

# WARDS 1940 RADIO CATALOG

MONTGOMERY WARD

mail  
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# Over 100 Licensed Amateurs

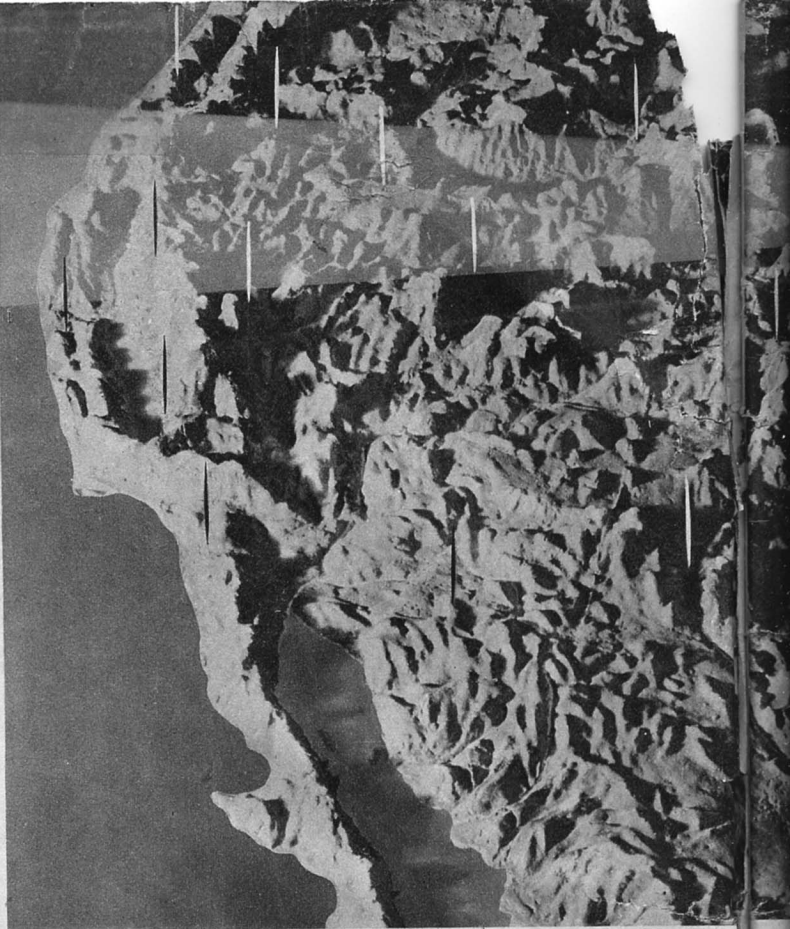
TO HELP SERVE YOU BETTER AT WARDS

## NATION-WIDE COVERAGE

Some of these Amateurs are in the key jobs at our Chicago Headquarters. Others are in the various Montgomery Ward Stores—(there are over 600 Ward Retail Stores and 9 Mail Order Houses). They are employed as Servicemen, Salesmen, Department Heads, and one is a Store Manager. You probably know one or more of these fellows. They are scattered throughout the U. S. A.

We're proud of our Amateurs. Wherever they are, they're doing a good job. It was a Ward Amateur who won the 1938 Paley award. See QST of July, 1939.

When you write us about Amateur Sound or Service Equipment, your letters are answered by Amateurs of long standing. These fellows are conservative. When you ask them about a piece of merchandise, they will weed out any over-enthusiastic claims of the manufacturer, and give you plain facts. It is as much their job to steer you away from merchandise you don't need, as it is to recommend what you do require. Our Guarantee is *Complete Satisfaction or your money back*. This is the only way we can assure it.



## MONTGOMERY WARD AMATEURS

How Many Do YOU Know?

W1BOR	W3EJQ	W6MPK	W8EKV	W8RCC	W9GGU	W9NZM	W9VFG
W1BDS	W4JG	W6PNC	W8EXL	W9AKX	W9HCU	W9OH	W9VOG
W1CDX	W5CFP	W6QXF	W8GVI	W9CJO	W9IPN	W9OQU	W9WLT
W1GHT	W5EIH	W7BDS	W8HDG	W9CMQ	W9IR	W9PKY	W9WWV
W1HYO	W5ERD	W7BWH	W8HCK	W9CRG	W9JTN	W9PRP	W9WXE
W2AKL	W5FOY	W7BYB	W8IPN	W9DFK	W9JWO	W9QGT	W9WYZ
W2FBK	W5FZN	W7CTV	W8IPZ	W9DMG	W9KAO	W9QGX	W9YGU
W2JEF	W5IAF	W7FOM	W8KPY	W9EWO	W9KLD	W9RFA	W9YPS
W3BDN	W6AEK	W8AJM	W8LZW	W9FPP	W9KJZ	W9SIY	W9YUX
W3ESV	W6EEA	W8CHQ	W8NLV	W9FQN	W9MUN	W9SMZ	W9ZMX
W3FSK	W6LA	W8DOA	W8OZP	W9FSP	W9NKR	W9TMY	W9ZJZ
W4AE	W6IGH	W8EGP	W8PBJ	W9FWW	W9NUS	W9UUV	W9BMN
W4ASC	W6KUJ	W8EJJ	W8PN	W9GEU	W9NZC	W9UWL	N9WKJ

## WARDS BIG THREE POINT "MONEY-BACK" GUARANTEE

**WE GUARANTEE** every piece of merchandise we sell to be of fine, dependable quality... the kind of merchandise that will give you the kind of satisfactory, dependable service you have the right to expect.

**WE GUARANTEE** that if, after this Catalog is printed we can still further reduce any prices because of lower markets or better buying, we will always fill your order at the lower price and refund the difference. Remember—you are always assured of the lowest possible prices when you buy your equipment at Wards!

**WE GUARANTEE** complete satisfaction... or your money back. Whatever you buy from us must please you, or you may return it, and we'll either exchange it for what you want or refund all you paid, including all transportation charges.

**YOU BE THE JUDGE.** Prove the superior quality and performance of Wards equipment yourself. Make any comparison you want—have it tested by any reputable and properly equipped laboratory that you wish.

**REMEMBER,** you are taking no chances when you buy from Wards. Our 67-year-old GUARANTEE OF SATISFACTION or your money back, stands squarely behind every piece of Radio equipment and other merchandise we sell.

## For More Than 20 Years Wards Have Specialized in Quality Radio Equipment

Behind every piece of Wards Radio Equipment stands our 20-year reputation of square dealing and honest merchandise in the Radio Field... a reputation that has been built on our specialization in real Quality Merchandise.

