tube.

These output transformers are scientifically
 designed to give maximum efficiency. The No.
 2129 unit can be used to couple the output of
 a 171A or 245 tube to a magnetic speaker.
 The No. 3112 unit is provided with two second-
 ary windings, one of low impedance for use
 when coupling to the voice coil of a dynamic
 speaker and the other of high impedance for
 use when coupling to a standard high imped-
 ance magnetic speaker.

While these transformers are among the
 leaders in quality of construction and reproduc-
 tion, their cost is well within reasonable limits.

They are sturdily made with heavy cores and
 windings to reproduce faithfully all the audio
 frequencies which give natural reproduction.
 They are ideally suited for original and re-
 placement use in the higher grade console sets.

ILLUSTRATION C:—
 Dongan No. 3177, 3 to 1 Ratio Audio Fre-
 quency Transformer.
 Price **\$1.50**

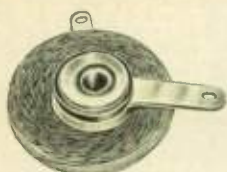
The single stage transformers listed in this
 section are made by leaders in the manufacture
 of quality transformers at low cost.

These transformers represent the best values
 obtainable in high grade, inexpensive trans-
 formers. They are ideally suited for use as
 original equipment or replacements in mid-
 get sets and in inexpensive console models where
 low cost is an important factor.

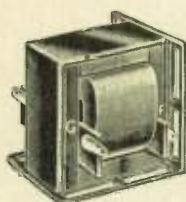
All of these units are enclosed in metal cases
 and are provided with suitable mounting means
 and terminals.



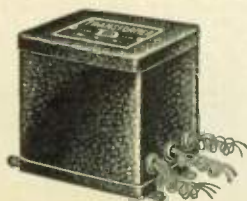
Illus. A



Illus. B



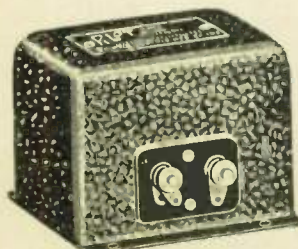
Illus. C



Illus. D



Illus. E



Illus. F



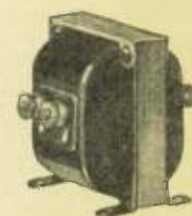
Illus. G



Illus. H



Illus. I



Illus. J

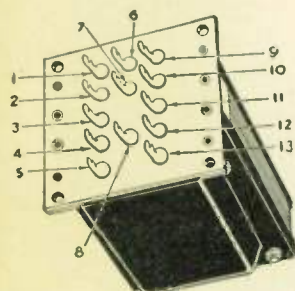


Illus. K

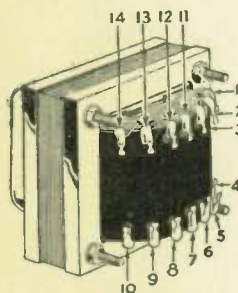
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
 AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



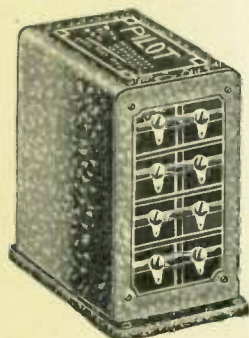
Illus. A



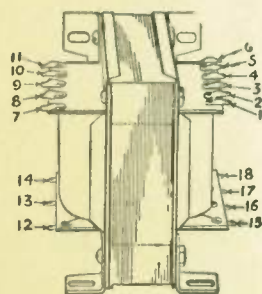
Illus. B



Illus. C



Illus. D



Illus. E

The power transformers listed on this and the opposite page are made by the leading transformer manufacturers for original and replacement use in receivers and power units of every size and description.

The complete characteristics of each transformer, given in the charts, makes the selection of the proper transformer a simple matter, involving only a glance at the chart to determine the transformer having

windings of the proper voltage and current characteristics for any given application.

The units have been arranged into logical groups for convenience.

POWER TRANSFORMERS FOR ORIGINAL OR REPLACEMENT USE

Manufacturer and Type No.	Illus. No.	Primary Winding Voltage	Secondary Windings		For Tubes		Dimensions			Price	
			Total* Voltage Rating	Current Rating Amps.	Maximum No.	Types or Equivalent	Len.	Wid.	Hgt.	For 50-60 Cycles Stand.	For 25-30 Cycles Spec'l.
Group 1: For Receivers with Single or Push-Pull 250 Power Amplifier Tubes											
Radiart No. FC-8	E	105,	950 C.T.	.140	2	281 (Plates)	4 1/4"	3 1/2"	4 1/8"	\$5.00	Not Available
		115,	7.5 C.T.	2.5	2	281 (Fil.)					
		125	7.5 C.T.	2.5	2	250					
		Taps	2.5 C.T.	8.75	6	224, 227, 235					
Group 2: For Receivers with Single or Push-Pull 245 or 247 Power Amplifier Tubes											
Dongan No. 1951	H	110	750 C.T.	.125	1	280 (Plates)	4 3/8"	3 3/4"	4 1/2"	\$4.98	\$6.23
		to	5 C.T.	2.0	1	280 (Fil.)					
		120	2.5 C.T.	3.0	2	245, 247					
		No Taps	2.5 C.T.	10.5	6	224, 227, 235					
Radiart No. FME-2	C	110	750 C.T.	.090	1	280 (Plates)	3 7/8"	3 1/4"	3 1/2"	\$3.50	Not Available
		to	5	2.0	1	280 (Fil.)					
		120	2.45 C.T.	3.0	2	245, 247					
		No Taps	2.45 C.T.	8.75	5	224, 227, 235					
Radiart No. FB-2	B	110	700 C.T.	.125	1	280 (Plates)	4"	4"	6"	\$4.00	\$5.60
		120	5	2.0	1	280 (Fil.)					
		Taps	2.5 C.T.	3.0	2	245, 247					
			2.5	10.5	6	224, 227, 235					
Radiart No. FC-4	E	105,	700 C.T.	.125	1	280 (Plates)	4 3/4"	3 1/2"	4 1/8"	\$4.00	\$5.60
		115,	5	2.0	1	280 (Fil.)					
		125	2.5 C.T.	3.0	2	245, 247					
		Taps	2.5 C.T.	10.5	6	224, 227, 235					
Dongan No. 5951	L	110	700 C.T.	.125	1	280 (Plates)	4"	3 3/4"	4 1/4"	\$4.50	\$6.30
		to	5	2.0	1	280 (Fil.)					
		120	2.5 C.T.	3.0	2	245, 247					
		No Taps	2.5 C.T.	10.5	6	224, 227, 235					
Dongan No. 7926	J	110	700 C.T.	.125	1	280 (Plates)	4"	4"	5 1/2"	\$4.50	\$6.30
		to	5	2.0	1	280 (Fil.)					
		120	2.5 C.T.	3.0	2	245, 247					
		No Taps	2.5 C.T.	10.5	6	224, 227, 235					
Pilot No. 411	A	110	660 C.T.	.090	1	280 (Plates)	5"	3"	5 1/2"	\$5.90	Not Available
		to	5	2.0	1	280 (Fil.)					
		120	2.5	3.6	2	245, 247					
		No Taps	2.5	12.0	7	224, 227, 235					
Group 3: For Receivers with Single 245 or 247 Power Amplifier Tubes											
Dongan No. 7939	I	110	700 C.T.	.060	1	280 (Plates)	3 3/4"	3 3/8"	3 3/8"	\$3.00	\$4.20
		to	5	2.0	1	280 (Fil.)					
		120	2.5 C.T.	8.5	4	224, 227, 235					
		No Taps	2.5 C.T.	8.5	1	245, 247					
Dongan No. 6949	L	110	700 C.T.	.060	1	280 (Plates)	3 1/8"	3 3/8"	3 3/4"	\$4.25	\$5.95
		to	5	2.0	1	280 (Fil.)					
		120	2.5 C.T.	1.5	1	245, 247					
		No Taps	2.5 C.T.	8.5	4	224, 227, 235					
Radiart No. FMC-2	C	110	700 C.T.	.050	1	280 (Plates)	3 7/8"	3 1/4"	3 1/2"	\$3.00	\$4.20
		to	5	2.0	1	280 (Fil.)					
		120	2.45 C.T.	1.5	1	245, 247					
		No Taps	2.45 C.T.	7.0	4	224, 227, 235					
Radiart No. FMB-2	C	110	700 C.T.	.045	1	280 (Plates)	3 1/4"	2 3/4"	2 1/8"	\$2.50	Not Available
		to	5	2.0	1	280 (Fil.)					
		120	2.45 C.T.	1.5	1	245, 247					
		No Taps	2.45 C.T.	3.5	2	224, 227, 235					

Note *: Indicates total voltage across secondary windings. To find voltage each side of centertap divide by 2. C.T. indicates windings provided with centertap.

CHART CONTINUED ON OPPOSITE PAGE.



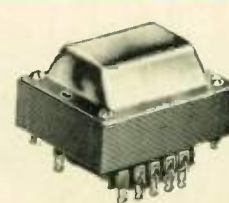
Illus. F



Illus. G



Illus. H



Illus. I

KRESGE'S TREMENDOUS BUYING POWER AND EFFICIENT MERCHANDISING METHODS
MAKE POSSIBLE THE EXCEPTIONAL VALUES OFFERED IN THIS CATALOG

Manufacturer and Type No.	Illus. No.	Primary Winding Voltage	Secondary Windings		For Tubes		Dimensions			Price	
			Total* Voltage Rating	Current Rating Amps.	Maximum No.	Types or Equivalent	Len.	Wid.	Hgt.	For 50-60 Cycles Stand.	For 25-30 Cycles Spec'l.
Group 4: For Receivers with Single or Push-Pull 112A or 171A Power Amplifier Tubes											
Dongan No. 5910	L	110 to 120	570 C.T.	.085	1	280 (Plates)	3 1/8"	3 3/8"	3 3/4"	\$4.25	\$5.95
			5	2.0	1	280 (Fil.)					
			5 C.T.	.5	2	112A, 171A					
		No Taps	2.5 C.T.	1.75	1	224, 227, 235					
			1.5	4.2	4	226					
			550 C.T.	.085	1	280 (Plates)					
			5 C.T.	2.0	1	280 (Fil.)					
			5 C.T.	.5	2	112A, 171A					
Dongan No. 7510	G	110 to 120	550 C.T.	.085	1	280 (Plates)	4 1/8"	3 3/8"	4"	\$4.98	\$6.23
			5 C.T.	.5	2	112A, 171A					
			5 C.T.	.5	2	112A, 171A					
		No Taps	2.5 C.T.	1.75	1	224, 227, 235					
			1.5	4.2	4	226					
			550 C.T.	.085	1	280 (Plates)					
			5	2.0	1	280 (Fil.)					
			5 C.T.	.5	2	112A, 171A					
Radiart No. FC-6	E	105, 115, 125	550 C.T.	.085	1	280 (Plates)	4 3/4"	3 1/2"	4 1/8"	\$4.00	\$5.60
			5	2.0	1	280 (Fil.)					
			5 C.T.	.5	2	112A, 171A					
		Taps	2.5 C.T.	1.75	1	224, 227, 235					
			1.5 C.T.	4.24	4	226					
Group 5: Filament Transformers											
Dongan No. 6527	N	110 to 120	5 C.T.	.5	2	112A, 171A	3"	5 1/2"	2 3/4"	\$3.25	\$4.07
			2.5 C.T.	1.75	1	224, 227, 235					
		No Taps	1.5	4.2	4	226					
Pilot No. 407	D	110 to 120	5	.5	2	112A, 171A	5"	3"	5 1/2"	\$4.00	Not Available
			2.5	3.6	2	245, 247					
		No Taps	2.5	10.0	6	224, 227, 235					
Dongan No. 6937	F	110 to 120	2.5 C.T.	3.5	2	224, 227, 235, 245, 247	2 5/8"	2 5/8"	3"	\$1.75	\$2.45
		No Taps									
Dongan No. 6958	F	110 to 120	5 C.T.	.5	2	112A, 171A	2 5/8"	2 5/8"	3"	\$1.75	\$2.45
		No Taps									
Group 6: Miscellaneous High Voltage and Filament Transformers											
Dongan No. 7511	M	110 to 120	550 C.T.	.085	1	280 (Plates)	3 3/8"	2 3/8"	3"	\$3.00	\$3.75
			5 C.T.	2.0	1	280 (Fil.)					
		No Taps									
Radiart No. FMA-2	K	110 to 120	165	.015	1	224, 227, 235, 245, 247	3 1/4"	2 3/4"	2"	\$2.00	Not Available
			2.5 C.T.	1.75	1	224, 227, 235, 245, 247					
		No Taps	2.5 C.T.	3.5	2	245, 247					
Note *: Indicates total voltage across secondary windings. To find voltage each side of centertap divide by 2. C.T. Indicates windings provided with centertap.											

Note *: Indicates total voltage across secondary windings. To find voltage each side of centertap divide by 2. C.T. Indicates windings provided with centertap.

HEAVY DUTY AUDIO AND POWER SUPPLY CHOKES COILS

The chokes listed in this section are scientifically designed and sturdily built to give satis-

factory service in power supply filters, power tube outputs, audio filter circuits and other

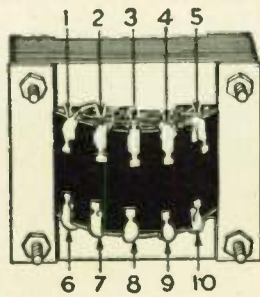
applications requiring the use of high inductance and current capacity.

Manufacturer and Type No.	Price	First Section		Second Section		Illus. No.
		Ind. Henries	Current Cap. Ma.	Ind. Henries	Current Cap. Ma.	
Dongan No. 7930 Single Choke	\$1.50	10	115			P
Eureka No. 250 Single Choke	\$1.00	30	60			Q
Pilot No. 431 Double Choke.	\$4.00	25	90	35	45	R
Dongan No. 7512 Double Choke	\$3.50	30	85	30	85	O

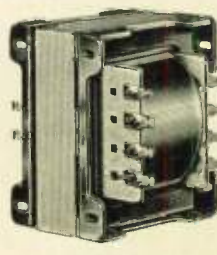
Inductance of chokes is higher when they are used at less than their maximum current carrying capacities.



