

M & H 1930 WHOLESALE RADIO CATALOGUE



COMMUNITY RADIO SERVICE
1947 E. TIOGA ST.,
PHILA., PA.
PHONE JEF. 6362



M & H SPORTING GOODS CO.

512 MARKET ST. PHILADELPHIA, PA.

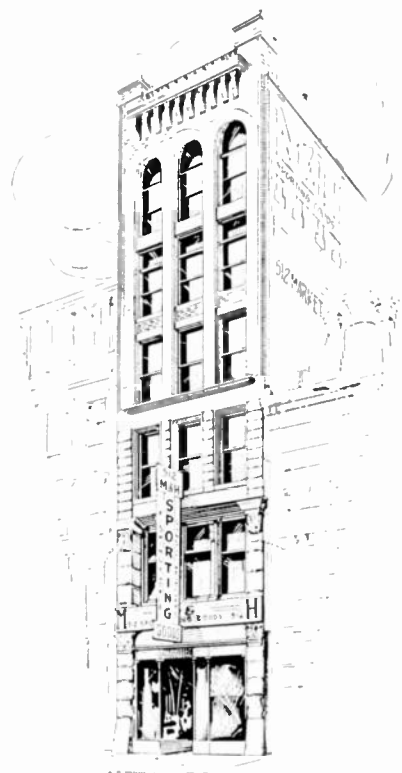
Our Guarantee

Every transaction is guaranteed to be satisfactory to the customer. We want you to be completely pleased with everything you purchase from us.

All items listed in this catalogue are made by leading manufacturers and are guaranteed by them and by us.

Every order is given the same courteous, prompt and careful attention regardless of its size or amount.

Our justly earned reputation of fair dealing has been established for more than 30 years—and is an additional assurance that everything purchased from us is first class, dependable merchandise and is sold at the lowest possible fair price.



TWENTY-FOUR HOUR SERVICE **IF YOU NOTE THE FOLLOWING** **WHEN ORDERING**

1. We appreciate your business, and every order is handled with the desire of holding your good will.
2. Mention the catalogue page number as well as the name of the article you are ordering.
3. All prices quoted are F. O. B. Philadelphia and are subject to change with market fluctuations.
4. Our terms are cash with order, or C. O. D., if sufficient deposit is sent to cover transportation charges both ways.
5. Remittances may be made by check, Post Office or Express Money Order, or currency in Registered Letter.
6. Please specify whether Parcel Post or Express shipment is desired. If Parcel Post is specified, enclose postage with your order, or merchandise will be shipped by Express. Parcel Post rates may be procured from your local Post Office.



The Original Kit Shop

M & H 1930 WHOLESALE RADIO CATALOGUE

This catalogue has been issued to give Radio Dealers and Professional Set Builders the very latest information available on Radio for 1930.

We list the best standard radio lines and will be pleased to furnish any additional information desired on items described herein or that may be introduced to the public after this comes off the press.

Our policy is everything for the Radio set builder who will not be satisfied with anything except—THE BEST IN RADIO RECEPTION.

M & H is the ORIGINAL Kit Shop—If it is a kit or any part of a kit—We Have It.

*Service Men's Headquarters
Amateur Transmitting Equipment
Broadcast Apparatus
Complete Theatrical and Public Address Systems*

Service Departments

Our Service and Laboratory men have been affiliated with the wireless field for the past sixteen years and are associated with the Institute of Radio Engineers.

You will usually be able to get advance information on the newest in radio here, as well as having your radio problems solved. Write or come in about any problem in Radio that is troubling you.

We are recognized as the official service station for practically all the popular kits and power packs, also those appearing in RADIO NEWS, CITIZENS CALL BOOK, RADIO WORLD and other radio periodicals.

Our testing and service department is modern, our work is guaranteed, and our fees nominal.



M & H SPORTING GOODS CO.
512 MARKET STREET, PHILA., PA.

We Appreciate Your Mail Orders

Get Our Special Prices on Sporting Goods

1930 Radio Cabinets by Corbett

Beautiful Walnut Designs



Model No. 600 (Open)

List Price, \$56.00

Your Cost **\$33.00**

Made of finest walnut with doors in hand matched stripe walnut. Butt grain side panels with arch and apron in oriental ribbon walnut.

Masterly finished in hand rubbed lacquer.

Entire construction is of $\frac{1}{8}$ in. material. Doors run on steel track. Accessible from the rear.

Outside dimensions: 51" high, 27" wide and 16" deep.

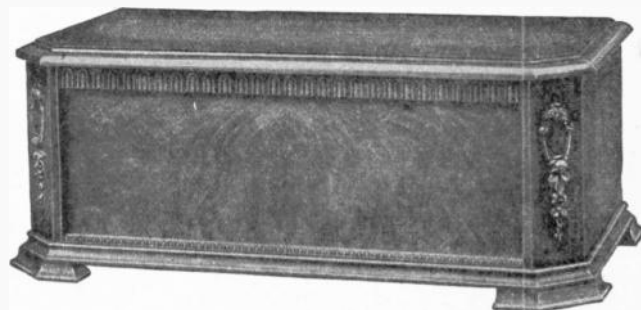
Inside dimensions: 24" high, 24 $\frac{1}{4}$ " wide and 12 $\frac{1}{4}$ " deep.

Shelf for speaker removable to any position. Shipping weight: About 100 pounds.

Panel cut out and baffle board will be furnished to specifications.

Special adapters are placed in all cabinets for use with Atwater Kent dynamic speakers.

When cut-out is not specified, a blank $\frac{1}{4}$ " panel will be fitted back of a standard shaped opening which is 6 $\frac{1}{4}$ " high and 9 $\frac{1}{8}$ " wide as illustrated. Distance from floor of cabinet to bottom edge of cut-out, 1 $\frac{1}{8}$ ".



Model C

The ultimate in elaborate and attractive radio cabinets is offered in our model "C." The top is made of Walnut plywood selected for figure. The ends are made of solid walnut and walnut plywood. The back and base are finished to match. The front is grooved for $\frac{1}{8}$ -inch panel, the top rail being removable. Fancy folding top stay and piano hinge are applied.

Panel Size	Depth	List Price	YOUR COST
7" x 18"	12"	\$16.25	\$10.75
7" x 21"	12"	17.75	10.65
7" x 24"	12"	18.60	11.16
7" x 24"	12 $\frac{3}{4}$ "	19.00	11.40 HiQ80
7" x 26"	12"	20.80	12.48

A rich distinguished looking console of very fine quality. All panels are walnut with matched butt grain doors tastefully set off with moulding and beautiful period bronze pulls.

Stands 41" high, 29" wide and 17 $\frac{1}{2}$ " deep.

Set compartment 10" high, 26" wide and 15" deep.

Speaker compartment 22" high, 26" wide and 15" deep.

A baffle for dynamic speakers is included. Any panel cut-out specified will be furnished.

Shipping weight, 125 pounds.



Model E (Open)

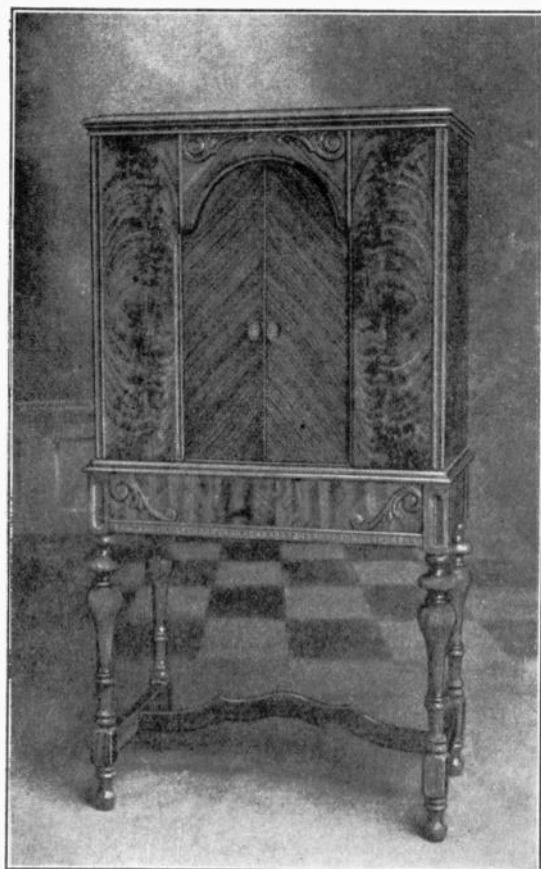
This Console Will Accommodate the New Condenser Type Speakers

List Price, \$50.00

SPECIAL

Your Cost **\$24.50**

With Top Hinged, \$1.80 extra



Model 600 (Closed)

CORBETT FURNITURE

Model No. 500

Masterly finished in hand rubbed lacquer.

Entire panel construction is of 13" walnut. Butt walnut doors operate on steel track. Accessible from the rear.

Outside Dimensions — 51" high, 27" wide and 16" deep.

Inside Dimensions — 24" high, 24 1/4" wide and 12 1/2" deep.

Shelf for speaker movable to any position.

Shipping Weight — About 100 pounds.

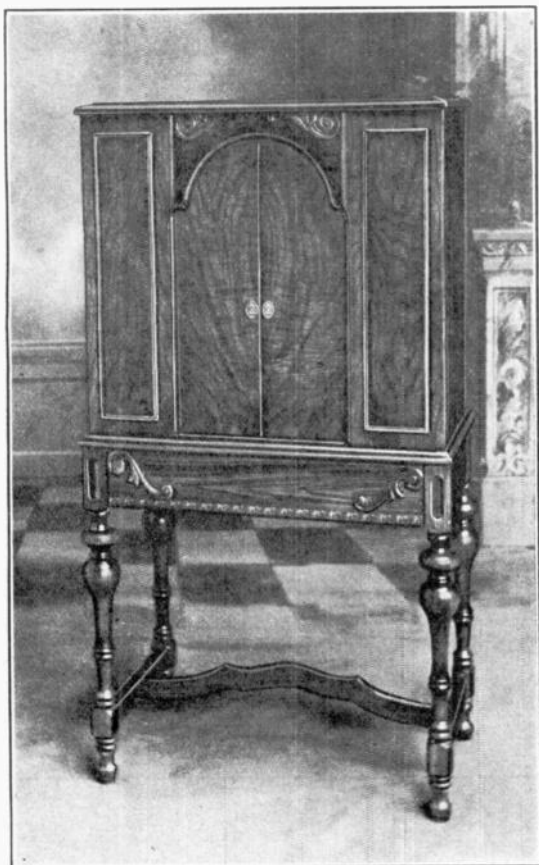
Panel cut-out and baffle board will be furnished to specifications.

Special adapters are placed in all cabinets for use with Atwater Kent dynamic speakers.

When cut-out is not specified, a blank 1/4" panel will be fitted back of a standard shaped opening which is 6 3/4" high and 9 3/8" wide as illustrated. Distance from floor of cabinet to bottom edge of cut-out, 1 1/8".

List Price, \$45.00

Your Cost, \$27.00



Model 500 (Closed)



Model 500 (Opened)

PHONO-RADIO COMBINATION No. 425C

FOR ELECTRIC PHONOGRAPH AND RADIO

The bird's eye maple overlays and carvings blend with the figured walnut to make a distinctive piece of radio furniture. The sliding doors offer a console requiring little space in the home without losing the desirable feature of being able to cover the set and speaker when not in use.

AN EXCEPTIONAL M & H SPECIAL

List Price, \$65.00

Your Cost, \$34.50



NORTHFIELD FURNITURE

"The Alhambra"



Model C29-3
(Closed)

No. C29-3 — "The Alhambra" in walnut with blended lacquer finish. The front panel has a genuine burl overlay at the top. The instrument panel is of straight grained, oriental walnut and the silent sliding doors are of oriental walnut, diagonally matched. Overall dimensions: 41" high, 28" wide, 17" deep. Receiver compartment, 24½" long, 12" high, 14" deep. Speaker compartment of extra large baffle dimensions: 15¼" x 24½" x 15¼". Conforms with recommendations of leading speaker designers for perfect tone reproduction.

No. C29-3—Console Only

List Price, \$40.00

Your Cost, \$24.00



Model C29-3
(Open)

Re: Northfield Console

"Chelsea" No. C29-5 — The "Chelsea" is finished in blended lacquer and a high grade moderately priced console of excellent construction throughout. The front panel is made to display a beautiful combination of woods which makes this console exceptionally attractive.



No. C29-5

The instrument panel (center) is straight grained walnut. The top section of the front panel is also straight grained walnut, with over-lays in the corners of mahogany, black edged. The side pillars are split burl walnut and the center of the bottom panel is mahogany to match the over-lays in the upper corners with side sections burl to match the pillars.

The top of this console is five-ply walnut. The remainder of the cabinet is gum veneer finished to match.

Dimensions—Overall, 38½ in. high, 26 in. wide, 16½ in. deep.

Receiver Compartment—21¼ in. long, 9¾ in. high, 14¾ in. deep.

Speaker Compartment—21½ in. long, 14¼ in. high, 12¾ in. deep.

No. C29-5—Console Only.

List Price, \$32.50

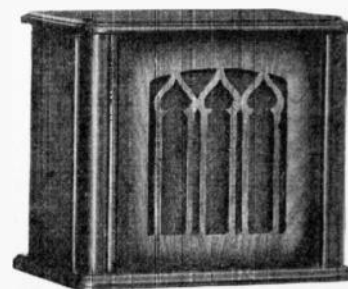
Your Cost, \$19.50

Dynamic Speaker Case

No. C29-4 — Of sturdy construction in walnut made to take any standard type electric dynamic speaker unit. Outside dimensions: 13¾" high, 15" wide and 10¾" deep. Inside dimensions: 11" high, 13" wide and 8¾" deep.

No. C29-4—Dynamic Speaker Case Only.

List Price, \$12.00

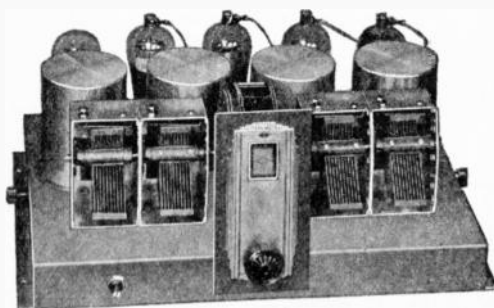


No. C29-4

Browning's Latest Development

MB-29 Tuner MB-29 FOUR SCREEN GRID STAGES

Featured
in the Best
Radio Periodicals



Developed by
Glenn H. Browning and
James Millen

COVERS ENORMOUS RANGE ON INDOOR ANTENNA

Such tremendously high, yet balanced RF amplification is obtained by the NATIONAL MB-29 tuner that 54 stations have been logged in one evening on a 6-ft. antenna.

OUTSTANDING IN PERFORMANCE

The new NATIONAL Screen-Grid MB-29 is the latest and most spectacular radio achievement of Glenn H. Browning and James Millen. NATIONAL Co., Inc., is sole licensee under patents issued and pending covering essential details of this remarkable receiver.

An ultra-sensitive, sharply-selective, distance-getting screen grid tuner, built with a completely shielded and beautifully frosted aluminum chassis and employing 4 screen-grid AC tubes.

The MB-29 is especially suitable for mounting in a console or with electric phonograph combination.

BUILT FOR AC OPERATION

The new tuner circuit employs four screen-grid AC tubes, which are even better amplifiers than the DC screen-grid tubes. The NATIONAL MB-29 will pull in distant stations directly through closely crowded locals.

LIST OF PARTS—NATIONAL MB-29 FIVE-TUBE TUNER

No. of Parts	Name of Parts
1	Aluminum chassis complete. 15" x 10½".
2	Binding posts.
1	5 cord cable (2 of these are Heavy Wire).
1	AC switch with NATIONAL knob.
1	Volume Control with NATIONAL knob.
1	Centre tap resistor.
1	100 Ohm resistor.
1	20M Ohm fixed resistor.
1	1800 Ohm wire wound fixed resistor.
4	No. 90 choke coils.
3	1. mfd. by-pass condensers.
1	.001 mfd. mica molded condenser.
4	NATIONAL Screen Grid Transformers, complete with by-pass condensers, R.F. Chokes and terminal block.
2	Sets of 2 ganged .0005 NATIONAL condensers.
1	NATIONAL Velvet Vernier dial Type H.

All parts mounted on chassis ready for wiring. Set of parts includes wire and everything necessary for assembly.

MB-29 NATIONAL complete set of parts for 5-Tube SCREEN-GRID Tuner as listed above (less tubes).

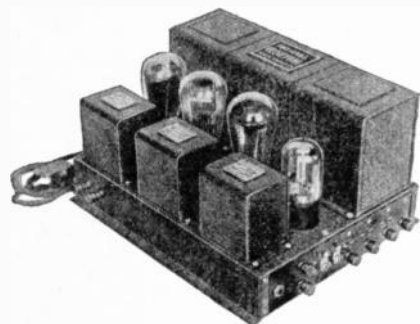
List Price, \$69.50

Your Cost, \$41.70

MB-29W NATIONAL—We can have the above set of parts, of the MB-29 NATIONAL SCREEN-GRID 5-tube Tuner wired up for you by the Abbott Laboratory, whose work we recommend, at an additional price of \$7.00.

FREE BOOKLET ON REQUEST

The New NATIONAL 245 PUSH PULL Power Amplifier



The Very Latest in 1930 Engineering Principles Are
Incorporated in This New
**NATIONAL VELVETONE
POWER AMPLIFIER**

It has been developed and built to get the very most out of the new MB-29 Screen-Grid 5-tube tuner. It is a combination power supply and audio amplifier, using a 280-tube for a rectifier, one stage of transformer audio with a 227-tube and a stage of push pull amplification with two 245's (the new and remarkable 2.5 volt power tubes).

The new NATIONAL Velvetone Power Amplifier is sold completely wired and assembled and ready for use. It is licensed under RCA patents.

Completely wired and equipped with phonograph jack (less tubes).

List Price, \$97.50

Your Cost, \$58.50

The Ultimate in SHORT WAVE Kits Another 1930 National Development

SCREEN GRID

4-TUBE THRILL BOX

Type SW-4

TUNES FROM 15 TO 570 METERS

Short Waves and Broadcast



The NATIONAL 4-Tube Shortwave Tuner or THRILL BOX, Type SW-4, has been designed in response to a continuous demand for a short-wave set capable of receiving the full short-wave range of from 15 to 175 meters, and which at the same time would give good loudspeaker operation on the broadcast band as well,—175 to 570 meters.

Previous difficulties in the satisfactory design of a set of this kind have been overcome by the use of an ingeniously designed two-section tuning condenser. At the touch of a little switch, a large capacity section for broadcast waves is thrown in or out.

The six interchangeable coils are kept in special storage sockets in the handsome metal cabinet, so that they are protected from dust, and are always ready for use.

The Screen Grid Tube in First Stage gives increased sensitivity, eliminates "tuning holes" and prevents radiation.

A special audio system has been designed, embodying new improvements on the former NATIONAL Impedafomers, permitting the use of a high-mu audio tube and giving a very high gain.

The two audio units are placed in one case for compactness and greater simplicity of wiring.

The whole set is extremely easy to assemble, compact, light and has a low drain on batteries.

It will be found unusually satisfactory for reception by amateurs and for yachts, airplanes, camp and expedition use.

Gives humless operation on the NATIONAL 3580 B-Power Supply.

The set requires the following tubes:

CX or UX 222, 200-A, 240, 171-A.

	List Price	YOUR COST
SW4 NATIONAL complete set of parts for (4) tube short wave set as listed above less Type E & F coils and cabinets.....	\$45.90	\$27.54
SW4C NATIONAL complete set of parts for (4) tube short wave set with Type E & F coils and cabinet.....	55.00	33.00
We can have either of the above sets of parts wired up for you by the Abbott Laboratory, whose work we recommend, at an additional list price of.....	10.00	7.00

When desired completely wired, add the letter (W) to the type numbers listed above.

FREE BOOKLET PUBLISHED BY ABBOTT LABORATORIES ON REQUEST

The Latest NATIONAL Products

The most artistic dial yet designed. These new NATIONAL VELVET VERNIER DIALS—Types G and H—employ a beautiful brushed silver finish escutcheon of simple and dignified yet extremely modern design, harmonizing with the most modern cabinet work and furniture, yet free from freakish and radical characteristics.

A New Way to Read the Dial

Up to this year all radio dials were subject to one fault, that they read somewhat differently from different positions because of the distance between the moving scale and the fixed reference line or pointer. In the new NATIONAL VELVET-VERNIER DIALS, Types G and H, the scale is projected on to a ground-glass screen on the dial opening by a brilliant illuminator, and the dial reads the same from any position. In other words, you do not see the scale itself but you see its image thrown on the screen. By this method, the figures and scale divisions are considerably enlarged in size, making them much easier to read.

Beautiful and New Rainbow Color Feature

An added attraction of the Type H Drum Dial is an arrangement by which the color of the figures and scale divisions shifts kaleidoscopically as you turn the tuning knob. The change and play of color adds to the beauty and novelty. If desired, this dial can be furnished without Rainbow Feature at a slight reduction in price.

Type G—Disc Dial

This dial employs a disc mechanism and is designed for use when the tuning condenser shaft is at right angles to the front panel. This is a monocolour projector dial, standard color is green.

Catalog Symbol		List Price	YOUR COST
VGCC Counter Clockwise (0-100) (180°)		\$3.75	\$2.50
VGC Clockwise (100-0) (180°)		3.75	2.50
VGE Clockwise (150-0) (270°)		3.75	2.50

Type H—Drum Dial

The Type H Dial employs the proved and popular NATIONAL VELVET-VERNIER drum mechanism with its powerful non-conducting drive and spring take-up. When furnished as a monocolour projector dial, standard color is green.

Catalog Symbol		List Price	YOUR COST
VHCC—monocolour—counter clockwise (0-100)	all 180°	\$5.00	\$3.00
VHC—monocolour—clockwise (100-0)		5.00	3.00
VHCCR—Rainbow—counter clockwise (0-100)		5.50	3.30
VHCR—Rainbow—clockwise (100-0)		5.50	3.30

Precision Velvet-Vernier Dial

This 4-inch solid German silver NATIONAL Velvet-Vernier Dial, Type N, has been developed for use in amateur and other radio equipment requiring the utmost precision of logging. It is equipped with a real Vernier making accurate reading possible to one-tenth of a division. The mechanism is the original and unexcelled NATIONAL Velvet-Vernier design, approved and used by transmitting and receiving amateurs all over the world.

Dial attaches to the face of panel at three points making accurate mounting exceedingly easy and simple.

Type VND (100-0) 180°	List Price, \$6.50	Your Cost, \$3.90
Type VNE (150-0) 270°		
Type VNC (200-0) 260°		



NATIONAL Velvet Vernier Dials

Type "F" (Drum)

This new NATIONAL VELVET VERNIER DRUM DIAL is designed to meet the present demand for this type of dial. The mechanism has the same velvet smoothness that has featured all of our former types. An automatic spring takeup assures a positive drive at all times.

Easily attached to the 1/4" shaft of any standard clockwise condenser. A template for drilling the panel furnished with each dial.

The escutcheon plate for mounting on front of panel adds to the beauty of the receiver. A small concealed 6-volt lamp may be easily attached to light up the dial brilliantly.

Type	List Price	YOUR COST
Type "F"	\$4.00	\$2.40
Type 28 Illuminator, extra	.50	.30



NATIONAL Velvet Vernier Dials

Type "E"

This dial has a disc type of mechanism similar to our Type "B," but is designed for those who desire an artistic and distinctive dial to drive the condenser in a plane perpendicular to the front panel.

Catalog Symbol	List Price	YOUR COST
VED—0-100-0	\$2.75	\$1.65
VEC—200-0	2.75	1.65
Type 28 Illuminator, extra	.50	.30

NATIONAL Velvet Vernier Dials

Types "B" and "C"

Easily and quickly attached without special tools, fitted with beautiful permanent Bakelite cover — equipped with variable ratio of 6-1 to 20-1. Specified universally for Radio sets the country over.

Both types are identical, except that Type B is without light, and Type C includes the illuminator.



Catalog Symbol		Type B
VB C—Clockwise (200-0) (360°)		
VB CC—Counter Clockwise (0-200) (360°)		
VB-D—Dual Range (0-100-0) (180°)		

List Price, \$2.50

Your Cost, \$1.50

Dial Illuminator and Bracket, complete—List Price, 50c
Your Cost, 30c

NATIONAL Velvet-Vernier Dials

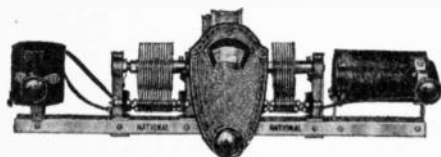
This is the original NATIONAL VELVET VERNIER DIAL with its smooth, matchless mechanism, which gives perfect control for highly selective circuits. This development of a new form of Gearless Transmission permits a motion that is even and regular throughout its range. No backlash exists—none can develop.



Catalog Symbol	Dia.		List Price	YOUR COST
VAC C3	3 3/4"	Counter Clockwise (0-100) (180°)	\$2.50	...
VAC C4	4"	Counter Clockwise (0-100) (180°)	2.50	...
VAC 4	4"	Clockwise (200-0) (360°)	2.50	...
VAC E4	4"	Clockwise (150-0) (270°)	2.50	...

The Latest NATIONAL Products

SINGLE DIAL TUNING UNITS



Type G — With Special Inductance Trimmer. This model is made for use with 201-A, 226, or 227 Tube in the RF stage, and has a special inductance trimmer

in the antenna circuit, eliminating the necessity of using a separate trimmer condenser, thus simplifying wiring and making operation more efficient.

Complete with illuminated NATIONAL Type F. Drum Dial.

List Price, \$25.00

Your Cost, \$15.00

Type 222—For Use with Screen-Grid Tube. This has almost exactly the same appearance as Type G, but has the proper windings for the use of the 222 tube. There is a special high-impedance, slot-wound primary in the Browning-Drake transformer. Owing to the careful design and placing of the coils and condensers, the necessity for shielding is eliminated.

Complete with illuminated NATIONAL Type F. Drum Dial.

List Price, \$25.00

Your Cost, \$15.00

Type F—Type F is built without the special inductance trimmer in the antenna circuit and is otherwise like Type G.

Complete with illuminated NATIONAL Type F. Drum Dial.

List Price, \$23.50

Your Cost, \$13.10

NATIONAL Equimeter Condenser

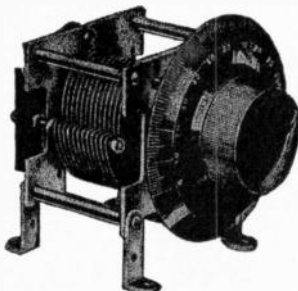
(Straight Wave Line)

Made in the following sizes:

Catalog Symbol	Size	List Price	YOUR COST
EM 50	50 MMF	\$2.50	\$1.50
EM 100	100 MMF	2.50	1.50
EM 150	150 MMF	3.00	1.80
EM 200	200 MMF	3.50	2.10
EM 250	250 MMF	3.50	2.10
EM 350	350 MMF	3.75	2.25
EM 500	500 MMF	4.00	2.40
EM 1000	1000 MMF	5.50	3.30

These prices do not include NATIONAL Velvet Vernier "Type A" Dials. Condensers with Dials, extra.....

2.50 1.50



NATIONAL Equitone Condenser

Modified Straight Frequency Line

The GIRDER FRAME construction of this Condenser is such as to permit "ganging" when so desired for Single Control Sets. The Frame of the Condenser may also be used to replace brackets for supporting a sub-panel.

The lower half of the scale is Straight Frequency Line and the upper half is Straight Wave Length Line, so as to prevent crowding of stations at the lower dial readings.

Made in the following sizes:

Catalog Symbol	Size	List Price	YOUR COST
ET 150	150 MMF	\$4.25	\$2.55
ET 250	250 MMF	4.50	2.70
ET 350	350 MMF	4.75	2.85
ET 500	500 MMF	5.00	3.00

(Above prices do not include dial.)



NATIONAL Tone Filter

This pioneer power-tube output-unit has been redesigned and fitted in a new case of compact size and attractive finish. Protects loud speaker, improves tone. Instantly connected to any radio set without tools.

	List Price	YOUR COST
With cord (standard type)...	\$7.00	\$4.20
With cord (for 250 tubes)...	8.50	5.10
Without cord, deduct 50c.		

NATIONAL Scratch Filter

The NATIONAL Scratch-Filter greatly reduces the needle-scratch heard in the loud speaker when using an electrical phonograph pick-up in connection with a radio set or power amplifier when reproducing phonograph records, electrically.

Connection is exceedingly simple, the terminals of the filter being wired across the output of the phonograph pick-up. The design suppresses the greatest possible amount of needle-scratch with as little effect as possible on the upper musical notes.



List Price, \$5.50
Your Cost, \$3.30



Filter Chokes

Type 80—Fig. 4

A pair of heavy duty filter chokes, cased in a single container, for use in filter circuits of B- Power Supplies and Power Amplifiers.

Cased to match the NATIONAL Power Transformer.

List Price, \$10.00

Your Cost, \$6.00

NATIONAL Filament Transformers

Type F-227—Fig. 5

Provides two filament winding for 2.5 volts and one for 5 volts. Will handle 7 UX-227, 2 UX-245 and 2 UX-171 tubes.

With cord and plug.

List Price, \$10.00

Your Cost, \$6.00

TYPE 227-U—Fig. 6

Uncased, transformer, mounted, without cord and plug, but soldering terminals provided for same windings and ratings as Type F-227.

List Price, \$5.00

Your Cost, \$3.00

NATIONAL B and AB Power Units

A number of detailed improvements have been worked into the NATIONAL power units for 1929-1930. NATIONAL Co. offers both completely assembled and cased units, or separate components for the construction of power-packs.

NATIONAL Velvet-B

Type 3580—Fig. 1

A NATIONAL B-Eliminator designed for reliable service. Operates 1 to 6-tube sets, including power tube.

This rugged unit has been designed with liberal factors of safety in all component parts. It is the only power-supply, at this price, employing the long lived R.C.A. UX-280 full-wave rectifier tube.

Provided with Protective Voltage Adjustments

Adjustable Taps give the following voltages:
22-45 V. for detector. 45-90 V. for R.F.
90-135 V. for A.F.

Full 180 V. at 35 M. A. for power tube, non-adjustable.

It is impossible to put harmful or excessive plate voltages on tubes by accident.

Licensed under R.C.A. and Associated Companies Patents.

Silent, Hum-free Output Less Tube.

List Price, \$26.50 Your Cost, \$15.90

UX-280 or CX-380 full wave rectifier tube extra.

National Super-Velvet-B

Type 7180—Fig. 2

A strictly heavy duty unit with output of 70 MA at 180 volts. Insulated terminals are conveniently located at the top on a sloping panel, giving easiest connections for the cable running to the set. Uses



the long lived UX-280 or CX-380 full-wave rectifying tube.

Provided with completely adjustable voltages.

22-45 V. for detector. 45-90 for R.F.
90-135 V. for A.F. 180 V. adjustable for power tube.

Only voltages in these ranges are obtainable so that it is impossible to put harmful or excessive plate voltages on the tubes.

Will supply voltage for any type of radio receiver requiring not over 180 volts.

Licensed under patents of R.C.A. and Associated Companies.

Cased in beautiful black, moire-finish steel.

With cord, switch and plug (less tube). East of Denver \$39.50 \$23.70

With cord, switch and plug (less tube). Denver and West 42.00 25.20
UX-280 or CX-380 Rectifier Tube, extra.

Type 4580—300 Volt Model—Fig. 2

This is designed expressly for use with UX-245 power tubes. It furnishes exactly the same intermediate, adjustable voltages as the Type 7180, but supplies a power-tube voltage of 300 instead of 180 volts, sufficient for both plate and grid-bias voltages on the UX-245 tubes. Case and finish is exactly the same as the Type 7180.

With cord and plug (less tube).
List Price, \$40.00 Your Cost, \$24.00
UX-280 rectifier tube, extra.

AB 7180 for AC Tubes

This Unit is Exactly Similar in Appearance to Fig. 2.

This NATIONAL power unit incorporates all of the features and advantages of the NATIONAL Super-Velvet-B, Type 7180, and has two 2½ volt and one 5 volt filament windings for AC tubes. Easily attached to present battery sets either by rewiring the filament circuit or by a set of cable and adapters. Licensed under patents of R.C.A. and Associated Companies.

With cord and plug (less tube).

List Price, \$44.50 Your Cost, \$26.70

UX-280 or CX-380 rectifier tube, extra.

DURHAM Metalized Resistors

Type MF4 (1 Watt)



(Shown actual size)

This Powerohm has tinned pigtail copper wires simultaneously moulded with the assembly of the unit at each end. A very rugged and substantial resistor used by many manufacturers for soldering into the circuit. Supplied in all practical ranges from 500 ohms to 5 megohms.

	List Price	YOUR COST
500 ohms to 200,000 ohms.	\$0.75	\$0.45
200,000 ohms to 5 meg-ohms	.50	.30



Type MR1

Resistance Range—1,000 Ohms to 200,000 Ohms.

List Price, 75c

Your Cost, 45c

Type MR3 (2 Watts)

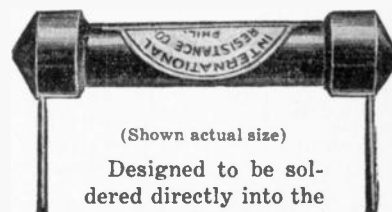
Used in connection with resistance couplings and power amplifier circuits using the 210 or 250 power tubes.

Resistance Range—800 Ohms to 100,000 Ohms.

List Price, 85c

Your Cost, 51c

Type MR4 (2 Watts)



(Shown actual size)

Designed to be soldered directly into the circuit. This type of unit is conservatively rated at 2 watts, and is used by many manufacturers in the power pack and in amplifier circuits.

Supplied in all ranges from 250 ohms to 100,000 ohms.

List Price, 85c

Your Cost, 51c

RENT IT OUT—OR SELL IT OUTRIGHT

GET IN ON THE GROUND FLOOR NOW

There are **BIG PROFITS** in the installation
of
**Public Address
Systems**

Motion Pictures, Theatres, Churches, Tea Rooms, Dance Halls,
Schools, Cabarets, Clubs, Hotels, Apartment Houses, Conventions,
Political Gatherings, Fairs, Open-Air Assemblies, Race Tracks,
Athletic Meets, Rebroadcasting of World's Series, Football Games,
Big Fights, and other events and arrangements
too numerous to mention.

This field is big and growing bigger every day with a steady demand and big profit for those who will specialize in it.

Where a large outdoor area is to be covered, such, for example, as a swimming pool or athletic field, a large exponential horn using one or two dynamic cone speakers will be found very satisfactory.

The amplifying equipment we illustrate will handle effectively either radio, phonograph or microphone amplifier input. The MIKI amplifier is necessary where speech or music is to be rebroadcast after pickup through a double-button microphone. This type microphone is relatively inefficient in volume and it is necessary to use a small amplifier ahead of the large instrument to provide suitable actuating currents.

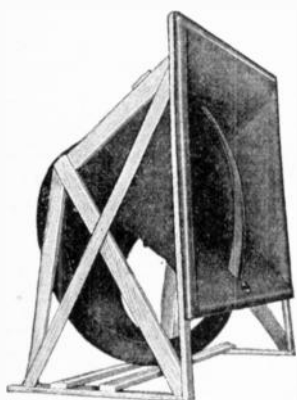
Our Technical and Engineering Department invites your correspondence on any sort of public address problem that you may have and while we obviously can give only the benefit of our experience and that of others, who have worked out various problems along with us, we are sure the effort put back of this field will be amply repaid.

Elsewhere in this catalog you will find a complete selection of baffle boards, single and double; baffle bells, trumpet horns, dynamic speakers and dynamic units capable of carrying up to 15 watts of undistorted output. We carry a complete line of Silver Marshall Thordarson, Webster, Amertran and Samson Amplifiers to meet any purpose indoor or outdoor.

RACON HORNS **and DYNAMIC UNITS**

FOR PUBLIC ADDRESS AND THEATRE USE

Racon Horns are uniform, are guaranteed to withstand all climatic temperatures and moistures without effect, and will withstand all ordinary abuse without damage; they are light in weight and non-porous. All air columns in Racon are designed along lines accepted as standard by expert acoustical engineers.



No. 4320

This horn has a cut-off on the low end of 75 cycles and on the upper end of over 5,000. It has great projection power in addition to distribution, and in combination with the Racon Dynamic Horn Unit, it has four times the efficiency of a dynamic cone, and for theatre use will take the place of from four to six cone speakers. This horn is an excellent reproducer both on music and voice and gives faithful reproduction without surface noise and without over-emphasis on either bass or high frequencies.

Air column, 10 feet; depth, 34 inches; bell, 40 inches by 40 inches. Weight, 45 lbs.

List Price, \$175.00, including Framework.

Your Cost, \$105.00

Giant Dynamic Horn Unit



The unit is an electro dynamic moving coil type and can be used only with long air column horns. It will handle the undistorted output of a 15-watt amplifier without rattling. It is sturdily constructed and is not subject to damage. It is reasonably priced, and is an item which has been long sought for but up to recently unobtainable. The dynamic unit has an input capacity of 30 watts and an output of from 200 to 350 times greater than any unit manufactured, and has a cut-off of 7500 cycles. The dynamic cone unit will carry from 2 to 5 watts with a frequency cut-off of about 4000 cycles, in addition to which the dynamic unit is three times as efficient as a dynamic cone.

List Price, \$120.00

Your Cost, \$72.00

The field consumption of this unit is 1.1 amps at 6 volts. The field can be excited by either a 6-volt storage battery or by a special exciter for 110 AC which exciter has absolutely no hum whatsoever.

List Price of Exciter, \$30.00

Your Cost, \$18.00

Junior Dynamic Unit



This unit is designed to take 15 watts input from a high power amplifier without rattling, and is particularly recommended for use for public address horns or for radio. Its field consumption is approximately 1 1/4 amps at 6 volts.

List Price, \$50.00

Your Cost, \$30.00

6-Foot Trumpet



This is a highly efficient projectional horn for public address for indoors or outdoors. It will carry for a distance from 1000 feet to about 2000 feet, depending upon the power of the unit employed to drive the air column. Having a cut-off of about 112 cycles, it is very efficient on musical reproduction besides being the last word in horn design for voice. This horn is supplied with bushings to take either the standard type magnetic unit, the Racon High Powered Magnetic Unit or the Racon Dynamic Horn Unit.

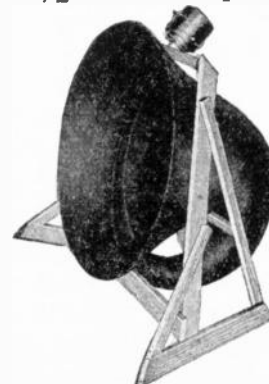
List Price of Trumpet, \$50.00.

Your Cost, \$30.00

42-inch trumpet. List Price, \$20.00.

Your Cost, \$12.00

7 1/2-Foot Trumpet



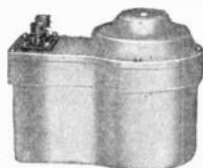
No. 3320

This horn is designed to reinforce the ordinary type theatre horn on speech reproduction, and at the same time is built to occupy a small space. Bell, 34 inches round; weight, 35 lbs.

List Price less Unit, \$100.00.

Your Cost, \$60.00

High-Powered Magnetic Unit



This unit is a high powered magnetic unit designed to operate off an amplifier having a high voltage output. It will take 3 watts input without blasting and is recommended for public address use where great volume and projection are required.

List Price, \$35.00

Your Cost, \$21.00

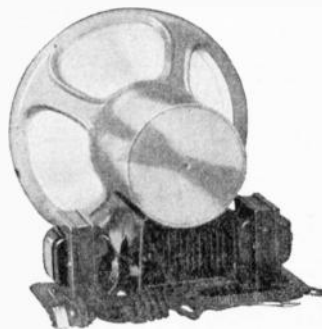
WRIGHT-DE COSTER

Dynamic Reproducers and Baffles

for Theatres, Auditoriums or Outdoor Use

The Speaker of the Year

NO HUM



BACK VIEW

The flux density of 120,000 magnetic lines to the square inch in the air gap insures extreme sensitivity and no distortion at great power.

On official tests, these reproducers have handled amplifiers having an undistorted output of 45 watts without developing any rattles or showing any signs of breakdown.

Dimensions—12 in. wide, 9 3/4 in. deep, 12 1/2 in. high. Cone 10 in. in diameter, requiring 10 3/4 in. baffle hole. Weight, 52 pounds.

Model 107—110 Volt AC-25-50-60 cycle with output transformer.

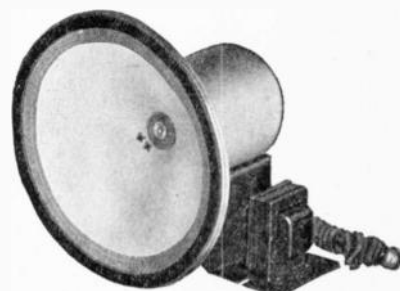
List Price, \$72.50.

Your Cost, \$43.50

Model 108 — 110 Volt AC-25-50-60 cycle without output transformer.

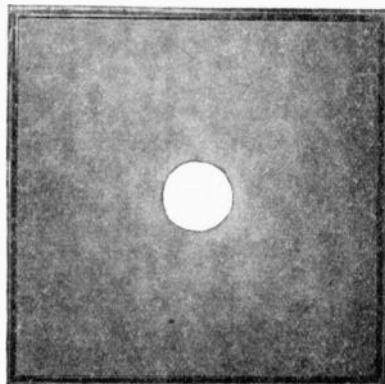
List Price, \$68.50.