Pictured at the left is a part of a 4-page Ward advertisement run in *Radio News* in 1921. "Old Timers" will tell you this equipment was just as reliable then as our present offerings are today! Our experts are constantly on guard against any drop in Wards high quality standards. When buying your Radio Equipment remember that Wards 20 years' experience is yours. It protects you from unreliable merchandise, and gives you a real Guarantee of Satisfaction.



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## AT WARDS EVERYTHING IS SOLD ON TIME PAYMENTS

### THE MOST PRACTICAL CREDIT PLAN EVER OFFERED

You can buy anything and everything from soldering lugs to complete Transmitters and Receivers at Wards on Convenient, Liberal Time Payment terms... an order for as little as \$10 is enough to open your Time Payment Account at Wards. Whether you want one item selling for \$10 or more . . . or several hundred small items selling for only a few cents each . . . you can take advantage of this practical Time Payment Plan and use the equipment while you are paying for it. Your first down payment brings you the merchandise you want . . . a small amount monthly pays the balance, including the small credit charge, which is only 10% of the *unpaid balance* after taking out the first payment.

Anyone with a regular income will find this a convenient and easy way to buy. Wards credit requirements are simple. No security or co-signers are needed . . . we depend on your integrity and ability to pay, and are always glad to extend credit to any responsible person . . . it's another Ward service that has been designed especially to help you get the equipment you want now.

There are no hidden charges at Wards . . . Remember, you know exactly what you are paying for Wards credit . . . and you get the benefit of Wards low Cash Prices, too. You pay the same low prices as for Cash, with a small carrying charge added to the *unpaid balance only*. It is included in the amount to be paid monthly. Wards Time Payment Plan enables you to buy what you want and need today, even if it isn't convenient to pay all cash.

The Table of Liberal Terms at right shows how much you can buy for the amount you can conveniently pay each month. Frequently you will find that for the same monthly payment you can get larger or better equipment than you originally intended. Also, you can pay the entire amount still owing at any time, if you like, and the carrying charge will be adjusted accordingly.

### MAKE ADDITIONAL PURCHASES ON THE SAME ACCOUNT

At Wards once you have established a good credit rating by making your payments promptly you are entitled to make additional purchases of \$5 or more on the same account without delay for further credit investigation and without down payment. A 10% carrying charge will be added, but your monthly payments will not be increased unless the Table of Terms shows that the new purchase you have made, plus what you still owe, requires a larger monthly payment than the original Time Payment order.

To buy on Wards Time Payment Plan, simply write your order on a Ward Order Blank in the regular way, fill in and sign the Time Payment Form on the back, and mail the order with the Down Payment to Montgomery Ward, Chicago, Ill. (See table of Terms at right.) Any responsible person can sign the Time Payment Order. When buying for a Church, Lodge or other Organiza-

tion, one or more persons should sign the order as individuals (not as officers of the organization). Your order will be given prompt attention . . . it usually requires only a few days to complete the necessary investigation. For further ordering information see complete details on Page 63 of this Catalog.

Convenient Table of Terms

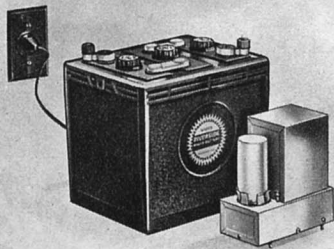
Cash Price	Down Payment	Monthly Payment	Cash Price	Down Payment	Monthly Payment
\$10.00 - 15.00	\$2.00	\$2.00	\$110.01-120.00	\$10.00	\$9.00
15.01 - 17.50	2.50		120.01-132.50	12.50	
17.51 - 20.00	2.50	3.00	132.51-150.00	12.50	10.00
20.01 - 23.00	3.00		150.01-165.00	15.00	
23.01 - 28.00	3.00	4.00	165.01-175.00	15.00	12.00
28.01 - 30.00	3.00		175.01-200.00	20.00	
30.01 - 40.00	4.00	5.00	200.01-222.50	22.50	14.00
40.01 - 55.00	5.00		222.51-225.00	22.50	
55.01 - 60.00	5.00	6.00	225.01-250.00	25.00	17.00
60.01 - 66.00	6.00		250.01-252.50	27.50	
66.01 - 70.00	6.00	7.00	252.51-275.00	27.50	15.00
70.01 - 80.00	7.00		275.01-280.00	30.00	
80.01 - 88.00	8.00	8.00	280.01-300.00	30.00	16.00
88.01 - 90.00	8.00		300.01-310.00	35.00	
90.01 - 100.00	9.00	8.00	310.01-335.00	35.00	17.00
100.01 - 110.00	10.00		335.01-350.00	35.00	
			350.01-390.00	40.00	20.00

**Small Carrying Charge:** The carrying charge is 10% of balance after deducting Down Payment. Example: If Cash Price of order is \$22.50, the Down Payment is \$3, and Monthly Payments are \$3. The carrying charge is 10% of the Unpaid Balance remaining after the Down Payment (10% of \$19.50 or \$1.95) making a Total Balance Due of \$21.45, payable in seven monthly payments of \$3 each and 45c the eighth month. (Minimum carrying charge, \$1.00). If your order totals more than \$390.00, write us for Terms.

**IMPORTANT NOTICE:** Wards Can Now Supply Police Radio Equipment Licensed by A. T. & T. and R. C. A. Write to Radio Wholesale and Technical Dept., Montgomery Ward & Co., Chicago, Ill., for complete details.

# The "Hallicrafter" Receivers

Operate on Battery or A.C.



The greatest advance in receiver versatility—operate any receiver on this page (Pg. 4) in your boat, or car . . . or in the wide open spaces with a six-volt storage battery and vibrapack for power. When you're back home just plug it in the usual 110 volt, 60 cycle, A. C. light socket. You get the same peak performance from power line or battery supply. Saves you money because you can use the same receiver for field-day, or any number of ever occurring emergencies. Octal socket permits quick connection of vibrapack or "B" batteries and 6-V. storage "A" battery, ready for immediate use. For vibrapack listing, see models on Page 33. For storage batteries, see Page 32.

All merchandise shipped from Chicago unless otherwise specified, but you pay shipping charges, only from Wards nearest Mail Order House. Send your order direct to Chicago.



FREQUENCY METER TUNING

## THE NEW 9-TUBE SKYRIDER DEFIANT SX-24 WILL OUT-PERFORM ANY COMPETITIVE RECEIVER IN ITS PRICE CLASS

The latest in Amateur Radio at this low price . . . Frequency Meter Tuning in a precision built Receiver! You know instantly the frequency of every Amateur signal you hear because the dial is calibrated. No need for an external frequency meter when it's built right into this new modern Hallicrafter model. Temperature Compensated Padding Condensers assure constant calibration at all times.