Illus. J



Illus. K



Illus. L



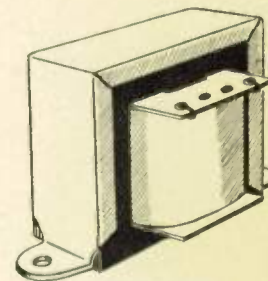
Illus. N



Illus. O



Illus. P



Illus. Q

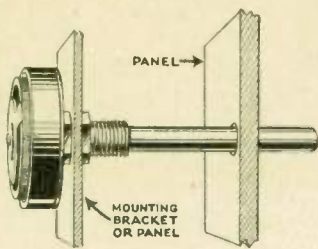


Illus. R

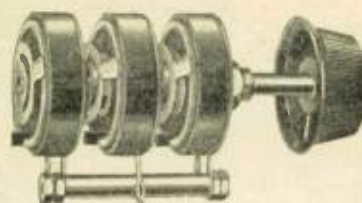
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



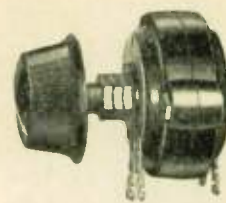
Illus. A



Illus. B



Illus. C



Illus. D

ELECTRAD ROYALTY POTENTIOMETERS AND VARIABLE RESISTORS

ILLUSTRATION A:—
Electrad Royalty Potentiometers and Variable Resistors.
Price, All Types, Each **\$1.00**

Resistance Range	Type	Safe Working Current Milliamp.
0-2,000	F	37.5
0-5,000	K	23.0
0-10,000	G	16.5
0-25,000	H	10.5
0-50,000	C	7.5
0-100,000	B	5.0
0-200,000	J	4.0
0-500,000	E	2.5
0-700,000	D	2.0

0-7 Megohms A .2
Royalty potentiometers and variable resistors are admirably suited for use wherever variable, long-wearing, high resistance, non-inductive potentiometers are required.

meters and variable resistors are required. All units are provided with three terminals, one connecting to the variable arm and the other two connecting to the ends of the resistance element. All three terminals are used when the units are to be employed as potentiometers. For use as a simple variable resistance only the variable arm terminal and one of the resistance element terminals should be used.

Each turn of wire is completely insulated from the others, the wire simply serving to establish the contact between the wiper arm and the resistance element.

The entire range of each unit is covered with less than one complete turn of the knob.

ELECTRAD EXTENSION SHAFTS

ILLUSTRATION B:—
Electrad Extension Shaft.
Price, complete **25c**

These extra length bushings and shafts are very handy for mounting Electrad Royalty Potentiometers and Variable Resistors on extra thick panels or when it is desired to mount the units away from the panel.

The illustration shows the long shaft assembly in use. The complete assembly consists of the contact arm, bushing, 2" shaft, thrust washer, spring washer and nuts.

The assembly is easily substituted for the standard contact arm and bushing assembly of any Royalty or Tonatrol unit by loosening a single nut.

ELECTRAD "T" PAD ATTENUATORS

ILLUSTRATION C:—
Electrad Royalty "T" Pad Attenuator, complete with instructions for use.
Price Each, All Types **\$2.75**

Impedance of Line	Use Royalty "T" Pad	Impedance of "T" Pad
Ohms	Type	Ohms
200	TR-200	200
500	TR-500	500
5,000	TR-5000	5,000

These Constant Impedance "T" Pad Attenuators are necessary for efficient volume control of microphones, electrical

phonographs, talking picture amplifiers and other sound amplifying and distribution systems.

Their design, construction and use is based on the well-known rule that to obtain maximum power from a generating source, the power absorbing medium should have an impedance equal to that of the generating source.

Their use gives much better results than the use of the usual potentiometer and variable resistance methods of volume control.

ELECTRAD "L" PAD ATTENUATORS

ILLUSTRATION D:—
Electrad Super-Tonator "L" Pad Attenuator, complete with instructions for use.
Price Each, All Types **\$3.00**

Impedance of Line	Use Super-Tonator "L" Pad	Impedance of "L" Pad
Ohms	Type	Ohms
200	LS-200	200
500	LS-500	500
5,000	LS-5000	5,000

Since an "L" Pad Attenuator will often satisfactorily fill

the requirements for constant impedance volume control, the Electrad Super-Tonator "L" Pad Attenuator has been designed for such use.

These units consist of two variable resistance elements of the Super-Tonator type so connected together that single control is obtained with one element serving as a series resistor and the other as a shunt resistor.

PILOT VOLUME CONTROLS

ILLUSTRATION H:—
Pilot Volumgrad Volume Control Potentiometers.
Price, Each **75c**

Type No.	Resistance Range Ohms	Maximum Voltage*
940	0-50,000	140
941	0-100,000	200
942	0-200,000	280
945	0-500,000	450

Note*: This is maximum voltage which can be applied safely across resistance element of potentiometer.

These variable high resistance potentiometers are designed especially for volume and oscillation control circuits.

Volume can be adjusted from zero to maximum with a single turn of the knob. The case is molded Bakelite, 2" in diameter. The variable arm is insulated from the shaft to permit the unit to be mounted on metal panels if desired. The maximum watt dissipation of these units is 1/2 watt.



Illus. E



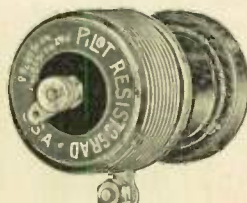
Illus. F



Illus. G



Illus. H



Illus. I

CENTRALAB REPLACEMENT VOLUME CONTROLS

Since much of the trouble experienced with receivers is due to faulty volume controls, the following line of Centralab high grade volume controls fills a long-felt want.

In addition to providing suitable replacement units, a few well-chosen units can be

used as a complete kit of variable resistors for servicing receivers. All of these units employ the efficient and noiseless Centralab rocking disc contact and are fitted with long shafts. They are compact in size to fit any receiver.

ABBREVIATIONS USED IN TABLES

Complete information on the characteristics and uses of these units is contained in the Centralab Volume Control Guide, a description of which will be found on page 31 of this catalog.

L. H.—Resistance increases with clockwise rotation.

R. H.—Resistance increases with counterclockwise rotation.

Sym.—Symmetrical Taper.

Max. Res.—Maximum Resistance.

Cent. Res.—Resistance reading at center position or half turn.

Inf.—Infinite Resistance.

CENTRALAB JUNIOR RADIOHM REPLACEMENT VOLUME CONTROLS

ILLUSTRATION E:—
(Except with two terminals.)
Centralab Junior Radiom Replacement Volume Controls.
Price, Each **\$1.35**

Type No.	Max. Res. Ohms	Cent. Res. Ohms	Taper
70-200	Inf.	200	L.H.
70-201	Inf.	3,000	L.H.
70-202	75,000	3,000	R.H.
70-203	500,000	35,000	R.H.

The No. 70-200 is designed for use as a shunt resistance volume control across antenna or r.f. transformer primary.

The No. 70-201 is for use as a shunt resistance across tuned grid circuits.

The No. 70-202 is for use as a variable r. f. grid bias resistor.

The No. 70-203 is for use as a variable voltage control in series in r. f. plate leads.

CENTRALAB JUNIOR POTENTIOMETER REPLACEMENT VOLUME CONTROLS

ILLUSTRATION E:—
Centralab Junior Potentiometer Replacement Volume Controls.
Price, Each **\$1.35**

Type No.	Max. Res. Ohms	Cent. Res. Ohms	Taper
72-100	10,000	1,000	L.H.
79-006	15,000	3,000	R.H.
72-102	25,000	2,500	L.H.
72-103	50,000	25,000	Sym.

The Nos. 72-100 and 72-102 units are designed for use as antenna or r. f. transformer primary shunt controls.

The No. 72-103 is for use as a variable voltage control in the screen grid lead.

The No. 79-006 has a special taper and grounded bushing and is designed for combined control of antenna and "C" bias.

CENTRALAB TWIN JUNIOR REPLACEMENT VOLUME CONTROLS

ILLUSTRATION F:—
Centralab Twin Junior Replacement Volume Controls.
Price, Each **\$2.25**

These units consist of two matched units, insulated from each other but mounted together for operation from the same shaft. No. 74-515 is for Temple Sets. No. 74-600 is for Victor 1929-30 replacements.

Type No.	Max. Res. Ohms	Cent. Res. Ohms	Taper
----------	----------------	-----------------	-------

Type No. 74-515 Twin Control
Front 10,000 5,000 Sym.
Rear 500,000 125,000 L.H.

Type No. 74-600 Twin Control
Front 4,000 300 L.H.
Rear 4,000 300 L.H.

FROST VOLUME CONTROLS

ILLUSTRATION G:—
Frost Volume Control Potentiometers.
Price, Each **50c**

No. 890—0 to 50,000 Ohms.
No. 891—0 to 100,000 Ohms.
No. 892—0 to 200,000 Ohms.
No. 893—0 to 500,000 Ohms.

dividual cartons, complete with Bakelite insulating discs and fibre washers so that they can be mounted on metal panels without grounding the shell terminal to the panel. They are supplied without knobs.

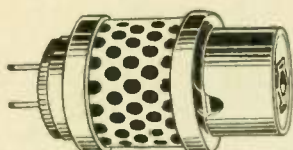
These units may be used as simple variable high resistance by using only one terminal of the resistance element and the movable arm terminal.

PILOT VARIABLE HIGH RESISTANCE

ILLUSTRATION I:—
Pilot No. 350, 40 to 10,000,000 Ohm Resistograd Variable High Resistance.
Price **50c**

This unit has a "jumpless" range from 40 ohms to 10 megohms, which is covered in four turns of the knob, giving

a smooth, even control. The resistance element is absolutely non-inductive and non-packing. It is rated at 20 watts. The case is ribbed to radiate the heat generated during normal operation. The unit is furnished complete with knob.



Illus. A

VITROHM LINE VOLTAGE REDUCERS

ILLUSTRATION A:—
Ward Leonard Type 507-109
(Red Label) Vitrohm Line
Voltage Reducer for use with
sets, the input of which does
not exceed 65 watts and 0.6
amperes.

Price **\$1.50**

Ward Leonard Type 507-109A
(Green Label) for use with
sets of more than 66 watts, 0.6
ampere, but less than 130
watts, 1.2 ampere.

Price **\$1.50**

Ward Leonard Type 507-109B
(Blue Label) for use with
sets of more than 130 watts, 1.2
amperes, but less than 285
watts, 2.6 amperes.

Price **\$1.75**

Radio receivers, made for
operation from the power
lines, are designed, usually, to
operate at a predetermined line
voltage. Where the line voltage
exceeds the arbitrary value
assumed by the set manufacturer,
damage to the a-c tubes may
result, unless means are
used to reduce the line voltage
to a value, or to one below
that, at which the set is designed
to operate.

Ward Leonard Vitrohm Line
Voltage Reducers are designed
to reduce the voltage of the
power source to that required
by the receiver.

INSULINE LINE VOLTAGE CONTROL

ILLUSTRATION D:—
Insuline Type No. 99 Resistovolt.

Price **\$1.00**

(See Page 8 for description of
the Insuline Antennavolt combination
Resistovolt and Antenna Plug.)

This unit is designed to eliminate
tube burnouts due to
excessive line voltage. It is

made for use with receivers
using over six tubes and will
automatically keep the voltage
supply constant over a
wide range of fluctuations.

The Resistovolt should be
plugged into an electrical outlet
and the receiver plug inserted
into the Resistovolt receptacle.

**EUREKA COMBINATION
VARIABLE RESISTANCE AND SWITCH**

ILLUSTRATION F:—
Eureka No. 800 Combination
3,000-ohm Variable Resistance
and a-c Snap Switch.

Price **\$1.00**

This variable wire-wound
resistance unit and switch is
ideally suited for use as a

variable grid bias resistance
or for any other purpose
where a variable resistance
capable of carrying safely, a
current of 35 milliamperes is
required.

The switch is sturdily built
for a. c. switching use.

CENTRALAB GIANT RHEOSTAT

ILLUSTRATION G:—
Centralab No. 48-151, 150-
ohm, 50 watt Giant Rheostat
and Potentiometer.

Price **\$1.50**

This sturdy rheostat and
potentiometer may be used

wherever a heavy duty rheo-
stat or potentiometer of this
resistance value is required.

It is ideally suited for use
as a speed control rheostat for
television motors.

FROST RHEOSTATS AND POTENTIOMETERS

ILLUSTRATION H:—
Frost Type 200 Rheostats,
available in resistance values of
6, 10, 20 and 30 ohms.

Price, Each **25c**

Frost Type 204 Potentiometer.
400 ohms.

Price **25c**

Frost Type 204 Potentiometer.
10,000 ohms.

Price **40c**

These rugged, well-designed
and well-built units are available
in resistance values to

suit all standard rheostat and
potentiometer requirements.

Exactly the same construction
is used in both rheostats and
potentiometers except that
rheostats have two terminals
and potentiometers have three
terminals.

They are furnished in individual
cartons, complete with
Bakelite bushings and fibre
washers for mounting on metal
panels if desired. Knobs are
not included.



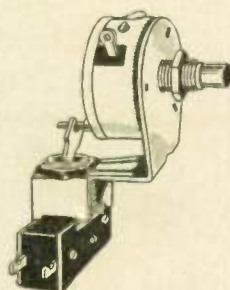
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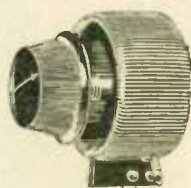
Illus. D



Illus. E



Illus. F



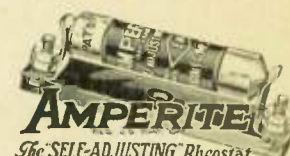
Illus. G



Illus. H



Illus. I



Illus. C

LIN-A-TROL LINE VOLTAGE CONTROLS

ILLUSTRATION B:—
Lin-A-Trol Automatic Line Voltage
Controls, complete with
mounting sockets and instructions
for connecting. **\$2.00**
Price, Each

Lin-A-Trol

Recommendations

For Sets Having Input Rating of Approximately	Use Lin-A-Trol Type
55 watts	No. 5-L-5
65 watts	No. 6-L-5
75 watts	No. 7-L-5
90 watts	No. 8-L-5
100 watts	No. 9-L-5
110 watts	No. 10-L-5
120 watts	No. 11-L-5
130 watts	No. 12-L-5

The Lin-A-Trol Automatic
Line Voltage Control regulates
both low and high voltage
with equal efficiency. It contains
a specially designed controlling
element enclosed in a
glass bulb.

This controlling element
automatically changes in resistance
as the line voltage
varies so that under all line
voltage conditions between 100
and 135 volts, the Lin-A-Trol
maintains set voltage and current
absolutely within the
limits required for proper and
safe set performance and operation.

Lin-A-Trols can be mounted
easily in any radio set.