Your Cost, \$41.10



FRONT VIEW

When a Theatre Has Fair Acoustics and There is Very Little Trouble Caused by Echoes—It Is Hard to Beat the Baffle for True Reproduction



No. 4 Baffle

Baffle No. 4 is made of one-inch non-resonant material mounted in a strong frame. The shelf on the back is substantial enough to carry the speaker chassis when the baffle is tipped at any angle. Four of these baffles put together in a square and placed behind a sound screen gives splendid true reproduction. But they also give very good

results when placed at the sides of the screen. The frame is stained a dark walnut and the baffle shaded so it may be made attractive by placing a grill cloth between the speaker ring and the baffle.

Outside Dimensions—4 ft. 2 in. by 4 ft. 2 in. Weight, crated, 71 pounds.

List Price, \$16.50.

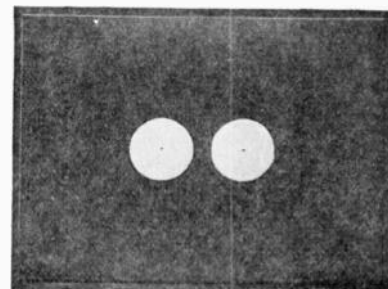
Your Cost, \$9.90

The construction of baffle No. 6 is the as number 4 except that it is one and one-half feet longer and is made to accommodate two speakers. As the best results are secured when the speakers are placed close together, this baffle is recommended not only when the regular cone and the voice cone is to be used but also for the installation of any two speakers where it is possible to have them placed together.

Outside Measurements—Height, 5 ft. 8 in.; width, 4 ft. 2 in. Weight, crated, 95 pounds.

List Price, \$21.50.

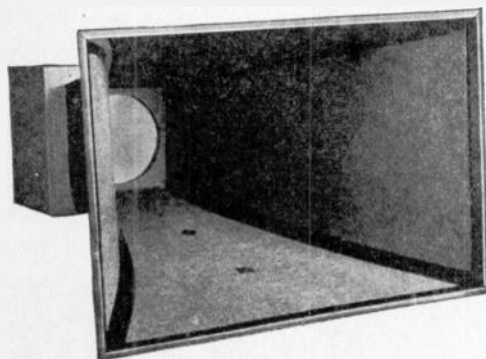
Your Cost, \$12.90



No. 6 Baffle

Wright-De Coster Baffle Horns

These horns are theoretically correct and give excellent results in both indoor and outdoor installations. The chassis compartment is made to protect the unit against moisture and weather.



No. 9 Horn

Horn No. 9 has a flare on both sides. It is used extensively in theaters to be placed above or below the solid screens or back of the sound screens. Also for outside installations where a large area is to be covered at not too great a distance.

If painted occasionally,

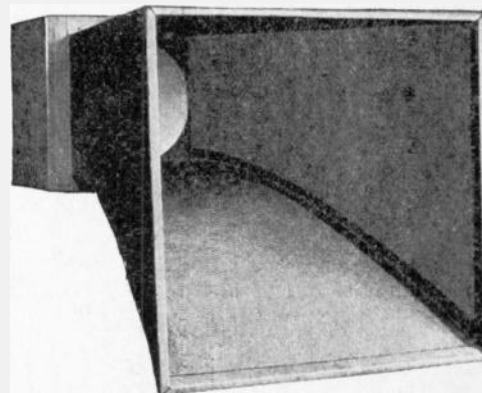
should last many years under most any conditions as they are very substantially manufactured.

Outside Measurements—Length overall, 48 in. Bell at opening, 30 in. by 21½ in. Weight, crated, 71 pounds.

List Price, \$25.00.

Your Cost, \$15.00

Horn No. 5 has the bottom flare only. While it is more directional than the No. 9 horn it will cover a very fair space and is really exceptional for distance. Used in theatres at the sides of the solid screens and for outside installations where the voice or music must be heard distinctly for some distance.



No. 5 Horn

Outside Measurements—Length overall, 48 in. Bell at opening, 23 in. by 22 in. Weight, crated, 71 pounds.

List Price, \$25.00.

Your Cost, \$15.00

Wright-De Coster New AIRPORT HORN

Distance — Volume
Clearness

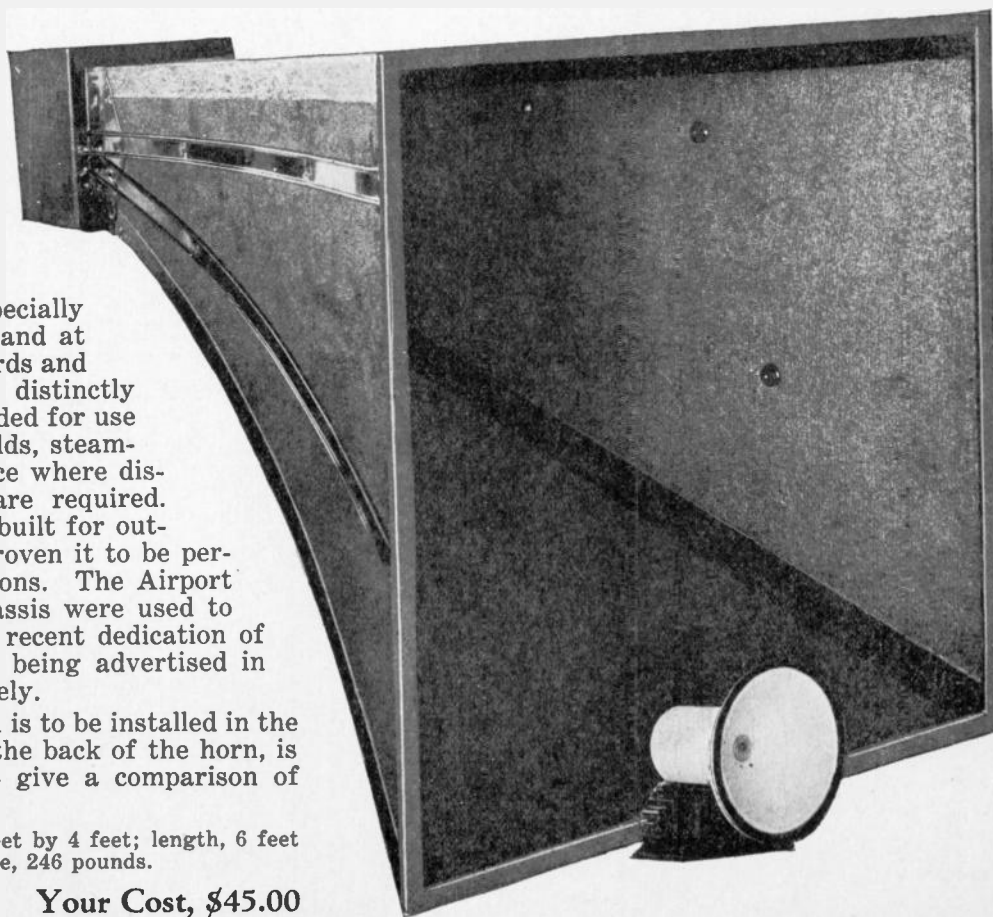
The "Airport Horn" was especially designed to cover a large area and at the same time reproduce the words and music so that they could be distinctly heard at a distance. Recommended for use in parks, stadiums, aviation fields, steamship piers and, in fact, any place where distance, volume and clearness are required. While this horn was primarily built for outdoor installations, tests have proven it to be perfect for large theatre installations. The Airport Horns with our Model 107 Chassis were used to broadcast Sousa's Band at the recent dedication of the Foshay Tower, which was being advertised in the Saturday Evening Post lately.

The Model 107 Chassis, which is to be installed in the weatherproof compartment at the back of the horn, is placed down in front so as to give a comparison of size.

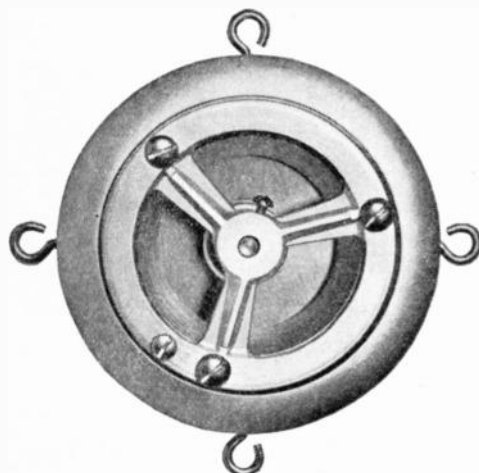
Dimensions—Opening at Bell, 4 feet by 4 feet; length, 6 feet 8 inches. Shipping weight, 1 to crate, 246 pounds.

List Price, \$75.00

Your Cost, \$45.00

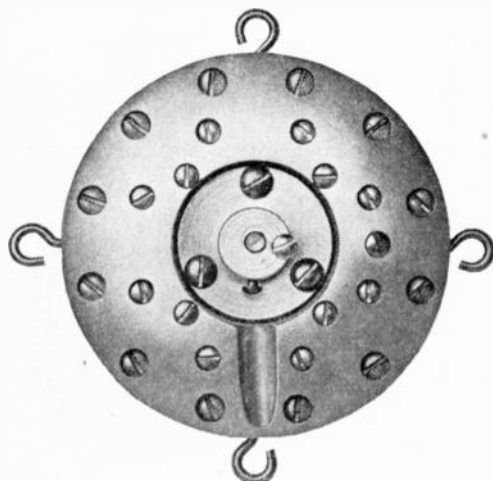


MICROPHONES



Front View

The General Industries Microphone is of the standard two-button, stretched diaphragm, carbon granule type. It has an impedance of about two hundred ohms, and is designed to work into the standard microphone input transformer. The frequency response characteristic is uniformly flat from 30 cycles to 7000 cycles per second, thus giving faithful reproductions on all voice and musical frequencies.



Rear View

Due to the careful selection of the carbon grains, the level of the "carbon hiss" is low as compared to other makes, thus making it especially adaptable to organ reproduction and recording work.

This microphone is constructed from cast aluminum parts making lightness in weight, an item of interest for portable installation.

Four hooks are provided on the side for spring suspension.

List Price, \$70.00

Your Cost, \$52.50

Microphone Springs

It is absolutely necessary to suspend any carbon granule type of microphone to prevent noisy operation. Our springs are special tempered nickel-plated steel. Eight are required for each mike.

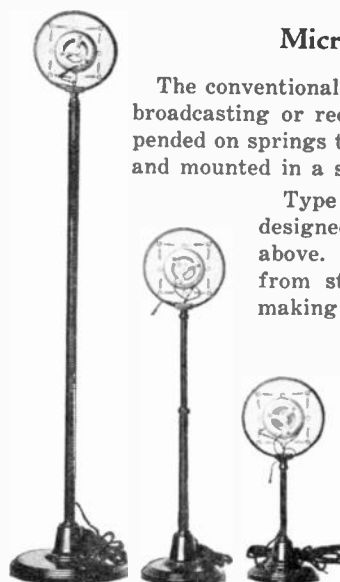
List Price, per set of eight, \$1.75.

Your Cost, \$1.25

Microphone Stands

The conventional microphone for public address, broadcasting or recording purposes must be suspended on springs to insure quietness of operation and mounted in a suitable stand.

Type No. 810 microphone stand is designed to meet the need described above. The mounting ring is made from steel, cast into a solid throat, making it a very rigid piece of apparatus, which will stand a great deal of rough usage. Four hooks are provided on the inside of the ring for attaching the springs holding the microphone. Eight springs are required.



Floor Stand Not Extended Banquet Stand Desk Stand

	List Price	YOUR COST
Type 810A—Extension Floor Stand	\$27.50	\$20.63
Type 810D—Banquet Stand	20.00	15.00
Type 810E—Desk Stand	15.00	11.15
Type 810—Ring with hook, useful where it is convenient to hang mike from ceiling	7.50	5.62

Microphone Cords

Furnished with spade tips on both ends.

	List Price	YOUR COST
No. 728-A is 12 ft. in length—unshielded	\$1.50	\$1.05
No. 728-B is 25 ft. in length—shielded	5.00	3.85
No. 728-C is 50 ft. in length—shielded	7.50	5.40

Yaxley Electric Pick-up Fader

For Controlling Volume of Phonograph Record
The Yaxley Fader is used in connection with a Double Phonograph Pick-Up to control the volume of each Phonograph Record, fading out from one to the other without breaking the circuits so that there are no clicks or irregularities in the sound reproduction. The Fader allows the operator to reduce volume from one record to zero and then in continuous motion increase in accurately graduated steps the volume from the other record. It is essentially a Volume Control for each pick-up.

The Fader is designed and constructed with the greatest accuracy, and the careful selection of material and margin of safety assure dependable operation without deterioration over long periods of service.

This Fader has a total resistance of 50,000 ohms with 25,000 ohms on each side of the center.

No. 325—Fader, uncased, less Knob, for single hole mounting in $\frac{3}{8}$ " hole.

List Price, \$17.50

Your Cost, \$10.50

No. 325-B—Fader, in metal case, with Knob.

List Price, \$22.50

Your Cost, \$13.50

Samson PAM Amplifiers

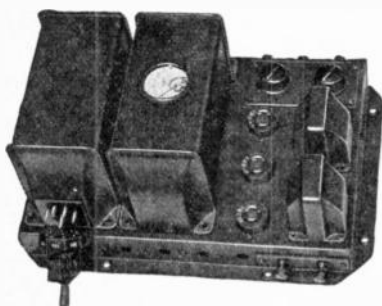
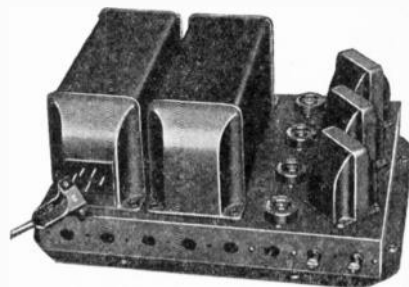
PAM 16 and 17 Power Amplifier

Two 210 Tubes in Push-Pull

105 to 120 V. 60 cycle current; have provision for compensation of line voltage variation. Pam 17 is different only in that provision is made to connect 110 volt field type dynamic speaker to terminals on the amplifier which supply field current. Only one speaker can be operated from the field terminals, although more than one can be operated from the output. All units are two-stage entirely self-contained as to power supply. Weight, 32 lbs. Overall size, 15" x 11½" x 7½".

List Price, \$125.00

Your Cost, \$75.00



Samson MIK 1 Amplifier

Is designed to furnish button current to a double button carbon microphone and amplify the output of the microphone sufficiently to supply input signal voltage to any of the standard Pam amplifiers. Entirely AC operated, including current supply to mike. Two stages. Uses one 280, two 227 tubes.

List Price, \$135.00

Your Cost, \$81.00

Samson 2-V PAM 19

The Samson 2-V Pam 19 is a double channel amplifier and has been designed to fill the needs of an installation where a spare amplifier is instantly available, in case a minor defect develops on the one that is being used steadily, and where space requirements are such that a vertical panel rack type amplifier is more suitable. Maximum undistorted output of each amplifier, 15 watts. Same characteristics as Pam 19. In addition, the center panel has controls for switching from one amplifier to the other, switching the inputs to both amplifiers in parallel, switching the outputs of both amplifiers in parallel turning on or off the field supply current to dynamic speakers. There are also incorporated on this panel indicating, colored bullseyes and a monitor volume control.

Tubes required per amplifier: two 227, two 281 and two 250. Overall size of complete panel, 69" x 20" x 15". Net weight, 205 lbs.

List Price, \$700.00

Your Cost, \$420.00



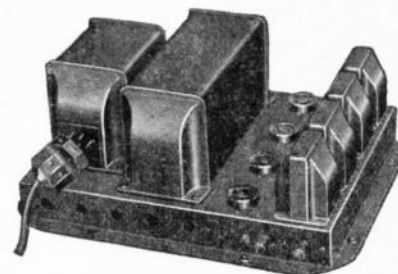
PAM 19

3 Stages Push-Pull 250 Tubes

Will deliver 15 watts undistorted, adequate for theatres or outdoor use. Uses two 227, two 281 and two 250 tubes. Overall size, 14½" x 20" x 7½". Weight, 36 lbs.

List Price, \$175.00

Your Cost, \$105.00



Samson PAM 9 Amplifier

Is designed to be operated from the output of the detector tube of a radio set or magnetic phono. pickup or any pre-amplifier unit such as the mik 1. Will deliver up to 15 watts undistorted. 2 stages. One 227, two 281 and two 250 tubes.

List Price, \$137.50

Your Cost, \$82.50

WRITE FOR SAMSON PAM AMPLIFIER BOOKLET — FREE

PACENT ELECTROVOX

MAKES A COMBINATION OF ANY RADIO SET

A Thrilling New Type of Musical Entertainment Now Available Through Your Own Radio

You do not have to disturb a single connection in your radio set. Merely connect the electrovox to a light socket—slip the adapter between the detector tube and its socket and you are ready for either record or radio entertainment.

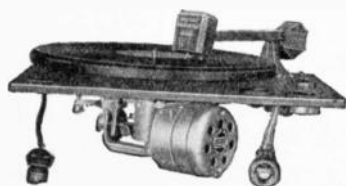
Electrical reproduction of phonograph records with the famous Pacent Phonovox actually gives you the music which was originally put on the record, with an astonishing lack of needle scratch.

The silent Pacent Induction Motor creates absolutely no electrical interference in the radio set and has no brushes requiring attention and replacement. A 12-inch turn-table covered with brown felt is included. The overall dimensions of the Electrovox are 17¼" x 12½" x 10¾" with the top closed.

Shipping weight, 43 lbs. Net weight, 25½ lbs.

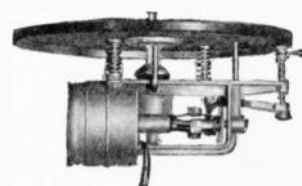
List Price, \$75.00.

Your Cost, \$45.00



Pacent Announces a New Electric Phonograph Motor

Silent—Trouble Free—Economical—Induction Type



NINE EXCLUSIVE FEATURES

- 1—25% more power and starting torque.
- 2—The rotor is dynamically balanced, insuring a quiet and vibrationless motor.
- 3—The worm is integral with the shaft and is made of especially selected, heat-treated steel, ground and polished, insuring true alignment and minimum friction.
- 4—All bearings are phosphor bronze, cast integral with main frame casting, and accurately line reamed.
- 5—Lubrication is made positive by spring-fed wick to every moving part. The worm and worm-gear run in special grease. The construction is the same as conventional automobile

transmission construction. In this manner, gears are completely housed in an oil-tight and dust-proof case.

6—Specially designed, carefully balanced, true governor mechanism built for continuous duty.

7—Improved micrometer type speed regulator, positive and permanent in its adjustment.

8—Motor may be overloaded; in fact, stalled indefinitely, without damage to windings.

9—The main motor frame is die-cast of special alloy, heavily ribbed to strengthen it and at the same time is designed for minimum weight.

CATALOG NO. 140 SHIPPING WEIGHT, 12 LBS.

List Price, including 12-inch turn-table and mounting screws and springs, \$25.00.

Your Cost, \$15.00

The New 1930 Pacent Super-Phonovox Pick-up

A GREAT PICK-UP MADE GREATER

Gives entire range of frequencies found on phonograph records with faithful, true reproduction.

Built-in mechanical filter eliminates peaks and does away with necessity for an electrical scratch filter.

Type 106-B—The new Super-Phonovox with new counterbalanced tone arm having "fold-back hinge" for easy insertion of needle. Both AC and DC wafer adapters, volume control and instruction sheet are included. Statuary Bronze finish.

List Price, \$15.00.

Your Cost, \$9.00

Type 106-C—The ultimate in performance and beauty, the ULTRA PHONOVOX includes new ULTRA head attached to



Fold-back hinge permits easy insertion of the needle and eliminates the necessity of a rest, when the phonovox is not being used. Simplicity of installation with the Pacent adapters.

new counterbalanced tone arm in beautiful heavy gold finish. Both AC and DC wafer adapters, volume control, No. 60 auto-plug, instruction sheet and a curve showing transmission units plotted against frequency are included. A motor switch is incorporated in the base of the tone arm serving as an automatic stop. Gold finish.

List Price, \$25.00.

Your Cost, \$15.00

These entirely new models of the Pacent Phonovox comprise the ultimate in electric pickup design and performance.

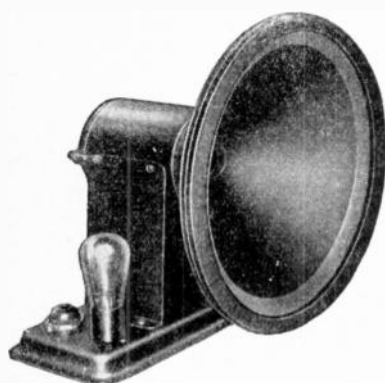
Models No. 106-B and No. 106-C can be permanently attached to any motor board by four screws or, if desired, the tone arm and base can be located where desired and kept in place by its own weight on the felt pad provided on bottom of tone arm base.

Jensen Auditorium Dynamic

WITH 12-INCH CONE

ASTOUNDING IN PERFORMANCE—BRILLIANT IN REPRODUCTION

Will Handle Enormous Output—Used Extensively in Theatres, Dance Halls, etc.



The Jensen Auditorium Speaker Unit is designed for use with radio sets or phonographs employing amplifier tubes up to and including Type UX250 or CX350 in push-pull. The performance is equally extraordinary on either high or low power input. This unit is equipped with suitable input transformer, which

may, however, be eliminated if a suitable transformer is supplied in the amplifier.

Model DA5AC secures its field power from 110 volt AC supply. A new type of rectifier system is employed using either type CX380 or UX280 tube. The power consumed in the field is approximately 18 watts.

List Price, \$70.00.

Model DA5AC for 110 Volt AC Operation.

Your Cost, \$42.00

List Price, \$55.00.

Model DA5 for 220 Volt DC Operation.

Your Cost, 33.00

List Price, \$55.00.

Model DA4 for 110 Volt DC Operation.

Your Cost, 33.00



The IMPERIAL

A Beautiful
Piece of Furniture

So Built as to
Constitute a Perfect
Baffle
Arrangement.

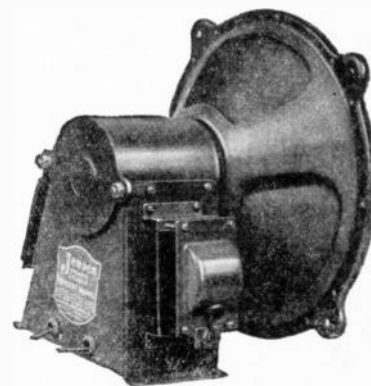
This beautiful cabinet is now available with the Jensen Concert Dynamic at a price placing it in the reach of everyone.

List YOUR
Price COST

Jensen Imperial with Concert Unit (AC Model)	\$80.00	\$48.00
Jensen Imperial with Concert Unit (DC Model)	72.50	43.50
Jensen Imperial with Auditorium Unit (AC Model)	100.00	60.00
Jensen Imperial with Auditorium Unit (DC Model)	90.00	54.00

The New JENSEN Concert Dynamic

A marvelous achievement by Peter L. Jensen. Cone is ten inches in diameter. Surprisingly low in price. Will handle push-pull 250s without distorting.



Concert Dynamic Model D7AC

List Price, \$35.00

Your Cost, \$21.00

Model D7DC

List Price, \$27.50

Your Cost, 16.50

BODINE TYPE RC-10 ELECTRIC TURN TABLE

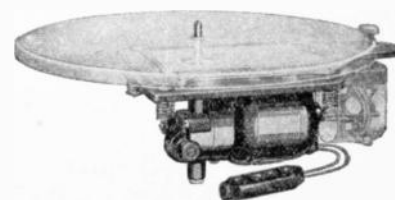
for Phonographs or Radio Phonograph Combinations

An electrically driven turntable that absolutely will not create crackling noises in the loudspeaker. The motor is of the induction type having no commutator or brushes. An easily adjusted governor

maintains exact record speed regardless of line voltage fluctuations, and enables the record to be played at any speed desired. Easily installed. For 110, 60 cycle AC operation only.

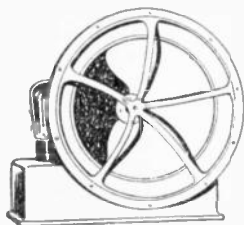
List Price, \$35.00.

Your Cost, \$21.00

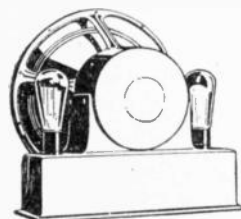


BEST AUDITORIUM SPEAKERS

For Home and Theatre



Front



Rear

Huge . . . heavy . . . the symbolism of power . . . of undistorted energy . . . of beauty . . . That is the Best Theatre Dynamic.

The first dynamic which gets the high notes as well as the low, resulting in a brilliance of tone heretofore unknown to radio.

The Best Theatre Dynamic was designed with one idea in mind—to make the finest dynamic possible, regardless of cost. Price has been the last consideration—as it should be, and is, with every truly quality product.

A Few Facts About the Best Theatre Dynamic

Over four miles of copper wire on the coil.
Special magnetic steel housing.

Diaphragm 13 $\frac{5}{8}$ ". Length 17 $\frac{1}{2}$ ". Width from front to back 9 $\frac{1}{8}$ ". Height over all 14 $\frac{1}{2}$ ".
Total weight, 53 lbs.

Flux density in magnetic lines 114,000 (this is far greater than any other dynamic speaker).

For operation on 105 to 120 volts AC 50 to 60 cycles.

Write for information on 6-volt DC model.

List Price, chassis only, \$95.00 less the two 281 rectifier tubes.

Your Cost, \$57.00

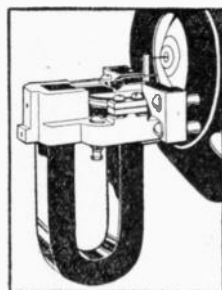
THUNDEROUS VOLUME!

Volume . . . thunderous volume . . . enough to tax the capacity of any speaker . . . and yet you can cut down the volume to the barest whisper. And without the slightest distortion!

Home Type Your Cost, \$10.50

List Price, \$17.50 (with 5-inch longer arm for use on theatre records, \$20.00). Complete with volume control and adapter for four or five prong tubes, in case the set does not have a phonograph jack.

Theatre Type Your Cost, \$12.00



The Famous Improved BBL Unit

The best magnet unit ever developed. Chassis only.

List Price, \$7.50

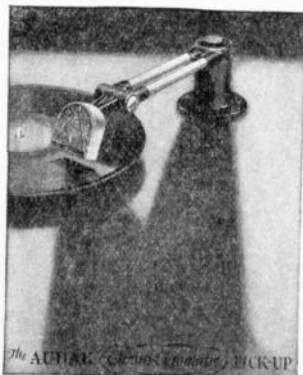
Your Cost, \$4.50

Chassis with 9-inch Cone.

List Price, \$10.00

Your Cost, \$6.00

The AUDAK Electro-Chromatic Pick-Up



Used extensively in large theatres utilizing disc sound projection. In our own laboratories we have found this unit unsurpassable both for home and theatre use. Model No. 1 illustrated.

List Price,	YOUR COST,
\$30.00	\$18.00

Model No. 2—Head only.

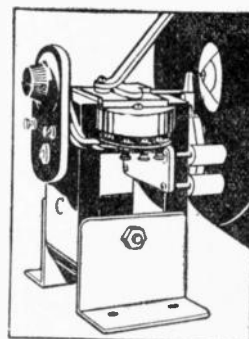
List Price,	YOUR COST,
\$16.75	\$10.05

Write for special prices on long arm type.

The Great BBL Electric Motor Speaker

The only speaker with the tone selector. Entirely new principle — semi-dynamic—will stand enormous output without distorting. No moving coil, no transformer, no rectifier, no condenser, no hum—just perfect satisfaction.

The BBL Electric Motor Speaker is built for any set. Three tapped windings with a switch enables the owner to match the impedance of any amplifier without resorting to a special output transformer.



Tone Moulding with the BBL Tone Selector

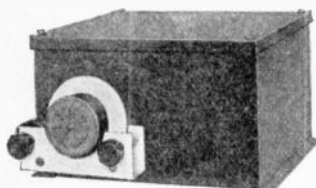
And better than that, you can mould the tone to suit your individual taste. You can stress the high notes, or the low, or you can have just the perfect tone as broadcast from the studio.



3 Models of This Unique Speaker

	List Price	YOUR COST
Complete speaker, in a beautiful walnut cabinet fitted with a 12-inch diaphragm	\$35.00	\$21.00
Chassis only—12-inch diaphragm	22.50	13.50
Chassis only— 9-inch diaphragm	20.00	12.00

New-REMLER No. 111-1930 Screen Grid Tuner and 245 Push-Pull Amplifier



entirely new amplifier component, using everything that is new in radio—bandpass selector—five gang condenser—single dial control—PARALLEL FIRST AUDIO TUBES—

The latest development of the Remler factory. A super value in screen-grid components. Using four screen-grid tubes. Three of them in a highly efficient r-f circuit and another screen-grid tube as a Power detector. The 111 Remler Screen-Grid Component, which includes the r-f and detector unit, feeds into a push-pull audio amplifier using two tubes in parallel in the first stage and two of the new '45 type tubes in push-pull in the second-stage. It is a simple matter for anyone to put these components into operation. The performance will exceed your fondest expectations. Totally shielded screen-grid component and an



speaker field supply—screen-grid tubes and an audio system that gives **LIFELIKE TONE.**

List Price, \$80.00

Your Cost, \$52.32

COMPLETE STOCK OF REMLER PARTS:

Remler Models	List Price	YOUR COST
No. 38—Power Detector Choke	\$2.00	\$1.39
No. 565—Screen Grid Tube Constant Gain R.F. Trans.	3.00	1.96
No. 926—Microphone Coupling Transformer	6.00	3.92
No. 927—Microphone Coupling Transformer	12.00	7.84
No. 945—Power Transformer	18.00	11.76

Remler Models	List Price	YOUR COST
No. 958—Filament Supply Transformer	\$6.00	\$3.92
No. 960—Filter Choke	8.00	5.20
No. 961—Double Filter Choke	12.00	7.84
No. 1634—4-Section Condenser .00035 Mfd.	18.00	11.76
No. 1635—5-Section Condenser .00035 Mfd.	21.00	13.72

We Carry a Complete Line of Remler Parts

Think of it! The Remarkably Low Price \$52.32

Covers Both Receiver and Amplifier Units. There Is Nothing Like It Anywhere!

IN A NUTSHELL

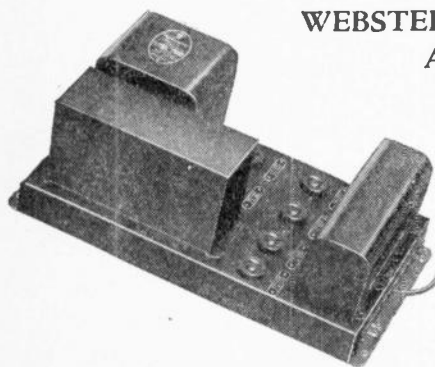
AC Shield-Grid Tubes
'45 Power Tubes Push-Pull
Band Selector

Power Detector
Single-Dial Control
Full AC Operation

Dynamic Speaker Field
Supply
Phonograph Pick-Up Connections

Thorough Shielding
Rigid Construction
Highly Compact

TUBES REQUIRED — 4 AC Shield-Grid—2 '27 Heater-Type—1 '80 Rectifier—2 '45 Power Tubes—1 Amperite No. 13-20



WEBSTER Public Address Amplifier

Model A-37-50

This is a 3-stage Amplifier with two "250" tubes in push-pull in the last stage and operates from 110 volt 50-60 cycle current.

Typical of Webster standards,

this amplifier produces splendid volume and unusual tone quality. Suitable for larger installations in theaters of from 600 to 1500 or more seating capacity, dance halls, amusement resorts and other public places; likewise for public address and announcing systems.

List Price, \$150.00
(without tubes)

Your Cost, \$90.00

TUBES USED

1st Stage, one 227—2nd Stage, one 227—3rd Stage, two 250.

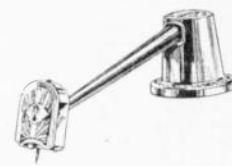
WEBSTER Pick-up

The Webster Electric Pick-up will faithfully reproduce all frequencies now recorded on the best Orthophonic records. Remarkable clearness and volume, and freedom from any objectionable noise when playing any type of record, are features that prove the scientifically correct design of this new Webster product.

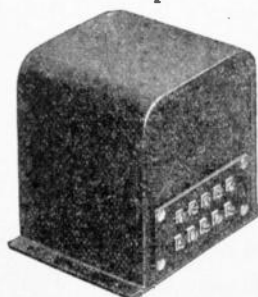
The Webster Electric Pick-up Model 1-A illustrated above consists of the volume control base, cantilever supporting arm, and the pick-up head.

List Price, \$17.50

Your Cost, \$10.50



OT-640 Impedance Matching Output Transformer



This transformer has been designed to operate from the output of push-pull stage of 250's or 245's.

It consists of a tapped primary and 5 secondaries. The secondaries have an individual impedance of 10-12 ohms each and feed directly into the voice coil of any standard dynamic. This gives a low voltage high current output.

List Price, \$15.00 Your Cost, \$9.00

No Inherent
Tube Noises
Longer Life

ARCTURUS

BLUE ^{AC} LONG-LIFE TUBES

Thermal Lag
Within
Seven Seconds

The ARCTURUS low voltage line of tubes is just what the radio world has been waiting for.

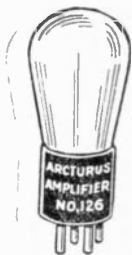
Almost overnight these tubes have become popular and today are accepted as the quality tube of the radio industry.

Your watch can prove the superior efficiency of these tubes. Take any AC radio set and turn on the current. Thirty to sixty seconds elapse before the program becomes audible. Replace the detector tube

with the ARCTURUS No. 127 and time the thermal lag. Within seven seconds the program is coming in. And the better tone quality and greater volume, coupled with ARCTURUS reliability, are immediately apparent.

Inherent tube noises are unheard of in ARCTURUS Tubes; volume is increased; hum is banished; current surges can't harm their efficiency; and they have an exceptionally long life.

Type 126 AC Amplifier Filament Type



For radio and audio frequency amplification stages. Has standard 4-prong base.

Filament Volts AC.....1.5
Filament Current.....1.05
Plate Volts 67.5 to 135
Grid Volts (—).....4.5

List Price, \$1.75

Your Cost, \$1.05

Type 127 AC Detector and Amplifier



Of the indirectly heated type and is efficient as a detector or amplifier. Acts in 7 seconds; line surge can't hurt it; has an unusually long life.

Filament Volts AC.....2.5
Filament Current.....1.75
Plate Volts (Rec. Det.)...45
Plate Volts (Max.).....180

List Price, \$2.50

Your Cost, \$1.50

Type 124 AC Shield Grid 2.5 Volts



The No. 124 can be used as an efficient amplifier or a power detector outputting directly to the power tube. It is of the cathode-heater type, having a UY five-prong base, with the control grid brought out to a cap on top of the tube.

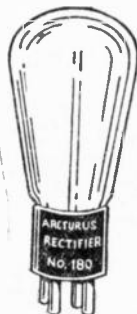
The cathode and heater are identical with those of the well-known Arcturus 127 Detector, and, like it, heats in 7 seconds.

Filament Volts AC.....2.5
Filament Current.....1.75
Plate Volts180
Grid Volts (—).....1.5
Shield Grid Volts......75

List Price, \$4.00

Your Cost, \$2.40

Type 180 Full Wave Rectifier Filament Type



A long-life filament type rectifier tube for use in A, B and C Eliminators or Power Packs.

Filament Volts AC.....5.0
Filament Current.....2.0
Plate Volts (Max.).....300
DC Output:
Volts260
Current Mil. Amp.....125

List Price, \$3.00

Your Cost, \$1.80

Type 145 Power Amplifier 2.5 Volts



The most recent and useful development in power amplifiers, the No. 145 is particularly recommended as a substitute for the 071 and 210 types of tubes.

Used in conjunction with the Arcturus No. 124 Shield Grid Tubes, a uniform filament voltage of 2.5 is made possible.

The special oxide coating and rugged construction of the tube insures a very active life over a long period.

Filament Volts AC.....2.5
Filament Current.....1.5
Plate Volts250
Grid Bias (—)......50

List Price, \$3.50

Your Cost, \$2.10

Type 071 AC Power Amplifier Filament Type



Maximum power output, without distortion. Used in the last audio stage only, this tube improves the operation of any set.

Filament Volts AC...5.0
Filament Current......5
Plate Volts180
Grid Volts (—).....40.5

List Price, \$2.25

Your Cost, \$1.35

THE WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF AC TUBES

AMERTRAN
TRADE MARK REG. U.S. PAT. OFF.

HIGHEST QUALITY Audio Transformers DEPENDABLE PERFORMANCE



AmerTran De Luxe—The standard of excellence for audio amplification. Made in two types, the first stage, turn ratio 3; the second stage, turn ratio 4; completely shielded and sealed in with a weather-proof compound, high permeability alloy used in the cores.

List Price, each, \$10.00
Your Cost, \$6.00

Input Type 151 is an interstage audio transformer similar to the Second Stage AmerTran De Luxe except that its secondary has a carefully balanced center tap, and the maximum turn ratio is 5 (full secondary).

List Price, Each, \$15.00 Your Cost, \$9.00

Output Type 152 (Impedance Ratio 4:1) is designed to work out of UX-210 tubes. It is used in connection with Input Type 151.

List Price, Each, \$15.00 Your Cost, \$9.00

Output Type 271 (Impedance Ratio 2:1) is designed to work out of UX-171, or tubes of similar plate impedance into a speaker having approximately the impedance of a WE type 640 AW Cone. Used in connection with Input Type 151.

List Price, Each, \$15.00 Your Cost, \$9.00

Output Type 200 (Impedance Ratio 2000:1). The primary of this output transformer is identical with that in Type 152, and designed to work out of UX-210 tubes, or tubes of similar impedance. Used in connection with Input Type 151.

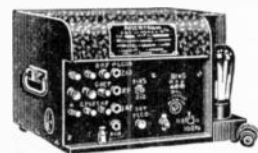
List Price, Each, \$15.00 Your Cost, \$9.00

Output Type 362 (Impedance Ratio 1000:1). Designed to work out of 171 tubes into the moving coil of dynamic type loud speakers. Used in connection with Input Type 151.

List Price, Each, \$15.00 Your Cost, \$9.00

Equalizer Type 389 is designed to adjust the impedance of an electric phonograph pick up to the primary impedance of the first stage AmerTran De Luxe.

List Price, Each, \$10.00 Your Cost, \$6.00



AmerTran ABC Hi-Power Box—500 volts DC plate voltage, current up to 110 ma.; AC filament current for all tubes for any set. Adjustable bias voltages for all tubes. Licensed under patents owned or controlled by the Radio Corporation of America and sold complete with rectifying tube. Price, east of Rockies — less tubes—\$130.00.

Complete 2-Stage Audio Amplifier—First stage AmerTran De Luxe for UX-227 AC and second stage AmerTran Push-Pull for two 171 or two 210 Power Tubes.

Price,
East of
Rockies
less tubes
\$80.00



AMERTRAN Resistor

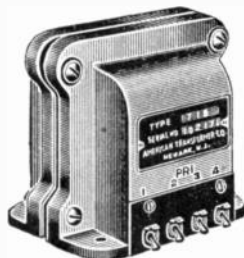
Type 400—Plate voltage tapped potentiometer.

This is a wire-wound double-tube resistor for use across the output of 400-volt filter circuits and is provided with taps conveniently arranged for obtaining practically all intermediate plate voltages below the maximum.

List Price, \$7.50
Your Cost, \$4.50



Intermediate Type 710 or 678 (Turn ratio 1 1/4)



List Price, \$20.00

This transformer has sandwiched primary and secondary coil sections with a carefully balanced center tap in both primary and secondary. It may be used between two pairs of push-pull tubes. It is carefully shielded magnetically within a cast aluminum case. Approximate shipping weight, 4 lbs.

Your Cost, \$12.00

AMERCHOKE Type 641 (Output Only)

400 Hy. full winding, each half 60 ma.
275 ohms DC



compound. Five terminal posts on bakelite cover. Approximate shipping weight, 6 lbs.

List Price, \$10.00

Your Cost, \$6.00

AMERTRAN Power Transformer

Type PF 52-A—For DC output of approximately 450 volts, 100 ma. half wave with UX-281 or 220 volts, 100 ma. full wave, with UX-280. Two center tapped filament winding, 7 1/2 volts each.

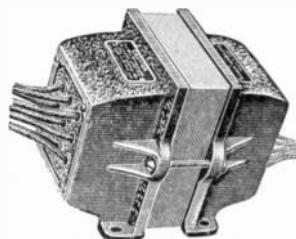
List Price, Each, \$18.00

Your Cost, \$10.80

Type PF-280—For DC output of approximately 220 volts, 120 ma., with UX-280 full wave rectifying tube—Power tube UX-171. Heater windings for AC tubes.

List Price, \$25.00

Your Cost, \$15.00



Type PF-281—For DC output of 425 to 650 volts, 110 ma., with UX-281 half wave rectifying tube—Power tube UX-210. Heater windings for AC tubes.

List Price, \$25.00

Your Cost, \$15.00

Type PF-250—For DC output of 400 to 450 volts, 200 ma., with two UX-281 rectifying tubes, full wave—Power tubes UX-250 single or push-pull.

List Price, Each, \$30.00

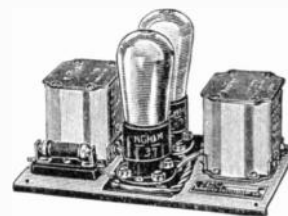
Your Cost, \$18.00

Type H-67—Heater Transformer for AC Tubes. Filament supply for UX-226, UY-227, Kellogg AC tubes and UX-171.