All Controls are Grouped to give you the greatest operating convenience. Controls are, R.F. gain, 4 position band switch directly below Band Spread Dial. Six position selectivity switch. Crystal Phasing Control. Automatic Noise Limiter Switch. Two position Tone Control, Audio Gain, B.F.O. pitch control, B.F.O. on-off Switch, Standby Switch and Phone Jack. Inserting any type of Phone, either Crystal or magnetic, silences the external speaker (see below); permits personal listening. Covers from 540

**\$69.50**  
Cash  
\$6 Down, \$7 a Month  
See Page 3

K.C. to 43.5 M.C. No "blind spots". Automatic Noise Limiter for minimizing ignition noises and sharp bursts of static. Six Selectivity Positions controlled by six point front panel switch. Crystal Filter gives any desirable degree of band width from high fidelity to razor-edge sharpness. New Bottom Grid Terminal Tubes for greater efficiency; one 6SK7 R.F. 6K8 1st detector oscillator; 6SK7 1st I.F.; 6SK7 2nd I.F.; 6SQ7 2nd detector, 1st audio and A.V.C.; 6F6 output; 80 rectifier and 6H6 automatic noise limiter; 76 B.F.O. Beautiful Steel Cabinet finished in long-wearing Crystalline Gray baked Enamel. Striking aluminum finished side louvers. Operates on 110-125 volt, 50 to 60 cycle. A.C. Ship. wt. 40 lbs. For Speaker see 62RD 3851 on next page.

162 RD 3852—With Tubes and Crystal . . . . . \$69.50  
Time Payment Price: \$6 Down, \$7 a Month . . . . . 75.85



**6-Tube Sky Buddy S-19** **\$29.50**  
Cash  
\$3 DOWN,  
\$4 a Month

The biggest dollar for dollar value we know of! Fine for phone or C.W. reception. New 10-Meter Band brings still more stations within its range. Four Bands: 540 to 1700 K.C.; 1.7 to 5.5 M.C.; 5.5 to 17.0; 15.2 to 43.5 M.C. Calibrated main dial and illuminated band spread dial. True Electrical Band Spread. Controls are Standby Switch; Band Switch; B.F.O. Switch; main Tuning; A.V.C. Switch; Bandsread Tuning; Audio Gain and off-on Switch; C.W. Pitch Control and Phone Jack. Plugging in phones automatically disconnects speaker. Iron core 455 K.C., I.F. transformer for tremendous gain and selectivity. Uses new bottom grid tubes 6K8 1st Detector Oscillator; 6SK7 I.F.; 6SQ7 2nd Detector and 1st audio; 6K66 output; 76 B.F.O. and 80 rectifier. Black crackle finish cabinet. 17 1/2 by 8 3/4 by 8 1/2 inches. Built-in 5-inch Electro-Dynamic speaker. Ship. wt. 21 lbs.  
162 RD 3712—Complete With Tubes and Built in Speaker. Not Available. Operates on 110-125 volt, 50 to 60 cycle, A.C. power line. Also on 6-volt storage battery and vibrapack (see above). Cash Price . . . . . \$29.50  
Time Payment Price: \$3 Down, \$4 a Month . . . . . 32.15



**8-Tube Sky Champion S-20** **\$49.50**  
Cash  
\$5 DOWN,  
\$5 a Month

Compares with others above this price; marvel at its fine performance—its pre-selector stage and many other features. Illuminated mechanical Band Spread Dial Range: 540 K.C. to 44 M.C. in four bands. Controls: R.F. Gain, Standby Switch; B.F.O. switch; Band switch, A.F. Gain, A.V.C. switch, Tuning, C.W. Pitch Control and Phone Jack; Built-in 5-inch Electro Dynamic Speaker. Plug-in provisions for "S" meter below. Plug-in Provision for 6-Volt Battery and Vibrapack. Runs on "A" and "B" Batteries, or storage battery and Vibrapack (62 RD 5840, Page 33). 455 K.C. Iron core I.F. for greater selectivity. Tube Complement: 6K7 R.F. 6L7 1st det. 6J5 osc. 6K7 I.F.; 6Q7G 2nd det. A.V.C. and 1st A.F.; 6F6G output; 6J5G B.F.O. and 80 rectifier. Steel cabinet, machine gray finish. Size: 18 1/2 by 9 3/4 by 8 1/2 inches. Ship. wt. 32 lbs. Not Available.  
162 RD 2823—Complete with Tubes and Built in Speaker. For use on any 110-125 volt, 50-60 cycle, A.C. Line. Cash Price . . . . . \$49.50  
Time Payment Price: \$5 Down, \$5 a Month . . . . . 53.95  
462 RD 3771—Model SM20 "S" Meter to read signal accurately; with 3-ft. cord and plug. Wt. 6 lbs. Ea. \$10.00



**9-Tube Sky Rider 5-10** **\$69.50**  
Cash  
\$6 DOWN,  
\$7 a Month

A complete bandswitching five and ten meter receiver. Range: 27 M.C. to 42 M.C., and 40 M.C. to 68 M.C. Calibrated main dial positively geared to illuminated mechanical band spread dial. Controls: R.F. gain, band switch, combined A.C. switch and Tone Control; combined A.V.C. and B.F.O. switch, Tuning; Noise Limiter and Broad-Sharp switch; A.F. Gain; C.W. pitch Control; Standby Switch and Phone Jack. Built-in 5-inch Electro Dynamic Speaker; "S" meter terminals are provided. Plug-in Socket for 6-volt battery Vibrapack operations. Dickert Noise Limiter, particularly effective on auto ignition noise and other electric interference. Iron core 1600 I.F. Choice of sharp or broad tuning, 9 tubes total: 1852 R.F.; 6L7 1st det. 6J5 osc; 6K7 1st I.F.; 6P7G combined 2nd I.F. and B.F.O.; 6Q7G 2nd det. and 1st A.F.; 6H6 noise limiter; 6F6G output and 80 rectifier. Rigid steel cabinet finished in durable gray crackle. 18 1/2 by 9 3/4 by 8 1/2 in. high. Ship. wt. 34 lbs. Not Available.  
162 RD 3728—Complete with Tubes and Speaker. Operates on any 110-125 volt, 50-60 cycle line. Cash . . . \$69.50  
Time Payment Price: \$6 Down, \$7 a Month . . . . . 75.85

**Complete  
Variable Selectivity**



Now Hallcrafters offer the widest variation of selectivity necessary for every kind of communication! You need no longer be satisfied with just a crystal off-on switch with only two wide extremes of selectivity. Here is razor edge sharpness for crowded C.W. bands; a phone crystal setting for exactly the right degree of voice intelligibility, yet with still enough separation for effective reception on an amateur phone—or a wide band characteristic for broadcast enjoyment with excellent tone! It's all yours at a turn of a front panel control. Makes operating these new Hallcrafter receivers more of a pleasure than ever before. By a clockwise or counter-clockwise turn of the knob you may reject or continue to use Automatic Volume Control, whichever operating conditions demand.