**AMPERITE AUTOMATIC
FILAMENT VOLTAGE CONTROLS**

ILLUSTRATION C:—
Amperite Automatic Filament
Voltage Controls. **65c**
Price, Each

**Amperite
Recommendations**

Type of Tube	Rated	Rated	Volt.	Proper
			Source	Type
5.0	.25	6.0		1A
5.0	.5	6.0		112
5.0	.75	6.0		3A
5.0	1.0	6.0		4A
5.0	.132	6.0		622
2.0	.06	6.0		6-30
2.0	.13	6.0		6-31
3.3	.06	6.0		6V-199
3.3	.06	4.0		4V-199
3.3	.06	4.5		4V-199
1.5	1.05	1.5 +		226
2.5	1.75	2.5 +		227

Two or more tubes of similar
filament characteristics connect

ed in parallel count as one tube
having a current rating equal to
the total of the tubes that are
connected in parallel.

Amperite automatic filament
voltage controls have been recognized
as the outstanding
method for keeping tubes operating
at maximum efficiency and
reducing the cost of tube
replacements due to premature
decrease in performance because
of the application of excessive
voltage to the filaments.

The use of Amperites in
place of other methods of filament
control guarantees the
perfect regulation required to
bring the utmost in clarity,
volume and tone quality out
of the tubes under every varying
battery and filament voltage
supply condition.

MUTER TUBESTAT FIXED RHEOSTAT

ILLUSTRATION E:—
Muter Tubestat Fixed Rheostat
for Filament Control. **25c**
Price, Each

Type No. 1700 for use with
one 201A tube on 6 volts.
Type No. 1702 for use with
two 201A tubes on 6 volts.
Type No. 1725 for use with
one 222 tube on 6 volts.

These units consist of a permanent
resistance wire, hermetically
sealed in a glass tube, and are
recommended for reducing the
voltage of an "A" battery source
to the filament voltage required
by the tube when the filament
voltage of the tube is not critical
to slight variations.

PILOT ADJUSTABLE RESISTANCE

ILLUSTRATION I:—
Pilot Adjustograd, Adjustable
Fixed Resistor, 0 to 1,000
ohms. Type 1001. **25c**
Price

This compact adjustable
resistance is intended for use as
an oscillation suppressor in

tuned r. f. circuits. The
resistance element is wound with
Nichrome wire and is housed
in a molded Bakelite shell. The
unit is adjusted by means of
a screw projecting through
the top of the case.

ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY
AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION

ELECTRAD ADJUSTABLE RESISTORS

ILLUSTRATION H:—

Electrad Type B, Adjustable Fixed Resistors.

Size—2" long.

Rating—25 Watts.

STANDARD VALUES

Type No.	Res. Ohms	Price
B-20	2,000	59c
B-50	5,000	59c
B-100	10,000	69c

These Electrad Truvolt Adjustable Fixed Resistors are especially recommended for use in eliminators and power packs.

Through the use of the sliding clip feature the units can be adjusted to any exact re-

ILLUSTRATION H:—

Electrad Type D, Adjustable Fixed Resistors.

Size—6" long.

Rating—75 Watts.

STANDARD VALUES

Type No.	Res. Ohms	Price
D-20	2,000	\$1.25
D-50	5,000	\$1.25
D-80	8,000	\$1.50
D-100	10,000	\$1.50

quired value within the limits of the resistors.

By using additional sliding clips, intermediate values (taps) can be obtained.

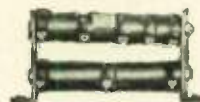
This feature makes them especially valuable in service and experimental work.



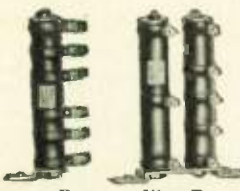
Illus. A



Illus. B

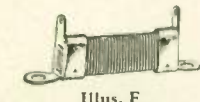


Illus. C

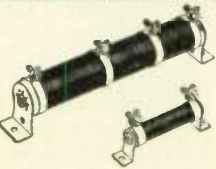


Illus. D

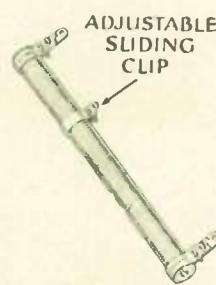
Illus. E



Illus. F



Illus. G



Illus. H

ELECTRAD ADJUSTABLE SLIDING CLIPS

ILLUSTRATION H:—

Electrad Adjustable Sliding Resistor Clips.

Price, Each 50c

These adjustable clips may be slipped over Electrad Type B and Type D units to take off taps at any desired intermediate values.

ELECTRAD FLEXIBLE RESISTORS

ILLUSTRATION J:—

Electrad Type 2G, Flexible Fixed Resistors.

Length—6" with pigtail.

Rating—3 Watts.

Price, Each 30c

STANDARD VALUES

Type No.	Resist. Ohms	Max. Current Ma.
2G-100	100	173
2G-500	500	77
2G-750	750	63
2G-1000	1,000	54
2G-1500	1,500	44
2G-2000	2,000	38
2G-5000	5,000	24

These resistors are wire-wound on a flexible core and covered with impregnated fabric. Pigtail terminals are provided at each end. They form a very handy unit for laboratory, experimental and replacement use, since they can

ILLUSTRATION J:—

Electrad Type 3G, Flexible Fixed Resistors.

Length—12" with pigtail.

Rating—6 Watts.

Price, Each 60c

STANDARD VALUES

Type No.	Resist. Ohms	Max. Current Ma.
3G-2000	2,000	54
3G-3000	3,000	44
3G-4000	4,000	38
3G-10000	10,000	24

be bent or coiled into almost any desired shape.

They are specially suited for repairing an open section in a voltage divider or tapped resistor, since the unit can be coiled around the core of the open section and the ends of the unit soldered to the terminals of the open section.

AEROVOX PYROHM RESISTORS

ILLUSTRATION A:—

Aerovox Type 992, Pyrohm Vitreous Enamel Fixed Resistors.

Size—2" x 7/16" Overall.

Rating—15 Watts.

Price, Each 45c

STANDARD VALUES

Ohms	Ohms	Ohms
300	700	1,200
350	750	1,250
400	800	1,500
500	1,000	1,750
650	1,100	2,000

Aerovox Type 994, Pyrohm Vitreous Enamel Fixed Resistors.

Size—4" x 7/16" Overall.

Rating—32 Watts.

STANDARD VALUES

Resistance Ohms	Price Each
500	60c
1,000	60c
1,500	60c
2,000	60c
2,500	60c
3,000	60c
4,000	60c
5,000	60c
6,000	75c
8,000	75c
10,000	75c

Aerovox Type 996, Pyrohm Vitreous Enamel Fixed Resistors. Size—6" x 3/4" Overall. Rating—100 Watts.

Resistance Ohms

Price Each

Resistance Ohms	Price Each
500	\$1.00
1,000	\$1.00
1,500	\$1.00
2,000	\$1.00
2,500	\$1.00
3,000	\$1.00
4,000	\$1.00
5,000	\$1.00
6,000	\$1.00
7,500	\$1.00
8,000	\$1.00
10,000	\$1.00
15,000	\$1.00
25,000	\$1.25
30,000	\$1.25
35,000	\$1.25

Aerovox Pyrohm Vitreous Enamel Resistors are made of the best grade resistance wire, wound on a refractory tube and coated with a porcelain enamel which is fired on and protects the wire against moisture, oxidation and mechanical injury. The ends of the wire are brazed to the terminals to insure positive contact.

AEROVOX RESISTOR MOUNTINGS

SMALL MOUNTINGS

Type No.	Price Each
H1	10c
H2	10c
V1	10c
V2	15c

LARGE MOUNTINGS

Type No.	Price Each
HH1	25c
HH2	25c
VV1	15c
VV2	25c

Aerovox Pyrohm Resistor mountings are available in four distinct types as illustrated, with a small and large size unit in each type.

The small size mountings are designed for use with the Type 992 and 994 Pyrohm Resistors. The large size units are for use with the Type 996 Pyrohm.

PILOT VOLTAGE DIVIDER RESISTOR

ILLUSTRATION G:—

(Upper Tapped Unit). Pilot Type 960 Voltage Divider Tapped Resistor.

Price 75c

This voltage divider is for use with any "B" power pack designed to give an output of

180 to 220 volts d. c. at the output of the filter chokes.

Taps are provided for lower voltages. The unit is wound with Nichrome wire on a porcelain tube and is impregnated with a black elastic coating to protect the unit against dampness and corrosion.

PILOT FIXED RESISTORS

ILLUSTRATION G:—

Pilot Type 961, 15-ohm Filament Resistor for use with Type 222 Tubes. This unit is provided with a tap for "C" bias. Price 25c

Pilot Type 966, 450-ohm "C" Bias Resistor. Price 25c

These units are made in the same way as the Type 960 unit.

MUTER CANDOHM RESISTORS

ILLUSTRATION I:—

Muter Candohm Resistors.

STANDARD VALUES

Type No.	Resist. Ohms	Watts Rating	Price Each
CG-20	20	1 1/2	10c
CG-40	40	1 1/2	10c
CG-60	60	1 1/2	10c
G-100	100	1 1/2	10c
G-200	200	1 1/2	10c
G-300	300	1 1/2	10c
G-500	500	1 1/2	10c
G-1000	1,000	1 1/2	10c

These resistance units are practical, durable, efficient, accurate and have a liberal heat dissipating ability. They are

STANDARD VALUES

Type No.	Resist. Ohms	Watts Rating	Price Each
F-100	100	2 1/2	15c
F-200	200	2 1/2	15c
F-300	300	2 1/2	15c
F-500	500	2 1/2	15c
F-750	750	2 1/2	15c
F-1000	1,000	2 1/2	15c
F-2500	2,500	5	20c
F-5000	5,000	5	25c
F-10000	10,000	7 1/2	25c
F-20000	20,000	10	25c

very popular as replacement units and are used extensively by radio servicemen.

FROST WIRE-WOUND RESISTORS

ILLUSTRATION F:—

Frost Wire-Wound Suppressor and Bias Resistors.

Price, Each 15c

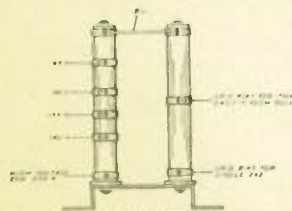
STANDARD VALUES

Ohms	Ohms	Ohms
750	1,250	2,000
1,000	1,500	2,250

These resistance units are

wound on die-cut flexible Bakelite. Tinned copper terminal brackets are clamped on to the resistance element under heavy pressure and "staked" into the Bakelite strip.

They are ideally suited for use as grid suppressors and grid bias resistors.



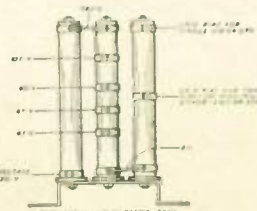
Illus. K



Illus. I



Illus. J



Illus. L

**INTERNATIONAL
GRID LEAK TYPE FIXED RESISTORS**

ILLUSTRATION A:—
International Type MR-4, Grid
Leak Type Fixed Resistors.
Dimensions—2" x 1/2" Overall.
Rating—2 Watts.
Price, Each **20c**

STANDARD VALUES		
Ohms	Ohms	Ohms
50	2,250	15,000
75	2,500	20,000
100	3,000	25,000
150	3,500	30,000
200	4,000	40,000
250	5,000	50,000
500	6,000	75,000
750	7,000	100,000
1,000	7,500	125,000
1,250	8,000	150,000
1,500	9,000	175,000
1,750	10,000	200,000
2,000	12,500	250,000

ILLUSTRATION A:—
International Type MF-4,
Grid Leak Type Fixed Resistors.
Dimensions—2" x 3/8" Overall.
Rating—1 Watt.
Price, Each **15c**

STANDARD VALUES		
Ohms	Ohms	Megohms
500	10,000	.1
750	15,000	.2
1,000	20,000	.25
1,500	25,000	.3
2,000	40,000	.5
2,500	50,000	1.0
3,000	60,000	2.0
5,000	75,000	3.0
6,000	cont. in	5.0
	Megohm	7.0
	Column	10.0

**INTERNATIONAL
PRECISION FIXED RESISTORS**

ILLUSTRATION B:—
International Type WW-1,
Precision Fixed Resistors.

STANDARD VALUES	
Resistance	Price Each
Ohms	
10,000	\$1.50
50,000	\$1.50
100,000	\$2.00
200,000	\$2.00
400,000	\$3.00
500,000	\$3.00

These resistors are designed to meet the exacting requirements of units for use as multipliers in extending the range of voltmeters and

ILLUSTRATION A:—
International Type MF-4 1/2,
Grid Leak Type Fixed Resistors.
Dimensions—1" x 1/4" Overall.
Rating—1/2 Watt.
Price, Each **15c**

STANDARD VALUES		
Ohms	Ohms	Ohms
500	5,000	50,000
1,000	20,000	75,000

International Resistors have long enjoyed an enviable reputation in the Radio Industry because of their high quality, uniformity, freedom from noise in operation, conservative rating and ability to stand up without change in characteristics even under the severest operating conditions.

Thousands of servicemen have learned the value of standardizing on International Resistances for original and replacement use. (See page 31 for the description of the International Resistor Replacement Guide, a remarkable service book that simplifies and speeds up set repairing.)

All International MF-4 1/2, MF-4 and MR-4 units are furnished complete with pigtail leads. These leads may be clipped off when the resistors are to be used in standard grid leak mountings.

milliameters, and for use as fader or attenuation units, bridge arms, ohmmeters and other similar testing instruments where a high degree of accuracy and constancy of characteristics in service are required.

They are wire-wound non-inductively and are thoroughly impregnated. Special processes eliminate the possibility of open terminal contacts or shorted turns.

They are warranted to an accuracy of 1% of marked value.

MUTER GRID LEAK TYPE FIXED RESISTORS

ILLUSTRATION E:—
Muter Type 700 Series Grid Leak Type Resistors. **10c**

STANDARD VALUES		
Meg-ohms	Meg-ohms	Meg-ohms
.1	1.0	3.0
.25	2.0	5.0

Muter Grid Leak Type

Fixed Resistors consist of a permanent resistance element, hermetically sealed in a substantial glass tube.

They are fitted with nickel-plated brass end caps and will fit all standard grid leak mountings.

They are individually tested and are guaranteed accurate.

**FROST ADJUSTABLE
HUM BALANCING POTENTIOMETERS**

ILLUSTRATION I:—
Frost Type 106, 6-ohm Hum Balancer.
Frost Type 120, 20-ohm Hum Balancer.
Price, Each **20c**

These rugged, compact units are designed especially to smooth out the a-c ripple in a-c tube receivers. They are used in place of center-

tapped fixed resistors, to permit adjustment of the tap to the best point for hum-free operation.

They are provided with a slotted shaft and may be adjusted with a screwdriver. They may be mounted in any convenient place on the sub-panel or chassis.