List Price, \$12.00

Your Cost, \$7.20

Push-Pull Power Stage Type P



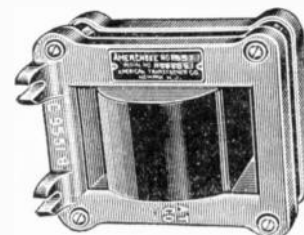
Push-Pull Input and Output Transformers, power tube sockets with grid-resistance wired and mounted on a metal base. The Type P AmerTran power stage consists of a Type 151 Input and either a Type 152, 271, 200 or 362 Output Transformer (depending upon the combination of power tubes and speaker desired) mounted on a metal base and wired to two power tube sockets with necessary 50,000 ohm resistance in the C—lead.

List Price, East of Rocky Mountains,

Without Tubes, \$36.00

Your Cost, \$21.60

AMERCHOKE Type 557 (Filter)



250 ma., 20 henries, DC Resistance 110 ohms.

A heavy duty choke of high inductance for use in filter circuits passing up to 300 ma., DC. It is recommended for circuits in which the DC current exceeds the limits of the Type 709 up to 300 ma. Approximate shipping weight, 14 lbs.

List Price, \$12.00

Your Cost, \$7.20

AMERTRAN Choke Coil

AmerChoke Type 418—Filter choke, 2 amperes, 1/4 henry, DC resistance, 0.5 ohms. For use in "A" eliminator circuits.

List Price, \$6.00

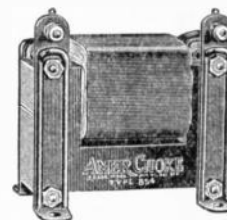
Your Cost, \$3.60

AmerChoke Type 854—Filter choke 60 ma., 60 henries, DC resistance, 600 ohms.

For use in filter circuits of "B" eliminators and as an output choke for the loud speaker.

List Price, \$6.00

Your Cost, \$3.60



AmerChoke Type 709—Filter choke 120 ma., 15 to 20 henries, DC resistance, 210 ohms. For use in any filter circuit requiring more than 60 milliamperes load.

List Price, \$6.00

Your Cost, \$3.60

NEW Hi-Q 1930 Hammarlund Custom-Built Radio

SCREEN GRID 9-TUBE AC RECEIVER

The Receiver with Every Modern Feature—COMPLETE UNITS Factory-Wired and Tested

Never before in the history of radio has engineering genius succeeded in producing a receiver with the superb refinements of the new Custom-Built Hammarlund "Hi-Q-30."

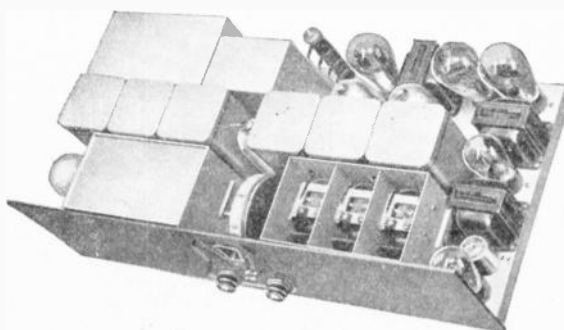
The new "Hi-Q-30" emphasizes more strongly than ever the consistent superiority of custom-built radio as interpreted by Hammarlund.

Its brilliant performance, startling realism and new beauty of cabinetry firmly establish the "Hi-Q-30" as the World's Premier Radio, without regard to price.

The epoch-making "Tuned Band Filter Circuit," originated, perfected and exclusively used by Hammarlund assures absolute separation of stations 10 kilocycles apart, even in the most congested districts.

Nine tubes, including the Automatic Line Voltage Regulator—Six synchronized tuned circuits with one dial control.

Three stage tuned Screen Grid R.F. Amplifier and super-sensitive detector provide world-wide range, sensitivity of well under ½ microvolt per meter.



Illustrated, the "Hi-Q-30" AC Receiver, showing complete shielding of all independent circuits. Quickly assembled from specially designed, completely wired units and operating perfectly in two hours.

Can be operated on long, short, or small copper screen antenna.

Matched Audio Power Amplifier, with distortionless '45 Push-Pull output of 5200 milli-watts provides auditorium volume with a tone perfection revolutionary in radio.

Specially designed Power Pack with humless full wave rectifier and an unusually efficient filter system.

All tubes, coils and condensers are individually and collectively shielded. Absolute current isolation, free from interaction.

Cadmium plated metal chassis, with all wiring underneath.

A permanent connection is included for reproducing phonograph records, with control switch on the front of panel.

Built from complete units, each unit assembled, wired and tested in the Hammarlund laboratory from the finest quality of parts—specially designed.

Standard chassis size (7"x12¾"x24") allows an almost unrestricted choice of cabinets.

Both AC and Battery Operated models. See individual listings for details and prices.

COMPLETE LIST OF PARTS

Contains all parts (less tubes) for completing the nationally advertised "Hi-Q-30" AC Receiver chassis—"The World's Premier Custom-Built Receiver." Complete units, each unit assembled, wired and rigidly tested before leaving the fac-

tory. The "Hi-Q-30" is unqualifiedly guaranteed for distance, selectivity, volume and tone. Complete instruction for assembling and operating packed with each kit. Parts can be ordered separately from the following schedule:

Complete Parts, Code 30-R-AC \$162.50

1—Hammarlund "Hi-Q-30" Foundation Unit (Code QFU-30).....	\$8.50
1—Hammarlund No. BS-3 Three Stage Band Filter Unit.....	27.00
1—Hammarlund No. RF-3 Three Stage Screen Grid Amplifier Unit.....	35.00
1—Hammarlund No. SD Knob Control Drum Dial.....	4.00
1—Hammarlund No. SPC Shielded Polarized R.F. Choke.....	1.50
1—Hammarlund No. AF-2 First Stage Audio Transformer.....	8.00
1—Hammarlund No. AF-4 Push-Pull Input Transformer.....	8.00
1—Hammarlund No. AFM Push-Pull Output Transformer.....	8.00
1—Hammarlund No. PS-45 Power Supply Unit for Push-Pull '45s.....	24.00
3—Hammarlund No. TS Screen Grid Tube Shields @ 60c ea.....	1.80
*1—Aerovox No. CHQ-30 Filter Condenser Block.....	16.50
*3—Aerovox No. BP-3 Triple By-Pass Condensers @ \$1.60 ea.....	4.80
1—Yaxley No. 810-C Center Tapped 10 ohm Resistor.....	.30
1 pr. Yaxley No. 422 Insulated Phono Tip Jacks.....	.25
1—Yaxley No. 401-S Speaker Twin Tip Jack.....	.25
*1—Electrad No. RHQ-30 Voltage Divider.....	2.50
*3—Electrad No. 3 Flexible Grid Resistor, 1500 ohms.....	.40
*3—Electrad No. 3 Flexible Grid Resistors, 400 ohms @ 35c ea.....	1.05
*3—Electrad No. 3 Flexible Filter Resistors, 5000 ohms @ 40c ea.....	1.20
*1—Electrad Royalty Volume Control Potentiometer, 25,000 ohms, special taper.....	2.00

*1—Eby No. 6-11 Two Prong Tube Socket marked "Amperite".....	.25
*1—Eby No. 6-11 Four Prong Tube Socket marked 280.....	.30
*2—Eby No. 6-11 Four Prong Tube Sockets marked 245 @ 30c ea.....	.60
*2—Eby No. 6-11 Five Prong Tube Sockets marked 227 @ 35c ea.....	.70
*3—Eby No. 6-11 Five Prong Tube Sockets marked 224 @ 35c ea.....	1.05
*1—Eby Triple Binding Post Strip.....	.60
*1—Hart & Hegeman No. 20510 Phono Toggle Switch.....	.60
*1—Hart & Hegeman No. 20510 Line Toggle Switch.....	.60
*1—Sangamo "Illini" Mica Fixed Condenser, .001 mfd.....	.45
*1—Beaver-Arrow Handle Cap, Cord Connector and Silk Cord.....	1.25
1—Beaver No. L-14 Duplex Receptacle.....	.70
1—Arrow No. 8339 Plug Type Midget Receptacle.....	.35

\$162.50

Your Cost, \$97.50

*Specially designed for the "Hi-Q-30." Not stocked by radio distributors and available only on special order.

"Hi-Q-30" MANUAL

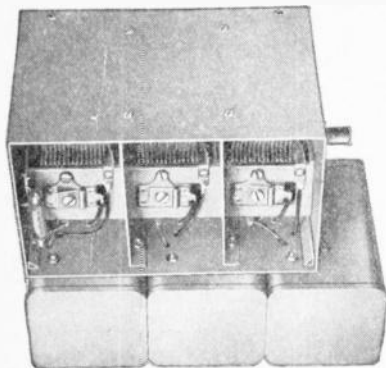
The finest manual ever issued by Hammarlund-Roberts. Forty-eight pages, in two colors covering all models of the "Hi-Q-30" and containing information on installation, power amplifiers, cabinets, accessories, radio house wir-

ing, battery and tube combinations, antennae testing, and a wealth of other data on custom-radio. Invaluable to the amateur or professional radio builder.

Code HQM-30—List Price, 25c

Your Cost, 15c

Hammarlund Three Stage Amplifiers



BS-3 Three Stage Band Filter Unit

A wired and tested three-stage band-filter pre-selecting tuning unit. Engineered for "flat-top tuning" and increased selectivity without side-band cutting. Preserves the radio frequency signal characteristics required for perfect tone. Especially effective

in congested localities. Includes matched triple "Battleship" condenser in aluminum shield, three R.F. filter coils in individual copper cans, assembled, wired and tested, complete.

List Price, \$27.00

Your Cost, \$16.20

R.F. Three Stage Screen Grid Amplifier Unit

A wired and tested high-gain three stage screen grid tuned radio frequency amplifier unit. Engineered for maximum R.F. amplification over entire broadcast band. Maintains absolute stability with consequent absence of regenerative distortion. Includes matched triple "Battleship" condenser in

aluminum shield; three coil units shielded in copper cans, each unit consisting of a high-gain radio frequency coil and polarized shielded R.F. choke coil; metalized grid leak, and mica grid condenser; assembled, wired and tested, complete.

List Price, \$35.00

Your Cost, \$21.00

HAMMARLUND Illuminated Knob-Control DRUM DIAL WITH BEAUTIFUL NEW PANEL PLATE

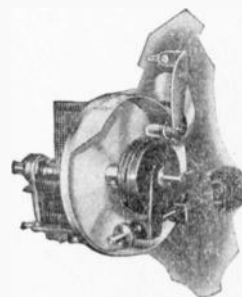


The Hammarlund Knob-Control Drum Dial, first introduced last season, quickly won its spurs on account of superior design and operating characteristics. Its mechanism could not be improved upon.

It is controlled by a knurled knob, cleverly planned to be placed in any position on the panel desirable for attractive balance. Knobs are available either in walnut or black. As they fit standard 1/4" shafts these knobs may be used for rheo-

stats, volume controls or other instruments on the panel, thus assuring balance and uniformity. The scale is of translucent celluloid, illuminated by a small electric light behind it.

Viewed from the front of the panel, the Hammarlund Drum Dial is the acme of grace and refinement, with a classic beauty worthy of any setting. Adaptable to all standard panel proportions.



Code No.

SDB-1—(With black knob) Including template, electric bulb, mounting screws, instructions

List Price

YOUR COST

\$4.00

\$2.40

SDWK—Walnut knobs, each

.25

.15

Code No.

SDW-1—(with walnut knob) Including template, electric bulb, mounting screws, instructions

List Price

YOUR COST

4.00

2.40

SDBK—Black knobs, each

.25

.15

The New HAMMARLUND Shielded Polarized R.F. Choke Coil

This new Hammarlund R.F. Choke Coil has been developed by Hammarlund engineers specially for modern high-gain shield-grid receivers. It represents the culmination of more than two years of intensive "shield-grid" laboratory experimentation covering all phases of shield-grid tube operation and control.

The coil unit is thoroughly shielded in an aluminum shell and polarized, resulting in a minimum external

inductance field. High impedance to all frequencies within the broadcast range—low distributed capacity. Designed to have no natural resonance period within the broadcast band. Efficient—compact. Connections are to lugs extending below the subpanel. No undesired coupling to cause circuit instability or feed-back. Hardware for mounting packed with each coil.

Code SPC—List Price, \$1.50

Your Cost, 90c

HAMMARLUND Standard R.F. Choke Coil

Code No. RFC-85 has an inductance of 85 millihenries, a capacity of 3 mmfds. and a DC resistance of 215 ohms.

List Price, \$2.00

Your Cost, \$1.20

Code No. RFC-250 has an inductance of 250 millihenries, a capacity of 2 mmfds. and a DC resistance of 420 ohms.

List Price, \$2.25

Your Cost, \$1.35

HAMMARLUND Screen Grid Tube Shield

Insures full advantages of the great amplification of '22 and '24 type shield grid tubes. Completely encloses tube and base. Aluminum shell, with a soft rubber grommet at the top to protect the control grid outlet. Designed for use with sub-panel socket. Mounting screws and control grid connector packed with each shield.

Code TS

List Price, 60c each

Your Cost, 36c

List Price YOUR COST

Code AF-2—First Stage Audio Transformer. A low ratio transformer with unusually high primary impedance for use in the first audio stage. Voltage amplification ratio 1 1/2 to 1

\$8.00

\$4.80

Code AF-4—Push-Pull Input Transformer. A balanced input transformer with 2 to 1 amplification ratio designed to combine the high quality output of the AF-2 First Stage Transformer with the high output power obtainable from two '45 type power tubes. Permits high plate voltages on first stage amplifier tube without effect on frequency response characteristics

8.00

4.80

Code AF-M—Push-Pull Output Transformer. An impedance matching push-pull transformer for most efficiently coupling the output of two '45 type tubes to magnetic type speakers

8.00

4.80

Code AF-D—Push-Pull Output Transformer. Similar to Code AF-M but designed to work directly into the moving coil of dynamic speakers. Takes the place of the input transformer usually provided with the speakers

8.00

4.80



HAMMARLUND Custom Built Radio

“Hi-Q-30” Battery Receiver

Complete parts for constructing the famous “Hi-Q 30” Phono-Radio Receiver for battery operation. Assembling and operating instructions packed with each unit. Parts may be ordered separately from the following schedule:

Complete Parts

Code 30-R-BAT	\$119.15
1—Hammarlund “Hi-Q-30” Foundation Unit (Code QFU-30)	\$8.50
1—Hammarlund No. BS-3 Three Stage Band Filter Unit	27.00
1—Hammarlund No. RF-3 Three Stage Screen Grid Amplifier Unit	35.00
1—Hammarlund No. SD Knob Control Drum Dial	4.00
1—Hammarlund No. SPC Shielded Polarized R.F. Choke	1.50
1—Hammarlund No. AF-2 First Stage Audio Transformer	8.00
1—Hammarlund No. AF-4 Push-Pull Input Transformer	8.00
1—Hammarlund No. AFM Push-Pull Output Transformer	8.00
3—Hammarlund No. TS Screen Grid Tube Shields @ 60c each	1.80
*3—Aerovox No. BP-3 Triple By-Pass Condensers @ \$1.60 each	4.80
1 pr. Yaxley No. 422 Insulated Phono Tip Jacks	.25
1—Yaxley No. 401-S Speaker Twin Tip Jack	.25
1—Yaxley No. 669 Cord Connector and Cable	3.25
2—Yaxley No. 415 Pup. Plugs @ 10c ea.	.20
6—Yaxley No. 810 Resistors, 10 ohms, @ 15c each	.90
*1—Yaxley No. 8008 Resistor, .8 ohms	.15
*3—Electrad No. 3 Flexible Filter Resistors, 5000 ohms @ 40c each	1.20
*1—Electrad Royalty Volume Control Potentiometer, 25,000 ohms, special taper	2.00
*4—Eby No. 6-11 Four Prong Tube Sockets marked 112A @ 30c each	1.20
*3—Eby No. 6-11 Four Prong Tube Sockets marked 222 @ 30c each	.90
*1—Eby Triple Binding Post Strip	.60
*1—Hart & Hegeman No. 20510 Phono Toggle Switch	.60
*1—Hart & Hegeman No. 20510 Line Toggle Switch	.60
*1—Sangamo “Illini” Mica Fixed Condenser, .001 mfd.	.45
	\$119.15

Complete Set of Parts—Your Cost, \$71.49

*Specially designed for the “Hi-Q-30.” Not stocked by radio distributors and available only on special order.

“Hi-Q-30” Tuners

Complete parts for constructing the tuning units, including power supply and detector, of the “Hi-Q-30” AC or Battery Operated Receivers. Can be coupled with any standard audio amplifier. Built of completely assembled wired and tested Hammarlund “Hi-Q 30” units. Full assembling and operating instructions packed with each Tuner.

“Hi-Q 30” AC Tuner

Complete Parts

Code 30-T-AC	\$138.65
1—Hammarlund “Hi-Q-30” Foundation Unit (Code QFU-30)	\$8.50
1—Hammarlund No. BS-3 Three Stage Band Filter Unit	27.00
1—Hammarlund No. RF-3 Three Stage Screen Grid Amplifier Unit	35.00
1—Hammarlund No. SD Knob Control Drum Dial	4.00
1—Hammarlund No. SPC Shielded Polarized R.F. Choke	1.50
1—Hammarlund No. PS-45 Power Supply Unit for Push-Pull ‘45s	24.00
3—Hammarlund No. TS Screen Grid Tube Shields @ 60c each	1.80
*1—Aerovox No. CHQ-30 Filter Condenser Block	16.50
*3—Aerovox No. BP-3 Triple By-Pass Condensers @ \$1.60 each	4.80
1—Yaxley No. 810-C Center Tapped 10 ohm Resistor	.30
1 pr. Yaxley No. 422 Insulated Phono Tip Jacks	.25
1—Yaxley No. 401-S Speaker Twin Tip Jack	.25
*1—Electrad No. RHQ-30 Voltage Divider	2.50
*1—Electrad No. BHQ-30 Bleeder Resistor	1.50
*3—Electrad No. 3 Flexible Flexible Grid Resistors, 400 ohms @ 35c each	1.05
*3—Electrad No. 3 Flexible Filter Resistors, 5000 ohms @ 40c each	1.20
*1—Electrad Royalty Volume Control Potentiometer, 25,000 ohms, special taper	2.00
*1—Eby No. 6-11 Two Prong Tube Socket marked “Amperite”	.25
*1—Eby No. 6-11 Four Prong Tube Socket marked 280	.30
*1—Eby No. 6-11 Five Prong Tube Socket marked 227 @ 35c	.35
*3—Eby No. 6-11 Five Prong Tube Sockets marked 224 @ 35c each	1.05
*1—Eby Triple Binding Post Strip	.60
*1—Hart & Hegeman No. 20510 Phono Toggle Switch	.60
*1—Hart & Hegeman No. 20510 Line Toggle Switch	.60
*1—Sangamo “Illini” Mica Fixed Condenser, .001 mfd.	.45
*1—Beaver-Arrow Handle Cap, Cord Connector and Silk Cord	1.25
1—Beaver No. L-14 Duplex Receptacle	.70
1—Arrow No. 8339 Plug Type Midget Receptacle	.35
	\$138.65

Complete Set of Parts—Your Cost, \$83.19

“Hi-Q 30” Battery Tuner

Complete Parts

Code 30-T-BAT	\$93.80
1—Hammarlund “Hi-Q-30” Foundation Unit (Code QFU-30)	\$8.50
1—Hammarlund No. BS-3 Three Stage Band Filter Unit	27.00
1—Hammarlund No. RF-3 Three Stage Screen Grid Amplifier Unit	35.00
1—Hammarlund No. SD Knob Control Drum Dial	4.00
1—Hammarlund No. SPC Shielded Polarized R.F. Choke	1.50
3—Hammarlund No. TS Screen Grid Tube Shields @ 60c each	1.80
*3—Aerovox No. BP-3 Triple By-Pass Condensers @ \$1.60 each	4.80
1 pr. Yaxley No. 422 Insulated Phono Tip Jacks	.25
1—Yaxley No. 401-S Speaker Twin Tip Jack	.25
1—Yaxley No. 660 Cord Connector and Cable	3.00
6—Yaxley No. 810 Resistors, 10 ohms, @ 15c each	.90
*1—Yaxley No. 80325 Resistors, 3¼ ohms @ 15c	.15
*3—Electrad No. 3 Flexible Filter Resistors, 5000 ohms @ 40c each	1.20
*1—Electrad Royalty Volume Control Potentiometer, 25,000 ohms, special taper	2.00
*1—Eby No. 6-11 Four Prong Tube Socket marked 112A	.30
*3—Eby No. 6-11 Four Prong Tube Socket marked 222 @ 30c each	.90
*1—Eby Triple Binding Post Strip	.60
*1—Hart & Hegeman No. 20510 Phono Toggle Switch	.60
*1—Hart & Hegeman No. 20510 Line Toggle Switch	.60
*1—Sangamo “Illini” Mica Fixed Condenser, .001 mfd.	.45
	\$93.80

Complete Set of Parts—Your Cost, \$56.28

*Specially designed for the “Hi-Q-30.” Not stocked by radio distributors and available only on special order.

HAMMARLUND “Hi-Q-29” Coils

For Tuned Grid, Tuned Plate Band Filter Circuits

A set of three space-wound coils for use with .00035 mfd. “Midline” condensers, designed for the Hammarlund-Roberts “Hi-Q 29” Receiver but also very desirable for experimental circuits. The antenna coupler primary has three taps which are brought out to convenient soldering lugs, permitting wide variations in antenna coupling to meet all sensitivity or selectivity requirements.

The radio frequency transformers are designed for special band selector circuits in which both the grid and plate circuits are tuned. In shield-grid tube circuits these coils permit high and uniform amplification over a narrow frequency band, closely approaching the ideal flat-top, square cut-off tuning curve.

Code No. HQ-29—Set of 3 coils	List Price \$8.00	YOUR COST \$8.00
Code No. HQT-29—R.F. Transformer only.		
Each	2.50	1.50
Code No. HQC-29—Antenna Coil only	3.00	1.80

“Hi-Q-30” Foundation Unit

The Foundation Unit contains steel chassis, drilled and engraved panel, all hardware, wire, screws, nuts and all special parts necessary to complete any model “Hi-Q 30” Receiver or Tuner.

Code QFU-30—List Price, \$8.50

Your Cost, \$5.10

“Hi-Q-29” Foundation Units

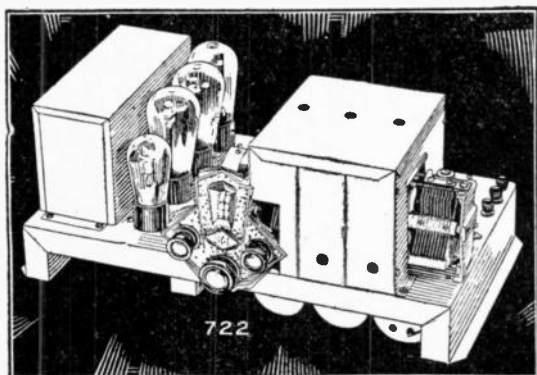
Contains drilled and engraved bakelite panel, steel chassis, aluminum shields, shafts, wire, screws and all special parts needed to construct “Hi-Q-29” AC or Battery operated models.

Foundation Unit for “Hi-Q-29” Master Model—	List Price \$16.50	YOUR COST \$9.90
Code QFUM-29		
Foundation Unit for “Hi-Q-29” Junior Model—	14.00	8.40
Code QFUJ-29		

SM

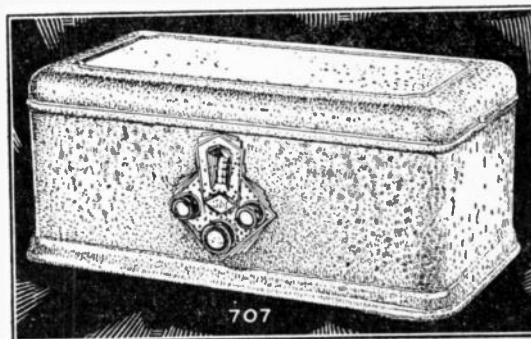
722 Band-Selector Seven

Every 1930 Feature at an Amazingly Low Cost . . .



Exactly as the S-M 720 Screen-Grid Six provided last year the greatest value the market had known in screen-grid receivers—a strictly single-control all-electric receiver—now leads the way and goes the 720 one better, for not only is the 722 much more selective and more sensitive than the 720 Screen-Grid Six, but it is definitely superior (as can be easily proven by competitive tests) to the factory-built, screen-grid receivers offered in its price class.

It employs two stages of r.f. amplification, a 224 screen-grid detector giving approximately five times the efficiency of the best power detection obtainable from the common 227



type, a 227 resistance-coupled first audio stage, and a pair of 245 push-pull output tubes. It is completely assembled upon the 721 formed and pierced steel chassis, while the r.f. tubes and three sections of the gang condenser are shielded by the 723 shield.

The built-in ABC power supply is mounted at the left side of the receiver chassis, forming a part of the receiver. A 280 rectifier tube is used. The 722 receiver is intended to operate with S-M 851 or equivalent dynamic speaker, and has provision for furnishing all required field power to the speaker, the field of which is used as a choke in the power supply filter circuit. The chassis makes a compact unit 18½ x 9½ inches.

Full data regarding the S-M 722 is contained in S-M Data Sheet No. 14, supplied with the receiver.

List of Component Parts

1 S-M 721 Pierced Metal Chassis and Power Unit Case	\$2.55
1 S-M 812 Escutcheon	.75
1 S-M 810R (Right) Illuminated Drum Dial	2.25
1 S-M 322 .00035 Mfd. Four-gang Condenser	6.00
1 S-M 723 Three-compartment Shield	2.10
1 S-M 122 Shielded R. F. Coil	1.20
2 S-M 123 Shielded R. F. Coils @ \$1.55	3.10
1 S-M 124 Shielded R. F. Coil	1.55
1 S-M 336-U Power Transformer	6.00
1 S-M 338 Filter Choke	2.10
3 S-M 275 R. F. Chokes @ 54c	1.62
1 S-M 270-U Push-pull Input Transformer	2.90
1 S-M 30X Selector Coupler	.35
1 S-M 818 Hook-up Wire	.30
1 Potter 674-C Condenser Block	6.75
2 Potter 30B By-Pass Condenser Blocks @ \$1.10	2.20
3 C-R 224 Tube Socket @ 30c	.90
1 C-R 227 Tube Socket	.30
2 C-R 245 Tube Sockets @ 30c	.60
1 C-R 280 Tube Socket	.30
1 Yaxley 10MJP 10,000-ohm Potentiometer	.90
2 Yaxley 840C 40-ohm Center-tapped Resistor @ 18c	.36
3 Yaxley 422 Insulated Tip-Jacks @ .075	.23
1 Durham 2,000-ohm One-watt Resistor (White)	.45
2 Durham 10,000-ohm Two-watt Resistors (Green) @ 51c	1.02
1 Durham 25,000-ohm One-watt Resistor (Black)	.45
1 Durham 60,000-ohm One-watt Resistor (Blue)	.45
1 Durham 300,000-ohm One-watt Resistor (Yellow)	.30
1 Durham 2-megohm One-watt Resistor (Red)	.30
2 Polymet .00015 Small Moulded Condensers @ 25c	.50
1 Polymet .006 Small Moulded Condenser	.70
1 H & H 1561 On-Off Switch	.50
1 Carter 2A Closed Circuit Jack	.18
2 Carter RU 400—400-ohm Resistors @ 12c	.24
1 Ohio Carbon 800-ohm Three-watt Resistor (Green)	.45
1 Cord and Plug	.50
2 1½" R. R. Brown Wood Knobs @ 20c	.40
5 Moulded Binding Posts @ 6c	.30
1 Set of Hardware	.85

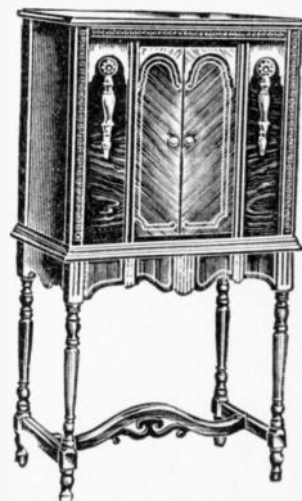
Your Cost.....\$52.90

Price of Wired Receiver, \$74.75

S-M 707 Table Cabinet additional, \$7.75

Mount Your S-M 722 in This Beautiful Console at a Cost of Only \$30.00 Additional

With top and sides of lovely genuine walnut plywood, and with that beauty enhanced on the front side panels by Carpathian elm overlays, this cabinet provides a splendid housing for such a magnificent receiver as the S-M 722. The doors are of 5-ply "V" matched African walnut, with overlays matching side panels in harmonious effect. With graceful lines, the outside dimensions are beautifully proportioned 50½" high, 27½" wide, and 16½" deep—while ample space is provided within for the receiver chassis—23" wide, 9" high, and 13½" deep. The speaker space is the same as that for the receiver except that it is 12" high. The 217SM Cabinet, shown in the illustration, is ideal for housing an S-M 722, 712, or 735 receiver.

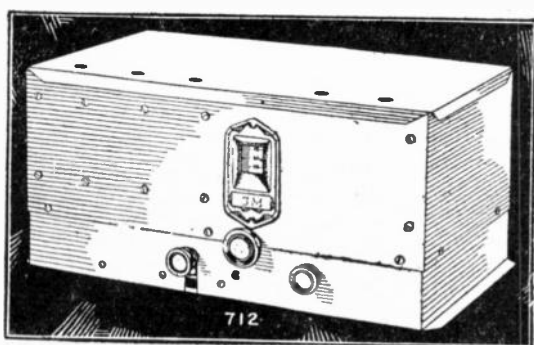


Your Cost, \$30.00

SM The S-M 712 TUNER

A Development of the Famous Sargent-Rayment Seven

For the Fan
Who Will Have Nothing
But the "Very Last Word"



One of the finest receivers to be built of standard parts ever offered by S-M or any other parts manufacturer, the new 712, developed from the Sargent-Rayment 710 that established so many records last year, presents features never before available. A tuner only—without audio amplification—fully AC operated, it employs three of the new UY 224 AC shield-grid tubes in three stages of r.f. amplification, and with band selector tuning a power detector. Any audio amplifier may be used although it is recommended that the output be fed into the new 677 S-M amplifier. The mechanical assembly is, in the main, similar to the Sargent-Rayment but the shielding is rendered still more complete by individual shielding of all r.f. coils.

This shielding is necessarily more complete because the 712 tests several times as sensitive as the 710.

The 712 is assembled upon the chassis of the 713 metal cabinet, in which it is completely enclosed. As a result of the development of extremely accurate coils, and use of a precision single unit five-gang condenser assembly, it has been found possible to dispense entirely with the stage verniers of the 710, and yet to show a selectivity far better even than the famous five-vernier set of last season.

The band-selector circuit is placed between the antenna and the r.f. amplifier, while the three r.f. tubes and detector are coupled by unusually high gain r.f. stages. There are, in the 712, five tuned circuits—the first two working together as a band selector in a tuned antenna circuit—resulting in true super-selectivity with still enough width to the top of the resonance curve to produce unrivalled faithfulness of reproduction. The power and sensitivity are so great that a short indoor antenna is all that is necessary for long-distance reception, yet the complete shielding will cause a dead silence if this short antenna be removed.

The S-M 712 is an RCA licensed all-electric receiver, using three 224 type tubes and one 227. It requires but two AC supply voltages—2½ volts for filament, and 180 volts B supply. The chassis is 16½" x 9½".

677 Amplifier for use with 712 Tuner—Factory Wired

Your Cost\$58.50

Parts List for 712 Receiver

1 S-M 713 Pierced Metal Chassis (with shield partitions).....	\$6.75
1 S-M 813 Escutcheon .....	.75
1 S-M 313 .00035 Mfd. Five-gang Condenser and Dial.....	9.90
3 S-M 121 Shielded R.F. Coils @ \$1.55.....	4.65
1 S-M 122 Shielded R.F. Coil	1.20
1 S-M 124 Shielded R.F. Coil	1.55
7 S-M 275 R.F. Chokes @ 54c.....	3.78
1 S-M 30X Selector Coupler.....	.35
4 Potter 30B By-Pass Condenser Blocks @ \$1.10.....	4.40
3 C-R 224 Tube Sockets @ 30c.....	.90
1 C-R 227 Tube Socket .....	.30
1 Yaxley 10MJP 10,000-ohm Potentiometer.....	.90
1 Yaxley 840-C Condenser Block.....	.18
1 Durham 10,000-ohm Two-watt (Green) Resistor.....	.51
1 Durham 60,000-ohm One-watt (Blue) Resistor.....	.45
2 Polymet .00015 Small Moulded Condensers @ 25c.....	.50
3 Carter RU-400—400-ohm Resistors @ 12c.....	.36
1 H & H 1561 On-off Switch.....	.50
2 Walnut 1½" R.R. Brown Wood Knobs @ 20c.....	.40
1 Walnut 1½" R.R. Brown Wood Knob .....	.25
8 Moulded Binding Posts @ .06c.....	.48
1 Set of Hardware and Hook-up Wire.....	1.84

Your Cost\$40.90

Wired, \$64.90

This Butt Walnut Front Phono-Combination Cabinet Is Ideal for Your S-M 712

That sure, genuine beauty that is found only in real walnut, and in real walnut only in butt walnut, is in the front of this cabinet, and the symmetry of design increases the pleasure of having such a piece of furniture in one's home. With your S-M 712 Tuner, a 677 amplifier, and an S-M dynamic speaker, and, if desired, an electric phonograph (space for one is provided in the cabinet), you will have an ideal combination for entertainment. Ample space is provided for all units. A sliding drawer for phonograph turntable, motor, and pickup is in the speaker compartment, which is 28½" wide by 12" high by 13" deep, while the set compartment is 27½" wide, 9" high, and 12" deep. Overall dimensions of this 229 S-M cabinet are 33½" wide, 54½" high, and 18" deep. Special provision has been made to take care of the 677 amplifier in the lower drawer of the cabinet. Suitable for 722, 712, or 735.



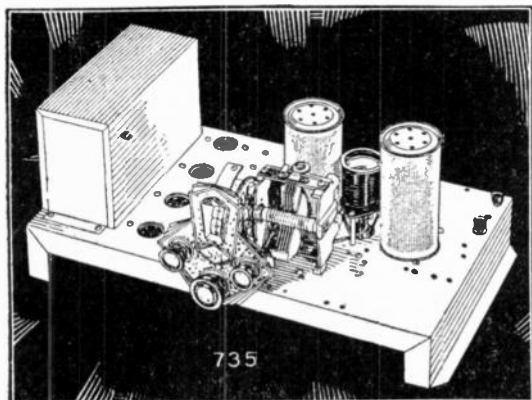
Your Cost, \$56.40

SM

S-M 735

Round-the-World Six

The First All-Electric Receiver Covering Both Short-Wave and Broadcast Bands



The first fully AC-operated short-wave receiver offered on the American market, the Model 735 Short-Wave Receiver, will be a revelation to the fans who have used previously available receivers on wave lengths under 200 meters. On broadcast bands the performance will be extremely satisfactory, providing high quality medium-distance and local reception in an extremely flexible and inexpensive receiver.

The circuit consists of one stage of untuned screen-grid r.f. amplification followed by a tuned regenerative detector circuit which, by means of six plug-in coils, will cover the entire range of 17 to 650 meters; the ABC power supply and audio amplifier are the same as used in the S-M 722 described on page 1. Both receivers also employ the same type 721 chassis, described on page 8. The tuning is controlled by a single vernier illuminated dial, with on-off switch and with the volume smoothly and evenly controlled through a 75mmfd. condenser.

List of Component Parts

1 S-M 721 Metal Chassis with Power Cover.....	\$2.55
1 S-M 812 Control Escutcheon .....	.75
1 S-M 810R (Right) Illuminated Drum Dial.....	2.25
1 S-M 314 .00015 mfd. Variable Condenser.....	1.80
1 S-M 342B .000075 mfd. Midget Condenser.....	1.05
4 S-M Blocking Coils, 131L, 131M, 131N, 131O @ 75c.....	3.00
3 S-M 277 Short-Wave R.F. Chokes @ 90c.....	2.70
2 S-M 275 R.F. Chokes @ 54c.....	1.08
1 S-M 338 Filter Choke	2.10
2 S-M 636 Tube Shields @ 30c.....	.60
1 S-M 260U Audio Transformer.....	1.35
1 S-M 270 Push-Pull Input Transformer.....	2.90
1 S-M 336U Power Transformer	6.00
1 Polymet .00015 mfd. Small Moulded Condenser.....	.25
2 Polymet 30B By-Pass Condenser Banks @ \$1.10	2.20
1 Potter 674C Filter Condenser Bank.....	6.75
1 C-R 224 Tube Socket .....	.30
3 C-R 227 Tube Sockets @ 30c .....	.90
2 C-R 245 Tube Sockets @ 30c .....	.60
1 C-R 280 Tube Socket .....	.30
2 Durham 60,000-ohm Two-watt Resistors (Green) @ 51c.....	1.02
1 Durham 2-megohm One-watt Resistor.....	.30
1 Durham 2000-ohm One-watt Resistor (White).....	.45
2 Yaxley 840 C 40-ohm CT Resistor @ 18c.....	.36
3 Yaxley 422 Insulated Tipjacks @ .075.....	.23
1 Carter 2A Closed Circuit Jack.....	.18
1 Carter RU-400—400-ohm Resistor .....	.12
1 Ohio Carbon 800-ohm Three-watt Resistor (Green).....	.45
1 H & H 1561 Rotary On-off Switch.....	.50
4 Moulded Binding Posts @ .06c.....	.24
1 Cord and Plug .....	.50
2 KK 1½" Brown Wood Knobs @ 20c.....	.40
1 Set of Hardware and Hook-up Wire.....	.72

Your Cost..... \$44.90

Factory Wired Receiver, Your Cost, \$64.90

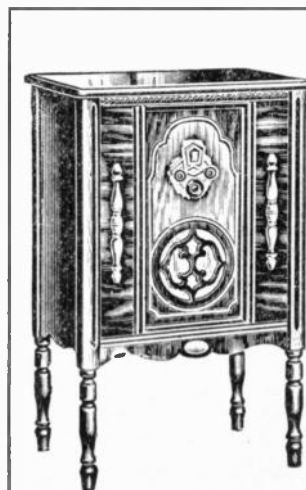
707 Cabinet, Your Cost, \$7.75

S-M 735DC for Battery Operation

With the same circuit that gives such excellent results in the A.C. 735, but adapted for D.C., the S-M 735DC employs one 222 screen-grid tube and four 112A type, thereby securing power for excellent volume without great current drain. The push-pull stage that produces undistorted output, the condenser control that gives smooth oscillation control without drag, the plug-in coils—these features of the 735AC are incorporated, with the non-radiating regenerative screen grid r.f. stage that provides phenomenal distance range. Only the four short-wave coils, covering 17 to 200 meters, come with the 735DC receiver; the broadcast-band coils (131P and 131Q, see page 8) may be purchased separately. Price, fully RCA-licensed, factory wired and tested, \$44.80. Any or all the component parts, listed herewith, may be purchased separately.

Your Cost, \$26.80

Factory Wired, Your Cost, \$44.80



Your All-Wave Receiver in This Beautiful Cabinet

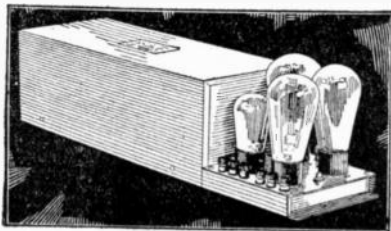
Guaranteed genuine walnut plywood top and panels, a set and grill panel of center matched walnut, and front side panels of fine grained high-lighted fiddle-back mahogany produce in this lowboy cabinet a handsome console particularly adapted to a high-quality receiver such as the S-M 735. This 211 S-M Cabinet has a space for receivers 19½" wide, 9" high, and 12½" deep, with a speaker compartment 21" wide, 12" high, and 12½" deep. Overall dimensions are 38½" high, 24½" wide, and 15½" deep. This 211 S-M Cabinet is admirably adapted to take the S-M 722, 712, or 735.

Your Cost, \$18.00

S-M 677

Power Amplifier

Using 245 Tubes in Push-Pull



This two-stage light socket amplifier, wherein the new 245 tubes are employed to best advantage, achieves undistorted amplification through the famous Clough system audio amplification, employed with 227 first stage audio amplifier, and through push-pull 245 tubes. As the amplifier is ordinarily expected to be used with any standard type of dynamic speaker of 90 volt (1900 to 2000 ohm) field having a center-tapped primary, no output transformer or choke is included. The power supply, consisting of 338-U power transformer, 338-U and 339-U filter chokes, and 673 condenser bank, is for use with a 280 tube, and will furnish required ABC power to the amplifier itself and, in addition, heater, and 180 volts B, to the 712 or any equivalent receiver. Power can be drawn from any 105 to 120 volt 60 cycle source.

Factory Wired
Your Cost, \$58.50

LIST OF PARTS

1 S-M 677 Case Chassis and Panel	\$4.00
1 S-M 255R Audio Transformer	4.20
1 S-M 257 Push-Pull Input Transformer	4.20
1 S-M 337U Power Transformer	10.00
1 S-M 338U Filter Choke	2.10
1 S-M 339U Filter Choke	2.10
1 S-M 4696—1500 and 800-ohm Resistor .....	.95
1 Potter 673 Condenser Bank	12.00
1 C-R 280 Socket .....	.30
2 C-R 245 Sockets @ 30c .....	.60
1 C-R 227 Socket .....	.30
1 Carter A.B. 15 Hum Balance .....	.45
1 Durham 2,000-ohm one-watt Resistor (White) .....	.45
1 Durham 3,500-ohm two-watt Resistor (Brown) .....	.51
12 Moulded Binding Posts @ 6c .....	.72
1 Set of Hardware and Hook-up Wire .....	.52

Your Cost.....\$43.40

S-M 669 Power Unit

For Sets Using 224, 227 and 245 Type Tubes

Factory Wired
Your Cost, \$28.30

S-M 679 Small Auditorium Amplifier

Phono or Radio

Designed to operate direct from the detector output of any radio receiver, magnetic phono pick-up, or single or double button microphone.