**AMATEUR BANDS CALIBRATED**

**II-TUBE TEMPERATURE COMPENSATED SX-23  
AMERICA'S NEW NUMBER ONE HIGH STABILITY COMMUNICATIONS RECEIVER**

Eleven Tubes with New temperature compensated padding condensers to assure continued peak performance, with minimum frequency drift. **Venetian Blind Dial** provides excellent readability. **Eight Position Band Switch** entirely eliminates re-setting the main dial for band spread tuning. Four positions for full coverage tuning as follows: 540 K.C. to 1700 K.C.; 1.7 M.C. to 5.2 M.C.; 5.2 M.C. to 16.5 M.C.; 11 M.C. to 34.0 M.C. Next four positions automatically spread the four ham bands: 10, 20, 40 and 80 meters inclusive. Band Indicator on dial escutcheon. *Individual Amateur Band calibration chart with each receiver.*

**Controls:** B.F.O. pitch control, combined Tone Control and A.C. line switch; Phone jack; Audio Gain; Noise Limiter Switch; R.F. Gain; Standby Switch; Full Coverage-Band Spread Switch; Tuning Control; Crystal Phasing Control and combined A.V.C. off-on switch with broad to sharp selectivity switch. Illuminated and amplified "S" meter calibrated in "S" units as well as decibels

**\$115.50** Cash  
\$10 Down, \$9 a Month  
See Page 3

for exact signal strength measurements. **Automatic Noise Limiter**—permits hearing stations otherwise buried under the noise level. **Variable Width Crystal Filter** with 6 position switch for almost any degree of selectivity from high fidelity broadcast reception to razor edge sharpness necessary for crowded amateur code bands. **New Bottom grid Terminal Tubes** for higher efficiency because of shorter grid leads; 6SK7 R.F.; 6SA7 1st detector; 6SK7 oscillator; 6SK7 1st I.F.; 6SK7 2nd I.F.; 6SQ7 2nd detector and 1st A.F.; 6F6 output; 6SJ7 B.F.O.; 6H6 Noise Limiter; 6B8 amplified A.V.C. and 80 rectifier. Steel cabinet is finished in a beautiful gray crackle enamel with gunmetal and chrome trim, 19 by 12½ by 9¼ in. high. Operates on 110-125 volt, 50-60 cycle, A.C. line. Ship. wt. 56 lbs. *Not Mailable.* See 462 RD 3851 speaker below.

**162 RD 3850**—With Tubes and Crystal. Cash..... \$115.50  
Time Payment Price: \$10 Down, \$9 a Month..... 126.05



**8-Tube Skyrider Marine S-22** **\$64.50** Cash  
\$6 DOWN,  
\$6 a Month

On ship or shore this receiver is an excellent performer. Operates on either 115-volt A.C., 60 cycle or 110-volt D.C. lines. Range: 140 to 465 K.C., 465 to 1510 K.C., 1.7 to 5.8 M.C. and 5.8 to 18.5 Megacycles.

**All metal Parts Plated** and enameled to withstand ruinous sea air. Chassis copper plated and covered with baked enamel. Built-in 5-inch P.M. Dynamic Speaker; silenced when phones are plugged in.

**Controls:** R.F. Gain; Band Switch; A.F. Gain; A.V.C. off-on switch; main tuning; B.F.O. off-on switch; combined tone control and line switch; C.W. pitch control; stand-by switch and phone jack; 1600 K.C. iron core. I.F. reduces image response. 8 Tubes: 6K7 R.F.; 6L7 1st det.; 6J5 osc. 6K7 I.F.; 6Q7 2nd det.; A.V.C. and 1st A.F.; 25L6 output, 25Z5 rectifier and 6J5 B.F.O. gray crackle Finish. 18½ by 9½ by 8½ in. Shipping weight 31 pounds. *Not Mailable.*

**162 RD 3732**—With tubes and built in speaker—for 110-125 volt, 25 to 60 cycle, line. Cash..... \$64.50  
Time Payment Price: \$6 Down, \$6 a Month... 70.35



**13-Tube Super Skyrider SX-17** **\$149.50** Cash  
\$12.50 DOWN,  
\$10 a Month

**Two High Gain R.F. stages** preceding 1st detector provide marvelous distance getting ability. Accurately calibrated main dial controls 4 gang condenser; individual band spread condensers. Range: 545 K.C. to 62 M.C. in 6 bands. Illuminated 1000 degree Band Spread Dial; illuminated "S" meter.

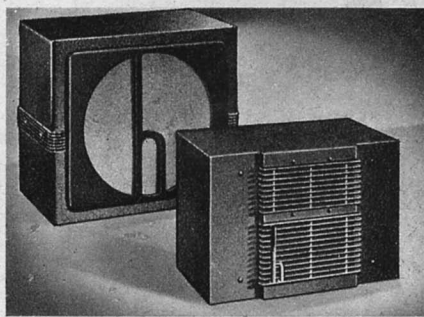
**Automatic Noise Limiter** makes listening more pleasant in noisy QRA's.

**Advanced Crystal Filter** lends a degree of selectivity that can only be appreciated in the most crowded of the amateur C.W. bands.

**Controls:** Combined tone control and A.C. switch; A.V.C. switch, B.F.O. injector control, phone jack; standby switch; A.F. Gain, Main tuning, band switch, R.F. Gain, Band Spread tuning; Broad Sharp Switch; Noise Silencer Switch, Pitch Control, Crystal off-on Switch, Crystal Phasing Control.

**Thirteen Tubes:** 6K7 1st R.F.; 6K7 2nd R.F.; 6L7 1st det.; 6J5 osc.; 6K7 1st I.F.; 6K7 2nd I.F.; 6R7 2nd det. A.V.C. and 1st A.F.; 6H6-ANL, Push-Pull 6V6Gs, Output 6J7 B.F.O., 6J7G meter amp, 5Z3 rectifier. Heavy steel cabinet finished in black crackle baked enamel with ornamental chrome bands on sides. Size: 21 by 11 by 9¼ inches high. For operation on any 110-125 volt, 50 to 60 cycle, A.C. line. Ship. wt. 65 lbs. *Not Mailable.*

**162 RD 3713**—With crystal, tubes, 12 in. P.M. Speaker in black crackle case. (Shown in background at right.) Cash Price..... \$149.50  
Time Payment Price: \$12.50 Down, \$10.00 a Month..... 163.20



**New P.M. 23 Speaker** **\$1200** Cash  
\$2 DOWN,  
\$2 a Month

10-inch Permanent Magnet Dynamic Speaker designed especially to match both the Hallcrafter's SX-23 and Skyrider Deafant. Attractive vibration-free, pearl Gray Crackle finish metal cabinet with modern chrome grille front panel. Size: 16 by 10¾ by 11 inches high. Furnished complete with 6-foot cord and 5000-ohm transformer. Ship. wt. 17 lbs.