Illus. A



Illus. B



Illus. C



Illus. D



Illus. E



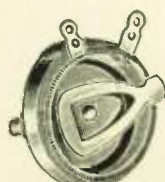
Illus. F



Illus. G



Illus. H



Illus. I



Illus. J



Illus. K



Illus. L



Illus. M

**AEROVOX
GRID LEAK TYPE FIXED RESISTORS**

ILLUSTRATION C:—
Aerovox Type 1092 Metal-ohm Fixed Resistors. **10c**

ILLUSTRATION D:—
Aerovox Type 1090 Fixed Resistors. **10c**

Price, Each

STANDARD VALUES		
Type 1090 and 1092	Meg-ohms	Meg-ohms
.1	2.0	6.0
.25	3.0	7.0
.5	3.5	8.0
.75	4.0	9.0
1.0	5.0	10.0

Aerovox Grid Leak Type Fixed Resistors are made in two types. The Type 1090 units are made by impreg-

nating a special insulating material with a high grade resistance compound. The resistance element is fitted with metal ends and sealed in a glass tube with metal caps.

The Type 1092 units are built around an element which consists of a metallic deposit on a glass rod and sealed in a glass tube. The properties of the deposit used permits the use of a substantial coating which is capable of carrying, without change in resistance, the currents used in resistance and impedance coupled amplifiers.

Both types are permanent, accurate and noiseless.

AEROVOX CARBON FIXED RESISTORS

ILLUSTRATION F:—
Aerovox Type 1094, Carbon Fixed Resistors.

Dimensions—1 1/4" x 1/4" Overall.

Rating—1 Watt. **20c**

Price, Each

STANDARD VALUES		
Ohms	Ohms	Ohms
500	7,500	100,000
750	9,000	150,000
1,000	10,000	200,000
1,500	12,500	250,000
2,000	15,000	300,000
2,500	20,000	350,000
3,000	25,000	500,000
5,000	50,000	1,000,000
	75,000	

AEROVOX LAVITE FIXED RESISTORS

ILLUSTRATION G:—
Aerovox Type 1098, Lavite Non-Inductive Fixed Resistors. Size—1 27/32" x 1/2" Overall.

Max. Rating—3 Watts. **50c**

Price, Each

STANDARD VALUES		
Ohms	Ohms	Ohms
1,000	20,000	100,000
2,000	25,000	200,000
5,000	30,000	250,000
10,000	50,000	500,000
15,000	75,000	

Aerovox Lavite Non-Inductive Resistors are ideally

suited for use wherever a non-inductive resistor of comparatively high current carrying capacity is required.

The resistance element consists of a heavy deposit on a corrugated insulating rod, fitted with metal contact ends.

They are standard in size to fit any standard grid leak mounting. The metal ends are threaded to take 4/36 screws which can be used for mounting on subpanels.

GRID LEAK RESISTOR MOUNTINGS

ILLUSTRATION L:—
Aerovox Type 1049, Single Resistor Mounting. **15c**

ILLUSTRATION M:—
Aerovox Type 1050, Double Resistor Mounting. **25c**

ILLUSTRATION K:—
Muter Type 825, Single Resistor Mounting. **10c**

Price, Each

The Aerovox and Muter

grid leak mountings listed in this section meet every requirement for efficient operation.

The bases are made of molded Bakelite to prevent losses from leakage between terminals and the springs are made of phosphor bronze to hold the grid leaks firmly and give good contact.

In using grid leak type resistors, it is important to select a good mounting.

CENTER-TAPPED FIXED RESISTORS

ILLUSTRATION H:—
Frost Center-Tapped Fixed Resistors. Available in values of 6, 10 and 20 ohms total resistance. **20c**

ILLUSTRATION J:—
Pilot Center-Tapped Fixed Resistors. Available in values of 10, 20, 50 and 75 ohms total resistance. **15c**

Price, Each

Muter Candohm Center-Tapped Fixed Resistors. Type CG. Available in resistance values of 20, 40 and 60 ohms total resistance. **10c**

These center-tapped fixed resistors are specially designed for use across a-c tube filaments to obtain the electrical center of such filaments.



Illus. A



Illus. B



Illus. C

AEROVOX MICA MOULDED CONDENSERS

ILLUSTRATION A:—

Aerovox Type 1450 Mica Moulded Condensers. Retest Voltage—1,000 volts D. C.

Standard Capacities Mfds.	Price Each
.00007; .0001; .00015; .0002; .00025; .0005; .001	20c
.002; .005; .006	25c
.01	40c

Aerovox Mica Condensers are moulded in genuine Bakelite, which seals and protects the condenser element against extreme temperatures, moisture or chemical action. The dielectric is of

ILLUSTRATION D:—

Aerovox Type 1475 Mica Moulded Condensers, with Grid Leak Mounting Clips. Retest Voltage—1,000 volts D. C.

Standard Capacities Mfds.	Price Each
.0001; .00015; .00025; .0005	25c

the finest grade India Ruby Mica, the plates are tinfoil and the condenser element is thoroughly impregnated.

The capacity of the element is pre-determined by a patented process.

The Type 1450 units are standard for all applications where the ability to stand comparatively high voltages is important. The Type 1475 units

ILLUSTRATION E:—

Aerovox Type 1460 Mica Moulded Condensers. Retest Voltage—600 volts D. C.

Standard Capacities Mfds.	Price Each
.00005; .0001; .0002; .00025; .00035; .0005; .001; .002	10c

are the same as the Type 1450 units in every respect except that they are provided with grid leak mounting clips.

The Type 1460 condensers are designed for use in lower voltage circuits where low cost and compactness are very important considerations. In every other respect they are the same as the Types 1450 and 1475 in quality.



Illus. D



Illus. E



Illus. F

ILLUSTRATION B:—

Muter No. 350 Series, Tynymold Mica Moulded Condensers.

Standard Capacities Mfds.	Price Each
.0001; .00025; .0005; .001; .002	10c

Note: The .00025 mfd. unit is furnished with grid leak mounting clips.

ILLUSTRATION C:—

Muter No. 600 Series, Metal End Mica Condensers.

Standard Capacities Mfds.	Price Each
.0001; .00025; .0005; .001; .002	20c
.006	25c
.01	39c

Muter Tynymold Mica Condensers are made with a molded Bakelite casing which protects the units against moisture and mechanical injury.

Muter Metal End Mica Condensers are constructed of carefully selected, uniform mica and brass electrodes which are retained under even pressure by Bakelite plates.

MUTER TINYMOLD AND METAL END MICA CONDENSERS

AEROVOX BYPASS CONDENSERS

Aerovox Bypass Condensers are available in three general types specially suited for bypass and light duty filter work.

The Type 250 and 350 units consist of non-inductive sections of high insulation resistance, sealed in attrac-

tive, moulded Bakelite cases. They are ideal for use in radio and audio frequency bypass circuits, for resistance and impedance coupled amplifiers or for any other purpose where a compact, high insulation resistance, non-inductive condenser is required. The Bakelite case prevents leakage between terminals and accidental grounds between the terminals and the case.

The Type 200-S, 300-S, 400-S, 207, 307 and 407 General Purpose Condensers consist of thoroughly impreg-

nated, non-inductive sections sealed in metal cans and provided with convenient terminals and mounting feet. The 200-S, 300-S and 400-S units are designed for flat mounting while the 207, 307 and 407 units are designed for mounting on end.



Illus. G



Illus. H

**AEROVOX
GENERAL PURPOSE
CONDENSERS**

Flat Mounting Type

Type No.	Cap. Mfds.	D.C. Work. Volt.	Illus. No.	Price
200-S	.05	200	G	\$.25
200-S	.1	200	G	\$.25
200-S	.25	200	G	\$.40
200-S	.5	200	G	\$.40
200-S	1.0	200	G	\$.60
200-S	2.0	200	G	\$1.00
200-S	4.0	200	G	\$1.75
300-S	.05	300	G	\$.35
300-S	.1	300	G	\$.35
300-S	.25	300	G	\$.50
300-S	.5	300	G	\$.60
300-S	1.0	300	G	\$.75
300-S	2.0	300	G	\$1.25
400-S	.05	400	G	\$.35
400-S	.1	400	G	\$.50
400-S	.25	400	G	\$.50
400-S	.5	400	G	\$.75
400-S	1.0	400	G	\$1.00
400-S	2.0	400	G	\$1.50

**AEROVOX
BAKELITE CASE
CONDENSERS**

Type No.	Cap. Mfds.	D.C. Work. Volt.	Illus. No.	Price
250	.05	200	F	\$.40
250	.1	200	F	\$.40
250	.25	200	F	\$.40
250	.5	200	F	\$.60
250	1.0	200	F	\$.60
350	.05	300	F	\$.40
350	.1	300	F	\$.40
350	.25	300	F	\$.60
350	.5	300	F	\$.60

**AEROVOX
GENERAL PURPOSE
CONDENSERS**

Upright Mounting Type

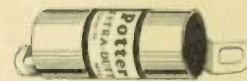
Type No.	Cap. Mfds.	D.C. Work. Volt.	Illus. No.	Price
207	.05	200	H	\$.25
207	.1	200	H	\$.25
207	.25	200	H	\$.40
207	.5	200	H	\$.40
207	1.0	200	H	\$.60
207	2.0	200	H	\$1.00
207	4.0	200	H	\$1.75
307	.05	300	H	\$.35
307	.1	300	H	\$.35
307	.25	300	H	\$.50
307	.5	300	H	\$.60
307	1.0	300	H	\$.75
307	2.0	300	H	\$1.25
407	.05	400	H	\$.35
407	.1	400	H	\$.50
407	.25	400	H	\$.50
407	.5	400	H	\$.75
407	1.0	400	H	\$1.00
407	2.0	400	H	\$1.50



Illus. A



Illus. B



Illus. C



Illus. D



Illus. E



Illus. F



Illus. G



Illus. H

The paper condensers listed on this page are all non-inductively wound, using high grade dielectric material, carefully tested to prevent any possibility of breakdown when the units are used at their rated working voltages.

All of the units listed are ideally suited for use as bypass, buffer, coupling and filtering condensers in power supply, radio frequency and audio frequency circuits requiring units of the capacity and voltage characteristics indicated.

The Aerovox condensers shown in Illustrations F, G, and H; the Potter con-

densers shown in Illustrations J, K, L and M and the Muter condensers shown in Illustration I are all hermetically sealed in drawn metal containers provided with handy mounting feet. Terminals in these units are brought out through insulating strips centered in large holes in the cans to prevent leakage and short circuits to the cans.

The Aerovox condensers shown in Illustrations A and B and the Potter condensers shown in Illustration C are sealed in insulating tubes.

The units shown in Illustrations A and C are provided with convenient mounting feet which also serve as the terminals of the units. The Aerovox unit shown in Illustration B is provided with wire leads by means of which it can be hung from and connected to the receiver wiring.

The Potter Multi-Use units shown in Illustration D and the Muter Postage Stamp Type units shown in Illustration E are designed for use where low cost, very compact units are required.



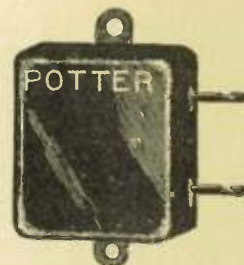
Illus. I



Illus. J



Illus. K



Illus. L



Illus. M

Type No.	Cap. Mfd.	D.C. Work Volt.	D.C. Test Volt.	Price
AEROVOX TUBULAR COND. TYPE-70. ILLUS. A				
270	.01	200	400	\$.25
270	.015	200	400	\$.25
270	.02	200	400	\$.25
270	.03	200	400	\$.25
270	.05	200	400	\$.25
270	.1	200	400	\$.40
470	.01	400	800	\$.35
470	.015	400	800	\$.35
470	.02	400	800	\$.40
470	.05	400	800	\$.40
470	.1	400	800	\$.40
AEROVOX TUBULAR COND. TYPE-80. ILLUS. B				
280	.006	200	400	\$.20
280	.01	200	400	\$.20
280	.02	200	400	\$.20
280	.03	200	400	\$.20
280	.05	200	400	\$.20
280	.1	200	400	\$.20
280	.25	200	400	\$.25
280	.5	200	400	\$.25
480	.006	400	800	\$.20
480	.01	400	800	\$.20
480	.02	400	800	\$.20
480	.03	400	800	\$.20
480	.05	400	800	\$.25
480	.1	400	800	\$.25
480	.25	400	800	\$.35
680	.004	600	1200	\$.20
680	.006	600	1200	\$.20
680	.01	600	1200	\$.20
680	.02	600	1200	\$.20
680	.03	600	1200	\$.20
680	.05	600	1200	\$.25
680	.1	600	1200	\$.25
1080	.004	1000	2000	\$.20
1080	.006	1000	2000	\$.25
1080	.01	1000	2000	\$.25
1080	.02	1000	2000	\$.25
1080	.03	1000	2000	\$.25
1080	.05	1000	2000	\$.25
POTTER TUBULAR COND. MULTI-USE TYPE. ILLUS. D				
	.02		1500	\$.20
	.06		1500	\$.20
POTTER TUBULAR COND. EXTRA-DUTY TYPE. ILLUS. G				
	.1	250	500	\$.50
MUTER JUNIOR COND. NO. 400 SERIES. ILLUS. E				
551	.01	400		\$.25
552	.02	400		\$.25
553	.03	400		\$.25
554	.04	400		\$.25
555	.05	400		\$.25

Type No.	Cap. Mfd.	D.C. Work Volt.	Illus. No.	Price
AEROVOX BYPASS COND				
260	.05	200	F	\$.25
260	.1	200	F	\$.25
260	.25	200	F	\$.35
260	.5	200	F	\$.35
261	1.0	200	G	\$.50
261	2.0	200	G	\$.85
360	.05	300	F	\$.30
360	.1	300	F	\$.35
360	.25	300	F	\$.45
361	.5	300	G	\$.50
361	1.0	300	G	\$.75
460	.05	400	F	\$.35
460	.1	400	F	\$.50
461	.25	400	G	\$.50
461	.5	400	G	\$.60
461	1.0	400	G	\$.85
461-21	.1-1	400	H	\$.75
461-31	.1-1-1	400	H	\$ 1.00
461-225	.25-.25	400	H	\$.75
POTTER BYPASS COND.				
A-1	.1	160	J	\$.40
A-2	.25	160	J	\$.50
A-3	.5	160	J	\$.50
AA-3	.5	160	L	\$.69
A-3-3	.5-.5	160	M	\$.69
A-4	1.0	160	K	\$.60
AA-4	1.0	160	L	\$.60
A-103	.5	200	K	\$.60
AA-103	.5	200	L	\$.60
A-301	.1	400	J	\$.60
AA-301	.25	400	L	\$.69
AA-303	.5	400	L	\$.85
A-401	.1	500	J	\$.69
MUTER BYPASS COND.				
525	.1	400	I	\$.25
506	.25	200	I	\$.25
507	.5	200	I	\$.25
508	1.0	200	I	\$.39

ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



AEROVOX DRY ELECTROLYTIC CONDENSERS

The dry characteristics of Aerovox Hi-Parad Dry Electrolytic Condensers makes it possible to mount them in any position, upright, inverted or horizontal without danger of spilling or leakage. They are furnished complete with universal mounting rings.