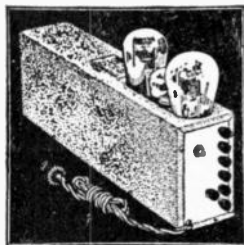
Undistorted Output of 7 to 8 Watts

Uses one 226 First Stage, one 250 Second Stage and two UX-281 Half-Wave Rectifiers.

679 Amplifier, Factory Wired
Your Cost, \$62.50

678 P-D Power Amplifier

Phono or Radio
Using 250 Power Tube



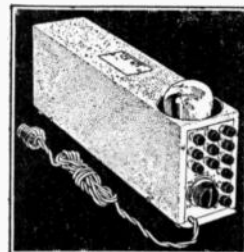
The 678 P-D is a two-stage socket powered audio amplifier, using one 226, one 250 and one 281 tubes. Will supply field current to any 110-volt D.C. dynamic speaker.

Factory Wired
Your Cost,
\$47.40

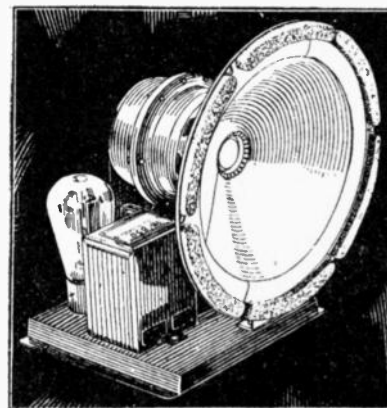
S-M 675 A-B-C Power Supply For 210 and 250 Tubes

Uses one 281 Half-Wave Rectifier and furnishes 425 V. 135, 90, 22 and variable 22-90 for any receiver. C voltage and A power at 1.5 V., 4 A.; 2.25 V., 4 Amps. and 7½ Volts.

Factory Wired
Your Cost,
\$37.80



S-M Dynamic Speakers



850 A.C. Net \$35.10
851 D.C. 90 to 120 V., D.C. 29.10

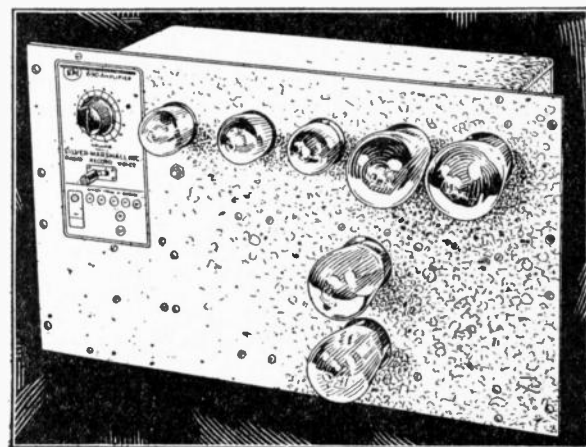
S-M 690 Outdoor or Theatrical Amplifier

Will Operate up to 160 Speakers — 3 Stages — 250 — Push-Pull
For Radio, Phonograph or Voice

For radio, phonograph, or voice reproduction, the new S-M 690 ranks without equal at anywhere near its price range. It is only necessary to feed this powerful amplifier with the detector output of any standard radio set, standard magnetic phonographic pickup, or single or double button microphone to secure satisfactory operation. Volume may be controlled from a mere whisper to full intensity by the turn of a knob. Regardless of whether full volume is being delivered, or but a small part of it, there is always that same sweet, faithful quality of tone which has made S-M amplifying apparatus dominant leaders over all others.

So complete is the 690 Auditorium Amplifier that switching from radio to phonograph, or voice, or vice versa, requires only a fraction of a second. A three-way selector switch mounted on the control panel, needs only a slight turn to select either of these three classes of entertainment. Where it is necessary to provide continuous record entertainment by the use of two electric phonograph turn-tables, the volume control mounted on the control panel allows an ultra-rapid "fading" of records without undesirable interruption.

TUBES REQUIRED—One 27 first stage. Two 26 interstage. Two 50 power output stage. Two 81 rectifiers. 690 Amplifier complete as described above, factory wired and tested. 72 lbs.



Your cost, \$147.00

SM Transformers and Chokes



225 First Stage Audio Transformer—for use between any standard detector and first audio stage, providing a flat curve up to 5,000 cycles with greater amplification at 32 cycles than at 1,000 cycles. Effective voltage gain 4.3 to 1. Unquestionably the finest A.F. transformer ever manufactured.

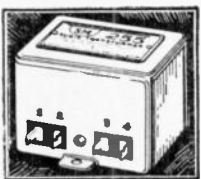
Your Cost, \$5.40

226 Second Stage Audio Transformer—for use with 225, above, between first and second stages, with same characteristics except that it gives a rise in amplifications between 32 and 100 cycles and has a voltage gain of 3.5 to 1. Sharp cut-off between 5,000 and 8,000 cycles. One 225 and one 226 will unconditionally give finer tone quality than any other known audio system used with any standard tubes.

Your Cost, \$5.40

223 Hi-Mu Audio Transformer—for use between UX-222 first stage screen grid tube, space charge detection and any standard power tube. Provides absolutely flat curve from 32 to 5,000 cycles with average voltage gain of 42 per stage.

Your Cost, \$5.40



255 First Stage Audio Transformer—Used between detector and first audio stage, it provides a rise in amplification between 65 and 300 cycles and is then a perfectly flat characteristic to 8,000 cycles. Guaranteed superior to any other transformer except S-M 225. Effective ratio 4.2 to 1.

Your Cost, \$3.60

256 Second Stage Audio Transformer—A companion to 255 for use in second stage to provide a similar curve. Effective ratio 3.5 to 1. One 255 and one 256 will give finer reproduction than any other known audio system excepting only the S-M 225 and 226.

Your Cost, \$3.60

255R Transformer—Similar to the S-M 255, S-M 255R has an extra primary tap for use with 2,000-ohm phonograph pickups.

Your Cost, \$4.20

255M Transformer—This item should appear on page 6 of the layout with the 255R and 255P Transformers. The 255 M is exactly the same as the 255 standard except for the addition of a mid-tap microphone winding, which may be used with either single or double-button 200-ohm microphone. It may, therefore, be used with either pickup, radio, or microphone input and is in fact used in this manner in the 690 amplifier.

Your Cost, \$4.80

255P Transformer—Same as 255R but for phonograph pickup use only.

Your Cost, \$3.60

270 Push-Pull Input—With its extremely low 1 to 1 ratio, this transformer is ideal for working out of the first audio tube into power tubes. The curve is practically flat from 40 to 8,000 cycles—a truly remarkable achievement, permitting astonishing tone fidelity in any amplifier in which it is used.

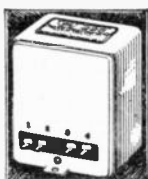
Your Cost, \$2.90

251 Output Transformer or Impedance—A combination output unit adjustable to match any standard power tube and giving a new standard of performance to any amplifier with 112 or 171 type tubes.

Your Cost, \$3.60

220 Audio Transformer—An all stage transformer providing substantially straight line amplification from 30 to 5,000 cycles. Ratio 3 to 1. Sharp cut-off above 5,000 cycles. The largest selling high grade transformer ever made! Shipping weight, 4 lbs. 6 oz.

Your Cost, \$4.80



221 Output Transformer—For use between speaker and power tube in any radio receiver to prevent blasting and damage to speaker, and to improve reproduction. Ratio 1. to 1.89. Shipping weight, 4 lbs. 4 oz.

Your Cost, \$4.50

222 Output Transformer—Same as No. 221 except with four tip jacks and 5-foot cord. Shipping weight, 4 lbs. 5 oz.

Your Cost, \$4.80

230 Push-Pull Input Transformer—For use in a high grade push-pull amplifier or as a variable ratio audio transformer, with ratio of 3 to 1 or 6 to 1. Frequency characteristics same as 220. Shipping weight, 4 lbs. 6 oz.

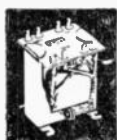
Your Cost, \$6.00

231 Push-Pull Output Transformer—For use with No. 230 in push-pull circuit or as a variable ratio output transformer to match either 112 and 210, or 171 and 250 tubes. Shipping weight, 4 lbs. 6 oz.

Your Cost, \$6.00

242 Microphone Transformer—For use with either single or double button microphones or as a line input transformer to power amplifiers. Two primaries and one secondary. Shipping weight, 2 lbs. 4 oz.

Your Cost, \$4.20



247 Filament Transformer—For use in heating AC tube filaments. Supplies 1.5 volts at 5 amp.; 2½ volts at 3½ amp., and 5 volts at 1 amp. Ideal for use with AC harnesses. Shipping weight, 2½ lbs.

Your Cost, \$3.00

325 Filament Transformer—A heavy duty filament lighting transformer supplying 1½ volts at 12 amp.; 2½ volts at 12 amp. and 5 or 7½ volts at 3 amp. Shipping weight, 5 lbs.

Your Cost, \$7.50

275 R. F. Choke—to keep R.F. currents from going astray. Polished moulded bakelite case. Impregnated winding. Inductance 2½ Mh. For use up to 600 meters. Shipping weight, 2 oz.

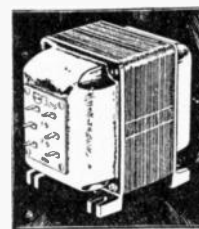
Your Cost, 54c

276 R. F. Choke—Same as 275 except for use above 600 meters. Inductance 10 Mh. Shipping weight, 2 oz.

Your Cost, 60c

277 R. F. Choke—Specially designed for use below 200 meters. Low distributed capacity and better short wave qualities than any competitive choke. Used in S-M "Round the World Four" Kit. Shipping weight, 2 oz.

Your Cost, 90c



S-M Power Transformers and Chokes

324 Power Transformer—A large, heavy, full-wave power supply transformer for operation from a 50 to 60 cycle power source of 105 to 120 volts. It weighs approximately 16 pounds, and is 6½" inches high, 4½" wide, and 7" long over terminal protection panels (these panels surmount each terminal plate so that it is ordinarily impossible to touch high-voltage soldering lugs). S-M 324 is conservatively rated at 150 watts for continuous operation. Equipped with two 750-volt, 150-milliamperes secondaries, and two separate 7.5 volts, 2.5 ampere filament windings, for operation of 210, 250 and 281 type tubes. It is mounted similarly to S-M 328. Shipping weight, 18 lbs.

Your Cost, \$15.00

324BU Power Transformer—Same as 324, but unmounted, with one added 2.25 v., 1.75 a.; and one 1.5 v., 2 a. secondaries.

Your Cost, \$15.00

328SU Power Transformer—1100 v. 250 m.a. secondary (mid-tapped 550 v. a side), two 7.5 v., 2.5 a. secondaries, and one each 2.25 v. 175 a. and 1.5 v., 2 a. Rating, 150 watts.

Your Cost, \$15.00

327 Power Transformer—A heavy duty power transformer, very conservatively rated. Especially recommended for use in power packs supplying AC sets containing a 210 or 250 type tube in the last stage, and must be used with one UX281 (CX381) half-wave rectifier for this purpose. For 112 or 171 type power tubes it should be used with UX280 (CX380) or gaseous full-wave rectifier tube. The 327 transformer has the following windings: two 250 volt secondaries; two 7½ volt, 2 ampere secondaries for UX281 (CX381) and 210 or 250 type tubes; one 1½ volt, 4 ampere secondary for three or four UX226 (CX326) tubes; and one 2.25 volt, 3.5 ampere secondary for two UX227 (CX327) tubes. Primary winding is for 105 to 120 volts. 50 to 60 cycle AC lighting circuit. Provided with electrostatic shield and soldering lugs, cord and plug not included. Size, 5½" long, 3½" wide, 4½" high. Shipping weight, 8 lbs. 8 oz.

Your Cost, \$9.00

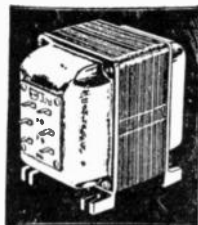
327U Power Transformer—Same as 327, above, except unmounted for manufacturers' use. Shipping weight, 7 lbs.

Your Cost, \$9.00

329BU Power Transformer—Similar to 329U, but provided with additional filament windings. Has two 220 volt secondaries, one 5 volt, 2 ampere center-tapped winding, one 5 volt, ½ ampere winding, one 2½ volt, 3½ ampere, and one 1½ volt, 5 ampere winding. Shipping weight, 5 lbs.

Your Cost, \$6.00

SM Transformers, Choke and Coils



338U Filter Choke
—A high inductance choke for low current filter circuits. Inductance 40 henries at 20 m.a. DC resistance 2400 ohms.
Your Cost, \$2.10

339U Choke — An unmounted filter choke, 339U has an inductance of 4 henries at 50 m.a. and a d.c. resistance of 108 ohms. S-M 339U may be used in a two-section filter and for all circuits requiring a low inductance moderate current choke.

Your Cost, \$2.10

337U Power Transformer—S-M 337U has a 115-volt primary tapped for 75 volts, and a 750 volt, mid tapped, 100 m.a. secondary, also one 5-volt, 2 ampere; one 2.5-volt 9 ampere; and one 2.5-volt, 3.5 ampere secondaries. The 75-volt tap permits operation with primary voltage regulator. The transformer will supply 100 m.a. at 400 volts into suitable filter circuit or enough for a receiver and speaker field. Weight, 9 lbs., 4½" long.

Your Cost, \$10.00

331 Unichoke—A two-winding high inductance filter choke licensed under the Clough Patent Application. Its filtration when properly used is guaranteed to be superior to that of any other standard filters. Tuned section eliminates 120 cycle ripple. Only 7 Mfd. condenser capacity necessary instead of the usual 12 used by others. May also be used as a line output transformer for coupling an amplifier tube to a telephone line. Inductance of primary 2 henries; secondary 30 henries at 110 m.a. load. Air gap prevents saturation. Continuous rating of 125 m.a. may be doubled for short periods. DC resistance of primary 4.85 ohms; secondary 895 ohms. With electrostatic shield and soldering lugs as illustrated. Shipping weight, 5 pounds.

Your Cost, \$4.80

331U Unichoke—Same as 331, above, except unmounted for manufacturers' use. Shipping weight, 5 lbs.

Your Cost, \$4.20

333 Dual Filter Choke—Consists of two chokes assembled together on one frame. Gives better filtration than with separate mounting. Resistance 400 ohms per choke. Inductance per choke at current of 40 m.a., 10.4 henries. Opening mounting. Size, 2½" wide, 3½" high, and 1½" thick. Provided with soldering lugs. Shipping weight, 2½ pounds.

Your Cost, \$3.60

334U Power Transformer—Made especially for AC operated dynamic speakers. When used with an UX280 (CX380) tube and a 2 Mfd. condenser, 120 volts of DC are available for field current in any standard 90-120 volt DC type dynamic speaker. Contains a 5 volt 2 ampere rectifier filament winding, one 800 volt center-tapped high voltage winding, and one primary winding for connecting to any 105-120 volt, 50-60 cycle AC. Housed in 227 type case. Shipping weight, 2 pounds.

Your Cost, \$4.20

S-M Cabinets, Dials, Coils, Condensers, and Other Radio Parts

707 Cabinet—A handsome metal shielding cabinet, finished in crystalline brown with rich contrasting gold top panel, an ornament to any home and fully equal in appearance to any table cabinet on the market, this is especially suitable for 722 and 735 receivers. The top is removable and the dimensions are 19½" long, 9" high, and 10½" deep, with rounded corners and superb workmanship. (Illustrated containing the 722 receiver.) (Less knobs and escutcheon.)

Your Cost, \$7.75

725 Panel—S-M 725 Panel is a handsome walnut-finished and pierced panel of stiff steel; 9" x 7" x ¼" for adapting the 722 and 735 receivers to standard consoles.

Your Cost, 75c

721 Chassis—The same chassis used for 722 and 735 Receivers, this is constructed of cadmium-plated steel ¼" thick, with edge folded 1" for great rigidity, and is 18½" by 9½". Pierced complete.

Your Cost, \$2.55

812 Escutcheon—Used on the 722 receiver, this plate is furnished in antique brass—a beautiful piece of workmanship that will adorn any receiver.

Your Cost, 75c

S-M Plug-in Coils All Wave Range



S-M Plug-In Coils have held for three years their justly deserved position of leadership. There are no finer coils on the market. Ribbed molded bakelite forms, spaced windings and low losses make them the most efficient coils known today. They are made in

five ranges for all wave bands from 30 to 3,000 meters and are for use with a .00035 mf. condenser only. The ranges are as follows:

- A type—190 to 550 meters
- B type—70 to 200 meters
- C type—30 to 75 meters
- D type—500 to 1500 meters
- E type—1100 to 3000 meters

110 A, B and C Coils—contain two equal secondaries and a rotor winding.

Your Cost, \$1.50

110 D and E Coils—Same as above.

Your Cost, \$3.00

111 A, B and C Coils—Contain one secondary, one slot winding and one rotor winding.

Your Cost, \$1.50

111 D and E Coils—Same windings as above.

Your Cost, \$3.00

113 Unwound Coil Form.

Your Cost, 75c

130—Plain plug in coil form	\$0.40
130T—Threaded coil form 98 threads with contact pins	.40
132A—190-550 meters, .00035	.75
132B	.75
132C	.75
131L—17.4 meters—32.1	.75
131M—31-58 meters	.75
131N—57-110 meters	.75
131O—104-204 meters	.75
131P—344-647 meters	.75
131Q—344-647 meters	.90
121—Shielded R.F. transformer. A modern gain interstage transformer giving voltage amplification of 20 and 40 at 500 and 1500 K.C.	

Your Cost, \$1.55

511 Tube Socket

4 prong, positive contact, genuine bakelite.

Your Cost, 30c

512—Same as 511 except 5-prong—for AC heater type tubes.

Your Cost, 36c



122 Shielded R.F. Coil—A secondary only, this was designed to be used in impedance or band selector circuits. (Used in S-M 722.)

Your Cost, \$1.20

123 Shielded R.F. Coil—A high-grain r.f. interstage transformer giving a voltage amplification of 40 to 65 at 550 and 1500 kc. This is the type used in S-M 722. Shield 2¼" diameter and 2½" long.

Your Cost, \$1.55

124 Shielded R.F. Coil—An antenna coupler coil with taps for long and short antenna. Used as first coil and antenna coupler in band-selector circuits of 712 and 722, an indication of the high quality of the coil and the receivers. Shield is 2¼" diameter and 2½" long.

Your Cost, \$1.55

30X Selector Coupler—Provides absolutely the proper coupling in a band-selector stage using .00035 condensers.

Your Cost, 35c

636 Tube Shield—An excellent preventative of capacitive coupling, this tube shield has the perforations so essential to ventilation, especially important for 224 and 227 tubes.

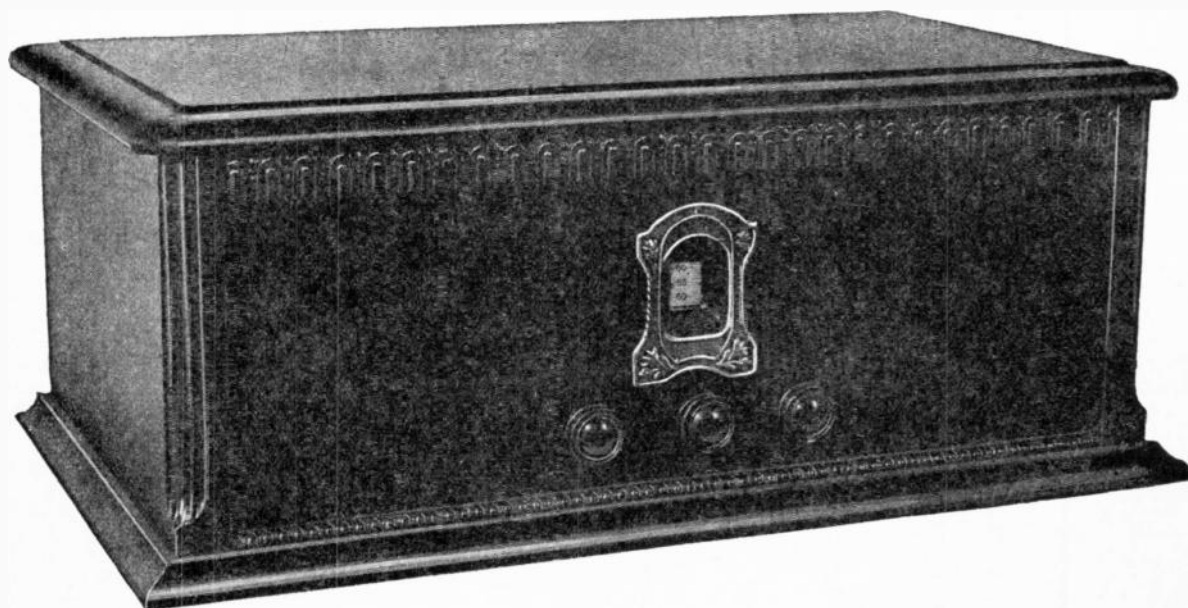
Your Cost, 30c

638 Stage Shield—The popular new S-M stage shield used in the 720 Screen Grid Six and other circuits. It is a small and compact copper shield, with removable top and bottom, and will accommodate all standard tubes, all types of S-M plug-in coils and coil sockets plus the necessary by-pass condensers and resistors. A hole is provided in the bottom for an S-M 340 or 342 type midget condenser, the bottom is pierced with all mounting and lead holes, and is provided with four raised mounting feet, allowing wiring and screw heads to fall beneath the bottom holes. Overall size, 4½" long, 5½" high, and 2½" wide. Beautifully finished in lacquered copper. Sides are ribbed to prevent bending. Packed in carton. Shipping weight, 10 oz.

Your Cost, 90c

HARKNESS

“1930 SCREEN GRID 7”



This latest HARKNESS Receiver is made in two units—the receiver chassis and the AC Power Unit. The receiver chassis is sold completely assembled but unwired, with full instructions and blueprint of pictorial wiring diagram. The AC Power Unit is sold completely wired, ready for use. The complete chassis and power unit measure 20½" wide, 12" deep, 8" high.

1930 HARKNESS CHASSIS

Completely assembled, with full instructions and blueprint of pictorial wiring diagram.

Cat. No. AS-307. YOUR COST,

\$49.50

Front Panels—Above price does not include front panel. Completely drilled bakelite panel furnished extra, cut to any required size. Minimum size—7" square. Price—2c net per square inch.

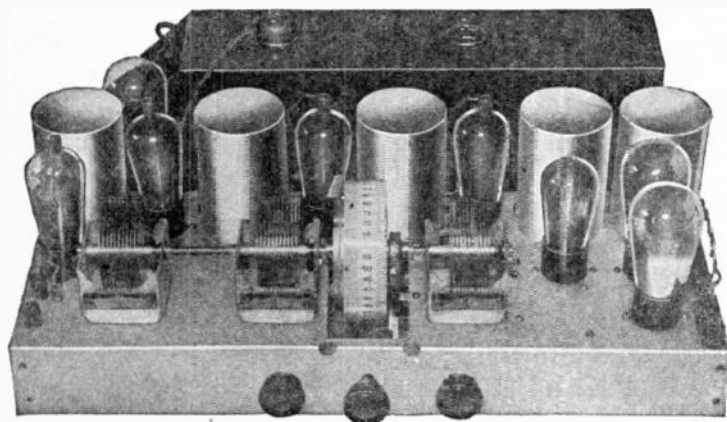
HARKNESS AC POWER UNIT

Designed especially for the Screen Grid 7 and supplies all power to operate set. Sold only as a completely assembled and wired unit. Fully guaranteed. Made in two types, as follows:

Type AC-245—For use with magnetic or AC dynamic speakers.

Type DC-245—For use with DC dynamic speakers only (100 v., 50 mls.)

YOUR COST, **\$28.50**



Note these 12 Outstanding Features

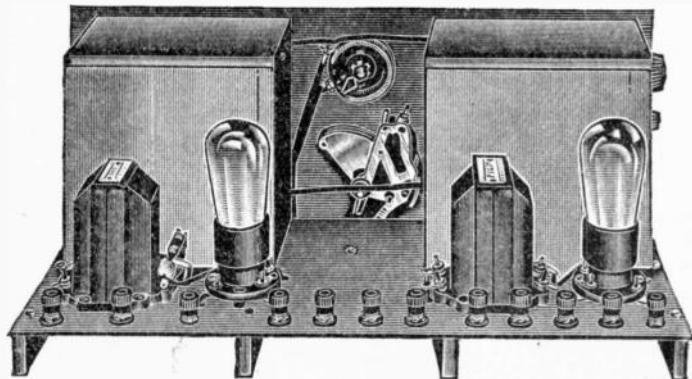
1. Uses seven standard 2½ volt AC tubes and one type 280 in power unit—eight tubes in all.
2. Three type 224 AC Screen Grid tubes in radio frequency stages—tremendous amplification.
3. One type 224 AC Screen Grid tube used as Power Detector (plate rectification)—eliminates overloading and greatly increases selectivity.
4. First stage audio resistance-coupled—227 tube.
5. Push-pull Output (245 power tubes)—ample power and marvelous tone quality.
6. 10 Kilocycle Selectivity—Easily tunes through locals and gets distance every night.
7. Super-Selective at low waves—tunes very sharply from 200 to 300 meters.
8. Absolutely non-oscillating.
9. Tuning not affected by aerial—perfect resonance over entire range with single dial.
10. Entirely free from AC hum.
11. Phonograph connection and switch.
12. Aluminum base and complete shielding.

Illustrated folder describing this receiver will be mailed free on request.

PILOT KITS and PARTS SUPER WASP A. C. & D. C.

Designed by ROBERT KRUSE

Widely Known Consultant and Authority on Short Waves



Modern Features in Super-Wasp

Most short-wave sets put out in kit form have been highly critical straight regenerative affairs. It was not until the advent of the Pilot Super-Wasp that short-wave receivers graduated from the 1921 stage and grew into modern instruments possessing some of the numerous refinements that have been built into regular broadcast sets.

In addition to its use of the screen-grid tube and double shielding, IT IS THE ONLY SHORT-WAVE RECEIVER NOW ON THE MARKET THAT WORKS ON ALTERNATING CURRENT. A neat, compact power unit (the Pilot K-111, furnished separately) supplies all the filament, grid and plate voltages. The AC "Super-Wasp" is the only set that allows you to enjoy the unlimited thrills of short-wave reception with all the conveniences of full lamp-socket operation.

Satisfied owners attest that the "Super-Wasp" is the best short-wave receiver because of the following points:

1. FULL AC OPERATION.
2. Increased sensitivity and selectivity made possible by TUNED screen-grid RF stage.
3. Universal wavelength range. Tunes from 14 to 500 meters. An excellent broadcast receiver as well as the finest of all short-wave instruments.
4. Absolutely no hand capacity effects.
5. All-metal chassis—completely shielded.
6. Inexpensive.
7. Ability to bring in short-wave broadcasting stations better than all previous short-wave sets.

What the Kit Consists of

Electrically, the Super-Wasp consists of one stage of tuned radio-frequency amplification with a screen-grid tube (it is the only set so constructed) followed by a regenerative detector, one stage of resistance coupled audio and one stage of transformer coupled, with an output transformer to protect the earphones or loud speaker. The parts of the radio-frequency and detector stages, respectively, are enclosed within individual shield cans, fitted with removable tops for the easy insertion and removal of the plug-in coils.

The front panel and sub-panel are of metal, the former being finished to resemble walnut graining. Along with the shield cans, they are accurately drilled with all the necessary mounting holes, and fit together perfectly. The set can be assembled with a screw driver and a pair of pliers. The front panel is 18 inches long and 7½ inches high, the whole set, when assembled, being 9½ inches deep.

The Super-Wasp kit contains everything necessary for the assembly of the set, including all screws, nuts, washers, special hardware, wire and ten plug-in coils. No power pack is supplied, but the Pilot K-111 is especially recommended. The Super-Wasp uses a Pilotron P-224 (AC screen-grid tube) and three of the new Pilotron P-227's, which are the only AC tubes that will work in a short-wave receiver. They were developed particularly for the Super-Wasp.

Wide Wavelength Range

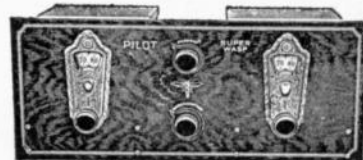
The famous Pilot plug-in coils, fitted with colored handles, are used in the Super-Wasp, ten coils altogether being supplied. They are used in pairs (one in the RF stage, the other in the detector stage), the wavelength ranges being as follows: red coils, 14 to 27 meters; orange, 26 to 50; yellow, 50 to 100; green, 100 to 200, and blue, 200 to 500. Smooth action vernier dials are fitted to the two tuning condensers to enable the operator to tune in distant stations. Regeneration is controlled by another variable condenser, located between the two tuning condensers. The tuning is quite simple, and can be mastered after a few evenings of practice.

"Super-Wasp" for full AC operation. Complete kit of parts (power pack extra)—Catalog No. K-115
Your Cost, \$34.50

"Super-Wasp" for battery operation.

Complete kit of parts.

Catalog No. K-110
Your Cost, \$29.50



PILOT Power Packs and Amplifiers

K-111 Power Pack, for 171A Tubes

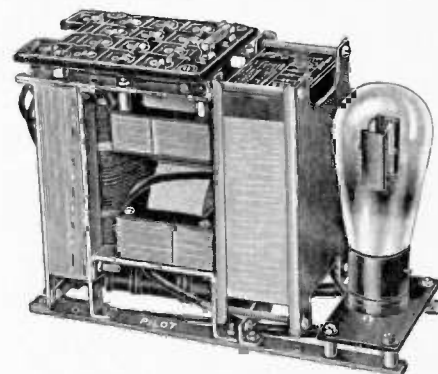
The Pilot K-111 power pack is suitable for use with any receiver employing either AC or DC tubes in which the total plate current load is not more than 60 milliamperes. It will furnish plate current for one or two 171A's in the last audio position, and for five or six 201A's, 226's or 227's. The direct current output is thoroughly filtered and will cause no noticeable hum in the loud speaker. The maximum available voltage is 220, lower values of 180, 135, 90 and 45 volts also being available. The output resistor which gives these voltages is carefully by-

passed by fixed condensers of suitable size.

The power transformer in the pack has three low voltage windings for the lighting of AC tubes. The first gives 5 volts at .8 ampere, and will heat three 171A's. The second gives $2\frac{1}{2}$ volts at 6 amperes, and will handle four 227's, or five if the third winding is left idle. This latter winding delivers $1\frac{1}{2}$ volts at 4 amperes, for four 226's.

Power pack for 110 volts, 50-60 cycles—No. K-111.

Your Cost, \$16.50



Inside view of K-111 Power Pack, showing rectifier tube in place.

K-112 Power Pack, for 245 Tubes

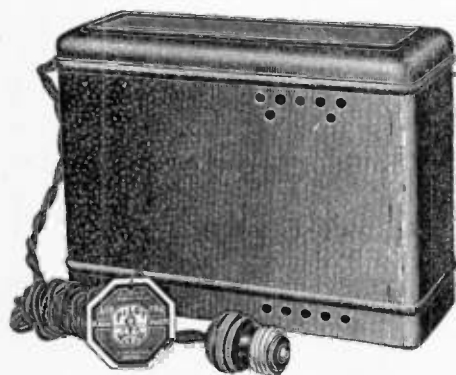
The "B" pack will deliver a maximum of 90 milliamperes at 300 volts, and will take care of two 245's in push-pull and five or six extra tubes of the 227 and 224 variety. It is thus suitable for practically any present-day receiver. Taps are provided for voltages of 300, 180, 135, 90 and 45. The 300-volt tap for the 245 tubes is taken between the filter choke coils, so there is no audio coupling between the last audio stage and the preceding circuits. A feature of the "B" pack is the use of a variable resistance to insure the delivery of the rated voltages from the various taps. This does not affect the 300 volts for the 245's, but only the output of the voltage divider. This resistance is highly valuable because it allows the power unit to be adjusted to the exact current requirements of each individual receiver.

There are three filament windings. The first develops 5 volts at 2 amperes, and is intended for the filament of the 280 rectifier tube. The second delivers $2\frac{1}{2}$ volts at a maximum of 12 amperes, and will handle 6 or 7 tubes of the 224 or 227 type. The last winding also gives $2\frac{1}{2}$ volts, but at a maximum of 3.6 amperes, and is for one or two 245's. These ratings are quite conservative, and the transformer will not heat up unduly under the load.

The K-112 pack, like the K-111, is a most handy unit because of its compact mechanical construction and its flexible electrical arrangement.

Power pack for 110 volts, 50-60 cycles—No. K-112.

Your Cost, \$19.50

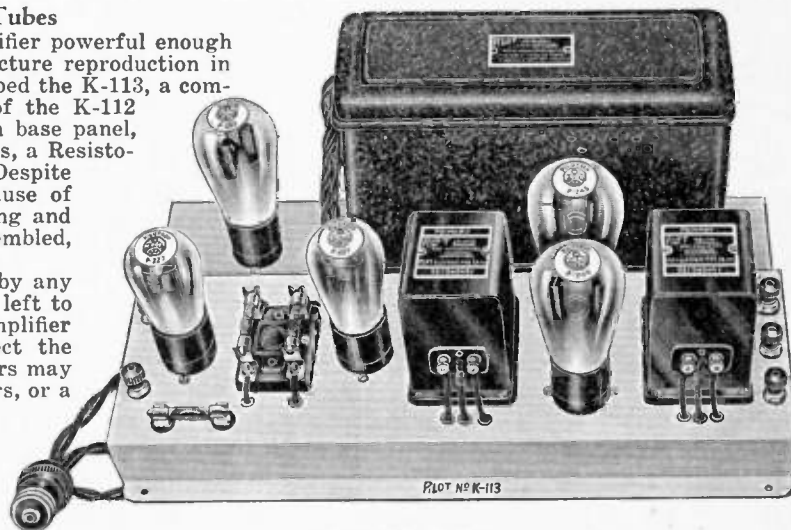


K-113 Push-Pull Amplifier, for 245 Tubes

To satisfy the increasing demand for an audio amplifier powerful enough to be used for radio, phonograph and sound motion-picture reproduction in small halls and theatres, the Pilot company has developed the K-113, a compact unit supplied in semi-kit form. This consists of the K-112 power pack, which is already wired, and an aluminum base panel, drilled for five-tube sockets, two push-pull transformers, a Resisto-block, a grid-leak mounting and six binding posts. Despite its lightness, the base panel is extremely rigid, because of the manner in which it is formed. It is 16 inches long and $9\frac{3}{4}$ inches wide. When the amplifier is completely assembled, it stands 8 inches high.

The first amplifier tube, a 227, is not accompanied by any coupling device, the choice of the input system being left to the constructor. Some people may want to use the amplifier for public address work, and will, therefore, connect the microphone modulation transformer to this tube. Others may want to use the first transformer in their radio receivers, or a resistance coupling unit.

The first tube is resistance coupled to the second, which is also a 227, and this in turn works into a push-pull stage using 245 tubes. The output transformer is a special instrument with a tapped secondary giving output impedances of 1500, 2500 and 4000 ohms, respectively. The amplifier may thus be matched to any speaker or combination of speakers; it will handle two large dynamics or from three to five magnetic speakers. The unit is completely self-contained, all "A," "B" and "C" voltages being supplied by the K-112 pack.



The K-113 Amplifier. The socket for the rectifier tube is in the upper left corner.

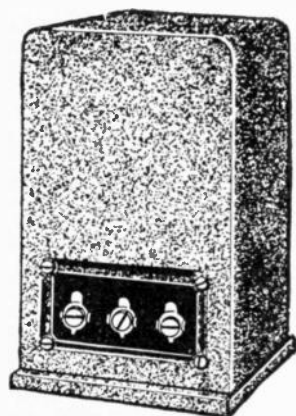
Catalog No. K-113.
Your Cost, \$39.00

PILOT

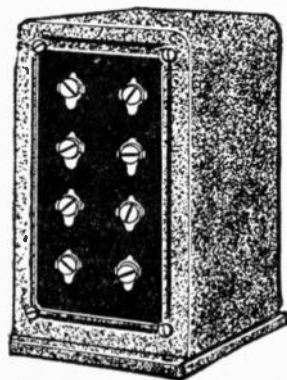
Power Transformers and Filter Units



Nos. 398 and 411
Jumbo Power Transformers



No. 396 Condenser Block



No. 395 Choke Coil Unit

"Jumbo" A B C Power Supply Units

The No. 398 power transformer, the No. 396 filter condenser block and the No. 395 double choke coil fulfill the power supply requirements of most receivers employing AC tubes. The units are mounted in strong steel cases having a black Japanese lacquered finish, and are all 5½" high, 5" long and 3" wide. All connections are brought out to screw binding posts on molded bakelite panels.

The No. 398 transformer has five secondary windings, the available voltages being 1½, 2¼, 5, 5 and 540. All have center tap connections. The transformer will light five or six 226 tubes, one to three 224, 227 or 245 tubes, one to four 171A's and one 280, and in addition will furnish the necessary high voltage for the "B" circuits of a receiver requiring not more than 60 milliamperes at 220 volts. A Raytheon BH rectifier may be used instead of the 280, in which case one of the 5-volt secondary windings is left idle.

The No. 396 filter condenser block comprises sections of 1, 1, 3, 3 and 6 mf. capacity, and also two .1 mf. sections, giving a total of over 14 microfarads. These condensers are manufactured in the Pilot plant under exceedingly rigid inspections and tests and the design of

the condensers as well as the quality of the materials used is such that the finished product can be given a 10-year guarantee, providing the normal operating voltage of 300 volts DC is not exceeded.

The No. 395 double choke coil unit consists of two individual laminated iron cores, on each of which is wound an inductance coil. The two coils are connected in series and an additional connection provided for a center tap. The total overall inductance is 60 henries, each coil having 30 henries. This is sufficient to provide an effective AC transient surge reduction (or choking) effect in filter circuits carrying rectified AC voltages, where not more than 60 milliamperes of direct current is required.

These "Jumbo" units build up into very neat power packs, as they can be arranged either lengthwise or sidewise. They are thoroughly dependable and are giving good service wherever they are used.

"Jumbo" A B C power transformer—	
No. 398	\$5.00
"Jumbo" condenser bank—No. 396....	5.00
"Jumbo" double choke—No. 395.....	3.50

No. 411 "Jumbo Power" Transformer for 245 Tubes

Using the same case as the No. 398 transformer, the No. 411 transformer is designed to fill the power requirements of a set using one or two 245 amplifier tubes and the usual assortment of 227's and 224's. It has one high voltage plate winding and three filament windings. The plate secondary gives 300 volts on each side of its center, or 600 volts altogether, and will deliver 90 milliamperes of current through a 280 rectifier tube and a standard fil-

ter circuit. One filament winding gives 2½ volts at a maximum of 12 amperes, the second 2½ volts at 3.6 amperes, and the third 5 volts at 2 amperes.

A flexible cord is provided for connection to the power line. The filament and plate windings are connected to screw connections on the front panel plate, which is of molded bakelite.

"Jumbo" power transformer for 245 tubes.—No. 411. YOUR COST, \$5.90

No. 386 Filament Lighting Transformer

There is a wide need for a separate transformer for lighting the filaments of AC tubes, and the No. 386 fills it. It is particularly useful for "electrifying" an old battery set. It has three low voltage secondary windings, for the three most generally used types of AC tubes. One delivers 1½ volts, and will light from 1 to 5 tubes of the 226 variety. The second gives 2½ volts, and will handle 1 or 2

tubes of the 227, 224 or 245 type. The third delivers 5 volts and will handle 1 or 2 tubes of the 112A or 171A type. All have center-tap connections. The transformer is substantially made and will operate for hours without undue heating. It is 2¼" wide, 3¾" long overall, and 3¾" high.

AC filament lighting transformer, 110 v., 50 to 60 cycles—No. 386. YOUR COST, \$3.00

No. 387 "B" Transformer, for 171A Tubes

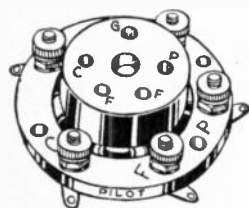
The No. 387 "B" transformer is designed for power packs using either the 280 or Raytheon type of rectifier tubes. It has two secondary windings, one giving 5 volts at 2 amperes for lighting the filament of the 280 tube, or the 171A's in the receiver; and the other giving 275 volts across each of two sections, for the plate voltage. The latter winding will deliver

60 milliamperes of current. The primary winding is tapped, so that the right secondary voltages will be delivered for whichever type of rectifier tube is used. This transformer is identical in size and appearance with the No. 386 filament lighting transformer.

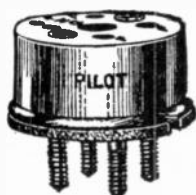
"B" power transformer, 110 v., 50 to 60 cycles—No. 387. YOUR COST, \$3.00

PILOT—General Accessories

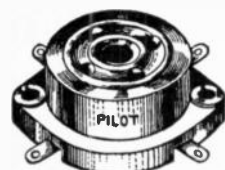
TUBE SOCKETS, ALL TYPES; BRACKETS; PHONE PLUG AND JACK; BINDING POSTS; POWER SWITCHES AND PILOT LIGHT



No. 212



No. 214



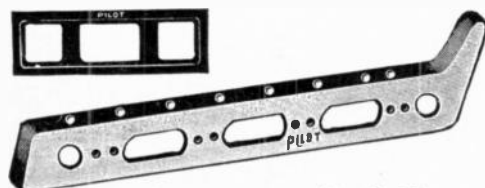
No. 216



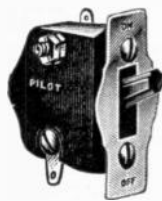
No. 1165



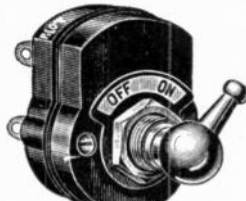
No. 37 Bracket



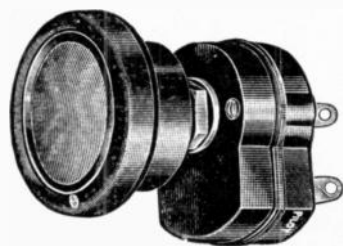
Top, No. 34



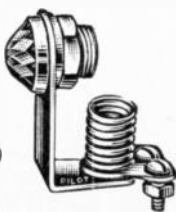
No. 42



No. 46



No. 44



No. 40

Tube Sockets

Pilot sockets are made of genuine molded bakelite and hold the tubes firmly but not too tightly. The contact springs and soldering lugs are actually one piece, so there are no losses in the sockets themselves. The No. 212 socket is very popular as a receptacle for the Pilot plug-in

coil forms. The No. 216 and No. 217 sockets have a circular trough cut in their tops, to guide the pins of the tube into the holes. All binding posts and terminal lugs are marked by letters molded right into the bakelite.