**462 RD 3851**—Mailable. Cash..... \$12.00  
Time Payment Price:  
\$2 Down, \$2 a Month..... 13.00

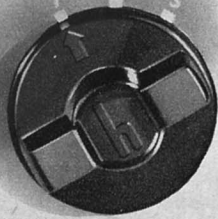
**New Hallcrafter Models**

If during the life of this Catalog, new Hallcrafter Models are announced, we will be able to supply them. Write to Radio Wholesale and Technical Dept., Montgomery Ward & Co., Chicago.

# Hallicrafter Transmitters

## BAND SWITCHING ON EVERY MODEL

The greatest operating convenience found in any transmitter. Yet, in Hallicrafter precision built transmitters it's offered at no extra cost to you. Permits greater flexibility in any station—you can quickly change to any band in a few seconds.



**HT-6 25-Watt Phone and C.W. Transmitter**

The most versatile Amateur Transmitter! 25-watt output. Phone or C.W. with built-in modulator. Terminals on chassis permit storage battery and generator connection for portable or emergency work. For all bands: 5, 10, 20, 40, 80 and 160—full efficiency on phone or code. Crystal or Electron coupled Control—Front Panel band switching for any 3 Amateur Bands. Plug in 3 coils for osc. grid, 3 for osc. plate, and 3 for amp. plate-antenna coupling and you can switch from one band to another. Antenna automatically switched with P.A. tank. Front Panel Controls: Combined gain control and A.C. switch to modulator, 2 1/2 in. diam. meter connected by 4 position switch for osc. plate, P.A. grid, P.A. plate, and modulator plate reading. C.W.-Phone Switch with off position to turn off high voltage. 3 position band switch, P.A. plate tuning, A.C. switch for entire transmitter and standby switch. Meter type dial on P.A. plate condenser to match regular meter. Power Saver Terminals on back permit connection of Vibrapacks to R.F. section only, Modulator only, or both. A.C. terminals also brought out separately. Gray Enamel Finish baked on strong steel cabinet. 20 by 12 by 9 inches high, ventilated. Tubes: one 6L6 osc., one 807 R.F., P.A., one 6F5 mike input, one 6J5 driver, two 6L6G Class AB Modulators and two 5Z3 rectifiers. For operation on any 110-125 volt, 50-60 cycle, A.C. line.

**\$99.00** Cash

- 162 RD 3860—HT-6 Transmitter with all tubes but less coils (see below) and crystals. (For crystals, see Page 13). Ship. wt. 75 lbs. Not Mailable. Cash Price ..... \$99.00  
Time Payment Price: \$9 Down, \$8 a Month. .... 108.00
- 62 RD 3861—Set of coils for 160, 80, 40 or 20 meters on fundamental crystal frequency. State band. For each band. Ship. wt. 1 lb. 3 oz. Mailable. .... \$4.95
- 62 RD 3862—Set of coils for 10 or 5 meters on twice crystal frequency. State band. For each band. Shipping weight 1 lb. 12 oz. Mailable. .... \$6.95
- 62 RD 3863—E.C.O. plug-in unit for 160, 80, 40, or 20 (not recommended for 5 or 10 meters). State band. Shipping weight 12 oz. Mailable. .... \$3.65

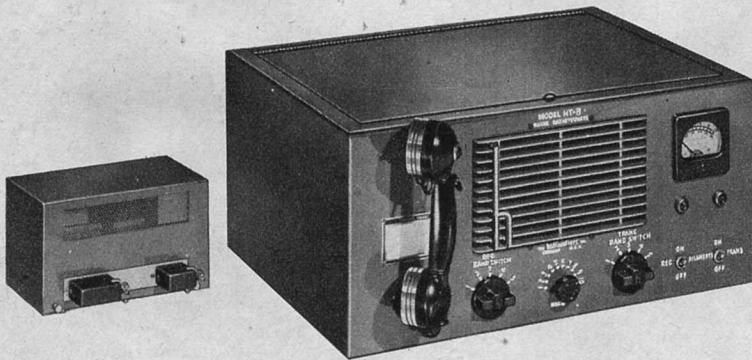


**HT-1 100-Watt Phone and C.W. Transmitter**

Here's real Power and Flexibility in one complete self-contained unit. Neatly constructed according to the best engineering principles. Made of the best parts as supplied by Kenyon, Cornell Dubilier, I.R.C., Ohmite, E.F. Johnson, Amphenol, Cardwell, Kenyon and other well known manufacturers. Power Output conservatively rated to deliver 50 watts 100% modulated for phone or 100 watts for C.W.

**\$195.00** Cash

Front Panel Band Switching for any three consecutive amateur bands from 10 to 160 meters with a single knob, or by using separate crystals any three consecutive bands or three favorable spots in one single band may be chosen at will. Front Panel Controls: Speech Amplifier Gain Control, Band Switch, Plate Voltage Switch, Phone-Code Switch, Filament Switch, Standby Switch, Oscillator—modulator meter switch. Excitation controls are inside the cabinet. Panel Meters: Band indicator, P.A. Grid, P.A. Plate, and Cathode. Flame Welded Cabinet of Unusual Design built of heavy gauge steel, finished in Black Crackle baked enamel with attractive chrome bands; adequately ventilated. Measures 29 3/4 by 19 1/4 by 11 3/4 inches high. Removing cover immediately reveals all neatly arranged tubes and interior controls, exemplifying the best of craftsmanship. Beam Power Tube — Uses the highly efficient RK47 R.F. power amplifier, one 6A6 oscillator, one 6A6 doubler, four 6L6G modulators, 6J5 speech amplifier and 6J7 mike input. Modulator Fidelity range 80-8000 cycles ±2 db. two 5Z3 rectifiers, one 80 rectifier and two 866 rectifiers, all in one table cabinet. For concrete Stability — Four husky Power Supplies with separate Filters; one for oscillator and doubler, one for modulator and speech amplifier plates, one for modulator screens, and one for RK47 R.F. Beam tube amplifier. Safety Interlocks—Built into hinged top cover according to ARRL recommendations. Raising top cover automatically turns off the dangerous high voltage. Crystal Mike (see Page 56) and Key (see Page 11) not included. For operation on 110 to 125 volt, 50 to 60 cycle, A.C. line. Shipping weight 145 lbs. 162 RD 3746—With tubes, coils and crystal for any 3 consecutive bands from 10 to 160 meters. Be sure to State bands wanted. Cash Price ..... \$195.00  
Time Payment Price: \$20 Down, \$12 a Month. .... 212.50