The high filtering action of these units (equivalent per microfarad to that of paper condensers), their low cost and compact design makes it pos-

sible to use higher capacity in filter and audio bypass circuits resulting in better filtering, improved tone quality and marked reduction in hum.

Their self-healing and surge-proof characteristics prevent damage to the condensers from high voltage surges.

Because of their polarized feature they should be used only on rectified a. c. or pulsating d. c. circuits. They must not be used on raw a. c. circuits.

AEROVOX DRY "A" ELECTROLYTIC CONDENSERS

Aerovox 6A-Type and E12-Type "A" Power Dry Electrolytic Condensers were developed to meet the demand for efficient, low voltage, high capacity units for use in the filter circuits of "A" eliminators for operation of d. c. tube filaments from rectified a. c. or pulsating d. c. sources.

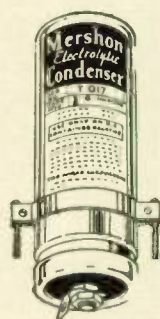
They are also ideally suited for use across the field windings of low voltage dynamic speakers to eliminate the hum due to imperfect filtering. It is important that their peak voltage ratings be not exceeded.

MERSHON ELECTROLYTIC CONDENSERS

Merston Electrolytic Condensers are available in the most commonly used capacities and combinations to suit the requirements of any power supply requirement. They are proved products backed by twenty years of experience

in electrolytic condenser development and ten years of service in radio.

Both upright and inverted units are furnished complete with mountings. Upright units are also supplied complete with covers.



STANDARD ELECTROLYTIC CONDENSERS

Type No.	Type of Mounting	Cap. of Sections Mfds.	Total Cap. Mfds.	Max. Peak Volt.	Max. Work. Volt.	Overall Dimensions		Price
						Len.	Dia.	
AEROVOX DRY ELECTROLYTIC CONDENSERS								
E5-2	Universal	2	2	500	450	3"	1 3/4"	\$.75
E5-22	Universal	2-2	4	500	450	4 1/2"	2 1/2"	\$1.00
E5-222	Universal	2-2-2	6	500	450	4 1/2"	3"	\$2.50
E5-2222	Universal	2-2-2-2	8	500	450	4 1/2"	3"	\$3.00
E5-4	Universal	4	4	500	450	3"	1 3/8"	\$1.00
E5-44	Universal	4-4	8	500	450	4 1/2"	2 1/2"	\$1.75
E5-444	Universal	4-4-4	12	500	450	4 1/2"	3"	\$2.50
E5-4444	Universal	4-4-4-4	16	500	450	4 1/2"	3"	\$3.00
E5-5	Universal	5	5	500	450	4 1/2"	1 3/8"	\$1.00
E5-55	Universal	5-5	10	500	450	4 1/2"	2 1/2"	\$2.00
E5-555	Universal	5-5-5	15	500	450	4 1/2"	3"	\$2.50
E5-5555	Universal	5-5-5-5	20	500	450	4 1/2"	3"	\$3.25
E5-6	Universal	6	6	500	450	4 1/2"	1 3/8"	\$1.00
E5-66	Universal	6-6	12	500	450	4 1/2"	2 1/2"	\$2.00
E5-666	Universal	6-6-6	18	500	450	4 1/2"	3"	\$3.00
E5-6666	Universal	6-6-6-6	24	500	450	4 1/2"	3"	\$3.25
E5-8	Universal	8	8	500	450	4 1/2"	1 3/8"	\$1.00
E5-88	Universal	8-8	16	500	450	4 1/2"	2 1/2"	\$2.00
E5-888	Universal	8-8-8	24	500	450	4 1/2"	3"	\$3.00
E5-8888	Universal	8-8-8-8	32	500	450	4 1/2"	3"	\$3.50
E5-248	Universal	2-4-8	14	500	450	4 1/2"	2 1/2"	\$3.00
E5-2816	Universal	2-8-16	26	500	450	4 1/2"	3"	\$3.25
E5-10	Universal	10	10	500	450	3"	2 1/2"	\$1.75
E5-12	Universal	12	12	500	450	3"	2 1/2"	\$1.75
E5-14	Universal	14	14	500	450	3"	3"	\$1.75
E5-16	Universal	16	16	500	450	3"	3"	\$2.00
E5-20	Universal	20	20	500	450	4 1/2"	2 1/2"	\$3.00
E5-30	Universal	30	30	500	450	4 1/2"	3"	\$3.25
E100-10	Universal	10	10	115	100	3"	1 3/8"	\$1.25
E100-50	Universal	50	50	115	100	4 1/2"	1 3/8"	\$2.00
E100-100	Universal	100	100	115	100	4 1/2"	2 1/2"	\$3.25
E25-10	Universal	10	10	25	20	3"	1 3/8"	\$1.00
E25-50	Universal	50	50	25	20	3"	1 3/8"	\$1.25
E12-1500	Universal	1500	1500	12	10	4 1/2"	2 1/2"	\$2.00
E12-2000	Universal	2000	2000	12	10	4 1/2"	2 1/2"	\$2.50
E12-4000	Universal	4000	4000	12	10	4 1/2"	3"	\$4.00
6A-2000	Upright	2000	2000	12	10	5 1/2"x4 1/2"x1 1/4"		\$2.25
6A-4000	Upright	4000	4000	12	10	5 1/2"x4 1/2"x2 1/2"		\$3.00

MERSHON ELECTROLYTIC CONDENSERS

S-8 Upr.	Upright	8	8	400	340	4 1/2"	1 1/4"	\$1.25
S-8 Inv.	Inverted	8	8	400	340	4 1/2"	1 1/4"	\$1.25
S-18 Upr.	Upright	18	18	400	340	4 1/2"	1 1/4"	\$1.75
S-18 Inv.	Inverted	18	18	400	340	4 1/2"	1 1/4"	\$1.75
D-8 Upr.	Upright	8-8	16	400	340	4 1/2"	2 1/2"	\$2.25
T-8 Upr.	Upright	8-8-8	24	400	340	4 1/2"	3"	\$3.50

EUREKA ELECTROLYTIC CONDENSERS

400	Inverted	8	8	500	430	4 1/2"	1 1/4"	\$1.00
401	Universal	8-8	16	575	450	4 1/2"x3"x1"		\$2.00

PAPER CONDENSER FILTER BLOCKS

AEROVOX PAPER CONDENSER FILTER BLOCKS

ILLUSTRATION A:—
Aerovox Type A-400 Filter Condenser Block consisting of one 2-mfd., 400 volts d. c. working voltage section and two 2-mfd., 300 volts d. c. working voltage sections.
Price **\$3.75**

Aerovox Condenser blocks consist of non-inductively wound paper filter condenser sections sealed together in a single can and connected together

ILLUSTRATION A:—
Aerovox Type B-400 Filter Condenser Block consisting of one 2-mfd., 400 volts d. c. working voltage section and two 4-mfd., 300 volts d. c. working voltage sections.
Price **\$5.00**

with one terminal common to each section. They are for use in power supply units designed for a 280 rectifier and 171A power tubes.

PILOT PAPER CONDENSER FILTER BLOCK

ILLUSTRATION B:—
Pilot No. 421 Filter Condenser Block. Total capacity—11 mfd., consisting of one 2-mfd., 400 volts d. c. working voltage rating section, one 3-mfd., 400 volts d. c. working voltage section, one 3-mfd., 300 volts d. c. working voltage section and three 1-mfd., 300 volts d. c. working voltage sections.
Price **\$4.98**

This Pilot filter condenser block is especially designed for use with the Pilot No. 411 power transformer and Pilot No. 431 double choke units but it may be used in any other power supply and bypass circuit requiring a block of the same characteristics.

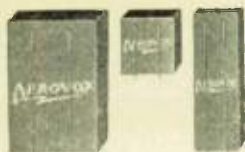
The Filter condenser block is enclosed in a handsome steel case, finished in black Japanese lacquer.



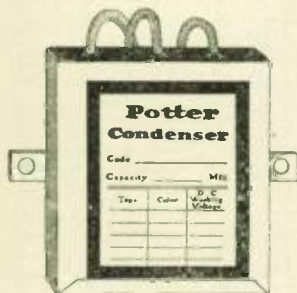
Illus. A



Illus. B



Illus. A



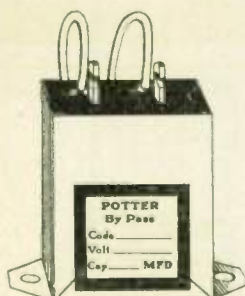
Illus. B



Illus. C



Illus. D



Illus. E



Illus. F

REPLACEMENT CONDENSER SECTIONS

The condenser units listed in this section are designed for use in replacing blown condenser sections in standard receiver and power unit assemblies. They are all non-inductively wound and thoroughly impregnated and sealed to protect them against moisture and mechanical injury. The Aerovox Replacement Condenser Sections listed are in every respect the same as the sections used in Aerovox mounted condensers. The only difference is that they are sealed in cardboard boxes instead of metal cans for economy and convenience for replacement use.

The Potter Replacement Condenser Cartridges are coated with a hard, black wax which thoroughly seals them and protects them from moisture. They are made of the best materials available to produce long and dependable life. Each cartridge carries a label giving instructions covering the repair of filter condenser blocks.

The Muter Replacement Condensers consist of standard Muter condenser sections doubly sealed in a special protective compound and ready for use to replace blown out sections in standard power packs.

Type No.	Cap. Mfds.	D.C. Work. Volt.	Dimensions in inches	Price
AEROVOX REPLACEMENT CONDENSERS ILLUSTRATION A				
200-SU	.5	200	2 1/4 x 1 1/4 x 1 1/4	\$.30
200-SU	1.0	200	2 1/4 x 1 1/4 x 1 1/4	\$.45
200-LU	1.0	200	4 1/2 x 1 1/4 x 1 1/4	\$.45
200-SU	2.0	200	2 1/4 x 1 1/4 x 1 1/4	\$.75
400-SU	1.0	400	2 1/4 x 1 1/4 x 1 1/4	\$.75
600-LU	1.0	600	4 1/2 x 2 x 1 1/4	\$.75
1000-LU	1.0	1000	4 1/2 x 2 1/4 x 1 1/4	\$1.25
MUTER REPLACEMENT CONDENSERS ILLUSTRATION H				
545C	1.0	200	4 1/2 x 1 1/4 x 1 1/4	\$.35
565C	1.0	400	4 1/2 x 1 1/4 x 1 1/4	\$.55
575C	1.0	600	4 1/2 x 1 1/4 x 1 1/4	\$.75

Cap. Mfds.	D.C. Work. Volt.	Dimensions in inches	Price
POTTER REPLACEMENT COND. ILLUSTRATION G			
.1	200	1 1/4 x 1 1/4 x 1 1/4	\$.20
.25	200	1 1/4 x 1 1/4 x 1 1/4	\$.25
.5	200	1 1/4 x 1 1/4 x 1 1/4	\$.30
1.0	200	1 1/4 x 1 1/4 x 1 1/4	\$.50
1.0	200	2 1/4 x 1 1/4 x 1 1/4	\$.50
2.0	200	1 1/4 x 1 1/4 x 1 1/4	\$.60
2.0	200	2 1/4 x 1 1/4 x 1 1/4	\$.60
1.0	400	2 1/4 x 2 x 1 1/4	\$.69
2.0	400	3 1/4 x 2 1/4 x 1 1/4	\$.85
1.0	600	3 1/4 x 2 1/4 x 1 1/4	\$.85
2.0	600	3 1/4 x 3 x 1 1/4	\$1.75
2.0	600	5 x 2 1/4 x 1 1/4	\$1.75
1.0	1000	3 1/4 x 3 1/4 x 1 1/4	\$1.25
1.0	1000	5 x 2 1/4 x 1 1/4	\$1.25



Illus. G



Illus. H



Illus. I



Illus. J

Potter No. 1 Condenser Sealing Wax. Price, per pound **15c**
In repairing condenser blocks, it is very important to seal the sections in the containers in order to eliminate any danger of damage from

moisture and mechanical injury. Potter No. 1 sealing wax, available in handy one-pound packages is especially designed for such work. Complete instructions on how to use it are included in each package.

POTTER REPLACEMENT CONDENSER UNITS FOR POPULAR FACTORY-BUILT SETS

ILLUSTRATION B:—
Potter Type 5497 Replacement Block, for replacement use in Atwater Kent Models 40, 42, 46, 52, 37, 38 and 39. Atwater Kent Part No. 9497. Consists of three .25 mfd. sections. Price **85c**
ILLUSTRATION C:—
Potter Type 5180 Replacement Unit, for replacement use in Atwater Kent battery sets. Atwater Kent Part No. 9575. Consists of one .25 mfd. section. Price **85c**
Potter Type 5665 Replacement Unit, for replacement use in Radiola Models Nos. 16, 17, 41, 50, 60 and 62. Consists of one 1.2 mfd. section. (Not Illustrated.) Price **\$1.00**

ILLUSTRATION D:—
Potter Type 5553 Replacement Unit, for replacement use in Majestic No. 90B Receiver. Consists of one .5 mfd. section. Price **85c**
ILLUSTRATION E:—
Potter Type SM-30-B Replacement Block for replacement use in Silver-Marshall No. 30 Receiver. Consists of three .1 mfd. sections. Price **75c**

These condensers are designed for replacement use in standard receivers and power packs and are specially designed to fit into such units. They can be installed in receivers at a lower cost than would be required to replace the blown out sections.

STANDARD FILTER AND BYPASS CONDENSERS

The following bypass and filter condenser units are designed to meet all bypass and filter requirements of radio frequency, audio frequency and power supply circuits requiring the use of comparatively high capacity condensers capable of withstanding the voltages ordinarily met with in such circuits. They are all non-inductively wound, thoroughly

impregnated, sealed in metal cans and provided with convenient terminals and mountings.

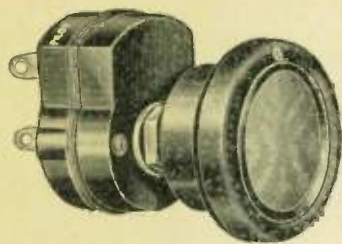
Any number of individual sections can be arranged in a group of uniform appearance for circuits requiring several capacities.

They are all conservatively rated and have a high factor of safety for continuous operation at their rated voltages without danger of breakdown.