	YOUR COST
No. 203—Fit-all socket, for UX and UV tubes (4 prongs).....	\$0.20
No. 205—Set builders' socket, UX and UV tubes (4 prongs).....	.10
No. 206—Shock-proof socket, UX and UV tubes (4 prongs).....	.25
No. 211—Set builders' socket, UY tubes (5 prongs).....	.15
No. 212—Base type socket, UY tubes (5 prongs).....	.25
No. 213—Base type socket, UX and UV tubes (4 prongs).....	.25
No. 214—Set builders' socket, screw contacts, for UX and UV tubes (4 prongs).....	.10
No. 215—Set builders' socket, screw contacts, for UY tubes (5 prongs).....	.15
No. 216—Universal socket, UX and UV tubes (4 prongs).....	.15
No. 217—Universal socket, UY tubes (5 prongs).....	.15

Sub-Panel Brackets—Metal and Bakelite

The No. 37 metal shelf bracket is ideal for all sets. It is strong and rigid, and drilled with numerous holes for the mounting of the sub-panel and small parts. It is 9" long, stands 1 1/4" high and is 3/8" wide. It

is neatly nickel-plated. The No. 34 bracket is strongly made of molded bakelite and is highly useful because it can be mounted on either end. It is 6 3/4" long, stands 2" high and is 3/8" thick.

	YOUR COST
No. 37—Metal bracket	\$0.25
No. 34—Bakelite bracket .....	.25

Midget Phone Jack

A small, convenient telephone jack for general use in conjunction with phone plugs. Can be mounted on the front panel of a set for a phonograph pick-up, or in the rear for

loud speaker or earphone connection. It is of the single closed circuit type, adaptable to practically all circuits. Mounts in a single hole, and is 1 inch deep.

	YOUR COST
No. 1165—Phone Jack	\$0.25

Power Switches—Pilot Light

Three different types of switches are made by Pilot, to satisfy different tastes and requirements. The No. 42 is of the toggle type, and will handle 1 1/2 amperes at 110 volts. It has a bakelite case and requires three mounting holes. The No. 44 is of the snap type, and will handle 3 amperes at 220 volts. It is supplied with a round bakelite on-off knob, and mounts in a single hole. The No. 46 is exactly like the No. 44, ex-

cept that a little lever is furnished instead of a knob. All three switches are suitable for battery or house-current sets.

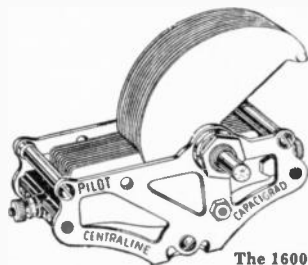
The No. 40 pilot light lends an attractive touch to a set not equipped with illuminated dials. The red jewel glows as long as the set is turned on, and acts as a reminder. No bulb is supplied, but any miniature base lamp can be used.

	YOUR COST
No. 42—Toggle switch, black case.....	\$0.25
No. 42W—Toggle switch, walnut case.....	.25
No. 44—Knob switch .....	.35
No. 46—Lever switch .....	.30
No. 40—Jeweled pilot light .....	.25

Variable Condensers--All Types

SINGLE, DOUBLE AND TRIPLE UNITS

Centraline and S.L.F. Models, Midget Sizes and Neutralizing Types



The 1600 Series Condensers

Centraline Variable Condensers

1600 Series

The Pilot variable condensers are made of non-corroding brass parts, gold finished, with highly polished aluminum end plates. They are manufactured by automatic machines of the highest precision.

The 1600 series is of a modified straight line frequency type. They open up the lower end of the tuning scale without crowding the upper end too much, as many S.L.F. condensers do. The instruments are supplied with mounting feet and removable shafts, and because of their reversible feature can be mounted on either clockwise or counterclockwise dials. The insulation is of molded bakelite. They mount in a single hole and can be secured against turning by additional panel screws. Two or more can be "ganged" together by means of a long 1/4-inch shaft, or by No. 12A couplings. The latter are universal couplings that compensate for any slight irregularity in the mounting of the condensers.

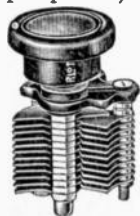
The No. 1611 condenser is recommended for short-wave receivers, as it has especially wide spacing between the plates.

These condensers are the handiest ones made, and are suitable for use in any kind of a receiver, short wave or long wave.

	YOUR COST
No. 1611—.00016 mf. maximum.....	\$1.00
No. 1613—.00025 mf. maximum.....	1.00
No. 1617—.00035 mf. maximum.....	1.00
No. 1623—.00050 mf. maximum.....	1.00
No. 12-A—Insulated flexible coupling.....	.25

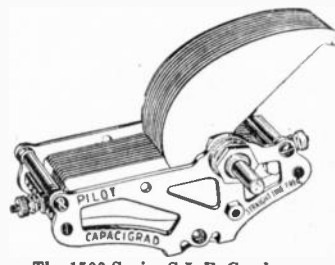
Neutrograd—Midget Variable Condenser

This extremely handy midget variable condenser has a molded bakelite frame and rigid brass plates. It mounts in a single hole, and is supplied with a bakelite knob. Made in four sizes: 5, 7, 13 and 23 plates, respectively. Useful for a wide variety of purposes, such as neutralizing R.F. amplifiers, antenna coupling, tuning verniers, regeneration control, short-wave tuning, etc. Every radio experimenter should have a few on hand. Only 1 1/2" wide, 1" to 1 3/4" deep, depending on capacity.



Neutrograd Midget Condenser

	YOUR COST
No. J 5—.000015 mf. maximum.....	\$0.50
No. J 7—.000025 mf. maximum.....	.50
No. J13—.000050 mf. maximum.....	.50
No. J23—.000100 mf. maximum.....	.60



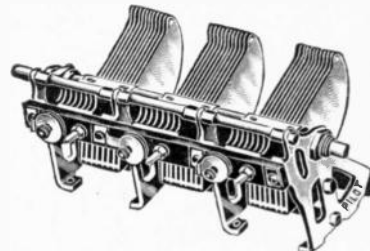
The 1500 Series S.L.F. Condensers

S.L.F. Variable Condensers

1500 Series

The 1500 series variable condensers are similar in construction to the 1600 series, but are of the unmodified straight line frequency type, which is preferred by many radio constructors. They possess the same mechanical features of removable shaft, etc., but are a trifle larger than the 1600 instruments. They can also be "ganged" together with the aid of No. 12-A couplings.

	YOUR COST
No. 1511—.00016 mf. maximum.....	\$1.00
No. 1513—.00025 mf. maximum.....	1.00
No. 1517—.00035 mf. maximum.....	1.00
No. 1523—.00050 mf. maximum.....	1.00



No. 1703 Triple Condenser

Compact Variable Condensers

1700 Series

The triple-gang condenser, No. 1703, is a high-grade multiple instrument for single-dial receivers. The shaft is removable, and each of the three rotors is fastened separately by two set screws. Small compensators are mounted on the side of the frame, for balancing the circuit. Mounting feet are provided for baseboard fastening, or either end of the condenser may be mounted in a single panel hole. The insulation is of molded bakelite.

The Nos. 1702 and 1701 are double and single condensers of exactly the same construction. An accuracy of 1% in the matching of the capacities is guaranteed.

	YOUR COST
No. 1701—Single compact condenser, .00035 mf. maximum.....	\$1.00
No. 1702—Double compact condenser, .00035 mf. maximum (each section).....	2.00
No. 1703—Triple compact condenser, .00035 mf. maximum (each section).....	3.00

PILOT

Filter Condensers--Fixed Resistors

CONDENSERS FOR LOW AND HIGH VOLTAGES
in Metal and Bakelite Cases; Variety of Resistor Values

Filter and By-Pass Condensers

These are carefully made condensers, and are tested four times before they are released for sale. They are thoroughly impregnated and are absolutely impervious to moisture. For heavy duty power packs the Nos. 9501 and 9651 are recommended. These have a capacity of 1 mf. each. The first is rated at 500 volts DC working voltage, and flash tested at 2400 volts. The second 650 volts working and 3600 volts flash test. The No. 9302 is a 2 mf. condenser, for 300 volts DC working voltage, and is flash tested at 1200 volts. As many as nine of them may be mounted together into a convenient block by means of the No. 9000 mounting clamps. The No. 9110 is a buffer condenser consisting of two .1 mf. sections; 400 volts working voltage, 2000 volts flash test. The Nos. 800 and 801, 1/2 and 1 mf. respectively, are rated at 180 volts working, 750 volts flash test. They are furnished with mounting feet.

All these condensers have pressed steel cases, finished in durable black enamel. The 800 and 801 are 2 1/2" high, 2" wide and 7/8" thick. The other four are all 5" high, 2" wide and 7/8" thick.

	YOUR COST
No. 9651—1 mf. filter, 650 v.	\$1.00
No. 9501—1 mf. filter, 500 v.	.75
No. 9302—2 mf. filter, 300 v.	.75
No. 9110—1-1 buffer	.75
No. 800—1/2 mf. by-pass	.35
No. 801—1 mf. by-pass	.35
No. 9000—Mounting clamps	.50

Fixed Resistors—Wire Wound Type



No. 9302

All Pilot wire resistors are wound with Nichrome wire on porcelain tubes, and are impregnated with a black elastic coating that protects them against dampness and corrosion. Contact to the wire is made by bands that encircle the tube; there are no soldered joints. The resistors are equipped with removable feet, and can be mounted either vertically or horizontally.

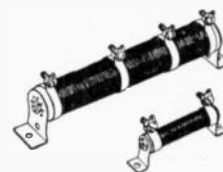
The No. 961 is a special filament resistor for UX-222 tubes, being supplied with a tap for "C" bias. The next eight sizes are intended for use as "C" bias resistors. The 3,000 and 10,000 ohm sizes can be used as loading resistors in power packs and for numerous other purposes. The No. 960 is a "B" power-pack output resistor, for use with any unit that supplies 180-200 volts to it. Taps to give lower voltages are fitted to the resistor. The first ten resistors are 3/8" in diameter and 1 3/4" long; the No. 953 is 3/8" by 2" long, and the No. 960 3/4" in diameter and 4 1/2" long.

	YOUR COST
No. 961—Resistor, 15 ohms, tapped (222 tube)	\$0.25
No. 959—Resistor, 900 ohms, center-tapped	.25
No. 954—Resistor, 650 ohms	.25
No. 955—Resistor, 850 ohms	.25
No. 962—Resistor, 1,000 ohms	.25
No. 963—Resistor, 1,500 ohms	.25
No. 956—Resistor, 1,200 ohms	.25
No. 958—Resistor, 2,000 ohms	.25
No. 951—Resistor, 2,250 ohms	.25
No. 964—Resistor, 3,000 ohms	.25
No. 953—Resistor, 10,000 ohms	.25
No. 960—"B" Power Pack Resistor, 12,700 ohms	.75

Center-Tapped Resistance



No. 352



Appearance of No. 960 Resistor (Top), and Smaller Resistors

The Pilot center-tapped resistances are very handy little devices that can be used to great advantage in radio receivers operating on alternating current. Being only 1 1/2 inches long, they can be connected almost directly across the filament posts of the tube sockets in a set, and when so installed save considerable wiring. They obviate the necessity for center taps on the filament windings of the power transformer, and provide an electrical "center" for the filament circuit that is far more precise than the taps on many types of transformers. When properly employed, they keep the hum in an AC receiver at a minimum.

The resistances consist of a strip of non-combustible material wound with resistance wire and fitted with three silver-plated soldering lugs. The location of the center tap is accurate within one percent of the rated resistance value. The whole unit is molded in bakelite, which seals it permanently.

	YOUR COST
No. 352—Center-tapped resistance, 10 ohms	\$0.15
No. 354—Center-tapped resistance, 20 ohms	.15
No. 356—Center-tapped resistance, 50 ohms	.15
No. 358—Center-tapped resistance, 75 ohms	.15

PILOT Audio Amplifying Transformers & Chokes

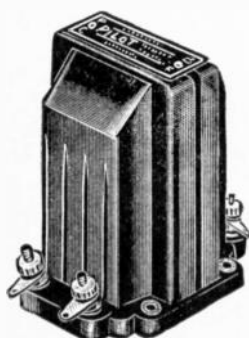
HEAVY CORES AND OVERSIZE WINDINGS GIVE HIGH-QUALITY REPRODUCTION AT ALL VOLUME LEVELS

No. 407 Filament Transformer, for 2.5 Volt AC Tubes

The Pilot No. 407 is a heavy-duty filament transformer having ample capacity for receivers employing as many as eight or nine tubes. It has three secondary windings, brought out to three pairs of binding posts. Two of them deliver 2.5 volts, one at a maximum of 3.6 amperes (enough for a pair of

245 tubes used in a push-pull amplifier) and the other at a maximum of 10 amperes (enough for six tubes of the 224 or 227 type). The third winding develops 5 volts at a maximum of $\frac{1}{2}$ ampere. This transformer is of exactly the same size as the No. 386.

No. 407—Filament lighting transformer for 110 volts, 60 cycles..... **YOUR COST \$3.75**



Appearance of No. 390 Series Bakelite Case Transformers and Chokes

No. 390 Series Transformers and Chokes—Bakelite Case Type

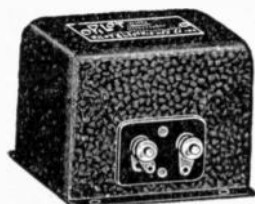
The Pilot bakelite case transformers and chokes are unquestionably the most widely used instruments of their kind. The cases are molded solid in one piece, and are so completely sealed that the instruments can be kept immersed in water for a month without being affected in the slightest degree. The seven units listed below all have

the same case, differing in external appearance only in the number of binding posts. The "B" eliminator choke is suitable for small power packs delivering a maximum of 45 milliamperes. At this current value it has an inductance of 30 henries. The bakelite case is $3\frac{1}{2}$ " high and approximately $2\frac{3}{8}$ " square.

	YOUR COST
No. 390—2-1 ratio A.F. transformer.....	\$1.50
No. 391— $3\frac{1}{2}$ -1 ratio A.F. transformer.....	1.50
No. 392—A.F. output filter (choke and condenser).....	1.50
No. 394—A.F. output transformer.....	1.95
No. 399—Push-pull input transformer.....	1.75
No. 401—Push-pull output impedance.....	1.75
No. 393—"B" eliminator choke.....	1.50

No. 381 Series Giant Audio Transformers and Chokes

	YOUR COST		YOUR COST
No. 381—Giant A.F. transformer, $3\frac{1}{2}$ -1 ratio.....	\$2.75	No. 383—30-henry output choke, 60 milliamperes capacity.....	\$2.00
No. 410—Giant A.F. transformer, 2-1 ratio.....	2.90	No. 377—30-henry "B" pack choke, 60 milliamperes capacity.....	1.95
No. 408—Giant push-pull input transformer, 2-1 ratio.....	3.50	No. 307—Output filter.....	3.00
No. 409—Giant push-pull output transformer.....	3.50		



Appearance of No. 412 Series Transformers and Chokes

No. 412 Series Transformers and Chokes

These small audio transformers and chokes will appeal to the constructor because they can be mounted on the underside of sub-panels, the one-piece steel

cases being only $2\frac{7}{8}$ " square and $2\frac{1}{8}$ " high. They are neatly finished in black lacquer, and have mounting feet. Their tone quality is of the highest order.

	YOUR COST
No. 412—A.F. transformer, 2-1 ratio.....	\$1.35
No. 413—A.F. transformer, $3\frac{1}{2}$ -1 ratio.....	1.35
No. 414—30-henry choke, 45 milliamperes capacity.....	1.35
No. 415—30-henry output choke.....	1.35



Appearance of No. 422 Series Transformers and Chokes

No. 422 Series Transformers and Chokes

These instruments are similar to the units of the No. 412 series, but are larger and heavier in construction, and include a

push-pull combination. The one-piece steel cases are 4" long, $2\frac{1}{2}$ " wide and $2\frac{7}{8}$ " high.

	YOUR COST
No. 422—A.F. transformer, 2-1 ratio.....	\$2.50
No. 423—A.F. transformer, $3\frac{1}{2}$ -1 ratio.....	2.50
No. 426—Push-pull input transformer, 2-1 ratio.....	2.90
No. 427—Push-pull output transformer.....	2.90
No. 424—30-henry choke, 60 milliamperes capacity.....	2.50
No. 425—30-henry output choke.....	2.50

Introducing the New PILOTRON Tubes

The new Pilotron P-227 is the only AC tube of the 227 type that will work in the AC "Super-Wasp." Whereas other makes of tubes produce a loud growl on the point of regeneration, the P-227 remains perfectly quiet, and goes into oscillation with the soft hushing sound that indicates a properly operating circuit. Pilot engineers spent many months in developing this tube, and their efforts represent a dis-

tinct advance in tube design. The combination of the P-227 and the AC "Super-Wasp" makes for remarkable results.

The P-227 is also a superior tube for regular broadcast receivers, making an ideal detector and amplifier. It has a long life and will maintain its operating characteristics without change. Put P-227's in your set and hear the difference!



Type P-227

Your Cost, \$1.50



Type P-224

Your Cost, \$2.40



Type P-245

Your Cost, \$2.40



Type P-280

Your Cost, \$1.80

Short-Wave Plug-in Coils

This set of short-wave plug-in coils consists of five of the No. 185 forms, each wound with a primary winding, a secondary and a tickler. When used in a straight regenerative circuit, with a .00016 mf. variable condenser tuning the secondary, the wavelength ranges are as follows: red ring coil, 17-30 meters; orange, 30-52; yellow, 48-105; green, 73-202, and blue, 200-500 meters. They take in all the short-

wave channels, and the regular broadcast band as well. These coils are in use all over the world, and are without question the most convenient coils of their kind.

(These coils cannot be used in the Pilot "Super-Wasp." Special coils for this set are furnished with the kit.)



No. 180-4

	YOUR COST
No. 180-4—Set of five coils as described.....	\$4.45
No. 180—Red handle coil alone.....	.89
No. 181—Orange coil alone.....	.89
No. 182—Yellow coil alone.....	.89
No. 183—Green coil alone.....	.89
No. 184—Blue coil alone.....	.89
No. 185—Blank coil form, with pins and handle.....	.60

R.F. Choke Coil

The No. 130 is an 80-millihenry radio-frequency choke coil for general use in shortwave and regular broadcast receivers. Its choking effect extends from

about 20 meters up to 600, its distributed capacity being very low.

No. 130—R.F. choke coil.....	\$0.50
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Shielded Plug-in Coils for Screen-Grid Circuits

The necessity for special radio-frequency transformers in circuits using the 222 or 224 screen-grid tube is appreciated by every well-informed radio experimenter. Ordinary coils, designed for 201A or 227 tubes, give little amplification and make the

tuning very broad. The No. 222 series of coils was brought out to supply this requirement. In accordance with the best practice, they are enclosed in round shield cans, the bottoms of which are fitted with pins to fit in standard tube sockets.

	YOUR COST
No. 222A—Shielded aerial coil.....	\$1.65
No. 222B—Shielded interstage coil.....	1.65
No. 222C—Shielded interstage coil.....	1.65

AMATEUR SECTION

Our "Hams" Amateur Department is complete; we have been catering to the amateur trade for the past ten years. Here you will always find those parts you need so bad, and so-called hard to get, always in stock. Our Amateur Department is in the hands

of an experienced amateur who has followed the wonderful progress of the "HAM" since 1909. DON'T FAIL TO FOLLOW our up-to-the-minute "ADS" and announcements which appear monthly in QST, the only radio periodical written exclusively by and for the amateur.

WE CARRY A COMPLETE LINE OF

Pyrex Insulators, G. R. Stand-Off Insulators, Thordarson, Dongan, Amertran, Tobe, Acme Par-volt, National, Aero, Jewel Meters, Signal Keys and Relays, Vibroplex, Frost Mikes, Baldwin Phones, Sangamo, G. I. Double Button Mikes and Stands



R-68 "Signal" Wireless Practice Set

Wireless Practice Set

Just the instrument for those who want to learn the code. The code is printed on a little brass plate fastened to base.

Equipped with our Type R-60 High Frequency Buzzer.

List Price, \$3.40 Your Cost, \$2.04



Type R-60

High Frequency Buzzer

This type buzzer is the same as used on our R-68 practice set. It is adjustable. Has standard resistance of 2 ohms. Can be furnished in special resistances on quantity orders. Black crystalized lacquer finish.

List Price, \$1.25 Your Cost, 75c



R-48

1/4 K. W. Wireless Key

List Price, \$2.80

Your Cost, \$1.68

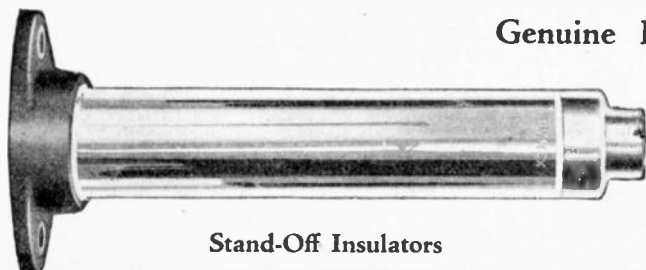


Standard Wireless Key Brass Base

Signal Heavy Duty Standard Transmitting Keys

Made very sturdy. Coin silver contact. Polished and lacquered brass parts.

	List Price	YOUR COST
R-62— $\frac{1}{8}$ in. contacts	\$3.50	\$2.10
R-63— $\frac{1}{4}$ in. contacts	3.70	2.22
R-64— $\frac{3}{8}$ in. contacts	3.90	2.34



Stand-Off Insulators
BRASS FITTINGS

	List Price	YOUR COST
3-inch	\$2.75	\$1.92
7-inch	3.00	2.10

Antenna Transmitting Insulators

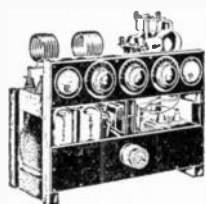
	List Price	YOUR COST
3 $\frac{3}{4}$ inches	\$0.30	\$0.21
7 $\frac{1}{4}$ inches	1.50	1.05
12 $\frac{1}{2}$ inches	3.50	2.45



AERO Transmitters and Parts

NEW HIGH POWER XMITTER AND 150 WATT AMPLIFIER

Operation on 10-20-40-80-100 M Bands. 150 Watts, Pure DC. Uses UX-852's or UX-860's



The first high power amplifier to use the UX-860 screen grid tubes. 1930 in Every Detail. 150 Watts of Pure DC Signals with a Stability Which Has Caused Favorable Remarks Everywhere. Flexibility That Fills Every Ham Need.

You can use either two UX-852 tubes when using this new Aero Kit No. 52 as a single unit for a transmitter; or two UX-860 (screen grid) tubes, employed when using with Aero Kit No. 55; or as a 150-watt amplifier in any master oscillator combination. For those desiring a master oscillator system, this unit works with a high degree of efficiency as an amplifier. With two screen grid UX-860 power tubes in this arrangement, it requires no neutralizing. Hook this unit on your present oscillator, converting it into a 1930 job, with ample power for ham use.

It may be operated as an amplifier with Aero's low power No. 55 Radiophone Xmitter, and a complete C.W. and phone

set can be had, making a combination 150-watt high-power master oscillator, approached only by commercial broadcast stations.

Last—but not least—as a Hartley oscillator using two UX-852 tubes, this unit performs in true 1930 fashion.

Power supply delivers 2000 volts at 250 M.A. Employs two of the R.C.A.'s newest rectifiers, UX-866. Due to the construction of the UX-866 unusually high voltage may be applied safely to them.

Kit No. 52

Including the power supply, but not including tubes.

List Price, \$259.00

Your Cost, \$194.00

Kit No. 53

150-Watt Transmitter and Amplifier, using two 860 or 852 tubes, less power supply and tubes.

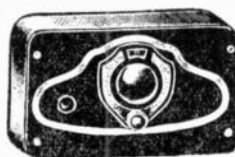
List Price, \$114.00

Your Cost, \$86.00

Blue Prints of Upper and Lower Decks and Schematic Diagram obtainable at 75c per set or 25c each

AERO 1930 Listening Monitor

A Real Necessity for Every Ham



The Listening Monitor has been designed to check the note of the transmitter, to determine the character of the transmitted wave with respect to note and stability. A completely shielded unit, housed in an attractive black crackled metal cabinet, 9x5½ x2½ inches. Provided with coils to cover the 20, 40 and 80 meter bands.

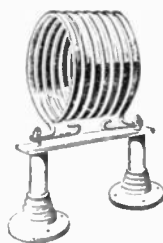
Furnished complete with dry batteries, but less UX-199 tube.

List Price, \$15.00

Your Cost, \$11.25

New AERO Transmitting Coils

Plug-in Feature for UX852, UX860, 250-Watt and 500-Watt Transmitters



The new Aero high-power Transmitting Coils, designed to be as closely as possible in accord with "1930" practice as outlined in recent issues of Q.S.T.

For the first time "plug-in" coils can be used for high power. Newly designed plugs will carry up to 75 amperes with safety. Heavy aluminum rod is used for the completely self-supporting coil. A new material with asbestos basing, superior in electrical characteristics to glass, without its fragility, is used for the spacing bar. Porcelain insulators assure the user against leakage, and electro-static shields and other points of design previously limited in use to variable condensers, have been incorporated in these coils.

Coils are designed for 450 mmfd. condensers.

PRICES

Kits of two coils, complete with plug-in mounts:

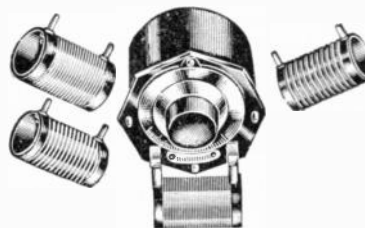
	List Price	YOUR COST
TEL. 12K—9.6 to 27 meters	\$15.00	\$9.00
TEL. 24K—14.2 to 43 meters	15.00	9.00
TEL. 48K—31.8 to 90.3 meters	15.00	9.00

SINGLE COILS

Without Bases

	List Price	YOUR COST
12C—9.6 to 27 meters	\$7.50	\$4.50
24C—14.2 to 43 meters	7.50	4.50
48C—31.8 to 90.3 meters	7.50	4.50
Plug-in mountings only, per pair	3.50	2.00
Plugs only, with nuts, per pair	2.00	1.20

AERO Wavemeter



A wavemeter designed primarily for the transmitting amateur and experimenter. Of rugged mechanical and electrical construction. Incorporates the "series gap" condenser principle. Covers amateur high frequency bands—3500 to 4000 kilocycles; 7000 to 7300 and 14,000 to 14,400 kilocycles. 20, 40 and 80 meter coils included.

14,400 kilocycles. 20, 40 and 80 meter coils included.

Your Cost, \$21.60

AERO Amateur Short-Wave Receiving Coils

1930 Type—Selectivity—Low Losses

The new bands are narrower—to cut QRM, now only the most selective receivers can be used. Designed especially for the new amateur bands. 9 new and better space wound primary is also provided. The same base, with the isolated grid terminal, is employed.



Amateur Special Kit No. LWT13

Covering 20, 40 and 80 meter bands with .00003 condenser, including plug in base with new design of adjustable space-wound primary.

List Price, \$12.50

Your Cost, \$7.50

These coils must be tuned with a .00003 condenser which is shunted with a .00008 mfd. fixed condenser.

Additional Coil No. INT-AO

Range 8.2 to 12.6 meters

List Price, \$4.00

Your Cost, \$2.40

Broken Kit Prices

Amateur Special Coil No. INT-A1—Range 19.5 to 21.5 meters.

List Price, \$4.00

Your Cost, \$2.40

Amateur Special Coil No. INT-A2—Range 40 to 45 meters.

List Price, \$4.00

Your Cost, \$2.40

Amateur Special Coil No. INT-A3—Range 75 to 86 meters.

List Price, \$4.00

Your Cost, \$2.40

Plug-in base, with new space-wound Primary. Type LWT100-P.

List Price, \$3.00

Your Cost, \$1.80

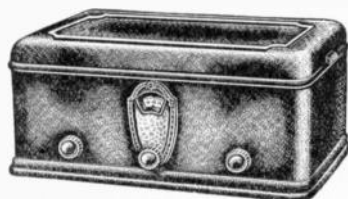
Aero A-942 Variable Condenser .00003.

List Price, \$1.50

Your Cost, 90c

Receivers using these coils take the same circuit as Aero Kit LWT-125 except that they tune with a .00003 condenser.

AERO Overseas Four

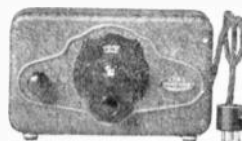


The Aero Overseas Four is a factory built short and long wave AC Receiver, using the new AC Screened Grid Tube. Range 15 to 550 meters. This receiver was designed for those who wish the best in the short wave receiver, with the added advantage

of use on the broadcast band. Extremely easy to operate, with remarkable sensitivity and volume on both short and long waves. Built into a metal cabinet with a golden brown finish. Complete with power pack, but less tubes.

	List Price	YOUR COST
AC Model	\$125.00	\$75.00
DC Model	60.00	36.00

AERO Short Wave Convertor



This ideal short wave converter is furnished in two models, one for battery operated sets and one for AC all-electric sets. They are enclosed in a golden brown metal shielding cabinet; size, 9" long, 5½" high, and 2½" wide. Soft felt prevents converter from scratching table upon which it is placed. Unit utilizes detector tube of your broadcast receiver. The Aero is a compact, shielded converter. An exclusive feature is an auxiliary filter system control which eliminates motorboating, a defect of most short wave adapters. It is very simple to connect the Aero converter to your receiver.

DC Model D. AC Model A—List Price, \$25.00

Your Cost, \$15.00

NATIONAL Transmitting Condensers

NATIONAL Transmitting Condensers are widely used by U. S. Government Broadcasting Stations and amateur transmitters.

Transmitting condensers of any size and capacity can be supplied for voltages of from 2000 to 20,000. Prices upon request.

LIST PRICE (STANDARD SIZE)

Type	Capacity	Voltage	No. Plates	Spacing	List Price	YOUR COST
TM 35	.000035	6000v.	7	3/8"	\$8.00	\$4.80
TM 50	.00005	6000v.	12	3/8"	15.00	9.00
TM 100A	.0001	3000v.	11	1/8"	7.00	4.20
TM 100	.0001	6000v.	23	3/8"	12.50	7.50
TM 150	.00015	3000v.	17	1/8"	7.50	4.50
TM 150A	.00015	6000v.	35	3/8"	18.75	11.25
TM 230	.00023-5	3000v.	23	1/8"	11.50	6.90
TM 230A	.00023-5	6000v.	51	3/8"	22.50	13.50
TM 350	.00035	3000v.	35	1/8"	15.00	9.00
TM 450	.00045	3000v.	43	1/8"	16.50	9.90

These prices include NATIONAL Velvet Vernier Dial Type A. (Condensers without Dial, \$1.50 less.)

AERO Noskip Chokes

R.F. Choke No. C-60—For use in receivers ranging from 13 to 600 meters.

List Price, \$1.50 Your Cost, 90c

R.F. Choke No. C-65—For receiver circuits where a comparatively low impedance is desirable, such as the antenna circuit of the "International" Four. Range from 18 to 600 meters.

List Price, \$1.50 Your Cost, 90c

R.F. Choke No. C-248—For transmitting circuits using 75 watt or smaller tubes. Covers all wave lengths from 15 to 200 meters.

List Price, \$1.50 Your Cost, 90c

ELECTRAD Wire-Wound Grid Leaks for Transmitters

The unique construction of these resistances allows for use of larger diameter wire than is used in other types of enameled wire wound resistors. The contacts between wire

and lugs are positive. They are guaranteed not to develop noise or open circuits in use.

TYPE TG—100 WATT—1¼" x 10"

Type	Total Resistance Ohms	Resistance of Sections-Ohms	Maximum Working Current in Milli-amperes	List Price	YOUR COST
TG 50	5000	2500-2500	141	\$3.00	\$1.80
TG 100	10000	5000-5000	100	3.50	2.10
TG 150	15000	5000-5000-5000	82	4.50	2.70
TG 200	20000	10000-10000	71	4.25	2.55
TG 300	30000	15000-15000	58	5.00	3.00
TG 500	50000	25000-25000	45	5.50	3.30

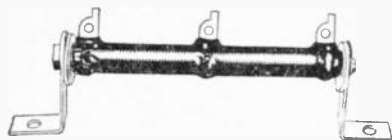
TYPE TL—40 WATT—1" x 6"

Type	Total Resistance Ohms	Resistance of Sections-Ohms	Maximum Working Current in Milli-amperes	List Price	YOUR COST
TL 50	5000	2500-2500	90	\$2.50	\$1.50
TL 100	10000	5000-5000	63	2.75	1.65

TYPE CF—15 WATT—½" x 4"

Type	Total Resistance Ohms	Resistance of Sections-Ohms	Maximum Working Current in Milli-amperes	List Price	YOUR COST
CF .1	10	5-5	12	\$1.50	\$0.90
CF 2	200	100-100	50	1.50	.90

WARD LEONARD
Transmitting Grid Leaks



TYPE 507-2

Center tapped grid leak for use in circuits up to and including 50 watts input. 4" long, 5000 ohms, 44 watts, 90 M.A.
List Price, \$2.00 Your Cost, \$1.20

TYPE 507-3

Center tapped grid leak for use in circuits up to and including 1000 watts input. 8½" long, 5000 ohms, 200 watts, 200 M.A.

List Price, \$2.80 Your Cost, \$1.70

TYPE 507-4

For use in circuits using the De Forest P or R. C. A. UX852 tubes. 50,000 ohms, 200 watts, 60 M.A.

List Price, \$6.50 Your Cost, \$3.90

TYPE 507-51

Center tapped grid leak for circuits up to 500 watts input. 8½" long, 10,000 ohms, 200 watts, 135 M.A.

List Price, \$4.00 Your Cost, \$2.40

TYPE 507-53

Center tapped resistor for obtaining accurately the electrical center of low voltage filament transformers. 2" long, 200 ohms, 10 watts, 220 M.A.

List Price, \$1.25 Your Cost, 75c

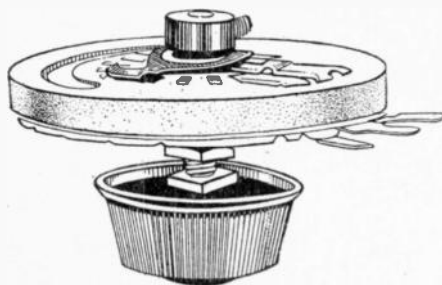
TYPE 507-36

Center tap resistance, heavy circuit carrying capacity. May be used in grid biasing circuits of large transformer tubes without danger of burnouts. 6" long, 200 ohms, 60 watts, 2000 M.A.

List Price, \$5.50 Your Cost, \$3.50

We Carry a Complete Line of

WARD LEONARD
Adjustats in Stock



New Volume Controls and Faders in Stock.

Protect Your Tubes with the New
WARD LEONARD Vitrohm Line
Voltage Reducer

For all types of AC sets. Will reduce all abnormal line voltages to a safe operating value, thus increasing the life of your AC tubes.

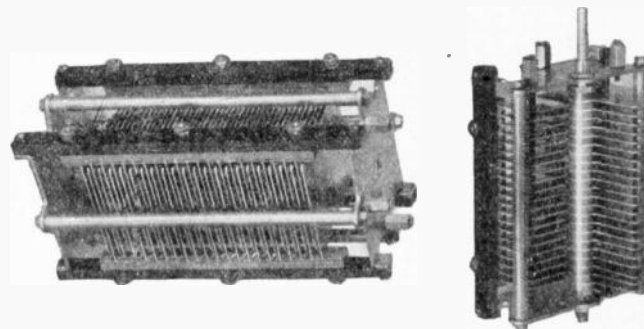
No. 507-109

List Price, \$2.00

Your Cost, \$1.20

CARDWELL
Transmitting and Receiving Condensers

for Amateur Use and Medium-sized
Broadcast Installations

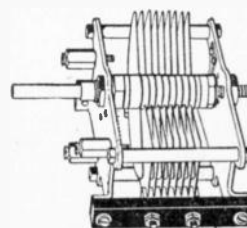


Type	Maximum Capacity	Air Gap	Number of Plates	List Price	YOUR COST
141B	.00025	.030"	11	\$4.25	\$3.83
123B	.00048	.430"	21	5.00	4.50
156B	.00048	.030"	21	7.00	6.30
137B	.00096	.030"	41	6.00	5.40
197B	.00008	.070"	9	10.00	9.00
T183	.00011	.171"	23	10.00	9.00
164B	.00022	.070"	21	7.00	6.30
157B	.00022	.070"	21	12.00	10.80
T199	.00033	.084"	37	10.00	9.00
147B	.00044	.070"	43	10.00	9.00
166B	.0003	.219"	23	75.00	67.50

CARDWELL Receiving Condensers
Taper Plate Condensers

The Taper Plate Type "E" Cardwell Condenser, which introduced the Ideal Tuning Curve midway between straight wavelength and straight frequency, was the first logical answer to the demand for a condenser which will give ample separation on all wavelengths.

In the design of most condensers with this kind of a tuning curve, electrical efficiency and mechanical strength have been sacrificed in order to approach straight frequency by the shaped plate method. Large panel space was required and accurate logging was impossible.



TYPE "E" CONDENSERS

Type No.	Capacity (Rated)	List Price	YOUR COST
192E	.0005	\$5.00	\$3.00
169E	.00035	4.75	2.85
168E	.00025	4.25	2.55
167E	.00015	4.00	2.40
191E	.000075	4.00	2.40

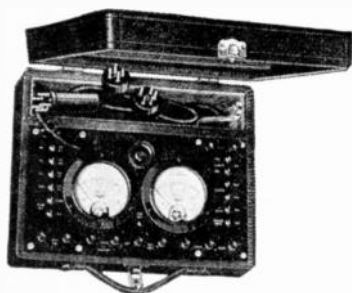
Will be furnished for clockwise rotation only and in single units only over .00025 capacity. Can be furnished with extended shaft for single control of gangs.

List Price, extra, \$1.50 each

Your Cost, 90c

JEWELL Radio Instruments

JEWELL 199 AC-DC Set Analyzer Services Screen Grid Sets



When used with Jewell Analysis Charts and the Jewell Instruction and Data Book, the Jewell Pattern 199 Set Analyzer provides the most accurate and efficient method of checking radio receivers yet available to servicemen.

In testing a radio set, the convenient 5-prong plug, or the 4-prong adapter is inserted in the tube socket. The tube is inserted in the socket shown in the set. The complete electrical operation of each stage of the receiver is thus quickly and accurately checked on the instruments of the 199, and recorded on the handy "Radio Set Analysis" sheet.

The Jewell Pattern 199 provides every test required for effective radio servicing. It tests AC-DC and shielded grid tubes, A and B-Eliminators, batteries, circuits, grid, plate and cathode voltages, plate milliamperes, chargers, and line voltage. Ranges of instruments are: 0-4-8-16-160 AC volts; 0-7.5-75-300-600 DC volts and 0-15-150 milliamperes. All DC voltage ranges have a resistance of 1,000 ohms per volt. Furnished with test leads, 4 and 5-prong tube adapters, line voltage leads, pad of analyzer charts and complete instructions. Approximate shipping weight, 13 lbs.

List Price, \$97.50

Your Cost, \$73.12

The JEWELL Pattern 210 Tube Tester



The Jewell Pattern 210 Portable Tube Tester gives direct readings on all tubes from UX-199 to UX-250, and also tests both half and full wave rectifier and screen grid tubes.

In operation, the potentiometer knob in the lower right hand corner is adjusted so that the DC instrument registers zero. The grid test button is then pressed and the net change in plate current is read directly from the instrument, absolutely eliminating the reading of two values and the subtraction of one from the other.

The scale of the DC instrument is divided into 100 arbitrary units. Values on all standard tubes in accordance with this arbitrary scale are included in the instructions furnished with the Pattern 210 Tube Checker.

The Jewell Pattern 210 Tube Checker is contained in a genuine Morocco leather covered case. Its

rectangular panel carries an AC voltmeter, a direct current instrument, and a transformer for supplying filament energy of 1.1, 1.5, 2.5, 3, 5 and 7.5 volts. Both 4 and 5-prong tube sockets are provided.

A high resistance rheostat in connection with the AC voltmeter compensates for line variations between 100 and 130 volts. This rheostat also disconnects all the apparatus when set at the "off" position. Approximate shipping weight, 13 lbs.

Jewell Pattern 210 Tube Checker

List Price, \$65.00

Your Cost, \$48.75

Pattern 409, 4-Instrument Set Analyzer

Designed especially for expert radio servicemen. Gives plate voltage, plate current, filament, and grid voltages simultaneously. In construction, design, and operation the Pattern 409 is quite similar to Jewell Pattern 199.

The principal difference being that the four instruments are supplied in the Pattern 409, and two instruments in the Pattern 199.