**Hallicrafter 2-Way Marine Radiotelephone**

Model HT-8. 25-watt transmitter and pretuned receiver for communication with ships or shore stations. Simple to operate. As easy as making a telephone call. 5 Pre-tuned Marine Frequencies (write for information). Silencer deadens speaker during no signal periods. Permits continual watch without static. Operates from 12, 22, or 100-volt D.C. or 110 volt, 60 cycle, A.C. Two models: Desk mounting (shown) or bulk head mounting (not shown). State power source and frequency wanted. With tubes, separate power supply but less crystals (see below). Shipped from Factory in Chicago.

- 262 RD 3925—(Shown) Size: 20 by 15 by 9 inches. Ship. wt. 105 lbs. .... \$270.00
  - 262 RD 3926—Bulkhead Model. Size: 15 by 10 by 18 inches. Wt. 105 lbs. .... 290.00
  - 262 RD 3927—Crystal and holder. Use one for each frequency. Ship. wt. each, 8 oz. 2000 to 3000 K.C. Cash. .... \$24.50
- Crystal and holder—3000 to 6000 K.C. Write for prices.



**WORLD'S MOST ADVANCED TRANSMITTER DESIGN**

**Model HT-4, 325-Watt Phone, 450-Watt C.W. Transmitter**

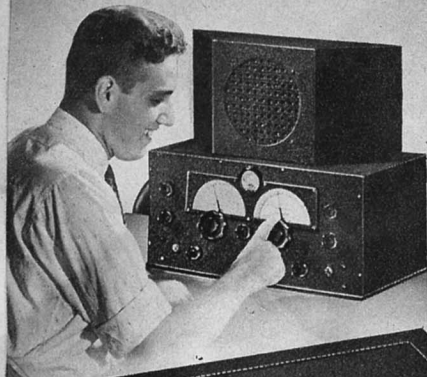
Highest efficiency on any 3 consecutive bands from 10 to 160 meters with band switching. Separate speech amplifier in remote HT-5 control unit. Size: 18 1/2 by 9 1/2 by 9 in., 6F6 osc., 6L6 buf., 2 parallel RK39's doub. and one RK63 P.A. Fixed or Cathode Bias on all stages. Safety interlocks. Built-in Modulator and Driver. Steel cabinet finished in Black Crackle with Chrome. Size: 29 3/4 by 19 by 37 inches high. Operates on 110-125 volt, 50 to 60 cycle, A.C.

- 162 RD 3795—Complete with tubes, and HT-5 speech amplifier and remote control unit. State bands wanted. Ship. wt. 425 lbs. Cash Price. .... \$695.00

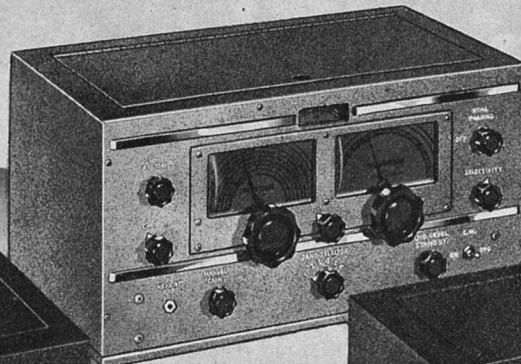
Write for further information and credit terms.

WE CAN SUPPLY LICENSED POLICE TRANSMITTERS ON REQUEST

# Famous R.M.E. Receivers



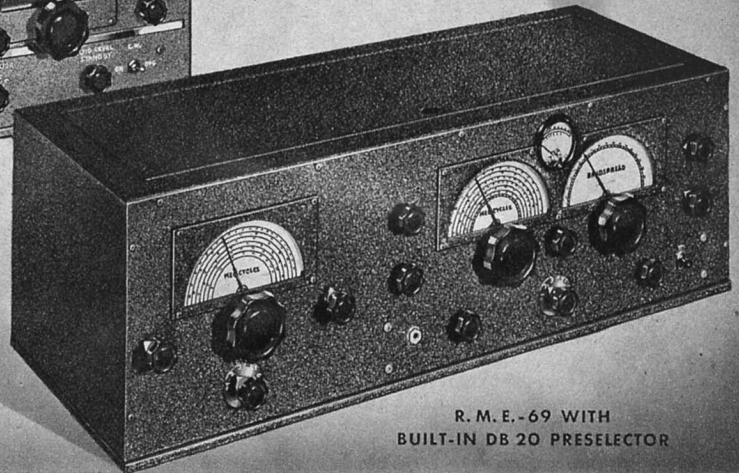
- Cast Aluminum Chassis
- Choice of Two Colors
- Advanced Noise Limiter
- Variable R. F. Resonator
- Illuminated "R" Meter
- Inductively Coupled Crystal-Filter



STANDARD  
R. M. E. -70



CUSTOM BUILT R. M. E. -69



R. M. E. -69 WITH  
BUILT-IN DB 20 PRESELECTOR

## Precision Built Standard RME70

**\$13860**  
Cash

\$12.50 Down, \$10 a Mo.

An 11-tube production model built to the same exacting specifications as the RME-69. Uses 6K7G R.F., 6J7G 1st det., 6K7G osc., 6K7G 1st I.F., 6K7G 2nd I.F., 6H6 2nd det., 6K7G B.F.O., 6A6 Noise limiter, 6K7 1st A.F., 6F6G output and 80 rect. *Two full vision illuminated Dials.* Green scales permit long operation without eye fatigue. Electrical bandspread. Resonator allows perfect alignment on all bands. Range: 550 to 32,000 K.C. in 6 bands. Controls: Tone, B.F.O. tuning, phone jack, R.F. gain, band switch, resonator, comb. A.F. gain-standby switch, noise limiter, B.F.O. switch, selectivity and phasing. *Illuminated DB-R meter.* Offered in either Grey or Black Crinkle steel cabinet; with good-looking chrome trim. Size: 19 by 10½ by 9¼ inches high. New built-in Dickert Noise Limiter. Inductively coupled crystal. 465 K.C. I.F. Shipping weight 55 pounds. *Not Mailable.* Complete with tubes, crystal and speaker described below. **Be sure to state cabinet color.**