Type No.	Cap. Mfds.	D.C. Work. Volt.	Illus. No.	Price
AEROVOX FILTER CONDENSERS				
202	1.0	200	I	\$.75
202	2.0	200	I	\$1.00
202	4.0	200	I	\$1.75
302	1.0	300	I	\$.85
302	2.0	300	I	\$1.25
302	4.0	300	I	\$2.00
402	1.0	400	I	\$1.00
402	2.0	400	I	\$1.50
402	4.0	400	I	\$2.50
602	1.0	600	I	\$1.50
602	2.0	600	I	\$2.25
602	4.0	600	I	\$4.00

Type No.	Cap. Mfds.	D.C. Work. Volt.	Illus. No.	Price
MUTER FILTER CONDENSERS				
566	2.0	400	J	\$.75
575	1.0	600	J	\$.75
PILOT BYPASS AND FILTER CONDENSERS				
801	1.0	180	F	\$.39
9302	2.0	300	—	\$.75
9501	1.0	500	—	\$.75

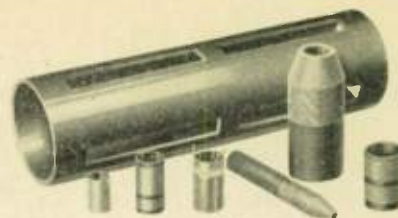
ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION



Illus. A



Illus. F



Illus. G

GOODRICH OR HOOD HARD RUBBER PANELS

All Goodrich and Hood hard rubber panels are 7" wide and 3/16" thick.
Length 12" 18" 21" 24" 28"
Price \$8.60 \$8.90 \$1.05 \$1.20 \$1.40
Hood Panels not available in 28" size.

The special hard rubber used in both Good-

rich and Hood panels is the best insulating material obtainable for radio use. This type of hard rubber provides a fine smooth surface, an insulation of minimum losses and a material which can be cut and drilled with ease without chipping.

ALUMINUM GOODS MFG. CO. ALUMINUM PANELS

All aluminum panels are 7" wide and are made of No. 8 gauge Aluminum (approximately 1/8" thick).

Length 12" 15" 18" 21" 24"
Price \$8.60 \$8.75 \$8.90 \$1.05 \$1.20

These aluminum panels are made of the best grade aluminum and provide high conductivity, light weight and maximum rigidity. Their use as panels and subpanels makes possible the construction of modern, compact, light weight, easily wired receivers.

SPAULDING BAKELITE TUBING

ILLUSTRATION G:—
Spaulding Rolled Bakelite Tubing. Available in 2 1/2", 3 1/2" and 4 1/2" lengths in the following outside diameters:—1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/4", 2 1/2", 2 3/4", 3", 3 1/4" and 3 1/2".
Prices of different diameters are the same for equal lengths.

Standard Lengths 2 1/2" 3 1/2" 4 1/2"
Prices, any diameter 15c 25c 30c

Spaulding Rolled Bakelite Tubing is produced by an improved process that gives the tubing all the advantages and none of the disadvantages of molded tubing.

It is made from sheets of fine grained stock, impregnated throughout and rolled into a dense, homogeneous structure that is resistant to chipping, bending and breaking.

It retains its shape under abnormal stress and pressure.

HEAVY DUTY SNAP SWITCHES

ILLUSTRATION A:—
Pilot Type 44 Knob Control Snap Switch. 35c
Price
Pilot Type 46 Toggle Lever Control Snap Switch. Same as Type 44 but with toggle lever instead of knob control. 30c
Price

These single-hole mounting snap switches have been designed to meet the exacting requirements of present day receiver and power

ILLUSTRATION B:—
Frost Type 21349, H & H, 3-point, Single Pole, Double Throw Toggle Switch. 25c
Price
Frost Type AC609 H & H Single Pole, Single Throw Toggle Switch. 25c
Price

circuits and can be used to make and break standard voltage power circuits with absolute safety.

MUTER MIDGET KNIFE SWITCHES

ILLUSTRATION M:—
Muter Type 900, Single Pole, Single Throw Midget Knife Switch. 10c
Price

ILLUSTRATION N:—
Muter Type 925, Single Pole, Double Throw Midget Knife Switch. 10c
Price

ILLUSTRATION O:—
Muter Type 950, Double Pole, Double Throw Midget Knife Switch. 25c
Price

These tiny switches have countless applications in general or experimental radio work. They may be used for battery chargers, switching from long to short antenna, speaker to television and in all types of test apparatus.

REPLACEMENT RECTIFIER UNITS

ILLUSTRATION C:—
B-L Electric Mfg. Co. Type C-210 Single Wave, 2 1/2 ampere rectifier with double connector in screw type base. \$3.25
Price

ILLUSTRATION D:—
Chemitron Rectifier Cells. 55c
Price per jar \$2.20

Price per set of 4 jars

ILLUSTRATION E:—
G. E. 2-ampere Tungar Rectifier Tube. New Style Type. \$3.50
Price

For Raytheon and Vacuum Tube Rectifiers See Chart on Back Cover of This Catalog.

This series of rectifier units has been carefully selected to meet the rectifier requirements

of practically every charger and power unit.

The B-L Type C-210 units are designed for replacement use on low voltage chargers and "A" eliminators drawing not more than 2 1/2 amperes and using a transformer whose secondary does not exceed 25 volts. They may be used as replacements for bulb type rectifiers of similar rating.

The Chemitron Rectifier Cells are specially designed for use as replacements in Philco Types A and AA, "A" and "B" eliminators. They are also suitable for use in Willard, Exide, Vesta, Ferbend, Balkite B and other similar eliminators which employ chemical rectifier cells.

G. E. 2-ampere Tungar Tube Rectifiers are the ideal replacement units for Tungar 2-ampere battery chargers and "A" eliminators using double-contact screw base.

SIGNAL TELEGRAPH INSTRUMENTS

ILLUSTRATION H:—
Signal Type R-68 Key and High Frequency Buzzer Code Practice Set. \$2.50
Price

ILLUSTRATION I:—
Signal Type M-112 Key and Sounder Code Practice Set. \$3.25
Price

ILLUSTRATION J:—
Signal Type 112-K Junior Key. \$1.65
Price

ILLUSTRATION K:—
Signal Type 112-S Telegraph Sounder. Resistance—4 ohms. \$2.00
Price

ILLUSTRATION L:—
Signal Type R-60 High Frequency Adjustable Buzzer. Resistance—2 ohms. 89c
Price

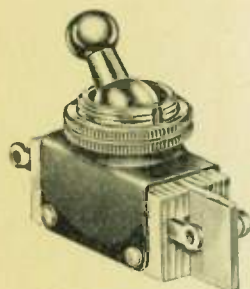
These units are ideally suited for both practice and actual telegraph line construction.

The Type R-68 practice set has been designed especially for amateurs, boy scouts and others who are interested in learning the code or improving their speed. It consists of a sturdy telegraph key and a high frequency buzzer which gives a pleasing signal tone. The code is printed on a little brass plate fastened to the base.

The Type M-112 practice set employs a sounder instead of a buzzer and is intended for those who wish to become accustomed to the signal sounds obtained in signal offices using a standard sounder.

All units are made in accordance with approved practice. Nickelplated key levers, enameled key bases and frames, coin silver contacts and aluminum sounding bars make these units attractive in appearance and efficient in operation.

The buzzers are adjustable and are encased in black, crystallized finished cases.



Illus. B



Illus. C



Illus. D



Illus. E



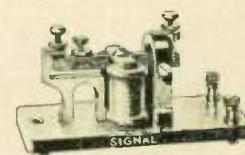
Illus. H



Illus. I



Illus. J



Illus. K



Illus. L



Illus. M



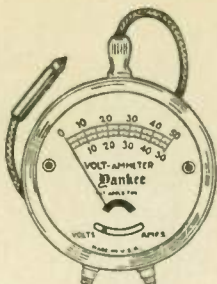
Illus. N



Illus. O



Illus. A



Illus. B

YANKEE PLUG-IN TEST METERS

ILLUSTRATION H:—
Yankee No. 264, 0 to 300 volts d. c. for taking plate voltage readings at tube sockets.
Price **\$2.00**
Yankee No. 265, 0 to 8 volts a. c. for taking filament voltage readings at tube sockets.
Price **\$1.75**
ILLUSTRATION F:—
Yankee No. 267, 5-prong adapter for use with No. 264 and No. 265 plug-in meters when testing in 5-prong sockets.
Price **50c**

These plug-in test meters are designed to simplify the taking of voltage readings at tube sockets without the necessity of getting to the connections under the chassis.

All that is necessary to take a reading at the tube is to remove the tube and insert the wood and Bakelite handle into the tube socket.

The meters are sturdily built and are provided with unbreakable crystals and new zero adjustment.

INSULINE TEST LEADS

ILLUSTRATION D:—
Insuline Type 355, Set of Two Test Leads with Tip Prods and Terminals.
Price, per set **50c**
Insuline Type 995, Set of Two Test Leads with Tip Prods and Spade Type Terminals.
Price, per set **50c**

These test leads can be attached quickly and easily to any meter or other testing instrument.

The handles are made of sturdy insulating tubing, one red and the other black for polarity identification, and the ends are provided with handy test prods.

ELECTRIC SOLDERING IRONS

ILLUSTRATION J:—
Briton Electric Soldering Iron.
Price **\$1.00**
Extra Tips for Briton Electric Soldering Iron.
Price, Each **25c**
ILLUSTRATION K:—
Samson Type K-82 "Klik-Switch" Electric Soldering Iron. Complete with two soldering tips.
Price **\$1.00**

The two irons listed herewith are the finest obtainable. They are designed for use on 110 to 120 volt a. c. or d. c. lines.

The Briton Iron has a heating element of the finest grade chrome-nickel wire fitted into a ventilated shank.

The Samson Iron is provided with a handy switch in the handle.

SELF-FLUXING SOLDER

ILLUSTRATION I:—
Kester Rosin-Core Solder in handy box.
Price **25c**
Kester Metal Mender Acid-Core Solder in box.
Price **25c**
Rosin-Core Solder in 5-ft. Coil.
Price **10c**
Acid-Core Solder in 5-ft. Coil.
Price **10c**

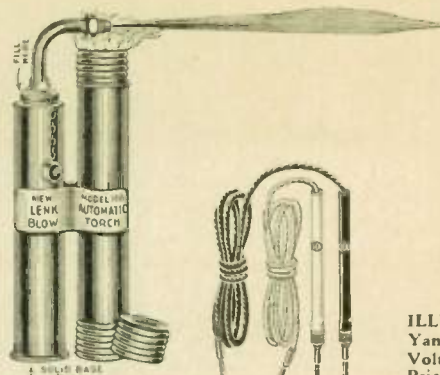
Kester self-fluxing solder is used wherever soldering operations are required. It is made of virgin tin and lead of the highest grades obtainable, and the fluxes used are the result of years of research.

The flux required in soldering operations is contained in the core of the solder strip.

SHIELD BRAND SOLDERING PASTE

Mitchell-Rand, Shield Brand Non-Corrosive Soldering Paste, 2-oz. can.
Price **10c**

Shield Brand soldering paste is absolutely non-corrosive and requires no particular skill to use.



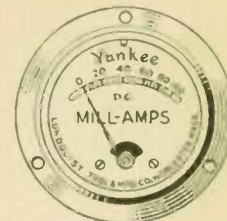
Illus. C



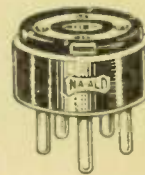
Illus. D



Illus. E



Illus. F



Illus. G

YANKEE POCKET METERS

ILLUSTRATION A:—
Yankee No. 101, 0 to 50 Voltmeter.
Price **50c**
ILLUSTRATION B:—
Yankee No. 108, Combination 0 to 50 Voltmeter and 0 to 50 Ammeter.
Price **60c**

These pocket meters are designed for testing "A",

"B" and "C" batteries but may also be used on a. c. circuits.

Since they are of the low resistance type they should be used for instantaneous testing only and should not be used for continuous operation or for testing battery eliminator circuits where high resistance meters are required.

YANKEE D. C. MILLIAMMETERS

ILLUSTRATION E:—
Yankee D. C. Panel Milliammeters.
Price, Each **\$1.00**
No. 341—0 to 50 Ma. d. c.
No. 343—0 to 100 Ma. d. c.
No. 347—0 to 300 Ma. d. c.
These sturdily built and

accurate d. c. panel milliammeters are ideally suited for use on test panels, receivers, transmitters and power supply units whenever an accurate check on operating conditions must be kept.

YANKEE LINE VOLTAGE TESTER

ILLUSTRATION G:—
Yankee No. 266, 0 to 150 Volts a. c. Plug-in Line Voltage Tester.
Price **\$2.00**
This a. c. meter, in highly polished black Bakelite case is furnished with a

standard cord and plug which may be plugged into any lamp socket or wall outlet to obtain a quick and accurate reading of the line voltage at that particular point without danger of short circuit or shock.

LENK AUTOMATIC BLOW TORCH

ILLUSTRATION C:—
Lenk Type 108 Automatic Blow Torch.
Price **69c**
This high grade, automatic, inexpensive blow

torch is ideal for outdoor and indoor use where an intense flame is desired for soldering or other heating. This torch burns ordinary denatured alcohol.

NEUTRALIZING AND ALIGNING TOOLS

ILLUSTRATION L:—
Insuline Type 996, Insulated Neutralizing and Aligning Tools.
Price, per set **\$1.00**
This handy set of two useful tools is an absolute necessity for accurate and efficient adjustments of neu-

tralizing and trimming condenser adjustments.

They are made of the finest insulating materials and finished with nickel-plated brass nibs. The screwdriver fits into the duplex wrench, making it a four-tools-in-one set.

MUELLER BATTERY AND TEST CLIPS

ILLUSTRATION M:—
Mueller No. 48-B Cadmium Plated Small Size Clip, 1 3/4" long, 9 16" jaw spread, 10-lb. spring.
Price **5c**
Mueller No. 24-A Lead Plated Medium Size Clip, 2 1/2" long, 1" jaw spread, 17-lb. spring.
Price **10c**
These battery and test lead clips are recognized as

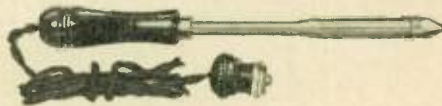
Mueller No. 21-A Lead Coated Large Size Clip, 3 7/8" long, 1 1/2" jaw spread, 33-lb. spring.
Price **15c**

the best available means for providing a quick, simple and positive contact between leads and terminals of batteries and parts.

They are ideally suited for experimental use.