The 3½-inch face bakelite case instruments supplied in the Pattern 409 are as follows: a DC instrument for reading plate voltages, with ranges of 0-120-300-600; for reading plate current, a milliammeter with ranges of 0-12-60-300; a DC voltmeter for grid, filament, and cathode voltages, with scales 0-10-100; and an AC voltmeter with 0-4-8-16-160-800 volts, the last reading being particularly suitable for checking AC high voltage transformer output.

Binding posts are provided in connection with all instruments so that every desirable test is available.

List Price, \$122.50

Your Cost, \$91.88

Pattern 408

Same as Pattern 409, except that a case with compartments is provided for carrying tools and extra tubes.

List Price, \$137.50

Your Cost, \$103.13

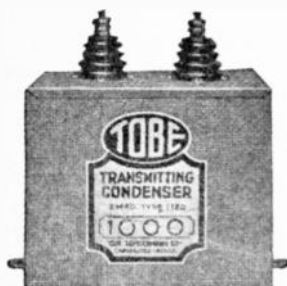
B-Eliminator Testers

No. 116—A high resistance Voltmeter which has established a highly satisfactory reputation for accuracy and reliability. High internal resistance requires but 1¼ milliamperes for full scale deflection. Shows the true voltage which cannot be obtained with the ordinary voltmeter.

	List Price	YOUR COST
0-50-250 Volts	\$25.00	\$20.00
200,000 ohm Multiplier for increasing above range	15.00	12.00
0-250-500 Volts	32.00	25.60

Transmitting Apparatus

TOBE Transmitting Condenser



The Tobe Transmitting Condensers are made with the same care and scrupulous attention to detail as the Tobe Bi-Pass, filter and high-voltage power pack type condensers. Each transmitting condenser is tested and labeled with date of test and initials of tester. Capacities are guaranteed within 5% of ratings.

1,000-volt condensers are fitted with heavy brass binding posts, with petticoat insulators.

Each condenser is cased in a heavy silvered finished metal case.

The ideal condenser for transmitting plate-supply use.

Tobe Transmitting 1000-Volt Condensers

Type No.	Capacity Mfds.	Per 1,000 Volts List Price	YOUR COST
1110	1.0	\$7.50	\$4.50
1120	2.0	10.50	6.30
1150	5.0	21.50	12.90

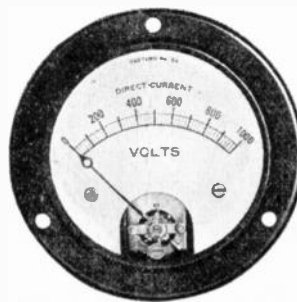
Tobe Transmitting 2000-Volt Condensers

Type No.	Capacity Mfds.	List Price	YOUR COST
2210	1.0	\$10.00	\$6.00
2220	2.0	18.00	10.80
2250	5.0	32.00	19.20

The Famous JEWELL Trio

The Jewell Trio of Miniature Radio Instruments is popular alike with servicemen for building up special test panels, experimenters for laboratory apparatus, and amateurs for radio broadcasting service.

A valuable addition to the Jewell Trio is a new series consisting of the same instruments in flush type bakelite cases.



Pattern No. 54

Flange diameter, 3 3/4 inches.
Case diameter, 3 inches.

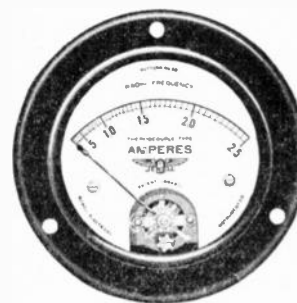
Patterns 54 and 88 DC Instruments

Ranges for both Patterns 54 and 88:

	List Price	YOUR COST
0-8, 10, 15, 30, 50 volts	\$7.50	\$5.62
0-150 volts	9.50	6.12
0-300 volts	12.00	9.00
0-500 volts	15.50	11.62
0-750 volts	19.00	14.25
0-1000 volts	22.50	16.87
0-1500 volts	28.50	20.37
0-2000 volts	34.50	25.87
3, 5, 10, 15, 25, 50, 100, 150, 200, 250, 300, 500 milliamperes	7.50	5.62
0-1 milliamperes	9.00	6.75
0-1.5 milliamperes	8.50	6.37
0-2 milliamperes	8.00	6.00
0-200, 300, 500 microamperes	24.00	18.00
0-1, 1.5, 2, 3, 5, 10, 15 amperes	7.50	5.62
50-0-50 galvanometer	9.00	6.75

Pattern 88 includes the same movement as 54 in a bakelite case, flush type only.

Flange diameter, 3 1/2 inches. Case diameter, 2 3/4 inches. Approximate shipping weight, 3 lbs.



Pattern No. 68

These instruments are thermocouple type.

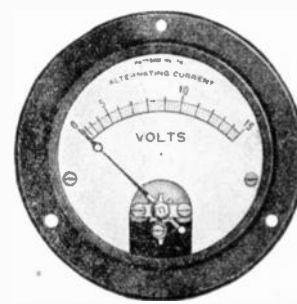
Patterns 64 and 68 Radio Frequency Instruments

Approximate shipping weight, 3 lbs.

Pattern 68 furnished in bakelite cases, flush type only. Flange diameter, 3 1/2 inches. Case diameter, 2 3/4 inches. Approximate shipping weight, 3 lbs.

Ranges for both Patterns 64 and 68:

	List Price	YOUR COST
0-.5, 1, 1.5, 2, 2.5, 3, 5, 10, 15 amperes	\$13.35	\$10.00
0-100 galvanometer	15.00	11.25



Pattern No. 74

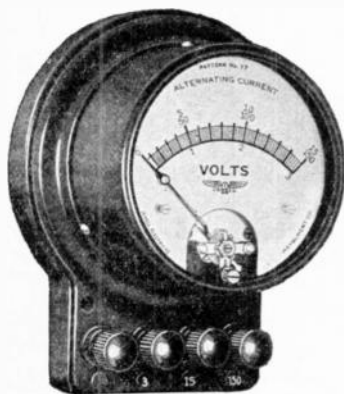
Flange diameter, 3 3/4 inches.
Case diameter, 3 inches.

Patterns 74 and 78 AC Instruments

Flange diameter, 3 1/2 inches. Case diameter, 2 3/4 inches. Approximate shipping weight, 3 lbs.

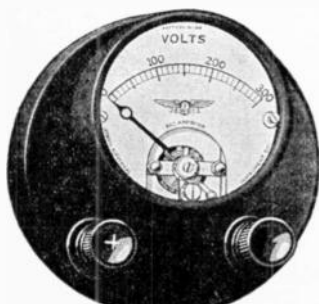
Ranges for both Patterns 74 and 78:

	List Price	YOUR COST
0-3, 5, 10, 15, 20, 30 volts	\$7.50	\$5.62
0-150 volts	9.50	6.12
0-300 volts	12.00	9.00
0-3-15-150 Triple Range volts	13.50	9.92
0-25, 50, 100, 200, 300, 500 milliamperes	7.50	5.62
0-1, 2, 3, 5, 10, 15 amperes	7.50	5.62



Pattern No. 77

Ranges:	List Price	YOUR COST
0-3-15-150 Volts	\$15.00	\$12.00
0-150-300 Volts	15.00	12.00
0-300-600 Volts	18.00	14.40
0-15-150 Volts	10.50	8.40
0-150 Volts	10.00	8.00



Pattern No. 139

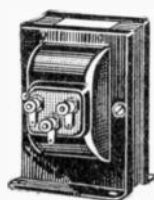
No. 139—A small high resistance voltmeter of the D'Arsonval type suitable for use by the individual in checking and adjusting B-Eliminator voltages. Scale range of 0-300 volts covers all ordinary requirements. It is a thoroughly high grade instrument and can be depended upon.

	List Price	YOUR COST
0-300 Volts	\$12.00	\$9.60
0-500 Volts	16.50	13.20

THORDARSON

A Transformer for Every Purpose

THORDARSON Push-Pull Input and Interstage Transformers



T-2408 Push-Pull Input Transformer

Designed to couple a stage of straight audio amplification into a stage of power push-pull using any of the existing types of power amplifying tubes. Ratio 1 to 1. Dimensions: $2\frac{1}{2}$ "x $2\frac{1}{2}$ "x3" high. Weight: 2 lbs.

T-2408—List Price, \$8.00 Your Cost, \$5.20

T-2922 Push-Pull Input Transformer

A transformer serving the same purpose as Type T-2408 but possessing a ratio of 2 to 1. May be used following a screen grid power detector having parallel plate feed. Built primarily for use with 210, 245 and 250 types of power tubes in the push-pull stage.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2922—List Price, \$12.00 Your Cost, \$7.80

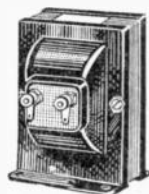
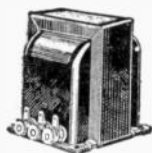
T-2973 Push-Pull Interstage Transformer

A special audio transformer to couple two stages of push-pull amplification. Especially applicable for use in power amplifiers for public address work to prevent tube distortion in the first stages of the audio amplifier. Ideal for use with the type 245 and 250 power tubes in the output stage.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2973—List Price, \$12.00 Your Cost, \$7.80

THORDARSON Speaker Coupling Transformers



T-2876 Transformer

A quality output transformer designed to protect the speaker winding against the high plate current of power tubes.

Designed especially for coupling a single 171, 210 or 245 type power tube into a horn or cone type high-impedance speaker.

Dimensions: $2\frac{1}{2}$ "x $2\frac{1}{2}$ "x3" high. Weight: 2 lbs.

T-2876—List Price, \$6.00 Your Cost, \$3.90

T-2629 Transformer

A special push-pull output transformer designed to couple the output of a 210 or 245 push-pull stage into a dynamic speaker. This transformer replaces the transformer in the base of the speaker. Secondary connects directly to the movable coil.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2629—List Price, \$10.00 Your Cost, \$6.50

T-2420 Output Choke

A carefully balanced, center-tapped choke unit, designed to couple the output of 171, 210 or 245 types push-pull tubes directly into a high impedance speaker.

Dimensions: $2\frac{1}{2}$ "x $2\frac{1}{2}$ "x3" high. Weight: 2 lbs.

T-2420—List Price, \$8.00 Your Cost, \$5.20

T-196 Choke Coil

This choke is designed to be used in filter circuits or as an output choke to keep the direct current out of the speaker unit. Use this in choke-condenser coupling with the new 245 or other power tubes.

Current carrying capacity, 75 milliamperes. Inductance, 30 henries. DC resistance, 360 ohms.

Dimensions: $2\frac{1}{2}$ "x $2\frac{1}{2}$ "x3" high. Weight: 2 lbs.

T-196—List Price, \$5.00 Your Cost, \$3.25

T-2901 Transformer

A special output transformer designed to couple the output of a single UX-245 or UX-250 power tube into a high impedance speaker. Primary is carefully matched to the plate impedance of the power tube. Will easily carry the high output current and voltage of amplifiers of this type.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2901—List Price, \$12.00 Your Cost, \$7.80

T-2902 Transformer

An output transformer similar to Type T-2901 but designed for use with dynamic speakers. Replaces coupling transformer mounted in base of speaker. Secondary is carefully matched for and should be connected direct to the movable coil of the dynamic speaker.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2902—List Price, \$12.00 Your Cost, \$7.80

T-2903 Transformer

A special push-pull output transformer designed to couple the output of two 245 or 250 type power tubes into a dynamic speaker. The secondary of this transformer connects directly into the movable coil of the dynamic unit. This transformer is conservatively rated to carry the high output current and voltage of amplifiers of this type.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2903—List Price, \$12.00 Your Cost, \$7.80

T-2880 Transformer

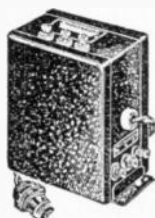
A special push-pull output transformer, similar to Type T-2903, designed to couple the output of a stage of push-pull 245 or 250 type power tubes into one or more high-impedance speakers.

Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high. Weight: $3\frac{1}{2}$ lbs.

T-2880—List Price, \$12.00 Your Cost, \$7.80

Thordarson Power Apparatus

Thordarson Power Compacts



R-280 Compact

A special power compact, designed for use with the 280 type rectifier. Capacity of windings, 85 M.A. High voltage winding 300 volts (no load). Designed to operate power amplifiers using a single 171 type power tube in output stage.

Dimensions: $3\frac{1}{4}$ "x $5\frac{1}{2}$ "x6" high, overall. Weight: 8½ lbs.

R-280—List Price, \$17.00

Your Cost, \$11.05

R-480 Compact

This power unit is identical with type R-280 except that the high voltage winding is increased to 320 volts (no load) to accommodate power amplifiers using two 171 type power tubes in push-pull or parallel arrangement. This is an excellent compact for a single 245 type power tube supplying plate current and grid bias.

Dimensions: $3\frac{1}{4}$ "x $5\frac{1}{2}$ "x6" high, overall. Weight: 8½ lbs.

R-480—List Price, \$17.00

Your Cost, \$11.05

R-245 Compact



This compact contains a high voltage supply of 350 volts (no load) each side of center and a 5 volt (center-tapped) filament supply for a 280 type full wave rectifier—a 2.5 volt (center-tapped) filament supply for the two 245 type power tubes—and two 30 henry choke coils for the filter circuit. Capacity of high voltage winding and chokes, 100 M.A. This compact is exceedingly efficient in design and will operate continuously without objectionable heating or hum. Designed for use on 60 cycle, 110 volt current only.

Dimensions: $4\frac{1}{4}$ "x $6\frac{1}{4}$ "x $5\frac{3}{4}$ " high, overall. Weight: 18 lbs.

R-245—Price List, \$24.00

Your Cost, \$15.60

R-210 Compact

This compact is designed as a power supply for plate supply units and power amplifiers using a single 281 type rectifier and a single 210 type power tube in the output stage. Contains the high voltage rectifier supply, a filament supply of 7½ volts, 1¼ ampere, center tapped, and two 30 henry chokes in one compound filled case. Capacity of high voltage winding and chokes, 65 M.A.

Dimensions: $3\frac{1}{2}$ "x $5\frac{3}{4}$ "x $6\frac{1}{2}$ " high, overall. Weight: 11 lbs.

R-210—Price List, \$20.00

Your Cost, \$13.00

Thordarson Power Supply Transformers



T-2098 Transformer

A power supply transformer designed primarily to supply A B C current to two 210 type power amplifying tubes and B-current to the receiver. To be used with two 281 type rectifier tubes. Conservatively rated, cool in operation.

Primary: 110 volts, 50-60 cycles.

Secondary No. 1: 550 volts each side of center tap. Capacity of winding: 130 M.A.

Secondary No. 2: 7½ volts, center tapped. 2½ amps.

Secondary No. 3: 7½ volts, center tapped. 2½ amps.

Dimensions: $4\frac{1}{2}$ "x $5\frac{1}{4}$ "x $5\frac{3}{4}$ " high. Weight: 13¼ lbs.

T-2098—List Price, \$20.00

Your Cost, \$13.00

T-2900 Transformer

A power supply transformer designed primarily to supply A B C current to a single 250 type power amplifying tube and B-current to the receiver. To be used with two 281 type rectifier tubes. Conservatively rated, cool in operation.

Primary: 110 volts, 50-60 cycles.

Secondary No. 1: 575 volts each side of center tap. Capacity of winding: 130 M.A.

Secondary No. 2: 7½ volts, center tapped. 2½ amps.

Secondary No. 3: 7½ volts, center tapped. 2½ amps.

Dimensions: $4\frac{1}{2}$ "x $5\frac{1}{4}$ "x $5\frac{3}{4}$ " high. Weight: 15¼ lbs.

T-2900—List Price, \$20.00

Your Cost, \$13.00

T-2950 Transformer

A power supply transformer designed primarily to supply A B C current to two 250 type power tubes and B-current to the receiver. To be used with two 281 type rectifier tubes. Conservatively rated, cool in operation.

Primary: 110 volts, 50-60 cycles.

Secondary No. 1: 610 volts, each side of center tap.

Secondary No. 2: 7½ volts, center tapped. 2½ amps.

Secondary No. 3: 7½ volts, center tapped. 2½ amps.

Dimensions: $4\frac{3}{4}$ "x $6\frac{1}{4}$ "x $5\frac{3}{4}$ " high, overall. Weight: 18 lbs.

T-2950—List Price, \$29.50

Your Cost, \$19.18

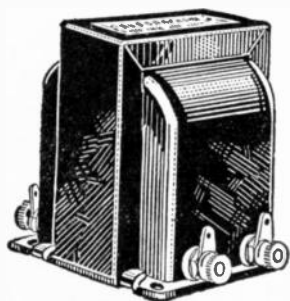
Thordarson Transformers & Chokes

R-300 High Quality Audio Transformer

List Price, \$8.00

Your Cost, \$5.20

THORDARSON R-400 Audio Transformer



The R-400 is the only audio transformer designed expressly for use with AC tubes. It is practically identical with the R-300 in general performance and possesses the same flat amplification response extending over the entire audible band with a high frequency cut-off at 8000 cycles for scratch elimination. It differs from the R-300 only in that it has a better inductance characteristic at the high current conditions encountered in coupling the first and second stages of an audio amplifier using AC tubes. The R-400 makes an ideal input trans-

former for a 245 power tube. Dimensions: $2\frac{1}{2}'' \times 2\frac{1}{2}'' \times 3''$ high.

R-400—List Price, \$9.00

Your Cost, \$5.85

THORDARSON R-100 Replacement Audio



A quality replacement audio transformer designed for the service man in reconditioning radio receivers with obsolete or burned-out audio transformers. The R-100 possesses the same high quality of performance that characterizes all Thordarson Audio Transformers.

Dimensions: $2\frac{7}{8}'' \times 1\frac{1}{2}'' \times 2''$ high.

R-100—List Price, \$2.25

Your Cost, \$1.46

THORDARSON Double Choke Units



The double choke units listed below are designed primarily for use in the filter circuit of power supply devices employing transformers T-2098, T-2900, and T-2950 respectively. These units are of excellent design with a proper balance between winding, core material, and core gap, so as to provide an excellent regulation with practically equal inductance over the current range for which they are intended. Each unit contains two 30 henry chokes in a crackle finished compound filled case.

T-2099—Capacity, 130 M.A., D.C. Resistance each choke, 250 ohms.

Dimensions: $4\frac{1}{8}'' \times 3\frac{1}{8}'' \times 5\frac{5}{8}''$ high.

Weight: 9 lbs.

T-2099—List Price, \$14.00

Your Cost, \$9.10

T-3099—Capacity, 160 M.A., D.C. Resistance each choke, 190 ohms.

Dimensions: $4\frac{5}{8}'' \times 3\frac{3}{8}'' \times 6\frac{1}{8}''$ high.

Weight: 12 lbs.

T-3099—List Price, \$16.00

Your Cost, \$10.40

T-3100—Capacity, 200 M.A., D.C. Resistance each choke, 125 ohms.

Dimensions: $4\frac{1}{2}'' \times 3\frac{3}{8}'' \times 7''$ high.

Weight: $13\frac{3}{4}$ lbs.

T-3100—List Price, \$18.00

Your Cost, \$11.70

R-172 Power Input Plug



A special attachment for power amplifiers using a single power tube. Removes necessity of changing wiring of receiver to accommodate power amplification.

R-172—List Price, \$1.00

Your Cost, 65c

THORDARSON

Filament Supply Transformers



T-2445 Filament Transformer

A transformer designed to supply the filaments of complete receivers using 226, 227 and 5-volt filament power tubes.

Primary: 110 volts, 50-60 cycles.

Secondary No. 1: 1.5 volts, will supply from one to six 226 type AC tubes.

Secondary No. 2: 2.5 volts, will supply one or two 227 or 224 type AC tubes.

Secondary No. 3: 5.0 volts, will supply two 5-volt power tubes.

Receptacle provided for B-supply plug.

Dimensions: $2\frac{3}{4}'' \times 5\frac{3}{4}'' \times 4\frac{3}{4}''$ high.

Weight: 5 lbs.

T-2445—List Price, \$10.00

Your Cost, \$6.50

T-3660 Filament Transformer

A small filament supply transformer designed to heat up to six 224 screen grid tubes, or six 227 or similar type tubes.

Primary: 110 volts, 50-60 cycles.

Secondary: 2.5 volts, 10.5 amps. (center-tapped).

Dimensions: $3\frac{1}{2}'' \times 3'' \times 3\frac{3}{4}''$ high.

Weight: $3\frac{1}{4}$ lbs.

T-3660—List Price, \$9.00

Your Cost, \$5.85

T-3081 Filament Transformer

Designed to fill a need for a filament transformer to supply the first stages of a power amplifier, and also small four tube receivers using two 224 or two 227 type tubes together with two 226 type tubes.

Primary: 110 volts, 50-60 cycles.

Secondary No. 1: 1.25 volts, 3 amperes.

Secondary No. 2: 2.5 volts, $3\frac{1}{2}$ amperes.

Dimensions: $2\frac{1}{2}'' \times 3'' \times 3\frac{1}{4}''$ high.

Weight: $2\frac{1}{4}$ lbs.

T-3081—List Price, \$6.00

Your Cost, \$3.90

T-2610 Filament Transformer

A special filament supply for Arcturus or other similar 15 volt filament tubes. Will supply from 1 to 8 tubes.

Primary: 110 volts, 50-60 cycles.

Secondary: 15 volts, center-tapped, $2\frac{1}{2}$ amps.

Dimensions: $3\frac{1}{2}'' \times 3'' \times 3\frac{3}{4}''$ high.

Weight: $3\frac{3}{4}$ lbs.

T-2610—List Price, \$7.50

Your Cost, \$4.88

Thordarson Transmission Equipment

T-3180 Microphone Transformer



A microphone coupling transformer of the highest quality for use with double button Western Electric, Kellogg or other similar microphones. Both primary and secondary are perfectly balanced circuits; center tap at exact electrical centers. Frequency response free from resonant peaks.

Primary impedance: 200 ohms each side.
Turns ratio: 27 to 1.
Impedance ratio: 750 to 1.
Dimensions: $3\frac{1}{4}$ "x3"x $3\frac{3}{4}$ " high.
Weight: 3 lbs.

T-3180—List Price, \$20.00 Your Cost, \$7.80

T-3020 Microphone Transformer

A microphone coupling transformer built to meet the need for a less expensive unit than Type T-3180. The windings of this transformer closely approximate perfect balance. Designed for use with 2 button microphones.

Primary impedance: 200 ohms each side.
Turns ratio: 45 to 1.
Impedance ratio: 2000 to 1.
Dimensions: $2\frac{1}{2}$ "x $2\frac{1}{2}$ "x3" high. Weight: 2 lbs.

T-3020—List Price, \$10.00 Your Cost, \$6.50

T-2357 Microphone Transformer

A small inexpensive coupling transformer for single button microphones designed for amateur use in telephone transmitters.

Primary impedance: 200 ohms at 500 cycles.
Turns ratio: 64 to 1.
Impedance ratio: 4000 to 1.
Dimensions: $2\frac{1}{4}$ "x $2\frac{1}{4}$ "x $2\frac{1}{2}$ " high. Weight: 1 lb.

T-2357—List Price, \$5.00 Your Cost, \$3.25

T-3474 Tube to Line Transformer

A quality line input transformer designed to couple the output of a single 210 or single or push-pull 171 type tube into a line of 600 ohms.

Dimensions: $3\frac{1}{2}$ "x $3\frac{1}{2}$ "x $4\frac{1}{8}$ " high.
Weight: $3\frac{3}{4}$ lbs.

T-3474—List Price, \$25.00 Your Cost, \$16.25

T-3475 Line to Tube Transformer

A quality line output transformer designed to couple the output of a 600 ohm line into any standard voltage amplifying tube.

Dimensions: $3\frac{1}{2}$ "x $3\frac{1}{2}$ "x $4\frac{1}{8}$ " high.
Weight: $3\frac{3}{4}$ lbs.

T-3475—List Price, \$25.00 Your Cost, \$16.25

T-3476 Line to Line or Mixing Transformer

This transformer is primarily designed to be used as a line to line transformer, but also is an excellent mixing transformer.

Dimensions: $3\frac{1}{2}$ "x $3\frac{1}{2}$ "x $4\frac{1}{8}$ " high.
Weight: $3\frac{3}{4}$ lbs.

T-3476—List Price, \$25.00 Your Cost, \$16.25

Filament Supply Transformers



T-2383—A filament transformer with a split secondary center tap brought out at exact electrical center. Transformer completely shielded.

Primary: 110 volts, 50-60 cycles.
Secondary: 12 volts, center tapped.
Capacity: 175 V.A.
Dimensions: $4\frac{1}{2}$ "x5"x6" high.
Weight: 12 lbs.

T-2383 List Price, \$15.00 Your Cost, \$9.75

T-3680—A filament supply transformer to supply two UX-866 rectifier tubes.

Primary: 110 volts, 50-60 cycles.
Secondary: 2.5 volts, 5 amps. (center-tapped).
Insulation: 5000 volts to case.
Dimensions: $3\frac{1}{2}$ "x3"x $3\frac{3}{4}$ " high.
Weight: $3\frac{1}{4}$ lbs.

T-3680—List Price, \$12.00

Your Cost, \$7.80

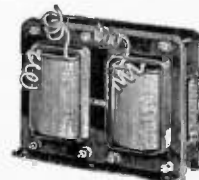


Filter Reactors

1.5 henry choke, 200 mils, 1600 V. insulation.
Filter choke in key circuits.

T-2376

List Price, \$5.00
Your Cost, \$3.25



T-2458

T-2353—A single open-frame choke, 6 henry, 150 M.A. D.C. Resistance, 100 ohms, 3000 volt insulation.
Dimensions: 3 "x $3\frac{1}{4}$ "x $3\frac{3}{4}$ " high.
Weight: 3 lbs.

T-2353—List Price, \$7.50

Your Cost, \$4.88

T-2071—A single open-frame choke, 30 henry, 150 M.A. D.C. Resistance, 290 ohms, 3000 volt insulation.

Dimensions: $2\frac{3}{4}$ "x $3\frac{1}{2}$ "x6" high.
Weight: 5 lbs.

T-2071—List Price, \$16.00

Your Cost, \$10.40

T-2458—Double choke, open mounting. Each choke 18 henry, 250 M.A., D.C. 2000 V. insulation. 108.5 ohms each choke.

Dimensions: 3 "x7"x $5\frac{1}{2}$ " high.
Shipping weight: 14 lbs.

T-2458—List Price, \$19.50

Your Cost, \$12.68

T-2027—A single open-frame choke, 30 henry, 300 M.A., D.C. Resistance, 160 ohms, 3000 volt insulation.

Dimensions: 5 "x $3\frac{1}{2}$ "x8" high.
Weight: 14 lbs.

T-2027—List Price, \$22.00

Your Cost, \$14.30

T-2073—A single open-frame choke, 30 henry, 500 M.A., 3000 volt insulation.

Dimensions: $4\frac{1}{2}$ "x $5\frac{1}{2}$ "x $9\frac{1}{2}$ " high.
Weight: 24 lbs.

T-2073—List Price, \$30.00

Your Cost, \$19.50

Plate Supply Transformers

T-2387—A conservatively rated plate supply transformer, center tapped with two high voltage taps. Furnished in compound filled case.

Primary: 110 volts, 50-60 cycles.
Secondary: 1000 and 1500 volts each side of center tap.
Capacity: 300 V.A.
Dimensions: $7\frac{1}{2}$ "x $5\frac{3}{4}$ "x $7\frac{1}{2}$ " high.
Weight: 20 lbs.

T-2387—List Price, \$22.00

Your Cost, \$14.30

T-2388—Similar to above but with following specifications:

Primary: 110 volts, 50-60 cycles.
Secondary: 1500 and 2000 volts each side of center tap.
Capacity: 500 V.A.
Dimensions: $7\frac{1}{2}$ "x $6\frac{1}{2}$ "x $8\frac{1}{2}$ " high.
Weight: 27 lbs.

T-2388—List Price, \$30.00

Your Cost, \$19.50

Remove that noise from your Radio

A TOBE FILTERETTE for every purpose

TOBE Filterette Junior



An ideal Filter for small motors such as are used for electric fans, hair dryers, barbers' clippers, vacuum cleaners, cash registers, etc. Plugs into the line, and it is necessary only to run a small wire from the binding post on the Filterette to any part of the motor frame. Interference is eliminated at once.

Maximum potential:
110 volts
AC or DC
Maximum load:
500 watts.
List Price, \$3.50
Your Cost, \$2.10

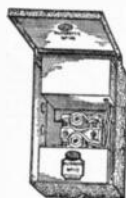
TOBE Senior Filterette Type T. O.



Designed for application to household apparatus creating a more tense type of interference than that which may be suppressed by use of a Filterette Junior. This Filterette is designed to be connected in the attachment cord of the interference creating apparatus and is provided with screw terminals to facilitate such connection.

Maximum potential: 110 volts DC or AC
Maximum load: 500 watts
Maximum current: 5 amperes
List Price, \$7.50
Your Cost, \$4.50

TOBE Filterette No. 110



For all types of 110 AC or DC electrical apparatus which requires a combined inductive and capacitive type filter. Essential for certain types of refrigerators, oil burners, chargers, electric signs or blinkers, electric heating pads, dental motors, and properly shielded violet ray and diathermy apparatus.

Maximum current: 5 amperes
Maximum load: 500 watts
Outside dimensions: 10"x6"x3 3/4"
List Price, \$25.00
Your Cost, \$15.00

TOBE Filterette for Motor-Driven Sign Flashers

Maximum potential: 110 volts AC or DC

For 110 volt motor driven sign flashers to suppress radio disturbances set up by the motor and rotary contacts of such flashers. May be used for any application, within the rating of the unit, which requires a combined inductive and capacitive type filter.

No.	Maximum Current in amperes	Maximum Load In Watts	Outside Dimensions	List Price	YOUR COST
131	10	1,000	13"x9"x3 3/4"	\$20.00	\$12.00
132	20	2,000	16"x10"x4 1/4"	30.00	18.00
133	30	3,000	19"x12"x4 1/4"	42.50	25.50
134	40	4,000	19"x12"x4 1/4"	57.50	34.50
135	50	5,000	19"x12"x4 1/4"	75.00	45.00

TOBE Filterette No. 110 P. O.



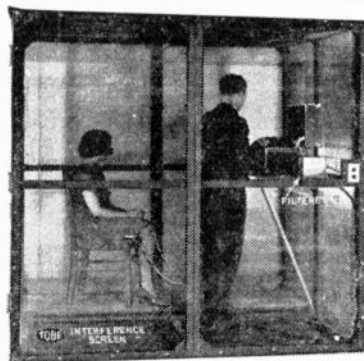
Is designed for application to all types of 110 volt AC or DC apparatus, which require a combined capacitive or inductive type Filterette. This Filterette is recommended for application to certain types of refrigerators, battery chargers, electric signs, heating pads, dish washers, barbers' clippers, drink mixers, washing machines, and other types of household apparatus.
Maximum potential: 110 volts AC or DC
Maximum load: 500 watts
Maximum current: 5 amperes
List Price, \$10.00
Your Cost, \$6.00

TOBE Filterette Diathermy Type 1 H. F. O.



Designed for used in conjunction with Tobe Hi Frequency Screen for eliminating radio interference created by Diathermy apparatus.
Maximum potential: 110 volts AC
Maximum load: 600 watts
Maximum current: 6 amperes
List Price, \$20.00
Your Cost, \$12.00

TOBE HI Frequency Screen for Diathermy Use

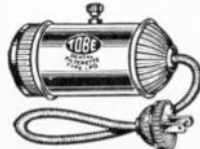


Specially designed for preventing direct radiation of radio interference created by Diathermy apparatus. Must be used in conjunction with Tobe Hi Frequency Type Filterette.
Outside dimensions 7"x6"x6"
List Price, \$75.00
Your Cost, \$45.00

TOBE Filterette Ritter Dental Type 1 B. P. O.



Designed especially for application to Ritter Dental Motors.
Maximum potential:
110 volts AC or DC
Maximum load:
110 watts
Maximum current:
1 ampere
List Price, including both units,
\$15.00
Your Cost,
\$9.00



TOBE Filterette Type 1 D. O.

Designed especially for application to mercury switch mechanism of the Essco Flashing Beacon.

Outside dimensions:
4"x3"x4 3/4"

Your Cost, \$12.00



TOBE Filterette Type A. G. A. 1 D. O.

Designed especially for application to mercury switch mechanism of the A. G. A. Flashing Traffic Beacon.

Outside dimensions:
2 7/8"x3"x3 1/2"

List Price, \$15.00
Your Cost, \$9.00

TOBE Filterette A. G. A. Type 1 D. O.

This Filterette is similar to Tobe Filterette A. G. A. Type 1 D. O. except that it is housed in a weatherproof case.

List Price, \$20.00
Your Cost, \$12.00

TOBE Filterette Crouse-Hinds Type 1 D. O.

Designed especially for application to mercury switch mechanism of the Crouse-Hinds Flashing Traffic Beacon.

Outside dimensions: 4"x3"x4 3/4"

List Price, \$15.00
Your Cost, \$9.00

TOBE Filterette Crouse-Hinds Type 1 W. D. O.

This Filterette is similar to Tobe Filterette Crouse-Hinds Type 1 D. O. except that it is housed in a weatherproof case.

List Price, \$20.00
Your Cost, \$12.00

TOBE Filterette G. E. Type 1 D. O.

Designed especially for application to mercury switch mechanism of the G. E. Flashing Traffic Beacon.

List Price, \$15.00
Your Cost, \$9.00

TOBE Filterette 140 D. P. O.



For application to rotary machines, commonly called inverted converters, for changing DC to AC for operation of AC radio receivers or phonographs.

Outside dimensions: 7"x6"x3"
Maximum load: 500 watts
List Price, \$25.00

TOBE By-Pass Filter Condenser

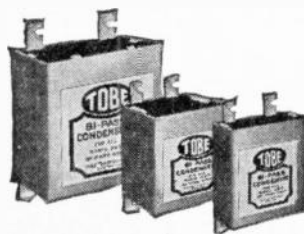


This model of the Tobe By-Pass Filter Condenser supersedes a former type. The case is more compact, easier to mount, and is made of metal instead of Bakelite or compound. This makes it possible to ground the case, something which cannot be done with an insulating material. Dimensions: $2\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{3}{8}$ ". 300 volts DC.

	List Price	YOUR COST
Type 301 A, 1.0 Mfd.	\$1.25	\$0.75
Type 350 A, .5 Mfd.	.90	.54

The official Browning-Drake set specifies a 0.5 Mfd. of this rating.

TOBE By-Pass Condensers and Filter Condensers



For BY-PASS work, noiselessness is essential and these condensers are noiseless and unchangeable. They stand extremes of heat and cold without alteration and are distinguished by—

Their ability to stand much higher voltages without breakdown.

A marking on each condenser showing that it is individually tested, with date of test and initials of tester.

Thickness of insulation.

The Tobe By-Pass Condensers are for use where working voltage does not exceed 200 volts.

Tobe Filter Condensers are for use in filter circuits on plate supply units, in B-Eliminators and in power amplifiers where the DC working voltages run up to 300 volts.

The 4.0 Mfd. is especially adapted for use in output devices where voltage does not exceed 300 volts.

BI-PASS

Types	Sizes	List Price	YOUR COST
210	0.1 Mfd.	\$0.60	\$0.36
225	0.25 Mfd.	.70	.42
250	0.5 Mfd.	.75	.45
201	1.0 Mfd.	1.00	.60
202	2.0 Mfd.	1.75	1.05
204	4.0 Mfd.	3.50	2.10

FILTER

Types	Sizes	List Price	YOUR COST
310	0.1 Mfd.	\$0.70	\$0.42
325	0.25 Mfd.	.75	.45
350	0.5 Mfd.	.90	.54
301	1.0 Mfd.	1.25	.75
302	2.0 Mfd.	1.75	1.05
304	4.0 Mfd.	3.50	2.10

TOBE 400 Line Short Path High Voltage Condensers



Tobe 400 Condensers are so named because of being designed for continuous operation on 400 volts DC. They are of the short-path type, cased in the characteristic silvered metal container, and of compact shape occupying minimum space on the baseboard with strong lugs for attachment.

The terminals are of the unique Tobe design, situated at the base of the can, one above the other, so that the condensers may be arranged in a bank with minimum wiring.

These condensers are made in three sizes:

	List Price	YOUR COST
No. 401, 1 Mfd.	\$2.00	...
No. 404, 4 Mfd.	4.50	...
No. 402, 2 Mfd.	2.75	1.65
No. 411, 2x0.1	2.00	1.20



TOBE 600 Line

Condensers for Amertran and Similar High Voltage Power Packs



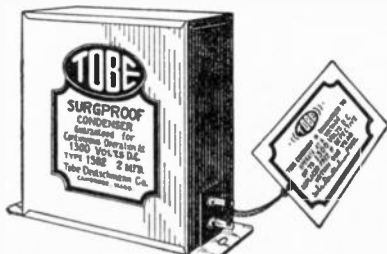
This extremely rugged extra high voltage condenser is designed for continuous operation without possibility of breakdown in the Amertran Power-Pack and similar high-voltage power amplifier units. It is specified by Amertran for that use.

This condenser will operate up to 1000 volts DC. It is made in four sizes: 0.5 Mfd., 1 Mfd., 2 Mfd., 4 Mfd. The two smaller sizes are cased in containers $4\frac{1}{2}$ in. high by $2\frac{3}{4}$ in. overall, including fastening down lugs, and 13-16 in. and 1 1/2 inches deep, respectively. The two larger sizes are 5 in. high by 5 1/2 in. wide overall, and 1 1/2 in. and 3 in. deep, respectively.

Containers are finished with the familiar Tobe silvered finish, and terminals.

	List Price	YOUR COST
No. 650, 0.5 Mfd.	\$2.00	\$1.20
No. 601, 1.0 Mfd.	2.50	1.50
No. 602, 2.0 Mfd.	4.50	2.70
No. 604, 4.0 Mfd.	7.50	4.50

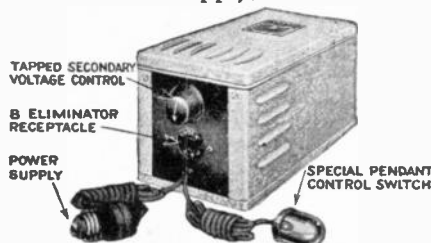
TOBE 1300 Line Hi-Voltage Surgeproof Condensers



A new type condenser guaranteed to operate at rated voltage and carrying an Iron-Clad Replacement Guarantee. No better condenser available for Hi-Voltage Power Pack work, especially designed for use with two UX-250 Power Tubes in Push-Pull, or the UX-245 Power Tube. The 1300 Line New SurgProof Condenser has safe working voltage of 1300 volts DC. We recommend these condensers for any high-voltage amplifier. These condensers are not designed for Transmitting Circuits.

	List Price	YOUR COST
No. 1301, 1 Mfd.	\$3.50	\$2.10
No. 1302, 2 Mfd.	6.00	3.60
No. 1304, 4 Mfd.	11.00	6.60

TOBE A-Supply, Model 27



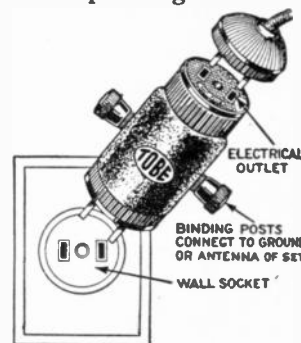
Tobe A-Supply is a complete DRY A Eliminator of 2 1/2 amperes capacity enclosed in a silvered satin finished metal case measuring 10 inches high and 5 inches wide.

This unit is designed to work on 110-120 volts and 50-60 cycles and will easily accommodate any 8-tube set with current to spare.

A contract card is furnished with each unit which when filled out and returned at time of purchase is your premium for a fully guaranteed A-Supply.

List Price, \$24.75 YOUR COST, \$14.85

TOBE 4-Purpose Light Socket Aerial



Combines 4 Radio Conveniences

in one small unit at a negligible cost. 1. A perfect indoor antenna, reducing static pickup and giving clear, pure tone reception, or—2, a convenient and efficient ground without troublesome water pipe connections, or long wires, and—3, a power socket outlet which may be used for operating set, B eliminator, power pack, charger or any electrical apparatus, and—4, a lightning arrester, protecting the set from all high potential atmospheric discharges.

The most convenient of all radio antenna developments.

Tobe Socket Aerial is sold with a free ten-day trial and a two-year guarantee.

List Price, \$1.50 YOUR COST, 90c

TOBE Filterette for Dynamic Speakers



Designed for application to dynamic speakers to suppress the hum set up in the speaker field by the field-energizing current. This annoying hum is entirely eliminated by the smoothing effect of the Filterette.

Tobe Filterette Type DA
Outside dimensions:
5"x5 1/2"x1 1/2"

	List Price	YOUR COST
D A - 1 2,000 Mfd.	\$5.00	\$3.00
D A - 2 4,000 Mfd.	7.00	4.20

TOBE Replacement Condensers

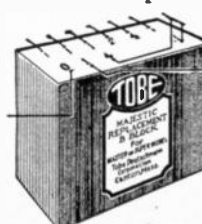
High capacity Dry Condensers, 4000 mfd. effective capacity for replacement in "A" Eliminator units. Outside dimensions, $4\frac{1}{2}$ "x5"x1 1/4". Two of these condensers are generally required in a standard "A" Eliminator.

List Price, \$5.00

For "A-B-C" power packs using 171 and 280 tubes. Designed for use in Majestic, Mohawk, Sonora, Zenith electric sets. Outside dimensions, $4\frac{1}{2}$ "x1 3/4"x6 3/4". Mounted in heavy cardboard container suitable for insertion in standard metal container used in the above sets. Condensers are of "Surg-proof" type with the usual "Tobe" guarantee—for one year.