262 RD 3914—Cash Price.....\$138.60  
Time Payment Price: \$12.50 Down, \$10 a Month..... 151.21

## The Original Custom Built RME69 Receiver

One of the worlds foremost communication receivers. Used in commercial service in a wide variety of rigid applications. Uses 6D6 1st R.F., 6C6 1st det., 6D6 osc., 6D6 1st I.F., 6D6 2nd I.F., 6B7 2nd det., A.V.C. and 1st A.F., 6F6 2nd I.F., 6A2 output, 6D6 B.F.O. 80 rectifier. Illuminated full coverage and bandspread dials. 180° electrical bandspread. Range: 550 K.C. to 32 M.C. Inductively coupled 465 K.C. crystal. Controls: Tone, BFO tuning, phone jack, R.F. gain, 6 point band switch, resonator, comb. A.F. gain-standby switch. Selectivity and phasing. *Tuning Meter calibrated in "R"s and dbs.* Goodlooking steel grey or black crackle finished cabinet. Size: 19 by 10½ by 9¼ inches high. Strictly custom built. May be ordered with extra refinements advertised by RME or returned any time to factory for changes at prices set by RME. Shipping weight 55 pounds. *Not Mailable.*

262 RD 3919—RME69 complete with tubes, crystal and speaker. **Be sure to state color of cabinet wanted.** Cash Price.....\$152.88  
Time Payment Price: \$15 Down, \$10 a Month..... 166.67

## RME Combination DB20 and DM36 Models

**\$16680**  
Cash

Model 70-36

The DB20 Preselector when connected to any super-heterodyne receiver gives to it an image rejection of 50,000 to 1. Uniform gain of 20 to 25 db. throughout the entire range of 550 to 32,000 K.C. Furnished with two 6K7 tubes in a high gain two stage R.F. circuit; power supply self contained uses one 80 rectifier tube. For operation on any 105-125 volt, 50 to 60 cycle, A.C. line. The combination shown above provides you with the only receiver of its kind using a total of three tuned R.F. stages at the signal frequency. **See individual units listed below to match either RME70 or RME69.** Grey or black finish. Available in combination with RME69 or RME70 receiver (as shown above). **Be sure to state color.** Ship. wt. ea. 80 lbs.

262 RD 3920—Comb. RME69-DB20 in one cabinet, less speaker.....\$184.20  
Time Payment Price: \$20 Down, \$12 a Month..... 200.62  
262 RD 3915—Comb. RME70-DB20 in one cabinet, less speaker. Cash..... 169.80  
Time Payment Price: \$15 Down, \$12 a Month..... 185.28

## DM36 Band Expander Combinations for 5 and 10 Meter Bandspread

Available in combination with RME70 or RME69 (as shown above). A converter which adds popular 5 and 10 meter bands to your RME70 or RME69. Range: 28 to 30, 56 to 60 M.C. Tubes: 1852 R.F. 6SJ7 1st det., 6J5 osc., and 80 rect. See individual units listed below to match either RME70 or RME69. Operates on 105-125 volt, 50-60 cycle, A.C. Ship. wt. 80 lbs. Grey or Black crackle. **State cabinet color.**

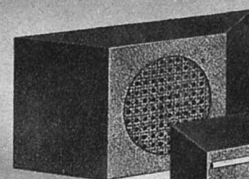
262 RD 3921—Comb. RME69-DM36 in one cabinet, less speaker. Cash...\$181.20  
Time Payment Price: \$20 Down, \$12 a Month..... 197.32  
262 RD 3922—Comb. RME70-DM36 in one cabinet, less speaker. Cash... 166.80  
Time Payment Price: \$15 Down, \$12 a Month..... 181.98

*All merchandise on this page except RME70 shipped from Factory in Peoria, Ill. but you pay shipping charges only from Wards nearest Mail Order House. Send order to Chicago. We can furnish any RME product not listed.*

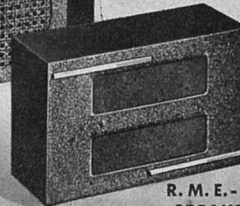


**HF-10 Compact 5 and 10 Receiver.** An 11-tube receiver designed especially for bandspread coverage from 28 to 30 and 56 to 60 M.C. Illuminated dial. Electrical bandspread. Comes complete with built-in power supply to operate on 105-125 volt, 50 to 60 cycle, A.C. Uses 1852 high gain R.F. 6SJ7 1st det., 6J5 osc., 6SK7 1st A.F., 6SK7 2nd I.F., 6H6 2nd det., and A.V.C., 6Z7G improved Dickert noise suppressor, 6F6 A.F. output, 6J5 B.F.O. 6J7 1st A.F. and 80 rect. Controls: Comb. A.C. line switch and A.F. gain, Comb., R.F. gain and A.V.C. switch, Comb., C.W. phone-standby and B.F.O. switch, band switch, tuning knob and phone jack. Illuminated "R" meter. Uses three 1550 K.C. iron core I.F. transformers. 6-inch P.M. dynamic speaker built in. Steel cabinet with attractive Grey crackle finish. 19 by 10½ by 9¼ inches. Shipping weight 34 pounds. *Not Mailable.*

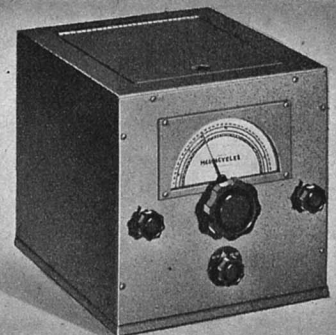
262 RD 3924—Complete with Tubes and Speaker.....\$79.50  
Time Payment Price: \$7 Down, \$7 a Month..... 86.75



R. M. E. -69  
SPEAKER



R. M. E. -70  
SPEAKER



**RME Speakers. RME69 Type—** 8-in. P.M. Dyn. with cord and plug. Grey or Black. 19 by 5 by 9 in. **State color.** Wt. 11 lbs.  
262 RD 3913—\$11.85  
Cash Price.....  
Time Pay.: \$2 Dn., \$2 Mo. 12.84

**RME70 Type —** 8-in. P.M. Dyn. with cord; plug. 16 by 5½ by 9½ in. Grey or black. **State color.** Ship. wt. 11 lbs.  
262 RD 3916—\$11.85  
Cash Price.....  
Time Pay.: \$2 Dn., \$2 Mo. 12.84

**DB20 Preselector** complete with tubes, built-in power supply. (For description see above.) State color and whether for use with RME69 or RME70. May be used with any other receiver for greater gain and selectivity. Size: 9¼ inches by 9¼ inches by 10½ inches deep. Shipping weight 22 lbs.  
262 RD 3917—*Not Mailable.* Cash Price.....\$42.60  
Time Payment Price: \$5 Down, \$5 a Month..... 46.36