Illus. I



Illus. J



Illus. K

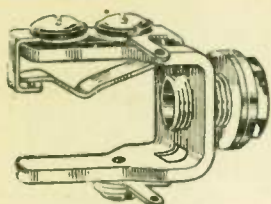


Illus. L



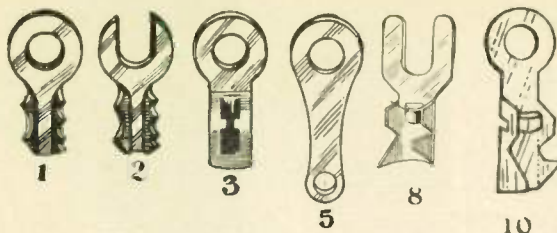
Illus. M

ALL ITEMS LISTED IN THIS CATALOG HAVE BEEN TESTED FOR RELIABILITY AND ARE DESIGNED TO GIVE SATISFACTORY SERVICE IN OPERATION

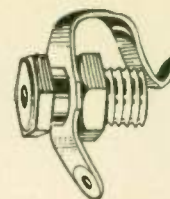


FROST RADIO

Illus. A



Illus. B



Illus. C

FROST PHONE JACK

ILLUSTRATION A:—
Frost Type 933, Single Open
Circuit Short Jack.
Price **20c**

This small jack projects only
1" behind the panel. It is
sturdily built, cannot get out
of adjustment, is self-cleaning

and holds the plug in a firm
grip. Contacts are of Sterling
silver. Frame is nickelplated
brass. It is furnished with
an insulating washer which
permits mounting on metal
panels without danger of short-
ing the frame to the panel.

AMERICAN PHONE TIP JACKS

ILLUSTRATION C:—
American Radio Hardware Co.
Type 15 Phone Tip Jacks, two
tip jacks on a card.
Price, per card of 2 **10c**

These simple, reliable tip
jacks insure positive electrical

contact between the jack ter-
minal and the phone tips in-
serted into them. They are
ideal for use on binding post
strips, loudspeaker outlets, var-
iable taps and subpanel plug-
in connections.

STANDARD BINDING POSTS

ILLUSTRATION N:—
Eby Ensign Type Moulded Binding Posts. Standard Markings
Available:—ANT.; GND.; A+; A-; B-; B Det. +;
B. Amp. +; C+; C-; Speaker +; Speaker -.
Price, Each, Plain or with markings **10c**

ILLUSTRATION M:—
Hoosick Falls Composition Top Binding Posts. Standard Mark-
ings Available:—Aerial; Ground; A Battery -; A Battery +;
B Battery -; B Battery +; C Battery +; C Battery -;
Speaker.
Price, Plain or with Markings **2 for 5c**

These binding posts are the
best posts available in their
respective classes.

Eby binding posts are recog-
nized as the finest of binding
posts available and are stand-
ard equipment in the highest
grade standard and custom
built receivers and radio equip-
ment.

They are made with pat-
ented, one-piece construction
and non-removable, polished
Bakelite tops which unscrew
sufficiently to allow wires to

be threaded into the hole in
the stem. They are furnished
complete with nut and solder-
ing lug and are available with
plain tops or with the mark-
ings listed.

Where low cost is a main
consideration, the Hoosick
Falls binding posts are recom-
mended. They are furnished
complete with mounting screw,
heavy collar and composition
top, either plain or engraved
with any of the markings
listed.

FAHNESTOCK SPRING CLIPS

ILLUSTRATION J:—
Fahnestock Type No. 3 Single Spring Connecting Clip. Size—
1-1/16" long.
Price **5 for 5c**

ILLUSTRATION K:—
American Radio Hardware Co. Type No. 41 Single Spring Con-
necting Clip. Size—3/4" long.
Price **8 for 5c**

American Radio Hardware Co. Type No. 42 Single Spring Con-
necting Clip. Size—1" long.
Price **8 for 5c**

ILLUSTRATION L:—
American Radio Hardware Co. Type No. 45 Double Spring Con-
necting Clip. Size—1 1/4" long.
Price **2 for 5c**

Spring connecting clips are
the handiest means of making
good contact between terminals
and wire. They are ideal for

experimental hookups because
they provide a quick and posi-
tive method of making and
breaking circuit connections.



Illus. D

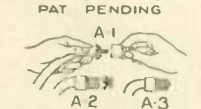
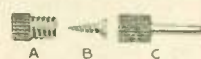


Illus. E



Illus. F

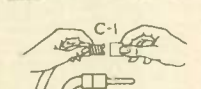
JUST A MINUTE !



The Union Solder "A" has an
enlarged throat. Insert it on end of
wire.



Exposure of bare wire. Insert
would screw "B" blocking wire to
solder.



Screw in any of our standard
Solder Grip Tips shown at left.

Illus. G



Illus. H



Illus. I



Illus. M

ILLUSTRATION B:—
American Radio Hardware Co. Soldering Lugs.
Type No. 1, Closed End Soldering Lug. Packed 24 to an
envelope.

Price, per envelope of 24 lugs **5c**

Type No. 2 Open End Soldering Lug. Packed 24 to an
envelope.

Price, per envelope of 24 lugs **5c**

Type No. 3, Closed End, Solderless Terminal. Packed 24 to an
envelope.

Price, per envelope of 24 lugs **5c**

Type No. 5, Flat, Closed End Long Soldering Lug. Packed 24
to an envelope.

Price, per envelope of 24 lugs **5c**

Type No. 8, Large, Open End Soldering Lug.

Price **5 for 5c**

Type No. 10, Large, Closed End Soldering Lug.

Price **5 for 5c**

These terminals fill the
many requirements for cords,
cables and binding post ter-
minals. All are designed for
soldered connections to the

wires except the Type No. 3
which is a solderless type ter-
minal, which will hold wire and
make good contact without sol-
dering.

SOLDER AND SOLDERLESS CORD TIPS

ILLUSTRATION D:—
American Radio Hardware Co. Cord Tip Assortment, consisting
of 6 standard cord tips for phone, loudspeaker or test leads, packed
in an envelope.

Price, per envelope of 6 cord tips **5c**

ILLUSTRATION O:—
American Radio Hardware Co. Easy Soldering Phone Tips. Packed
10 to an envelope.

Price, per envelope of 10 cord tips **10c**

These phone tips are very
easily soldered as can be seen
readily from the illustration.
They eliminate the usual un-
certainty and difficulty when
soldering phone tips in the or-
dinary way. All that is neces-
sary is to insert the wire into
the shank of the tip until the
end of the wire can be seen
at the side hole and then drop
a bit of solder in the hole. A
tight connection is assured.

ILLUSTRATIONS E, F AND G:—
Barkley Non-Solder Cord Tips.
Type No. 632 Fork Tip.

Type No. 633 Pin Tip. **5c**

These ingenious cord tips
eliminate the necessity of sol-
dering connections to such

terminals. All that is neces-
sary is to insert the bared
wire through the shank of the
cord tip, clamp it in with
the screw and thread the head
of the tip on the shank as
shown in Illustration G.

PHOSPHOR BRONZE FUSE CLIPS

ILLUSTRATION H:—
American Radio Hardware Co.
Type 54 Fuse Clip.

Price **5 for 5c**

These fuse clips have been
carefully designed and accu-

rately made to insure perfect
electrical contact and durabil-
ity. They can be used as
quick-change contacting mount-
ings for grid leak and fuse
type resistors as well as for
the usual fuses.

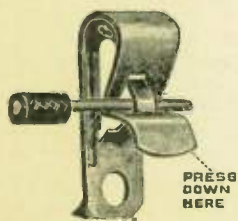
JEFFERSON RADIO FUSES

ILLUSTRATION I:—
Jefferson, 1-, 2- and 3-amp.
Radio Fuses.

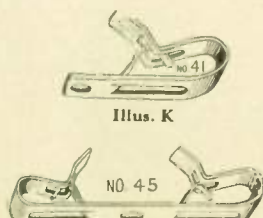
Price, Each **5c**

These union fuses are de-
signed to protect radio sets,
battery chargers, A and B
eliminators, etc. against dam-

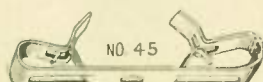
age due to excessive current
surges or a burnout due to
short circuit. Both the fusible
strip and the caps are proof
against corrosion. They will
carry a 10% overload indefin-
itely but will blow at 50% over-
load.



Illus. J



Illus. K

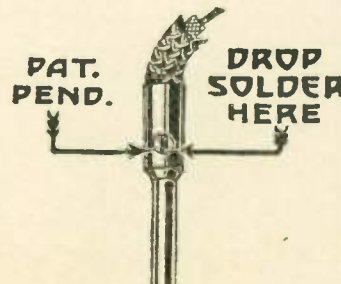


Illus. L

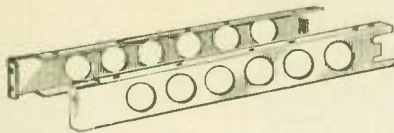
Illus. M



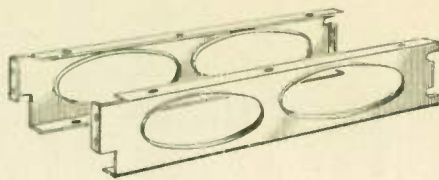
Illus. N



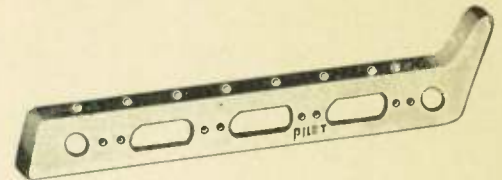
Illus. O



Illus. A



Illus. B



Illus. C

NICKLEPLATED MACHINE SCREWS

ILLUSTRATION F:—
American Radio Hardware Co. Flat, Oval or Round Head
Nickelplated Machine Screws. Packed 10 to an
envelope.
Price per envelope of 10 screws **5c**
STANDARD SIZES:— $\frac{1}{2}$ " x 6/32; $\frac{3}{8}$ " x 6/32; $\frac{3}{4}$ " x
6/32; 1" x 6/32.

NICKLEPLATED WOOD SCREWS

ILLUSTRATION G:—
American Radio Hardware Co. Flat, Oval or Round Head
Nickelplated Wood Screws. Packed 10 to an
envelope.
Price per envelope of 10 screws **5c**
STANDARD SIZES:— $\frac{1}{2}$ " x 4; $\frac{3}{8}$ " x 5; $\frac{3}{4}$ " x 5; 1" x 5.

**MACHINE SCREW, WASHER AND
NUT COMBINATION**

ILLUSTRATION H:—
American Radio Hardware Co. Flat, Oval or Round Head
Nickelplated Machine Screw, Washer and Nut Combination,
consisting of 12 machine screws and 12 washers and 12 hexa-
gon nuts to match to each envelope.
Price per envelope of 12 screws, 12 washers and
12 nuts **10c**
STANDARD SIZES:— $\frac{1}{2}$ " x 6/32; $\frac{3}{4}$ " x 6/32; 1" x 6/32.

NICKLEPLATED HEXAGON NUTS

ILLUSTRATION I:—
American Radio Hardware Co. 6/32 Hexagon Nuts, $\frac{1}{4}$ " be-
tween flats. Packed 20 to an envelope.
American Radio Hardware Co. 6/32 Hexagon Nuts, 5/16"
between flats. Packed 15 to an envelope.
American Radio Hardware Co. 8/32 Hexagon Nuts, $\frac{1}{4}$ " be-
tween flats. Packed 20 to an envelope.
American Radio Hardware Co. 8/32 Hexagon Nuts, 5/16"
between flats. Packed 15 to an envelope.
Price per envelope **5c**

NICKLEPLATED BRASS WASHERS

ILLUSTRATION I:—
American Radio Hardware Co. No. 6 Nickelplated Brass
Washers for 6/32 screws. Outside diameter— $\frac{3}{8}$ ". Packed
25 to an envelope. **5c**
Price per envelope of 25 washers
American Radio Hardware Co. No. 8 Nickelplated Brass
Washers for 8/32 screws. Outside diameter— $\frac{3}{8}$ ". Packed
25 to an envelope. **5c**
Price per envelope of 25 washers

FIBRE WASHER ASSORTMENT

American Radio Hardware Co. Type No. 5 Fibre Washer
Assortment, consisting of a number of fibre washers of the
various sizes found most useful in insulating mounting
screws and other parts when mounting them on metal panels
and subpanels.
Price **25c**

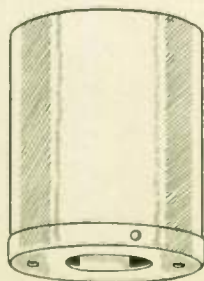
RADIO WALL PLATE OUTLETS

ILLUSTRATION M:—
American Radio Hardware Co. Aerial and Ground Wall
Plate Outlet.
ILLUSTRATION N:—
American Radio Hardware Co. Speaker Wall Plate
Outlet.
Price, Each **25c**

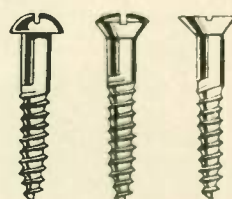
These Radio Wall Plates designed to mount on standard
switch boxes, furnish a neat and convenient way of wiring
a room, apartment or home for radio.



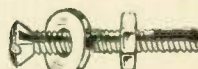
Illus. I



Illus. K



Illus. G



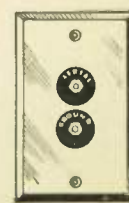
Illus. H



Illus. I



Illus. L



Illus. M



Illus. N

SUBPANEL MOUNTING BRACKETS

ILLUSTRATION D:—
Amer. Radio Hardware Co. Type No. 7 Aluminum Bracket.
Size— $6\frac{3}{4}$ " long x $2\frac{1}{2}$ " high.
Price **10c**

ILLUSTRATION A:—
Amer. Radio Hardware Co. Type No. 8 Aluminum Bracket.
Size— $8\frac{1}{2}$ " long x 1" high.
Price **10c**

ILLUSTRATION B:—
Amer. Radio Hardware Co. Type No. 9 Aluminum Bracket.
Size—9" long x 2" high.
Price **15c**

ILLUSTRATION B:—
Amer. Radio Hardware Co. Type No. 11 Aluminum Bracket.
Size—11" long x 2" high.
Price **20c**

ILLUSTRATION C:—
Pilot Type No. 37 Nickel Plated Metal Bracket. Size—
9" long x $1\frac{1}{4}$ " high.
Price **25c**

These subpanel mounting brackets have been carefully
selected to provide suitable units for practically every form
of receiver and power unit assembly.