List Price, \$12.00 YOUR COST, \$7.20

TOBE Majestic A and B Eliminator Replacement Units



For "A"
Outside dimensions
7 1/2"x3"x4 1/8"
List Price, \$10.00

For "B"
Outside dimensions
5 1/4"x2 3/8"x4"
4-4-2-1-1-1-1-1 mfd.
Master or Super Models

List Price, \$10.00
YOUR COST, \$6.00

Dry high-capacity condensers fully guaranteed for one year.

AEROVOX Condensers and Resistors

Non-Inductive in Bakelite Cases



STOCK CAPACITIES

Cap. Mfda.	List Price	YOUR COST
TYPE 250		
.05	\$0.70	\$0.42
.1	.75	.45
.25	.85	.51
.5	.95	.57
1.0	1.25	.75
TYPE 350		
.05	\$0.75	\$0.45
.1	.80	.48
.25	.95	.57
.5	1.25	.75
TYPE 450		
.05	\$0.80	\$0.48
.1	.85	.51
.25	1.00	.60
.5	1.40	.84
TYPE 650		
.05	\$0.90	\$0.54
.1	1.00	.60
TYPE 1051		
.05	\$1.00	\$0.60
.1	1.25	.75

WORKING VOLTAGES

Type No.	Working Voltages DC	AC
250	200	125
350	300	175
450	400	250
650	600	350
1051	1000	600

STOCK CAPACITIES



TYPE 1450

Cap. Mfda.	List Price	YOUR COST
.00004	\$0.30	\$0.18
.00005	.30	.18
.00007	.30	.18
.000075	.30	.18
.0001	.30	.18
.00015	.30	.18
.0002	.30	.18
.00025	.30	.18
.00037	.30	.18
.0005	.30	.18
.001	.35	.21
.0015	.35	.21
.002	.40	.24
.0025	.40	.24
.003	.45	.27
.004	.45	.27
.005	.50	.30
.006	.50	.30
.0075	.70	.42
.01	.75	.45
.015	1.00	.60
.02	1.25	.75



Type 1460

The condenser element is thoroughly impregnated. They are compact in size with special lugs which allow for screw, eyelet or soldering assembly. The soldering tabs of Types 1450 and 1475 condensers have split elongated slots for easy connection to solid or stranded wire.

Cap. Mfda.	List Price	YOUR COST
.00004	\$0.20	\$0.12
.00005	.20	.12
.00007	.20	.12
.000075	.20	.12
.0001	.20	.12
.00015	.20	.12
.0002	.20	.12
.00025	.20	.12
.00037	.25	.15
.0005	.25	.15
.001	.25	.15
.0015	.25	.15
.002	.35	.21
.0025	.35	.21
.003	.40	.24

Aerovox Interference Filter

Eliminates Man-Made Static



Radio listeners all over the country are finding welcome relief from the innumerable line noises caused by motors, elevators, refrigerators, oil burners, bells and other electrical appliances by using Aerovox Interference Filters. These units are also effective in preventing disturbances from electrical appliances from being applied to the electric lines to cause annoyance to neighboring receivers.

To use the Interference Filter with an electrical device such as a motor, electric refrigerator, vacuum cleaner or other electrical device which creates radio interference, plug the cord of the electrical device into the receptacle of the Interference Filter and plug the cord of the Interference Filter into the wall outlet or lamp socket. The binding post of the Interference Filter should be connected to a good ground.

TYPE IN-24—110 V. AC or 200 DC

List Price, \$6.50

Your Cost, \$3.90

TYPE IN-44—220 AC or 400 DC

List Price, \$7.50

Your Cost, \$4.50

AEROVOX A Power Condenser



This condenser was developed to meet the demand for an efficient, low voltage, high capacity unit suitable for use in the filter circuit of an "A" battery eliminator for operation from either AC or DC lines.

Type	Cap. Mf.	List Price	YOUR COST
6A-1500	1500	\$3.50	\$2.10
6A-2000	2000	4.00	2.40
6A-4000	4000	7.50	4.50

All Types of Pyrohm Resistors in Stock



Lavite Non-Inductive Resistors



STOCK SIZES

List Price, All Values, \$1.00		YOUR COST, 60c	
Resist.		Max. Current	Recom. Current
1,000		54.8	38.3
2,000		38.7	27.1
5,000		24.5	17.1
10,000		17.3	12.1
15,000		14.1	9.8
20,000		12.2	8.5
25,000		10.9	7.6
30,000		10.0	7.0
50,000		7.7	5.4
75,000		6.3	4.4
100,000		5.5	3.8
200,000		3.8	2.6
250,000		3.5	2.4
500,000		2.4	1.7

STERLING METERS



Type R-522

A New All-Purpose Tester Will Make Any Test on All Radio Sets and Tubes

This instrument tests all types of tubes including the screen-grid type, also measures the line voltage. Six meters are employed. The meter scales are as follows:

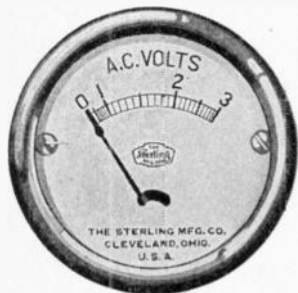
- 0-3 } Volts AC for filament voltage.
- 0-15 } Volts AC for line voltage.
- 0-150 } Volts AC for line voltage.
- 0-10 Volts DC for filament voltage.
- 0-500 Volts DC for plate voltage.
- 0-125 Volts DC for plate, grid and screen voltage.
- 0-10 } MA for plate current.
- 0-100 }

The following extras are provided at no extra cost:

- 1 four-prong five-hole adapter.
- 1 five-prong 4-hole adapter.
- 1 four-prong five-hole adapter with wires and snap connections.
- 1 pair of leads with prods for continuity tests.
- 1 cord with plug for measuring AC line voltage.
- 1 instruction book.
- Mounted in a sturdy black leather carrying case.

Type R-522—List Price, \$67.50

Your Cost, \$40.50



Panel Meters

Type R-648 is a popular type for receiver panels. The R-644 is popular for amateur transmitting sets and for tube-testing equipment.

- R-644—0-15 Volts—AC Voltmeter.
- R-648—0-3 Volts—AC Voltmeter.—

List Price, \$4.50

Your Cost, \$2.70

R-510 Tube Tester

For AC and DC Tubes

(Also Reactivates DC Tubes)

Tests all styles including screen-grid type. Shows grid performance under actual operating conditions. Checks emission on AC and DC. Rugged, portable, low priced.

List Price, \$35.00 Your Cost, \$21.00



R-415 DC Voltmeter

A high resistance accurate meter for testing B batteries or any power supply up to 300 volts.

List Price, \$8.50

Your Cost, \$5.10

R-417 Sterling AC Line Voltage Meter. Scale reading 0-150VAC.

List Price, \$7.50

Your Cost, \$4.50

R-514 Junior Tube "Short" and Emission Checker. This tester is designed to check tubes for "shorts" between "filgrid," "platefil" and "plate-grids." It will check any type of AC or DC or rectifier tube.

List Price, \$13.50

Your Cost, \$8.10



R-313 Hum Eliminators

The objectionable hum can be eliminated from 110 Volt AC dynamic speakers with the Sterling condenser hum eliminator. The hum eliminator is attached across the field coil input and effectively silences the aggravating hum which is always noticeable on rectified AC.

Benjamin Cushion Sockets

The spring suspension feature of these sockets tends to lengthen tube life by absorbing mechanical jars and shocks.

No. 9040

4-prong UX type.

List Price, 75c

Your Cost, 45c

5-prong "Y" AC cushion type is intended for AC tubes only; shock absorbing.

List Price, \$1.20

Your Cost, 72c

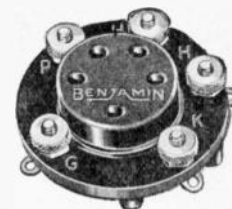
Sub-panel type.

List Price, 50c

Your Cost, 30c



SPRING SUPPORTED SHOCK ABSORBING



Benjamin Sub-Panel Brackets

Plain

List Price, 70c

Your Cost, 42c

Adjustable.

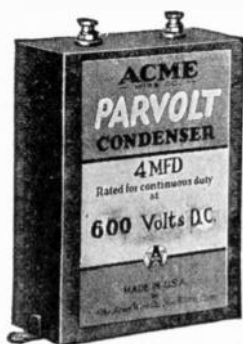
List Price, \$1.25

Your Cost, 75c



PARVOLT Wound Condensers

SERIES A



Series A are designed for operation on direct current circuits in which a maximum working voltage of 400 is present and on alternating current circuits in which the maximum working voltage does not exceed 285.

They are particularly recommended for radio

frequency by-pass work.

Mfda.	List Price	YOUR COST
0.1	\$0.85	\$0.51
0.25	.95	.57
0.5	1.00	.60
1.0	1.25	.75
2.0	2.25	1.35
4.0	4.00	2.40

SERIES B

Series B are designed for use in direct current circuits where the maximum working voltage is 800 and in alternating current circuits where it is 575.

This series of Parvolt Wound Condensers is recommended for all current supply unit circuits and as isolating condensers in resistance and impedance coupled audio frequency circuits.

Mfda.	List Price	YOUR COST
0.1	\$1.25	\$0.75
0.25	1.50	.90
0.5	2.00	1.20
1.0	2.00	1.20
2.0	2.50	1.50
4.0	3.50	2.10
	6.00	3.60

NOTE—The 0.5 mfd. condenser is made in two dimensions.

Buffer Condenser—For gaseous conductor tubes. Two 0.1 mfd. in series \$1.75 \$1.05

SERIES C

Series C are for use in all high voltage current supply unit circuits in which the maximum direct current working voltage does not exceed 1,000 and the maximum alternating current working voltage does not exceed 750.

Mfda.	List Price	YOUR COST
1.0	\$5.00	\$3.00
2.0	7.00	4.20
4.0	12.00	7.20
1MF	1500	6.50
2MF	1500	7.20
4MF	1500	12.00

Sangamo Mica Condensers

Sangamo Mica Condensers meet the most stringent requirements for all circuits.

The smooth mahogany-brown bakelite in which Sangamo Mica Condensers are molded protects the delicate parts. Every edge is sealed. This excludes moisture—the greatest enemy of condenser accuracy. Moisture creates resistance and changes condenser capacity.

Sizes and Prices are as follows:

Capacities—		List Price	YOUR COST
Mfd.	Mmf.		
0.00004	40	\$0.40	\$0.24
0.00005	50	.40	.24
0.00006	60	.40	.24
0.00007	70	.40	.24
0.00008	80	.40	.24
0.0001	100	.40	.24
0.00012	120	.40	.24
0.00015	150	.40	.24
0.000175	175	.40	.24
0.0002	200	.40	.24
0.00025	250	.40	.24
0.0003	300	.40	.24
0.00035	350	.40	.24
0.0004	400	.40	.24
0.0005	500	.40	.24
0.0006	600	.40	.24
0.0007	700	.40	.24
0.0008	800	.40	.24
0.001	1000	.50	.30
0.0012	1200	.50	.30
0.0015	1500	.50	.30
0.00175	1750	.50	.30
0.002	2000	.50	.30
0.0025	2500	.50	.30
0.003	3000	.60	.36
0.0035	3500	.60	.36
0.004	4000	.60	.36
0.005	5000	.70	.42
0.006	6000	.85	.51
0.007	7000	.90	.54
0.0075	7500	.95	.57
0.008	8000	1.00	.60
0.01	10000	1.15	.69
0.012	12000	1.20	.72

ACME PARVOLT By-Pass Condensers



Acme Parvolt By-Pass Condensers are designed for operation in direct current circuits in which a maximum working voltage of 200 is present and in alternating currents in which the working voltage does not exceed 100.

Series Number is DC Working Voltage

Series	Mfd.	List Price	YOUR COST
200	0.1	\$0.85	\$0.51
200	0.25	.95	.57
200	0.5	1.00	.60
200	1.0	1.25	.75
200	2.0	2.25	1.35
200	4.0	4.00	2.40



Specifications and Prices

	Per 25-ft. Coil Box	List Price	YOUR COST
No. 18—Sizes 16/30		\$0.80	\$0.48
No. 14—Sizes 41/30		1.00	.60
Colors—Black, Yellow, Red, Green, Brown.			
Lengths—25-foot coils in individual boxes.			
Weight—16/30 weighs approximately 1/4 lb. for 25-ft. box.			

Super Akra-Ohm



The Super-Akra-Ohm in the above form is a very popular resistance unit for many reasons. Practically non-inductive; minimum distributed capacity; tolerance of accuracy 1% plus or minus, and closer tolerances when ordered special; temperature coefficient .0001; will dissipate 1 watt, greater wattage dissipation on special order.

Can be used in the commonplace grid leak mounting, or in the standard cartridge fuse clips, or the 8-32 screw terminals can be used in any convenient manner, as well as soldering.

They are also adapted as multipliers for voltmeters, analyzers, etc.

SUPER AKRA-OHM TYPE 6 M

Resistance in Ohms	Current in Milli-amperes	List Price	YOUR COST
5,000	20.	\$1.50	\$1.12
10,000	10.	1.50	1.12
12,500	8.7	1.50	1.12
15,000	8.15	1.50	1.12
20,000	7.05	1.50	1.12
25,000	6.32	1.50	1.12
30,000	5.75	1.50	1.12
35,000	5.35	1.50	1.12
40,000	5.00	1.50	1.12
45,000	4.73	1.50	1.12
50,000	4.47	1.50	1.12
60,000	4.08	1.50	1.12
75,000	3.64	1.50	1.12
80,000	3.53	1.50	1.12
100,000	3.16	2.00	1.50
125,000	2.82	2.00	1.50
150,000	2.58	2.00	1.50
175,000	2.46	2.50	1.88
200,000	2.23	2.50	1.88
225,000	2.11	2.50	1.88
250,000	2.00	2.50	1.88
300,000	1.86	3.00	2.25
400,000	1.59	3.00	2.25
500,000	1.41	3.00	2.25
600,000	1.32	4.00	3.00
750,000	1.15	4.00	3.00
1,000,000	1.00	5.00	3.75

ACME Enameled Antenna Wire

Seven strands of copper wire. Each strand enameled. Maximum signal strength because maximum copper surface. No corrosion or oxidizing of copper, which would result in weakened signals. Far more efficient than bare copper wire or tinned wire.

Erect your aerial in one length without joints from the far-end insulators to the set.

Size 14, 16 (Equivalent Stranded).

Strands—7 Enameled wires twisted together.

Lengths—100-foot coils.

Weights—No. 14, 1 1/2 pounds boxed; No. 16, 1 pound boxed (approximate).

Coils packed in individual boxes.

STRANDED TYPE

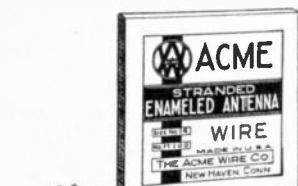
	List Price	YOUR COST
No. 14—100 ft.	\$0.85	\$0.51
No. 16—100 ft.	.65	.39

Above sizes also furnished in tinned and bare wire.

SOLID TYPE

	List Price	YOUR COST
Size 12—100 ft. Coil	\$1.00	\$0.60
Size 14—100 ft. Coil	.70	.42

Coils packed in individual boxes.



ELECTRAD Products

New Super TONATROL

TYPES

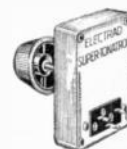
1. 25,000 ohm potentiometer recommended for antenna volume control.
2. 10,000 ohm potentiometer recommended for screen grid or plate voltage volume control.
3. 50,000 ohm rheostat recommended for R.F. grid bias control.
4. 10,000 ohm rheostat recommended for R.F. plate voltage shunt control.
5. 100,000 ohm potentiometer recommended for grid voltage control from secondary of audio transformer.
6. 25,000 ohm potentiometer recommended for volume control of output from one electrical phonograph pickup.

TYPES

7. 50,000 ohm four terminal potentiometer with 25,000 ohms tapered from each side of center terminal, recommended as fader and volume control with two electrical phonograph pickups.
- All above types have resistance tapers that are particularly adaptable when used in circuits recommended by us. Special resistance values and tapers can be made on order.

Circular on Request

	List Price	YOUR COST
Types No. 1 to No. 6	\$2.40	\$1.40
Type No. 7	3.50	2.10
Dissipation 5 Watts		



ALL-WIRE RESISTANCES for All Purposes. Unusual Patented Air Cool Construction, Longer Life, Greater Accuracy.

Type B—25 Watts—2 inches long

Type	Resistance in Ohms	Current Milli-amperes	List Price	YOUR COST
B-.05	5	2225	\$0.85	\$0.51
B-.075	7.5	1800	.85	.51
B-1	10	1500	.85	.51
B-15	15	1250	.85	.51
B-2	20	1100	.85	.51
B-.25	25	1000	.85	.51
B-5	50	700	.85	.51
B-.75	75	575	.85	.51
B-1	100	500	.85	.51
B-2	200	353	.85	.51
B-3	300	289	.85	.51
B-4	400	250	.85	.51
B-5	500	224	.85	.51
B-7.5	750	182	.85	.51
B-8	800	177	.85	.51
B-8.5	850	165	.85	.51
B-10	1000	158	.85	.51
B-12.5	1250	141	.85	.51
B-15	1500	129	.85	.51
B-20	2000	112	.85	.51
B-22.5	2250	105	.85	.51
B-25	2500	100	.85	.51
B-30	3000	91	.85	.51
B-35	3500	84	.85	.51
B-40	4000	79	.85	.51
B-45	4500	75	.85	.51
B-50	5000	71	.85	.51
B-60	6000	64	.85	.51
B-70	7000	60	.85	.51
B-72	7200	59	.85	.51
B-75	7500	58	.85	.51
B-80	8000	56	.90	.54
B-90	9000	53	.95	.55
B-100	10000	50	1.00	.60
B-120	12000	45	1.00	.60
B-150	15000	41	1.00	.60
B-200	20000	35	1.15	.69
B-250	25000	32	1.15	.69
B-300	30000	29	1.25	.69
B-400	40000	25	1.30	.75
B-500	50000	22.5	1.40	.84

Type C—50 Watts—4 inches long

Type	Resistance in Ohms	Current Milli-amperes	List Price	YOUR COST
C-2	200	500	\$1.35	\$0.81
C-3	300	408	1.35	.81
C-4	400	353	1.35	.81
C-5	500	316	1.35	.81
C-7.5	750	259	1.35	.81
C-8	800	252	1.35	.81
C-10	1000	224	1.35	.81
C-12.5	1250	200	1.35	.81
C-15	1500	182	1.35	.81
C-20	2000	158	1.35	.81
C-22.5	2250	149	1.35	.81
C-25	2500	141	1.35	.81
C-30	3000	129	1.35	.81

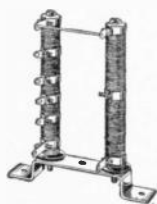
Type	Resistance in Ohms	Current Milli-amperes	List Price	YOUR COST
C-35	3500	119	\$1.35	\$0.81
C-40	4000	112	1.35	.81
C-45	4500	105	1.35	.81
C-50	5000	100	1.35	.81
C-60	6000	91	1.50	.90
C-70	7000	84	1.50	.90
C-72	7200	83	1.50	.90
C-75	7500	82	1.50	.90
C-80	8000	79	1.50	.90
C-90	9000	74	1.50	.90
C-100	10000	71	1.65	.99
C-120	12000	65	1.65	.99
C-150	15000	58	1.65	.99
C-200	20000	50	1.80	1.08
C-250	25000	45	1.85	1.11
C-300	30000	41	1.90	1.14
C-400	40000	35	1.95	1.17
C-500	50000	32	2.00	1.20
C-600	60000	29	2.10	1.26
C-800	80000	25	2.25	1.35
C-1000	100000	22.5	2.75	1.65



Type D—75 Watts—6 inches long

Type	Resistance in Ohms	Current Milli-amperes	List Price	YOUR COST
D-2	200	610	\$1.85	\$1.11
D-3	300	500	1.85	1.11
D-4	400	432	1.85	1.11
D-5	500	387	1.85	1.11
D-7.5	750	316	1.85	1.11
D-8	800	306	1.85	1.11
D-10	1000	274	1.85	1.11
D-12.5	1250	245	1.85	1.11
D-15	1500	224	1.85	1.11
D-20	2000	194	1.85	1.11
D-22.5	2250	182	1.85	1.11
D-25	2500	173	1.85	1.11
D-30	3000	158	1.85	1.11
D-35	3500	146	1.85	1.11
D-40	4000	137	1.85	1.11
D-45	4500	129	1.85	1.11
D-50	5000	122	1.85	1.11
D-60	6000	112	1.90	1.14
D-70	7000	103	1.95	1.17
D-72	7200	102	1.95	1.17
D-75	7500	100	2.00	1.20
D-80	8000	97	2.00	1.20
D-90	9000	91	2.10	1.26
D-100	10000	87	2.25	1.35
D-120	12000	79	2.25	1.35
D-150	15000	71	2.50	1.50
D-200	20000	61	2.50	1.50
D-250	25000	55	2.65	1.59
D-300	30000	50	2.65	1.59
D-400	40000	43	2.65	1.59
D-500	50000	39	2.75	1.65
D-600	60000	35	2.80	1.68
D-800	80000	31	2.90	1.74
D-1000	100000	27	3.00	1.80

Truvolt Air-Cooled Resistance Banks



Type 250B3

Type 250B3—Three TRUVOLT type C units mounted on an insulated bracket. For use as voltage divider with any 250 or 210 amplifier or plate supply device. Easily adjusted taps provide all voltages required. 8 resistance sections—21,000 ohms total resistance.

Weight: One unit in carton, 8 ozs.

List Price, \$5.00 YOUR COST, \$3.00



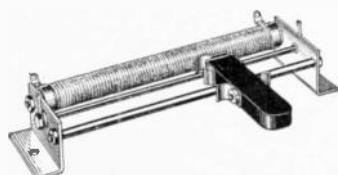
Type C245B2

Type C245B2—Two TRUVOLT type C units. For use with any receiver or power amplifier using 245 type tubes. 7 resistance sections—14,700 ohms total resistance.

Weight: One unit in carton, 7 ozs.

List Price, \$3.50 YOUR COST, \$2.10

Truvolt Sliding Contact Resistance



Patented TRUVOLT air-cooled resistance unit mounted with sliding contact arm. Made particularly for general laboratory use, to control line voltages, speed of small motors, etc. Made on order to any resistance value up to 5,000 ohms maximum. Overall length—7 1/2 inches.

List Price, \$4.75. YOUR COST, \$2.85

Electrad Royalty Variable

Non-Inductive High Resistances

Note these important exclusive features:

1. Resistance element not impaired by mechanical operations.
2. Electrical contact made positive by metallic arm on wire-wound strip.
3. The same resistance is always obtained at the same setting.
4. Entire resistance range is covered with less than one turn of the knob.



Type	Safe Current Working	Price List	COST YOUR
Type A—Variable Grid Leak 1/10 to 7 meg.	.2	\$1.50	\$0.90
Type B—Variable High Resistance, 0 to 100,000 ohms	5.0	1.50	.90
Type C—Variable High Resistance, 0 to 50,000 ohms	7.5	1.50	.90
Type D—Variable High Resistance, 0 to 700,000 ohms	2.0	1.50	.90
Type E—Compensator, 500,000 ohms, Potentiometer	2.5	2.00	1.20
Type F—Variable High Resistance, 0 to 2,000 ohms	37.5	1.50	.90
Type G—Variable High Resistance, 0 to 10,000 ohms	16.5	1.50	.90
Type H—Variable High Resistance, 0 to 25,000 ohms	10.5	1.50	.90
Type J—Variable High Resistance, 0 to 200,000 ohms	4.0	1.50	.90
Type K—Variable High Resistance, 0 to 5,000 ohms	23.0	1.50	.90
Type L—Variable High Resistance, 0 to 500,000 ohms	2.5	1.50	.09

Special Ranges to Order
Potentiometer in Any of Above Sizes, \$2.00
Your Cost, \$1.20

TONATROL

The ideal volume control for sets using AC tubes. Variable resistances of the famous Royalty type, especially designed to meet the volume and sensitivity control requirements of different radio circuits. TONATROLS provide smooth, efficient control of volume when used in their proper circuits.
Made in plain, battery switch, and power switch types.



FOR OSCILLATING RECEIVERS

	List Price	YOUR COST
Type R—Radio Frequency Secondary Tonatrol	\$1.50	\$0.90
Type RS—(with filament switch)	2.00	1.20
Type RP—(with power switch)	2.50	1.50
Type P—Radio Frequency Primary Tonatrol	1.50	.90
Type PS—(with filament switch)	2.00	1.20
Type PP—(with power switch)	2.50	1.50

One Unit in Carton—3 oz.

FOR NON-OSCILLATING RECEIVERS

	List Price	YOUR COST
Type S—Audio Frequency Secondary Tonatrol	\$1.50	\$0.90
Type WS—(with filament switch)	2.00	1.20
Type SP—(with power switch)	2.50	1.50
Type A—Antenna potentiometer Tonatrol	2.00	1.20
Type AS—(with filament switch)	2.50	1.50
Type AP—(with power switch)	3.00	1.80

Six Units in Container—19 ozs.

TONATROL—TYPE U

Constant Resistance Volume Control	\$2.00	\$1.20
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The constant resistance volume control has been designed primarily to control the volume of phonograph pick-ups.

Complete TONATROL folder on request.



Truvolt Variable Resistances

All Types

25-Watt Capacity

Type	Resistance in Ohms	Current in Milliamperes	Type	Resistance in Ohms	Current in Milliamperes
T-.03	3	2800	T-25	2500	100
T-.1	10	1600	T-30	3000	91
T-.15	15	1250	T-20	2000	112
T-.25	25	1000	T-35	3500	84
T-.5	50	700	T-40	4000	79
T-1	100	500	T-50	5000	71
T-2	200	353	T-75	7500	58
T-3	300	289	T-100	10000	50
T-4	400	250	T-150	15000	41
T-5	500	224	T-200	20000	35
T-7.5	750	182	T-250	25000	32
T-10	1000	158	T-300	30000	29
T-12.5	1250	141	T-400	40000	25
T-15	1500	129	T-500	50000	22.5
T-20	2000	112			

All Sizes—List Price, \$2.50 each.

Your Cost, \$1.50



Electrad Phasatrol

Suitable to any radio frequency amplifying circuit—whether tuned or untuned. When correctly installed—one unit to each stage of radio frequency amplification—PHASATROL will completely eliminate all oscillation and R.F. distortion.

Recommended as a simple, yet effective means of balancing and controlling radio frequency amplification. Can be quickly installed without experience.

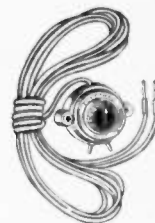
Complete instructions for adapting to various circuits in each package.

List Price, \$2.00 each

Your Cost, \$1.20

Electrad Table Tonatrol

Especially designed volume control for use with phonograph pickups. Handsome Bakelite case—characteristic TONATROL ease of control and long life. Provided with tip jacks and phone cord. Can be easily mounted in convenient location on the phonograph turntable panel—or elsewhere if remote control is desired.



Weight—One unit in carton, 5 ozs.

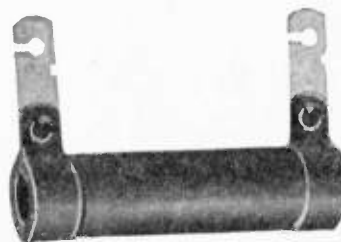
List Price, \$2.50

Your Cost, \$1.50

Electrad Enameled High Resistances

WIRE WOUND

Actual Size—Overall Length, 2 inches—Outside Diameter, 5/8 inch



These resistances are made by winding enameled nichrome wire on a refractory tube and covered with a moisture proof enamel. Those having resistance values above 25,000 ohms are layer wound with generous insulation between each layer of wire. The overall length is 2 inches and maximum outside diameter is 5/8 inch. The lugs are of monel metal for good electrical contact and they are solder dipped for easy soldering. They are particularly suitable for use as plate resistors, multipliers for voltmeters, and general laboratory work.

Resistance	Current in Milliamperes	List Price	YOUR COST
10,000	22.5	\$1.50	\$0.90
12,500	20	1.50	.90
15,000	18	1.50	.90
17,500	17	1.50	.90
20,000	16	1.50	.90
25,000	14	1.50	.90
30,000	13	1.75	1.05
35,000	12	1.75	1.05
40,000	11	1.75	1.05
50,000	10	2.00	1.20
60,000	9	2.00	1.20
75,000	8	2.50	1.50
80,000	8	2.50	1.50
90,000	7.5	3.00	1.80
100,000	7	3.00	1.80
125,000	6.5	3.50	2.10
150,000	5	4.00	2.40
200,000	4.5	4.50	2.70
250,000	4	5.00	3.00

Truvolt Wire Grid Resistances



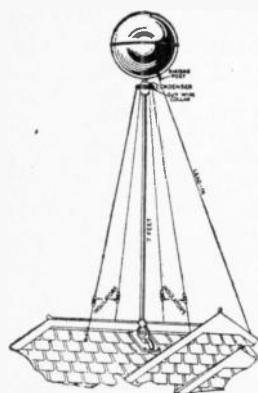
All-wire grid resistance—covered with varnished cambric—can be bent any shape. No mounting necessary. Small—compact—practically non-inductive.

Resistance in Ohms	Capacity in Milliamperes	Resistance in Ohms	Capacity in Milliamperes	Resistance in Ohms	Capacity in Milliamperes
5	386	300	50	1300	24
10	273	400	43	1400	23
15	223	500	38	1500	22
25	173	600	35	1600	21
40	137	700	32	1700	20
50	122	800	30	1800	20
75	100	900	29	1900	19.8
100	86	1000	27	2000	19.3
200	61	1100	26	2500	17.5
		1200	25	3000	16

These Units can also be used for other purposes provided the above working current is not exceeded.

	List Price	YOUR COST
Sizes 5 to 1000 ohms	\$0.25	\$0.15
Sizes 1100 to 3000 ohms	.40	.24

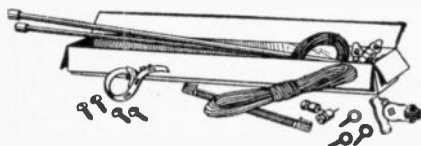
BALL AERIAL



Ideal for apartment houses or congested districts. Increases selectivity, improves summer reception. Functions on all wave bands, and all makes of sets. Made of non-corroding aluminum alloy.

Ball and Condenser,
List Price \$4.75
Your Cost, \$2.85

BALL AERIAL ANTENNA KIT is made up of all essential parts to complete the installation. Each Kit contains the following:



- | | |
|--|-----------------------|
| 50 ft. No. 14 rubber-covered lead-in wire. | 1 super ground clamp. |
| 50 ft. guy wire. | 1 lead in. |
| 4 eye screws. | 1 Nail-it knobs. |
| 80 in. 1/2-in. conduit. | 3 Nail-it knobs. |
| 1 aluminum base. | 4 insulators. |
| 1 6-in. screw type insulator. | 4 screws. |

List Price \$3.75 Your Cost, \$2.25

X-L Variodensers



Model N

Has variable capacity, adjustable from 1.8 to 20 mmf., which is .0000018 to .00002 mf.

List Price, \$1.00 Your Cost, 60c

- | | |
|------------|----------------------|
| Model G-1 | —.00002 to .0001 mf. |
| Model G-5 | —.0001 to .0005 mf. |
| Model G-10 | —.0003 to .001 mf. |

List Price, Each, \$1.50 Your Cost, 90c

BUD Antenna Eliminator and Selector

No More Aerial



Is small in size, and is pleasing to look at.

Install any place without asking permission. If in an apartment house you in no way interfere with others living in same apartment.

Installed in two minutes time by anyone.

No lightning arrester is required.

All your equipment in your own home. When you move, BUD can easily be carried with you.

No damage to property in making installation.

Has a fifty-foot aerial capacity, which is the desired length specified by all electrical set manufacturers. Will last a life-time.

Makes set more selective.
Cuts down interference.

List Price, \$3.50 Your Cost, \$2.10

KESTER Solder



The well known non-corrosive rosin-core radio solder—use it once and you will use it always.

Your Cost, per tin, 15c

X-5 Sentinel Radio Time Switch

A practical device designed to do one thing and do it right; shut off your radio after any predetermined period of time.

For use with AC or DC electric sets or sets using A and B eliminators.

Affords double socket outlet for radio receiver and reading lamp or A and B eliminators where used.

Engineering of the highest standards make this unit absolutely automatic and foolproof.

Requires no winding, hence you cannot forget to wind it.

Has by-pass switch for use of receiver without use of time switch, which is automatically shut off when time switch is set.

By-pass switch cannot be set while time switch is in operation.

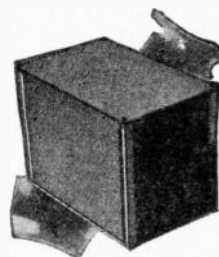
Can also be used to decided advantage on small window display and Neon signs. Beautiful satin silver finish trimmed in brown bakelite.

Made of the highest grade material obtainable and bearing the usual X-L guarantee.

List Price, \$6.75 Your Cost, \$4.05

ALCOA Aluminum Box Shields

Size 9" x 5" x 6"



Assembled

An Aluminum Company of America product. Isolates the various electrical forces within all R.F. stages that would otherwise adversely influence one another. Are made of heavy Alcoa aluminum sheet—No. 12 B & S gauge—.080" thick so that

they can be used for oscillators and transmitters as well as inter-stage shields. Dip finish gives a fine appearance. The design permits altering the size by a few simple operations. The shields are of fine appearance, strong mechanically and require no soldering—only a screw driver for assembling. Large enough to permit housing of all parts belonging to an R.F. stage, i.e., R.F. transformer, variable condenser, socket, rheostat (if used), by-pass condenser, tube, etc., etc. Size over-all, 5" wide by 9" long by 6" high.

List Price, \$3.50 Your Cost, \$2.10

Jr. Size Alcoa Shield

Originally designed for L. C. 28 Circuit, but can be used in all circuits. Bottom plate not included. Intended to be mounted on a steel (or aluminum chassis, listed below) chassis, this acting as the bottom plate. If a small R.F. coil is used, one complete stage can be mounted within the shield. Size 4 1/2" wide by 4 1/2" long by 5" high.

List Price, \$2.00 Your Cost, \$1.20



Unassembled

Amperites

Amperite No. 1-A—1/4 Ampere Type—For the UV-201-A, C-301-A, UX-201-A, CX-301-A, UX-200-A, CX-300-A, or any 1/4 ampere 5 volt tube on the 6 volt "A" battery.

Amperite No. 112—1/2 Ampere Type—For the UX-112, CX-112, UX-171, CX-371 and similar tubes on the 6 volt battery.

Amperite No. 120—For the UX-120 and the CX-220 on 4 1/2 volts (3 dry cells) or on the 4 volt storage battery.

Amperite No. 4V-199—For the UV-199, C-299, UX-199, CX-299, DV-3 on 4 1/2 volts (3 dry cells) or on 4 volt storage battery.

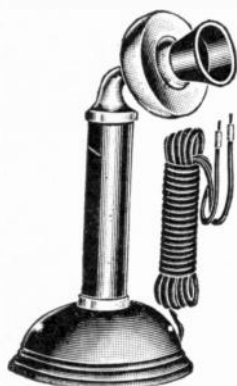
Amperite No. 6V-199—For the UV-199, C-299, UX-199, CX-299 and similar tubes on the 6 volt "A" battery.

Amperite No. 3-A—3/4 Ampere Type—to control 3/4 ampere and 5 volts on the 6 volt "A" battery.

Amperite No. 4-A—1 Ampere Type—to control 1 ampere and 5 volts on the 6 volt battery.

Amperite No. 622—For all 3.3 volt shield grid tubes from 6 volt battery.

List Price, \$1.10 Each Your Cost, 66c



FROST Microphones

Frost Radio Microphones enjoy an enviable reputation for their excellent performance and appearance. Their design is based on over thirty years experience in the telephone manufacturing field and they are guaranteed to give complete satisfaction when used in the proper circuits. These Microphones are of the solid back carbon type and will reproduce faithfully voice and musical frequencies over the full range. They are not intended for commercial broadcasting use but are designed for amateur radio fans and general apparatus work. All microphones are equipped with cords and are extremely sensitive and rugged in construction.

	List Price	YOUR COST
Frost Radio No. 155 Hand Microphone	\$6.00	\$3.60
Frost Radio No. 159 Desk Microphone	8.75	5.25
Frost Radio No. 157 Pony Arm Microphone for mounting on panel of transmitter or wall	4.50	2.70



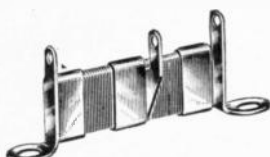
FROST Fixed Resistances



Resistance element is wound on die cut flexible bakelite. Tinned copper terminal brackets are clamped on resistance element under heavy pressure and "staked" into bakelite. Ample current carrying capacity. Made in .4, .5, .6, .7, .8, 1, 1.3, 2, 4, 5, 6, 8, 10, 20, 25, 30, 40, 50, 100, 200, 400, 600 and 1000 ohms.

	List Price	YOUR COST
All resistances .4 ohm to 50 ohms	\$0.15	\$0.09
100, 200, 400, 600, 1,000 ohms	.25	.15

FROST Center Tapped Resistances



Similar in construction to the Frost Fixed Resistances but with tap at exact mid center to provide grid return in AC receivers. Accurately wound and tested mechanically and electrically.

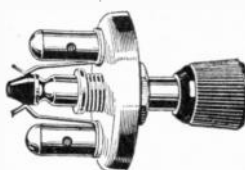
	List Price	YOUR COST
FT 6—6 ohm center tapped resistance	\$0.50	\$0.30
FT 10—10 ohm center tapped resistance	.50	.30
FT 20—20 ohm center tapped resistance	.50	.30
FT 64—64 ohm center tapped resistance	.50	.30

FROST DC Switches



Two very popular battery switches. Type 608 is a standard push-pull type with moulded black knob. Single hole mounting. Type 623 is a maroon bakelite toggle type. Three hole mounting. Both give perfect contact.

	List Price	YOUR COST
No. 623—Toggle Switch	\$0.50	\$0.30
No. 608—Push-Pull Switch	.30	.18



FROST-RADIO
No. 608

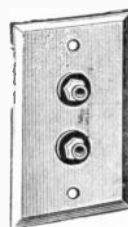
FROST Extension Cords



Made of stranded copper wire in a handsome braid and equipped with a plug and mounted jack. Specially suited for installing dynamic speakers at a distance from the radio set to prevent microphonic feedback.

	List Price	YOUR COST
No. 330—10-ft. Extension Cord	\$2.00	\$1.20
No. 331—20-ft. Extension Cord	2.25	1.35
No. 332—30-ft. Extension Cord	2.50	1.50
No. 333—40-ft. Extension Cord	2.75	1.65
No. 334—50-ft. Extension Cord	3.00	1.80
No. 335—100-ft. Extension Cord	5.50	3.30
No. 336—Mounted Jack only	.75	.45
No. 337—18-inch Frost-Radio Extension Cord with cord tips and mounted Jack, complete	1.00	...

FROST Wall Outlets



No. 901

Frost Radio Convenience Outlets Nos. 901 and 902 are fitted with two Frost No. 253 Cord Tip Jacks mounted in the flush plate. Specified by architects as an efficient method of caring for antenna-ground connections or loud speaker terminals. The Frost Cord Tip Jacks readily accept all conventional tips and retain them until released. Tips cannot be pulled out; a real convenience feature. Flush plate is furnished in a choice of moulded bakelite or solid brass in rich brushed brass finish and fits all standard outlet boxes.



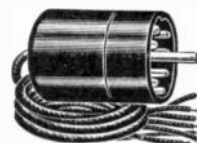
No. 902

	List Price	YOUR COST
No. 901—Brown Bakelite Plate	\$1.25	\$0.75
No. 902—Brushed Brass	1.00	.60

The 903 and 904 Frost Radio Convenience Outlets carry a No. 953 Frost Gem Jack for loud speaker plug, and No. 2895, 500,000-ohm Frost Gem Variable High Resistance unit to control speaker volume. Brass or bakelite flush plate fits all standard wall outlet boxes.

	List Price	YOUR COST
No. 903—Brown Bakelite Plate	\$3.25	\$1.95
No. 904—Brushed Brass	3.00	1.80

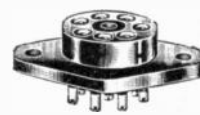
FROST Bakelite Cable Plug



No. 780



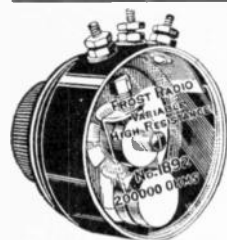
No. 781



No. 782

The Frost Cable Plug is a distinct advance in cable plug design. Made entirely of genuine moulded bakelite with the terminals of the panel and baseboard sockets spun-in after the bakelite piece is taken from the mould. Terminals cannot work loose even when overheated by soldering iron. Strongly constructed to stand the roughest handling, of large size and well spaced. Color code of wires is moulded into bakelite. Cable is of best grade rubber covered wires covered with black braid. Spring contacts are designed to have permanent tension. Heavy moulded rubber spacer ring in rear of plug spaces terminals and holds them firmly and relieves tension on cable.