NICKLEPLATED ANGLE BRACKETS

ILLUSTRATION E:—
Amer. Radio Hardware Co. No. 5 Nickelplated Angle
Bracket. Size 1" x 1".
Price **5c**

Amer. Radio Hardware Co. No. 7 Nickelplated Angle
Bracket. Size $1\frac{1}{2}$ " x $1\frac{1}{2}$ ".
Price **5c**

Amer. Radio Hardware Co. No. 20 Nickelplated Angle
Bracket. Size 2" x 2".
Price **5c**

Amer. Radio Hardware Co. No. 8 Nickelplated Straight Grid
Leak Bracket. (This item is not illustrated in Illus. E.)
Price **5c**

Amer. Radio Hardware Co. No. 16 Nickelplated Curved
Grid Leak Bracket.
Price **5c**

Amer. Radio Hardware Co. No. 11Z, "Z" Type Coil
Bracket. Size $\frac{3}{4}$ ".
Price **5c**

Amer. Radio Hardware Co. No. 24L, "L" Type Coil
Bracket. Size 1".
Price **5c**

These brass, nickelplated angle brackets are ideally suited
for use in mounting coils, panels, subpanels and other
similar pieces of apparatus.

COIL AND TUBE SHIELDS

ILLUSTRATION J:—
Hammarlund Type TS Tube Shield. Designed with special
ventilating cutouts and rubber grommet to protect control
grid terminal. Mounting screws and screen grid clip packed
with each shield.
Price **35c**

ILLUSTRATION L:—
Pilot Type 222S Tube Shield designed especially for use
with Pilot Type 216 and 217 sockets. Made of aluminum
and provided with screen grid outlet.
Price **50c**

ILLUSTRATION K:—
Eureka Type 600 Coil Shield designed especially for use
with No. 100 and No. 101 Eureka Screen Grid Coil Kits.
Complete with coil mounting brackets.
Price **25c**



Illus. B



Illus. A

RADIO NEWS MAGAZINE

ILLUSTRATION A:—
Radio News Magazine.
Issued monthly.

Price, per issue **25c**

"If It's Radio News—It's in Radio News." That's the promise that Radio News makes—and keeps. Each month, its pages are not only full of up-to-date information—but they contain the ADVANCE NEWS,—hot from the laboratories and experimental stations.

Radio today is the fastest growing industry and to keep abreast of the latest developments you should read the magazine that is recognized as the leading magazine in the field.

News from the manufacturers, radio in aviation, television, broadcasting, servicing, data sheets, laboratory experiments, new tubes and apparatus, everything connected with radio is served up in its pages in pleasing, easily understood language.

RADIO CALL BOOK MAGAZINE

ILLUSTRATION B:—
Radio Call Book Magazine.
Issued quarterly.

Price, per issue **50c**

This quarterly magazine is recognized as one of the leaders in reporting the progress being made in the radio art. Each issue contains a com-

pletely revised, up-to-date list of domestic and foreign broadcast, short wave and television stations, theoretical and practical feature articles, and wiring diagrams, response curves and service data on the leading radio receivers.

RADIO DESIGN MAGAZINE

ILLUSTRATION C:—
Pilot's "Radio Design Magazine."
Issued quarterly.

Price, per issue **15c**

Radio Design, one of the peppiest and most interesting little radio magazines published, is issued four times a year. It is devoted entirely to tech-

nical and constructional "dope" for the radio fan.

Each issue contains articles by prominent radio technicians such as Robert Hertzberg, David Grimes, Robert S. Kruse, Zeh Bouck and other well-known radio writers. The short wave material is of special interest.

RADEX RADIO INDEX MAGAZINE

ILLUSTRATION D:—
Radex Radio Index Magazine.
Issued monthly.

Price, per issue **25c**

The Radex Radio Index contains a complete list of all broadcasting stations in North America. Stations are listed in order according to wavelengths and frequencies, according to

location and according to call letters. They are also listed in accordance with chain program features. Dial settings can be filled in opposite stations tuned in. The list is corrected monthly. In addition, each issue contains many interesting, non-technical articles on radio and the improvement of programs.

SHORT WAVE CRAFT MAGAZINE

ILLUSTRATION E:—
Short Wave Craft Magazine.
Issued every other month.

Price, per issue **50c**

Short Wave Craft is the only magazine that publishes short wave material exclusively. It is written for the

experimenter and the articles contain real, live data on short wave developments, construction, theory and practice. All theoretical discussions are free of any higher mathematics, making it a practical magazine for everyone.

TELEVISION NEWS MAGAZINE

ILLUSTRATION F:—
Television News Magazine.
Issued every other month.

Price, per issue **50c**

Television News is the only publication devoted exclusively to the latest wonder—Television. This magazine

contains, in each issue, the latest developments in television, constructional article on television receivers and transmitters, articles on the past and future of television and translated articles of the leading foreign authorities in this new art.

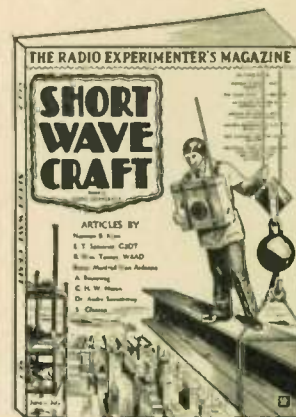
THE RADIO PICTORIAL MAGAZINE

ILLUSTRATION G:—
The Radio Pictorial Magazine.
Issued quarterly.

Price, per issue **10c**

The Radio Pictorial is a complete, illustrated news-review radio magazine and permanent log book. It contains all the features that make a log book or station directory a nec-

essity for the listener-in, together with a directory of the chain programs on the air. In addition, it is filled with illustrations and bits of studio gossip about Radio Personalities that helps the listener to know the performer and thus to enjoy the programs all the more.



Illus. E



Illus. F



Illus. D



Illus. G



Illus. A



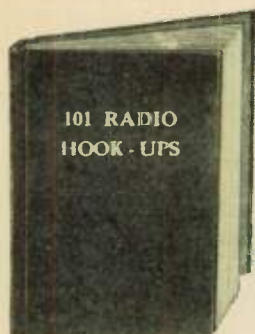
Illus. B



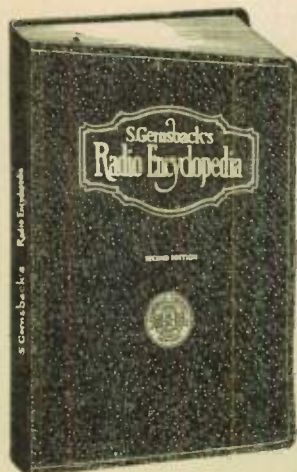
Illus. C



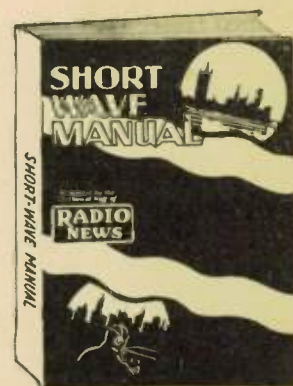
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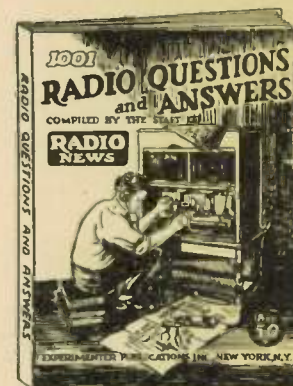
Illus. E



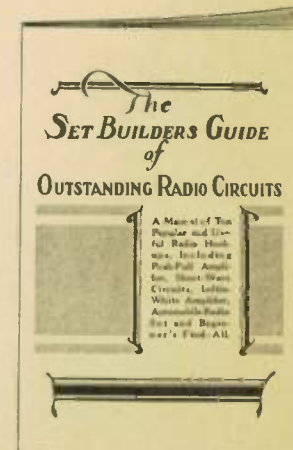
Illus. F



Illus. G



Illus. H



Illus. I

ILLUSTRATION A:—
Radio Amateur's Handbook.
Price **\$1.00**
This book, published by QST Magazine, contains a wealth of information on the design and construction of transmitters and receivers for the amateur short wave bands, and considerable data of value to every engineer, experimenter and serviceman.

ILLUSTRATION B:—
International Resistor Replacement Guide.
Price **25c**
This remarkable book gives the value, code and position in the circuit of each resistor. It simplifies and speeds up set repairing. Servicemen the country over find this manual an absolute necessity for efficient servicing.

NOT ILLUSTRATED.
Centralab Volume Control Guide.
Price **25c**
The failure of volume controls in the many receivers now in service is creating a demand for replacement volume controls. This guide gives the characteristics of a large number of standard receivers and their special volume control requirements.

ILLUSTRATION C:—
John F. Rider's "Troubleshooter's Manual."
Price **\$4.25**
This manual is by far the most complete and comprehensive volume devoted to servicing and troubleshooting. In addition to a wealth of servicing data, it contains the wiring diagrams, with values, of hundreds of old and new receivers of practically every radio manufacturer.

NOT ILLUSTRATED.
Rider's Radio Mathematics.
Price **\$2.00**
This book explains, in simple, straightforward language, the mathematical principles so necessary to a thorough understanding of radio theory and practice, and shows the application of mathematical principles to radio problems.

NOT ILLUSTRATED.
John F. Rider's "Practical Testing Systems."
Price **\$1.00**
This handy book contains a complete collection of accurate and practical testing circuits, including tube testers, capacity measuring circuits, signal generators, oscillators, tube voltmeters, ohmmeters and continuity testers.

ILLUSTRATION D:—
Trouble Finder and Service Manual.
Price **50c**
This manual contains much information of great value to both the amateur and professional serviceman. The data in it is based on the personal experience of the staff and well-known contributors to Radio News Magazine.

ILLUSTRATION E:—
Radio News' "101 Radio Hookups."
Price **25c**
This Radio News publication contains complete diagrams and descriptions of the most popular receivers, short wave transmitters, amplifier units and test apparatus used in radio.

ILLUSTRATION F:—
S. Gernsback's Radio Encyclopedia.
Red Morocco-Keratol Binding.
Price **\$3.25**
This 352-page, 9" x 12" Radio Encyclopedia is a complete working handbook containing up-to-the-minute, detailed explanations and descriptions of every word, phrase, formula, abbreviation and piece of radio apparatus.

ILLUSTRATION G:—
Short Wave Manual.
Price **50c**
This Short Wave Manual, compiled by the Technical Staff of Radio News, is the answer to the demand for an authoritative handbook on short wave work. In it you will find information that will enable you to get best results on short waves.

ILLUSTRATION H:—
Radio News' "1001 Radio Questions and Answers."
Price **50c**
This completely revised edition contains, in ready reference form, the answers to questions asked by hundreds of readers of Radio News. The data covers practically every phase of radio with which the average student, experimenter and serviceman is likely to have trouble.

ILLUSTRATION I:—
The Set Builders' Guide of Outstanding Radio Circuits.
Price **5c**
The radio circuits presented in this book have been chosen from among hundreds of representative designs. They include push-pull and Loftin-White amplifiers and short wave and automobile receivers.



The Radio Tubes available at Kresge Stores are the best the market has to offer.

Cunningham Tubes need no introduction to the millions of set owners who have used them consistently in their receivers. They are available at popular prices.

Van Dyke and Volutron Tubes are made for the S. S. Kresge Co. by two of the larg-

est tube manufacturers in the country.

As the construction of each tube progresses from the raw material to the finished product, the tubes are subjected to exhaustive tests which weed out all defective tubes and insure the quality of the tubes sold at Kresge Stores. All tubes are

guaranteed to give satisfactory service.

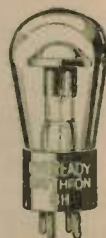
The exceptionally low prices at which these three makes of high grade tubes can be bought at Kresge Stores makes it unnecessary to put up with the annoyance of poor reception due to wornout tubes.

Have your tubes tested at Kresge Stores and replace all wornout tubes with any of the makes listed on this page.

DETECTOR, AMPLIFIER AND RECTIFIER TUBES

General Type	Cunningham			Van Dyke		Volutron		Use R-R F. Amp. D-Det A-A F. Amp. P-Power (S)-Screen Grid	Filament		Base	
	Type, No.	Type, No.	Price	Type, No.	Price	Type, No.	Price		Volts	Amps.	Type	Prongs
Dry Battery Type	C-299	UV-199	89c	UX-199	89c	R, D, A			3.3	.06	UV	4
	CX-299	UX-199	89c	UX-199	89c	R, D, A			3.3	.06	UX	4
	CX-330	UX-230	\$1.00	UX-230	89c	R, D, A			2.0	.06	UX	4
	CX-332	UX-232	\$1.50	UX-232	\$1.10	R, D, (S)			2.0	.06	UX	4
6-Volt Storage Battery Type				UX-200A	\$1.50	D			5.0	.25	UX	4
	CX-301A	UX-201A	50c	UX-201A	50c	R, D, A			5.0	.25	UX	4
	CX-112A	UX-112A	75c	UX-112A	89c	R, D, A; P			5.0	.25	UX	4
	CX-322	UX-222	\$1.75	UX-222	\$1.75	R, A, (S)			3.3	.132	UX	4
A.C. Type	C-324	UY-224	\$1.25	UY-224	\$1.00	R, D, A; (S)			2.5	1.75	UY	5
	CX-326	UX-226	65c	UX-226	75c	R, A			1.5	1.05	UX	4
	C-327	UY-227	75c	UY-227	75c	R, D, A			2.5	1.75	UY	5
	C-335	UY-235	\$1.50	UY-235	\$1.00	R, A, (S)			2.5	1.75	UY	5
Power Tubes D.C. and A.C.				UX-120	\$1.50	P (dry batt.)			3.0	.125	UX	4
				UX-231	89c	P (dry batt.)			2.0	.13	UX	4
	CX-331	UX-231	\$1.00	UX-231	89c	P (d.c. or a.c.)			5.0	.25	UX	4
	CX-112A	UX-112A	75c	UX-112A	89c	P (d.c. or a.c.)			5.0	.25	UX	4
	CX-371A	UX-171A	75c	UX-171A	89c	P (d.c. or a.c.)			5.0	.25	UX	4
	UX-210		\$3.00	UX-210	\$3.00	P (a.c.)			7.5	1.25	UX	4
	CX-345	UX-245	89c	UX-245	89c	P (a.c.)			2.5	1.5	UX	4
	C-347	UY-247	\$1.25	UY-247	\$1.00	P (pent.) (a.c.)			2.5	1.5	UY	5
Rectifiers		UX-250	\$3.00	UX-250	\$3.00	P (a.c.)			7.5	1.25	UX	4
	CX-380	UX-280	89c	UX-280	89c	Full Wave			5.0	2.0	UX	4
	CX-381	UX-281	\$2.50	UX-281	\$2.50	Half Wave			7.5	1.25	UX	4
	Eveready	Raytheon Type BH	Price		\$3.00	Full Wave			No Filament		UX	4

Note *: Cunningham Tubes available at popular prices.



KRESGE'S TREMENDOUS BUYING POWER AND EFFICIENT MERCHANDISING METHODS
MAKE POSSIBLE THE EXCEPTIONAL VALUES OFFERED IN THIS CATALOG