	List Price	YOUR COST
No. 780—Frost Radio Cable Plug, consisting of moulded bakelite plug connector and seven-wire five-foot cable with black, red, yellow, blue, brown and slate wire, covered with handsome black braided covering	\$2.25	\$1.35
No. 781—Frost Radio baseboard type mounting socket for cable plug, made of genuine black polished bakelite	.75	.45
No. 782—Cable Plug Socket for mounting so wiring is concealed beneath the sub-base, made of genuine black moulded bakelite and highly polished	.75	.45



FROST-RADIO

1800 Series—1⁶¹/₄-Inch Diameter

		List Price	YOUR COST
No. 1896—2,000 ohms.	"LD" curve.....	\$2.25	\$1.35
No. 1897—5,000 ohms.	"LD" curve.....	2.25	1.35
No. 1898—10,000 ohms.	"LD" curve.....	2.25	1.35
No. 1899—25,000 ohms.	"D" curve.....	2.00	1.20
No. 1890—50,000 ohms.	"D" curve.....	2.00	1.20
No. 1891—100,000 ohms.	"D" curve.....	2.00	1.20
No. 1892—200,000 ohms.	"D" curve.....	2.00	1.20
No. 1895—500,000 ohms.	"D" curve.....	2.00	1.20

Variable Resistance with DC Switch

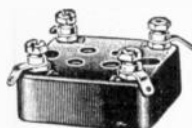


FROST-RADIO

This combined unit is for use only in Battery Operated Sets. (It is not suitable and is not recommended for use in AC Sets.) This combination unit simplifies panel layout. The switch action is rapid and positive in operation. Springs are German Silver with Sterling Silver contacts. With control knob turned extreme left, switch locks firmly in "Off" position. Switch circuit and high resistance circuit are widely separated and completely bakelite insulated from each other. The Variable High Resistance is the improved "D" curve type. Bakelite case and backplate. Bakelite white arrow knob. Single hole mounting, of course.

		List Price	YOUR COST
No. S 1890—50,000 ohms.	Frost "D" curve.....	\$2.35	\$1.31
No. S 1892—200,000 ohms.	Frost "D" curve.....	2.35	1.31
No. S 1895—500,000 ohms.	Frost "D" curve.....	2.35	1.31

FROST UX Base Bakelite Sockets



No. 530

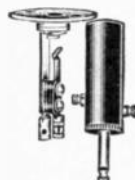
Made in two styles: No. 530 with soldering lugs and lock nuts on top; No. 531 with connecting screws projecting through bottom of socket for sub-base wiring.

	List Price	YOUR COST
No. 530.....	\$0.40	\$0.24
No. 531.....	.40	.24



No. 531

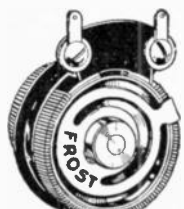
Loop Plug and Jack



Permits mounting of loop in lid of radio cabinet. Does away with loose wires. Jack has perfect wiping contact.

	List Price	YOUR COST
No. 250—Loop Plug and Jack.....	\$1.50	\$0.90
No. 251—Loop Plug only.....	.75	.45
No. 252—Loop Jack only.....	.75	.45

FROST Gem Rheostats With and Without Filament Switch



FROST-RADIO

For use where space economy is a determining factor. Resistance wire wound on die-cut bakelite strips, insulated from metal frame. The contact arm of German Silver is made in the form of a spring that occupies almost the entire center of the unit. In the "S" Series type, with switch, an insulating block lifts switch contact spring to open filament circuit when shaft is turned to extreme left. Switch does not interfere with normal operation of rheostat. Equipped with black bakelite knob and white arrow pointer. Single hole mounting.



FROST-RADIO

Single hole mounting. All units are equipped with three terminals and can be used as potentiometers or two terminal units as shown in the sketch below. Units with "D" curve are universal units for oscillation or volume control. Units with "LD" curve are for volume control in AC circuits. They have extremely low hop-off and only 2% of total resistance at center position. Frost Variable Resistances are made in two sizes as shown in table below.

2800 Series—1⁵/₈-Inch Diameter

		List Price	YOUR COST
No. 2896—2,000 ohms.	"LD" curve.....	\$2.50	\$1.50
No. 2897—5,000 ohms.	"LD" curve.....	2.50	1.50
No. 2898—10,000 ohms.	"LD" curve.....	2.50	1.50
No. 2899—25,000 ohms.	"D" curve.....	2.25	1.35
No. 2890—50,000 ohms.	"D" curve.....	2.25	1.35
No. 2891—100,000 ohms.	"D" curve.....	2.25	1.35
No. 2892—200,000 ohms.	"D" curve.....	2.25	1.35
No. 2895—500,000 ohms.	"D" curve.....	2.25	1.35

Variable Resistance with AC Snap Switch



This Frost Radio Combination Variable High Resistance and positive action switch finds practical use in AC sets. The switch is toggle type. Approved by the Underwriters Laboratories, rated as 3 amperes 250 volts—about three times the load of the average set. A special shaft carries the switch operating mechanism which is so arranged that, when the knob is turned to the extreme left, a small lever operates the switch and breaks the circuit. Turning the knob in the opposite direction—to the right—immediately snaps the switch to the "On" position.

		List Price	YOUR COST
No. AC1897—5,000 ohms.	Frost "LD" curve.....	\$3.00	\$1.80
No. AC1898—10,000 ohms.	Frost "LD" curve.....	3.00	1.80
No. AC1899—25,000 ohms.	Frost "D" curve.....	2.75	1.65
No. AC1892—200,000 ohms.	Frost "D" curve.....	2.75	1.65
No. AC1895—500,000 ohms.	Frost "D" curve.....	2.75	1.65
No. AC. 609—Switch only.....		.75	.45

FROST Gem-Jacs



No. 951

A small jack which projects only 1 inch behind the panel. Cannot get out of adjustment, is self-cleaning and it holds the plug in a firm grip. Sterling silver contacts; nickel plated brass frame; hand buffed thimble and washers. Gem-Jac mounts on ¹/₄ or ³/₁₆-inch panel. Thimble fits ¹/₄ or ³/₁₆-inch hole.



No. 953

	List Price	YOUR COST
951—Double Circuit.....	\$0.50	\$0.30
953—Single Open Circuit.....	.40	.24
954—Single Closed Circuit.....	.45	.27
955—Single Filament Control.....	.50	.30



No. 954



No. 955

FROST Gem Hum Balancers

Frost Gem Hum Balancers are "Standard" in quality AC sets as the surest means of suppressing objectionable hum. The units are supplied in three values for different filament voltages. Wound on die-cut bakelite strips mounted in the standard Frost Gem frame. One hole sub-panel mounting and slotted shaft for screw-driver adjustment.

	List Price	YOUR COST
No. 106—6 ohm.....	\$0.50	\$0.30
No. 120—20 ohm.....	.50	.30
No. 140—40 ohm.....	.50	.30



Series 1900 (Plain)

		List Price	YOUR COST
No. 1903—3 ohm.	For 4 CX 201 A or equal.....	\$0.75	\$0.45
No. 1906—6 ohm.	For 3 CX 201 A or equal.....	.75	.45
No. 1910—10 ohm.	For 2 CX 201 A or equal.....	.75	.45
No. 1915—15 ohm.	For 1 CX 201 A or equal.....	.75	.45
No. 1920—20 ohm.	For 1 CX 201 A or equal.....	.75	.45
No. 1925—25 ohm.	For 1 CX 201 A or equal.....	.75	.45
No. 1930—30 ohm.	For 1 CX 201 A or equal.....	.75	.45

Potentiometer

No. 1922—200 ohm.....	1.00	.60
No. 1924—400 ohm.....	1.00	.60

Series S 1900 (with Switch)

		List Price	YOUR COST
No. S 1903—2 ohm.	For 4 CX 201 A or equal.....	\$1.00	\$0.60
No. S 1906—6 ohm.	For 3 CX 201 A or equal.....	1.00	.60
No. S 1910—10 ohm.	For 2 CX 201 A or equal.....	1.00	.60
No. S 1915—15 ohm.	For 1 CX 201 A or equal.....	1.00	.60
No. S 1920—20 ohm.	For 1 CX 201 A or equal.....	1.00	.60
No. S 1925—25 ohm.	For 1 CX 201 A or equal.....	1.00	.60
No. S 1930—30 ohm.	For 1 CX 201 A or equal.....	1.00	.60



CLAROSTAT

Standard Clarostat

General variable resistor for B eliminators and receivers. Will handle 20 watts. 0-5,000,000 ohms.

List Price, \$2.25

Your Cost, \$1.35

Volume Control Clarostat

A compact single hold mount, universal control.

0-500,000 ohms, 7 watts.

List Price, \$1.50

Your Cost, 90c



Antenna Plug Clarostat



Eliminates usual antenna and utilizes excellent radio-frequency pick-up characteristics of house wiring and power lines. Unique mica and brass disk coupling condenser for exceptional efficiency. Absolutely safe. Finished in green bakelite and nickel. Long flexible connecting cord.

List Price, \$1.50

Your Cost, 90c

Duplex Clarostat



Unique variable resistor comprising two Clarostats in one. Independent set-screw adjustment for each section. Used in power units or as C-biasing resistance in socket-power sets. Also used as potentiometer with variable total resistance and adjustable mid-tap. Metal case; nickel plated; two-hole mounting; screw-driver adjustment.

Practically zero to 5,000,000 ohms. 5 watts per sec.

List Price, \$2.25

Your Cost, \$1.35



Table Type Clarostat

Clarostat in accessory form instead of as a part. May be employed as a volume or tone control, regeneration control or stabilizer. Finished in attractive statuary bronze and nickel, with felt bottom to prevent scratching. Requires neither knowledge nor tools, being externally applied. Provided with connecting cords and handy tip-connection block.

Table Type—Zero, 500,000 ohms—7 watts.

List Price, \$2.50

Your Cost, \$1.50

Power Clarostat

Heavy-duty variable resistor for radio power units, transmitters or general electrical applications. A favorite for line-voltage control. Dissipates heat rapidly and efficiently. Popular as C-bias control in auditorium amplifiers.

Fil. Control— $\frac{1}{4}$ —10 ohms—80 watts.

Low Range—25-500 ohms—80 watts.

Uni. Range—200 to 100,000 ohms—80 watts.

List Price, \$3.50

Your Cost, \$2.10

Speed Control Clarostat

Especially adapted to control of variable speed motor in television and other precise work. May also be used as heavy-duty variable resistor for laboratory work. Provided with heavy metal casing, protected screw binding posts, and short-circuiting button. Carrying capacity of 80 watts.

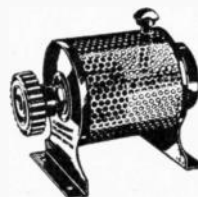
Laboratory— $\frac{1}{4}$ —10 ohms—80 watts.

Laboratory—200 to 100,000 ohms—80 watts.

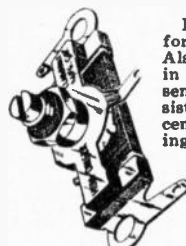
Speed Control—25 to 500 ohms—80 watts.

List Price, \$5.00

Your Cost, \$3.00



Hum-Dinger Clarostat



Improved center-tap resistor for hum control in A-C sets. Also useful as variable grid bias in screen-grid tube circuits. Essentially a Clarostat strip resistor with ingenious movable center contact. One-hole mounting. Screw-driver adjustment. Extremely rugged. Compact. Supplied in resistance ranges from 6 to 500 ohms.

List Price, 75c

Your Cost, 45c

SUPER-POWER CLAROSTAT

Giant variable resistor of high-current-handling capacity. Employed as line-voltage control; filament and plate control for transmitters; speed control for motors up to $\frac{1}{4}$ horsepower and field rheostat for generators. Dissipates heat rapidly. Large bakelite knob.

Fil. Control $\frac{1}{4}$ - 10 ohms 250 watts
Low Range 25 to 500 ohms 250 watts
Uni. Range 200 to 100,000 ohms 250 watts

List Price, \$6.00

Your Cost, \$3.60

American Beauty Soldering Irons



The only dependable electric iron for the laboratory or service shop. Complete with $\frac{3}{8}$ " tip for standard shop use. 12 $\frac{1}{4}$ " long. Weight 2 lbs.

No. 3138

List Price, \$8.00

Your Cost, \$5.49



New model 45-watt lightweight American Beauty with removable tip. A handy tool for the outside service man. Weight 14 oz.

No. S76

List Price, \$4.50

Your Cost, \$3.19

ELKON 5000-Hour Dry "B" Rectifier

Replaces the 1000-hour tubes in B Eliminators.

Dry - Solid - Rugged Self-Healing - Not a Tube - Long Life No changes in wiring, simply plug in place of tube.

Type EBH

(for B eliminators using BH type tubes)

List Price, \$6.00

Your Cost, \$3.60

Type E80

(For B eliminators and AC sets using 280W, 380 type tubes)

List Price, \$6.00

Your Cost, \$3.60

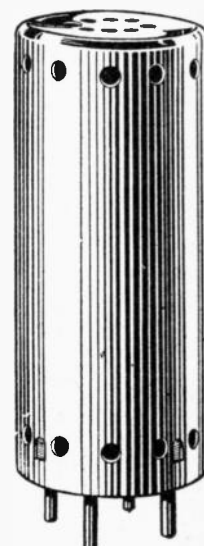
Replacement Rectifiers for "A" Eliminators

Majestic, Maylollan, Webster, Elkon, Bernard, Fada, Knapp and Sentinel.

Type M-16

List Price, \$7.00

Your Cost, \$4.20



New Elkon 3 Amp. Charger

Utilizing the new dry rectifying principle.

Type 310—110 V., 50-60 cycle.

List Price, \$13.50

Your Cost, \$8.10

New ELKON Tapering Trickle Charger



The original Elkon Tapering Charger keeps the storage battery in just the right condition all the time. Charging rate varies with the condition of the battery — high when the battery is low — low when the battery is high. Has maximum rate of 1 ampere.

Absolutely dry, no corrosion, no trouble, no attention. Has the exclusive Elkon Rectifier Replacement feature. No moving parts, long life. Guarantee and instructions are printed on the container.

Dimensions of Type E: 5 $\frac{1}{2}$ " long, 3" wide, 5 $\frac{1}{2}$ " high. Weight: 5 pounds.

Type E—110 V. A. C. 50-60 Cycles

List Price, \$10.00

Your Cost, \$6.00

Belden Complete Aerial Kits, Extension Cords, Battery Cables, Etc.

No. 8800 Beldenamel Aerial Kit

Contents

- 100 ft. 7x22 Beldenamel
- 25 ft. Belden Flexible Colorubber Ground Wire
- 50 ft. 7x22 R. C. Lead-in Wire
- 1 Belden Resistor Type Lightning Arrester No. 8812
- 1 15-inch Belden Lead-in Strip
- 1 Belden Ground Clamp
- 2 3-inch Belden Glass Insulators
- 3 Nail-on Knobs
- 2 Galvanized Screw Eyes
- 2 Wood Screws
- 6 Two-point Staples
- 1 Instruction Sheet



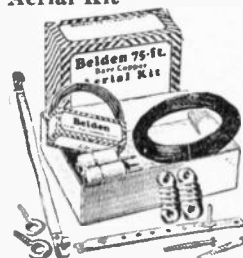
List Price, \$4.10

Your Cost, \$2.46

No. 8802 Beldenamel 75-Ft. Aerial Kit

Contents

- 75 ft. 7x22 Beldenamel
- 35 ft. R. C. Lead-in and Ground Wire
- 1 Belden Standard Type Lightning Arrester No. 8813
- 1 15-inch Belden Lead-in Strip
- 1 Belden Ground Clamp
- 2 3-inch Glass Insulators
- 2 Nail-on Knobs
- 2 Galvanized Screw Eyes
- 2 Wood Screws
- 1 Instruction Sheet



List Price, \$2.90

Your Cost, \$1.38

Belden Indoor Aerial Kit

An ideal assortment for an indoor aerial. The neutral brown braid of the flexible Belden Indoor Aerial Wire facilitates concealing the wire around a window frame or on the molding. Kit includes: 80 ft. Belden Indoor Aerial Wire 15 ft. Belden Flexible Colorubber Ground Wire 1 Belden Ground Clamp 1 Instruction Sheet



List Price, \$1.00

Your Cost, 60c

Belden Radio Lightning Arresters

Thoroughly sturdy, reliable protector designed for installation either inside or out-of-doors. Body of heavy porcelain furnishes weatherproof enclosures for the electrodes. Listed as standard by the National Board of Fire Underwriters.

No.	List YOUR Price	COST
8812—Resistor Type, 1 arrester in carton	per arrester	\$0.70 \$0.42
8813—Standard Type, 1 arrester in carton	per arrester	.30 .18



No. 8818 Beldentenna

A 7-ft. combination radio antenna and extension cord. One cord provides a self-contained antenna and also connects the lighting current to the set. Equipped with the Belden Soft Rubber Plug and Bakelite Outlet. Plug, cord, and overall braid are brown. In operation the rubber plug is inserted in a convenience outlet; the plug from the receiver or power unit is inserted in the Beldentenna outlet; and the lead which extends from the Beldentenna outlet is attached to the aerial connection of the set. No other aerial is needed.



List Price, \$1.80

Your Cost, 96c

No. 8819 Belden Socket Aerial

A 7-ft. especially designed cord covered with a braid of brown rayon, and equipped with the Belden Soft Rubber Plug that provides a self-contained aerial. In operation one end is attached to the aerial connection of the set; the other plugs into a convenience outlet. No other aerial is needed.

List Price, \$1.00

Your Cost, 60c



Beldenamel Aerial Wire

No.	List YOUR Price	COST
8821—Each in carton	100 ft. 7x22 Beldenamel.	\$1.25 \$0.75
8828—Each in carton	100 ft. 12 Beldenamel Solid.	1.55 .93



No. 8860 Belden Speaker Extension Floor Cord

A 12-ft. flat rubber insulated 2-conductor cord with a bakelite connector at one end, and a 5-ft. flexible brown cotton covered cord equipped with pin terminals at the other. Total length, 17 ft. The 12-ft. Belden under Rug connector permits the speaker to be used on the opposite side of the room from the receiver.

List Price, \$2.75

Your Cost, \$1.65



Belden Speaker Extension Cords

Conductors are flexible tinned stranded copper served with cotton under Colorubber, one brown the other black, with an outer braid of mercerized cotton. Belden Bakelite Connector completely covers pin tips. The Colorubber Insulation prevents leakage.

No.	List YOUR Price	COST
8861—10-ft. Cord with connector, in carton	per cord	\$0.80 \$0.48
8862—20-ft. Cord with connector, in carton	per cord	1.00 .60
8863—40-ft. Cord with connector, in carton	per cord	1.80 1.08
8866—20-ft. 4-Conductor Cord, in carton	per cord	1.75 1.05



The Belden Portable Outlet

Has bakelite outlets at each end of the flat under-the-rug connector. A four-foot connecting cord, equipped with the Belden Soft Rubber Plug, is provided at one end for plugging into nearest wall outlet. The under-the-rug connector permits installation of a radio set on the opposite side of the room from outlet. Is easily installed without tools, easily moved, and brings the outlet where it is needed. Furnished one cord in a carton.

No.	List YOUR Price	COST
1715—2 outlets with 15'4" Under-Rug Connector	each	\$3.00 \$1.80
1712—2 outlets with 12'4" Under-Rug Connector	each	2.75 1.65
1709—2 outlets with 9'4" Under-Rug Connector	each	2.50 1.50
1706—2 outlets with 6'4" Under-Rug Connector	each	2.25 1.35



Automatic Power Control

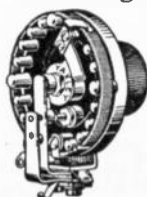
Every owner or purchaser of a battery operated set can be sold one of these Yaxley Automatic Power Controls. It has advantages that guarantee their easy sale because no one will want to be without. It practically makes the battery-operated set a power operated set.



The Series Type Automatic Power Control is designed primarily for use in conjunction with a trickle or low-rate charger, where there is little or no chance of overcharging the A battery. Now furnished with new construction, exclusively Yaxley, that keeps the voltage drop less than two-tenths (2/10) volts when used with D.C. sets having a current draw equivalent to six 199 type of tubes up to eleven 201 type of tubes. Complete instructions for installing packed in each box.

No.	List Price	YOUR COST
444—Series Type Automatic Power Control	\$5.00	\$3.00
445—Multiple Type Automatic Power Control	6.00	3.60

The Original Air-Cooled Rheostat



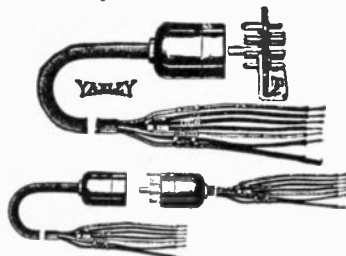
The Yaxley Air-Cooled Rheostat has a velvet-smooth action and the fine adjustment of a master instrument which permits filament voltages to be built up slowly and held at exactly the right point. The base is of bakelite.

	List Price	YOUR COST
Rheostat complete with knob; any resistance	\$1.35	\$0.81

Yaxley Potentiometers

No.	List Price	YOUR COST
200—200 ohms	\$1.75	\$1.05
400—400 ohms	1.75	1.05

Yaxley Cable Connectors



Cable Connector Plug—7 Conductors

Yaxley Cable Connector Devices will give complete satisfaction with either A.C. or D.C. sets. The chassis may be connected or disconnected quickly and conveniently from the power pack or batteries. These features, many of them exclusive, are found in all Yaxley Cable Connector Devices: Positive spring contacts. Bakelite construction. No loosening of the pins or springs in soldering. Easily soldered. Extra quality cables. Cannot be put together improperly. All terminals and cable ends are plainly marked.

Complete with 5-foot cable and cable markers. Mounting plate mounts on base panel by means of bracket or bracket may be removed and plate fastened to sub or back panel.

No.	List Price	YOUR COST
No. 660—Complete	\$3.00	\$1.80
Also furnished with two phone tip jacks in the plate, for loud speaker connections.		
No. 699—With 2 extra jacks	3.25	1.95

Cable Connector Plug—12 Conductors

Has the same characteristics as the No. 660, excepting 12 conductors. Cable length, 4 feet. Six conductors, two pair being twisted, for A. C. leads are No. 14 wire.

No.	List Price	YOUR COST
No. 612—Complete	5.00	3.00
Also furnished with 2 extra phone tip jacks on the mounting plate for loud speaker connection.		
No. 614—With 2 extra jacks	5.25	3.15

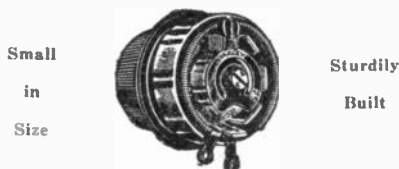
Cable Connector Plug—Binding Post Type

The No. 670 Binding Post Type Cable Connector Plug with 7 Conductors consists of the receptacle plug and 5-foot cable and a pin plug with 15-inch leads. Especially for use on sets with binding posts and to serve as a seven-conductor connector.

No.	List Price	YOUR COST
No. 670	3.50	2.10
The No. 627 is the same as the No. 670, excepting it is the 12-conductor type, with 12-conductor, 4-foot cable.		
No. 627	6.00	3.60



Junior Rheostats and Potentiometers



Cat. No.	Ohms	List Price	YOUR COST
501	1	\$0.75	\$0.45
502	2	.75	.45
503	3	.75	.45
504	4	.75	.45
506	6	.75	.45
510	10	.75	.45
515	15	.75	.45
520	20	.75	.45
525	25	.75	.45
530	30	.75	.45
540	40	.75	.45
550	50	.75	.45
560	60	.75	.45
575	75	.75	.45
599	100	.75	.45
500 Switch for Junior Rheostat			.24

Junior Potentiometers

Cat. No.	Ohms	List Price	YOUR COST
506P	6	\$1.00	\$0.60
510P	10	1.00	.60
515P	15	1.00	.60
520P	20	1.00	.60
525P	25	1.00	.60
530P	30	1.00	.60
550P	50	1.00	.60
560P	60	1.00	.60
575P	75	1.00	.60
599P	100	1.00	.60
5200P	200	1.00	.60
5400P	400	1.00	.60
51000P	1,000	1.25	.75
52000P	2,000	1.25	.75
53000P	3,000	1.25	.75
55000P	5,000	1.50	.90
10MJP	10,000	1.50	.90

Prices Include Knobs

Junior Rheostats and Potentiometers are made in all ratings for sub-panel mounting.

Volume Controls

Cat. No.	Ohms	List Price	YOUR COST
50625	600	\$1.50	\$0.90
51010	1,000	1.50	.90
52025	2,000	1.50	.90
53025	3,000	1.50	.90



Wire-Wound Resistance Units

Cat. No.	Ohms	YOUR COST
801	1	\$0.09
802	2	.09
803	3	.09
804	4	.09
805	5	.09
806	6	.09
807	7	.09
809	9	.09
810	10	.09
815	15	.09
820	20	.09
825	25	.09
830	30	.09
840	40	.09
850	50	.09
860	60	.09
8100	100	.15
8200	200	.15
8300	300	.15
8400	400	.15

Tapped Resistances

Same construction as 800 type resistors. The letter "C" in the catalog number indicates tapped in the center. No. 815T5 is tapped at 5 ohms.

Cat. No.	Ohms	YOUR COST
806C	6	\$0.18
810C	10	.18
812C	12	.18
815C	15	.18
815T5	15	.18
820C	20	.18
830C	30	.18
850C	50	.18
864C	64	.18
8100C	100	.24
8400C	400	.24

Radio Convenience Outlets

No.	List Price	YOUR COST
No. 135 — For loudspeakers or head phones in brushed brass	\$1.00	\$0.60
No. 136 — For aerial and ground wires	1.00	.60

No. 137—For battery connections. Place the batteries in an out-of-the-way place. Also for power packs, or wherever a 7 conductor outlet is desired. Supplied complete with plug.

List Price, \$2.50. YOUR COST, \$1.50

No. 241 — Combination for aerial and ground and electrical connections. One AC receptacle for set, other for power speaker or lamp, etc.

List Price, \$2.00
YOUR COST, \$1.20

No. 242—Combination for loud speaker and two electrical receptacles.

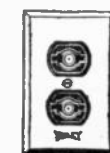
List Price, \$2.00
YOUR COST, \$1.20

No. 238 — Combination for speaker, aerial and ground.

List Price, \$2.00
YOUR COST, \$1.20

No. 142—Outlet same as 135 except it has two speaker jacks on single plate.

List Price, \$1.75
YOUR COST, \$1.05



No. 138—Outlet plate with duplex receptacle, has many convenient uses.

List Price, \$1.00 YOUR COST, 60c



Sockets and Binding Posts



UX Socket

Grooved tops to guide the prongs to proper holes.

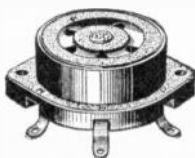
List Price, 40c

Your Cost, 24c

UY Socket

Ezy UY and UX Sockets are made in only one completely universal model. That means one stock. They can be mounted above or below metal, bakelite or wood panels. Phosphor bronze contacts.

List Price, 50c



Your Cost, 30c



EBY Tip Jacks

Deliver a tight spring contact the full length of the phone tip. They are countersunk so that the tip can't move. Nickel-plated brass equipped with red and black washers for insulating from metal panels.

List Price, 25c pair.

Your Cost, 15c

EBY Ensign Binding Posts

The tops don't come off. Made in all markings or plain.

List Price, 15c

Your Cost, 9c

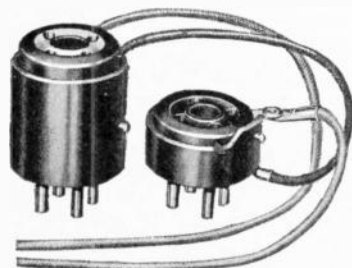


NA-ALD No. 932 Twin Test Adapter

Is made for testing UX222 type tubes in Jewell testers.

List Price, \$4.00

Your Cost, \$2.40



No. 945 Adapter

Has four holes on top and 5 prongs below. Used for testing grid and plate voltages in five prong sockets with DC testers.

List Price, \$1.00

Your Cost, 60c

NA-ALD Adapters

No. 428—An Adapter for Every Purpose

Small space UX Socket.

List Price, 25c

Your Cost, 15c

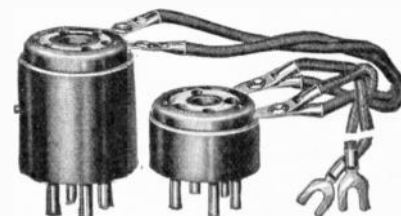


No. 942 Twin Adapter

This adapter is made for taking grid plate and filament readings from the 5-prong socket in AC sets with the Jewell No. 133 or 133-A analyzer. Made especially for the Jewell Instrument Co., Chicago.

List Price, \$4.00

Your Cost, \$2.40



No. 949 Universal Pick-up Adapter

Is a unique adapter for connecting electric phono pick-ups to AC or DC sets. It fits UX or UV sockets and takes four or five prong tubes. The only truly universal adapter in the world for this purpose.

List Price, 60c

Your Cost, 36c

No. 933 Power Amplifier Adapter

Here is an adapter for attaching AC sets to power amplifiers as in combination electric phonos and power speakers, where it is desired to connect in an AC set to complete the combination. Provision is made for connecting in a by-pass condenser.

List Price, \$1.50

Your Cost, 90c



No. 948 AC Pickup Adapter

For attaching regular electric phono pickups to AC sets. The adapter is inserted in the five prong detector socket of the AC set and the detector tube is then placed in the top of the adapter. Two wires from the adapter are then connected to the two wires of the pickup through any standard connector plug. This connection places the pickup in series with detector plate.

List Price, \$1.50

Your Cost, 90c



No. 946 DC Pickup Adapter

An adapter for connecting electric phones to radio sets. No. 946 connects the pickup leads to the plate prong of the det. tube and B+ 45 V. of the batteries or B eliminator.

List Price, \$1.50

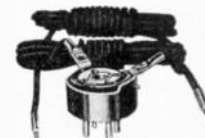
Your Cost, 90c

No. 950 Pickup Adapter

Has two leads coming out from grid and negative filament. For attaching pickups into grid circuit of DC sets. Fits UX or UV sockets.

List Price, \$1.50

Your Cost, 90c

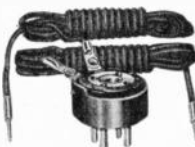


No. 951 Pickup Adapter

For connecting pickup into plate circuit of battery type sets without making connection to B+ 45. Fits UX or UV sockets.

List Price, \$1.50

Your Cost, 90c



No. 952 Power Amplifier Adapter

Has same internal connections as No. 933. It has three terminals, one coming out from the plate of the tube; one from the plate of the socket and the other from the cathode. No. 952 has the wires attached. Two wires connect to the power amplifier and two provide for attaching the bi-pass condenser. This adapter connects AC sets to power amplifiers. Used by manufacturers such as Samson, Amertron, S-M., etc.

List Price, \$1.75

Your Cost, \$1.05

No. 954

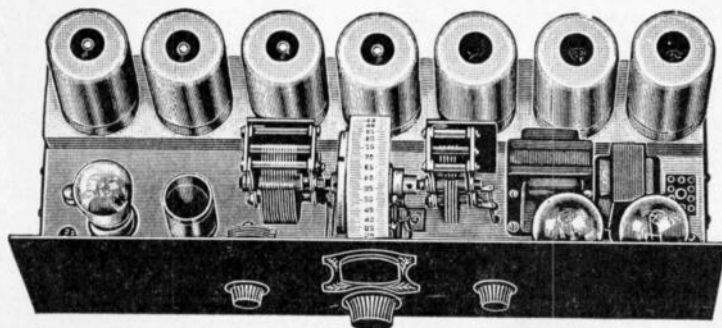
Just the reverse to the 945 this adapter with five holes on top and four prongs below permits five prong AC tubes to be tested in DC testers, equipped with UX or UV sockets.

List Price, \$1.00

Your Cost, 60c

New H-F-L Mastertone

Five Screen Grid Tubes—245 Push Pull



Completely Wired

Each and every Mastertone is assembled and wired under the personal direction of the two distinguished engineers who developed this wonder receiver.

Every completed receiver is given repeated and continuous tests both mechanical and on the air before being finally passed. Its built-in value is obtained through careful planning, efficient organization, the finest of engineering skill and the highest quality of materials obtainable. Tuning is accomplished by a single dial positive in action and smooth in operation. Shielding of all essential parts insures unflinching service.

THE VOICE OF RADIO PERFECTED

This latest H. F. L. Mastertone brings to you a new realm of radio enjoyment. It challenges all comparison. It does all the things you may expect from a fine radio receiver, unflinching, continuously and with a power and sweetness of tone that is revolutionary. Its range staggers belief.

The amplification system is built around the new AC screen grid tubes. Oscillation is eliminated. Tremendous gain is accomplished through the use of four AC Screen Grid Tubes. The fifth screen grid tube is employed in the new system of Power Screen Grid Detection, which absolutely prevents overloading, even at maximum volume.

You are instantly impressed with the ease, smoothness and quietness of operation. There is a complete absence of mechanical and interference noises. The minutely equalized gain over the entire frequency range makes tuning efficient and constant at every point on the dial.

Plug-in jack for electrical phonograph with a volume control is provided. The entire three stage audio system is employed for this purpose. The receiver is compact. Front panel is 7x21 and chassis is only 7½ inches deep.

10-KC Selectivity

The intermediate system employs four screen grid tubes with five tuned filter circuits which are all individually adjustable to the absolute peak of the frequency to which they are tuned. This insures positive 10 kilocycle selectivity and defined clarity as well. The highly amplified signal is fed into the screen grid power detector and then to the audio system. Ample provision for the dissipation of heat has been made. Voltages for dynamic speakers of AC or DC type are provided. Even a magnetic or horn speaker can be used without harm to the speaker windings.

11 Tubes Operating at Peak Efficiency

The radio current after being amplified through the four screen grid tubes and passing through the power detector, is fed into the unity coupled first audio stage. Amplification is uniform over the entire musical scale, showing practically a flat curve at all frequencies. The first audio stage is followed by two 245 tubes in push-pull. Tubes required are five 224, three 227, two 245 and one 280 full wave rectifier.

The H-F-L Power Master

Though a necessary part of the receiver, the power supply unit is built separately for ease of installation. It is of the most advanced method of construction, employing the most highly developed engineering practices. Transformer is over-size. The filter system uses a heavy choke and the new self-healing Mershon condensers of 24 mfd. capacity.

An Automatic Line Ballast and regulator levels out all voltage fluctuations from 90 to 135 volts. Full wave rectifier 280 tube is used.

H-F-L Mastertone Chassis

The new Mastertone Chassis as described above is of unusually rugged construction. Steel and copper sections are used, all heavily cadmium plated. All stages as well as tubes are individually shielded. The catacomb at rear of chassis houses all intermediate frequency stages, detector, first audio and oscillator circuit. All coils, condensers and wiring are completely enclosed, assuring continuous, trouble-free operation.

No. 8781—Chassis only (less tubes).

List Price, \$110.00

Your Cost, \$66.00

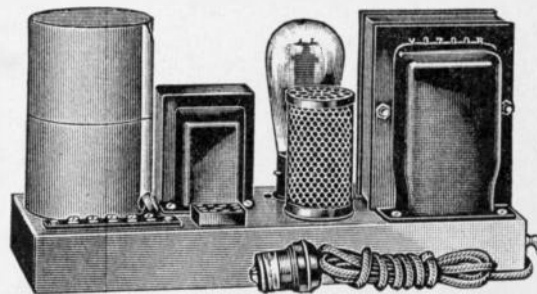
Complete with Power Supply

The new H-F-L Mastertone is presented complete with the H.F.L. Power Master, a specially developed power unit to supply a steady dependable source of power. A completely wired combination of a remarkable receiver and power supply for complete AC 110 volt 60 cycle operation. Panel size, 7x21"; chassis, 7½" deep. Ready for installation in cabinet or console.

No. 8780—Less Tubes.

List Price, \$180.00

Your Cost, \$105.00



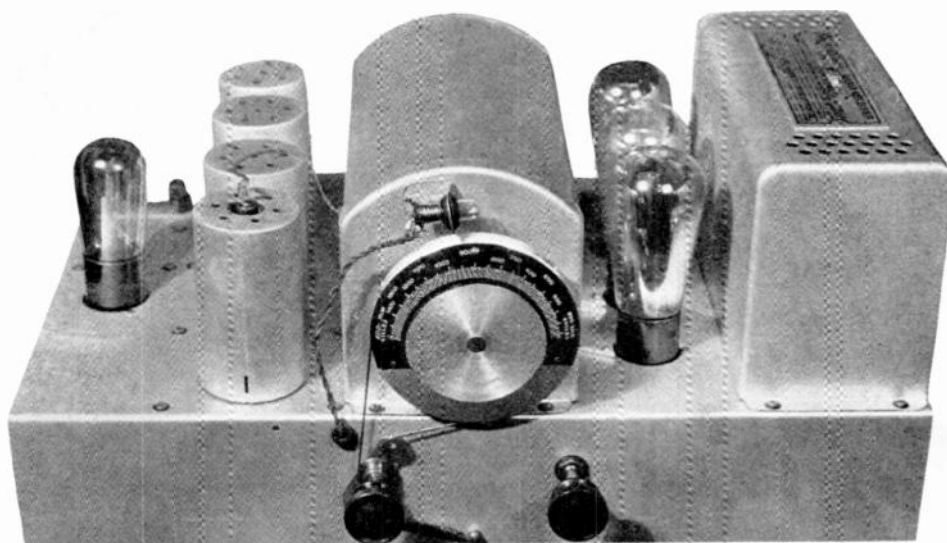
H-F-L Power Master

The completely wired H.F.L. power unit requires only one 280 full rectifier tube for operation. Separate terminals for interchange of various speakers are provided. Either AC or DC Dynamic may be used. If a DC dynamic is used, one with 2200 to 2500 ohm field coil, drawing 50 to 55 mills, is recommended. Power unit connects to receiver by a convenient multiple cable and plug. Less tube.

No. 8782—List Price, \$70.00

Your Cost, \$42.00

The new **1930 FIRST NATIONAL RECEIVER CHASSIS**



Screen Grid—8 Tubes—All Electric—Power Detector—4 Tuned Circuits—Push-Pull 245 Power Tubes

SENSATIONAL RADIO—SENSATIONAL PRICE

A Nationally Well-Known Receiver Built by BALKEIT for the custom set builder—sold in chassis form—enables your customers to choose their own cabinets

READ THESE SPECIAL FEATURES

- 1—Eight tubes including rectifier tube. Of these, there are four 227 tubes, one 224 shielded grid, two 245 tubes and one 280 rectifier tube.
- 2—Four tuned circuits with the four condensers accurately matched to give maximum sensitivity and selectivity.
- 3—All radio frequency transformers carefully and scientifically shielded to insure greatest selectivity.
- 4—One shielded grid 224 tube so placed in the radio circuit as to produce sensitivity.
- 5—Radio frequency amplifier and first audio frequency amplifier employ 227 heater type tubes. This feature minimizes alternating current hum and makes the set more sensitive.
- 6—Radio frequency amplifier employing the famous Hazeltine Neutrodyne Circuit, the inherent stability of which eliminates all squeals or oscillation.
- 7—Strictly single dial tuning control. No auxiliary antennae device required, although the antennae circuit of the set is tuned by the same gang condenser which tunes the other circuits.
- 8—Special audio frequency amplifier is used in this set, incorporating the two 245 tubes mentioned above.
- 9—Phonograph jack is provided so that the audio amplifier of the set can be used in conjunction with a phonograph pickup.
- 10—A high and low switch is provided to take care of AC and DC line fluctuations.
- 11—The on and off switch is directly mounted on the volume control device and operated by the same knob.
- 12—The solidly built chassis is of cold rolled steel richly finished in silver.
- 13—A beautiful escutcheon plate is mounted in front of the illuminated dial bearing the name of the set.
- 14—Both numeral and kilocycle calibrations are shown on the dial.
- 15—Output on speaker circuit is designed for a standard 2500 ohm dynamic D. C. speaker.
- 16—Wiring is reduced to a minimum by the scientific arrangement of the parts beneath the chassis pan, thus obtaining a set of outstanding electrical balance. All parts with the exception of the power pack and the tuning condenser are mounted beneath the pan.
- 17—Provision is made for adjustment of the neutralizing condensers from the top of the chassis, thus enabling easy neutralization of the radio circuit after the chassis has been placed in the cabinet.
- 18—Hum is minimized by means of a control placed on the rear of the chassis.
- 19—Special provision is made to care for varying lengths of antennae.
- 20—First National Receiver is a product of the Balkeit Radio Company and is licensed under patents of the R. C. A., Westinghouse, General Electric, American Telephone and Telegraph, Hazeltine Neutrodyne, La-Tour and Lowell and Dunmore Power Pack patents.

First National 1930 Chassis only, List Price, \$75. Your Cost, \$43.50

Same Chassis with Magnavox 2500 Ohm D. C. Speaker. Your Cost \$51.50

1930

1930

NEW

FIRST NATIONAL SCREEN GRID POWER DETECTOR ALL ELECTRIC RECEIVER

8 TUBES

INCLUDING
RECTIFIER TUBE

Four 227 Tubes, One Shield Grid 224,
Two 245 Power Tubes in Push-Pull and One 280.

Has Built-in Phonograph Jack

Four tuned circuits with the four condensers accurately matched to give accurate sensitivity and selectivity. All R.F. transformers are carefully and scientifically shielded.

This receiver is a product of the BALKEIT CO. and is licensed under the famous and well known radio patents of the R. C. A., Westinghouse, General Electric, American Telephone and Telegraph, Hazeltine Neutrodyne, La Tour and Lowell and Dunmore power pack patents.



NOT AN ORPHAN
But a Nationally
Known Standard
Receiver
BALKEIT BUILT

Beautiful Walnut
Console Cabinet
by

Pooley

with Beautiful Art
Tapestry Grill
Perfect Reproduction
and Tone Quality
Are Assured
Through 2,500
Ohm DC Field

Magnavox
Dynamic
Speaker

— VALUE UNHEARD OF —

EXCLUSIVELY AN

M&H

SPECIALS

RETAIL
VALUE 152.00

YOUR COST

85

LESS
TUBES

Just Think—This Wonderful Combination of
Nationally Known Manufacturers

Balkeit—Pooley—Magnavox

All Incorporated into the Finest 1930 Electric
Set That Money Can Buy

RETAIL
VALUE
\$152

Complete Set of Arcturus Tubes, Your Cost \$14.40

World Radio History