**DM36 Band Expander.** Complete with tubes, and built-in power supply. (For description see above.) Use with any Superheterodyne receiver tuned to 30 meters as the I.F. frequency. State color and whether for use with RME69 or RME70. Size: 9¼ by 9½ by 10½ inches deep. Shipping weight 20 pounds.  
262 RD 3923—*Not Mailable.* Cash Price.....\$39.60  
Time Payment Price: \$4 Down, \$5 a Month..... 43.16

# FREQUENCY STANDARDS



## Browning Frequency Monitor

**Model BL-FM.** A complete calibrated amateur band frequency meter for checking transmitter frequency without receiver or other apparatus. Built-in 6U5 for visual zero beating. Uses 100-1000 K.C. E.C. oscillator. Checks against WWV. Uses two 6SK7 osc. tubes, 6SA7 mixer, 25A7G amp. and rec. Numerous check points obtained in each amateur band. 5 1/2-in. nickel dial with 240° spread. Phone bands indicated. Reads within 2 K.C. on 20 meters. Phone jacks for monitoring. Operates on 105-115-v. A.C.-D.C. 14 by 7 by 6 in. Black Crackle. Ship. wt. 13 lbs. *Not Mailable.* Complete with tubes. **162 RD 2977—Cash Price. . . . . \$31.45**  
Time Pay. Fr.: \$4 Dn., \$5 a Month. . . . . \$34.20

**Browning 100-1000 K.C. Standard Coil Assembly Model BL-2FS.** 2 stable E.C. circuits in shield; 2 by 2 by 5 in. Padded with silver cap condensers. No variable condensers needed. Instructions. Ship. wt. 8 oz. **62 RD 2978—Mailable. . . . . \$3.45**

## Hallicrafter Model HT-7

Accuracy heretofore found only in laboratory instruments. With 100 and 1000 K.C., *Dual Frequency Crystal*, and multivibrator. Choice of beats at every 10 K.C.; 100 K.C.; or 1,000 K.C. on receiver dial. 1000 K.C. for spotting amateur band limits; 10 K.C. for frequencies inside bands. May be beat against an external calibrated audio oscillator for indicating frequencies between the 10 K.C. markers. Semi-variable 100 K.C. position may be zero beated with WWV or even 100 K.C. broadcast stations. Must be used with receiver. **Four tubes—6F6 oscillator, 6N7 multivibrator, 6L7 R.F. amplifier and 80 rectifier, off-on switch, 5 1/2 by 8 by 7 1/2 in. high. Ventilated. Pearl Gray crystalline finished sturdy steel cabinet. Uses only 21 watts at 110-125 volt, 50-60 cycle. A.C. Shipping weight 10 lbs. *Not Mailable.***  
**162 RD 3865—Complete with tubes and crystal. Cash Price . . . . . \$29.50**  
Time Pay. Fr.: \$3 Down, \$4 a Mo. . . . . \$32.15

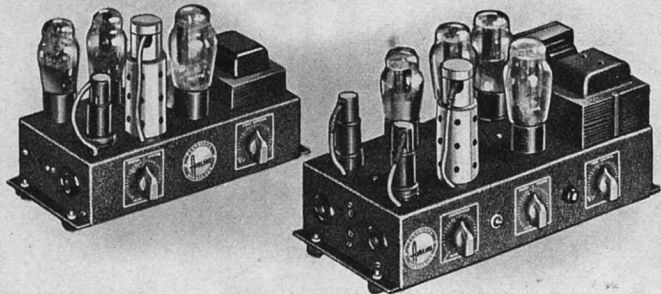
## Utah Junior C. W. Kit

Delivers 25-watts output on the fundamental crystal frequency, or 20 watts output on 2nd harmonic. Circuit: 6L6G crystal oscillator. 5Z4 rectifier with choke and condenser filter. *Antenna Tuning built in.* (Compare this feature with other transmitters in its price class.) Filament and stand by switches. Dial plates mounted on panel; sockets mounted on chassis. Easily assembled.

**Accessories and tubes are not included.** Requires in addition one 5Z4 rectifier (see Page 36), one 6L6G (see Page 36), one mounted X-cut 40, 80 or 160-meter crystal (see Page 13), and one Triplett Model 221 0-100 2-inch round milliammeter. (See Page 13 for prices.) Finished in attractive Black crackle finish case. Size: 12 by 11 1/4 by 7 inches. Ship. wt. 20 lbs. *Not Mailable.*

**162 RD 2489—Utah Junior Transmitter Kit less accessories. Cash Price . . . . . \$15.95**  
Time Payment Price: \$2.50 Dn., \$2 a Mo. \$17.30

# AIRLINE SPEECH AMPLIFIERS



**10-Watt:** A specially designed High-Gain Speech Amplifier with filtered and shielded input to prevent R.F. pickup. Response  $\pm 2$  db. 100-5,500 C.P.S. For driving class "B" modulators of any kind. Gain 105 db. Output 8 and 500 ohms. Similar to picture above, but improved model is furnished, Amphenol screw type mike and tip-jack phono input with separate gain controls. Tone control, switch and fuse are on front panel. Output screw terminals are on back of chassis. Tubes: 6SJ7; 6SC7; 2 6L6G's in PP Class "A." 5U4G. Brown crackle finish. Size: 14 by 5 1/2 by 7 1/2 in. high. Ship. wt. 15 lbs. *Not Mailable.* Recommended for use with Crystal diaphragm or dynamic microphones.

**162 RD 2991—Complete with Tubes. \$24.95**  
Time Payment Price: \$3 Dn., \$4 a Month 27.15

**16-Watt DeLuxe Speech Amplifier with Filtered Input, Inverse Feedback and Peak Limiting.** Response  $\pm 2$  db. 80-8000 C.P.S. Shielded, filtered, mike, phono inputs. Individual gain controls. Drives any class "B" modulator up to 500watts. Gain 120 db. Improved peak limiter. Amplifier furnished is similar to above, but is an improved model with cover input connections and all controls on front. 8-500 ohm output terminals on back. **Tubes:** 6SF5 input, 6SC7 Amp., 6N7G Driver, two 6L6G's Output, 83 Rect. 6H6 Peak Limiter. 14 by 8 by 8 in. Finished in two-tone Brown. Ship. wt. 25 lbs.

**162 RD 2992—With Tubes and Cover. Cash Price . . . . . \$44.95**  
Time Payment Price: \$5 Dn., \$5 a Mo. \$48.95

# Stancor Transmitting



## Stancor 60-P Transmitting Kit

Five band phone or C.W. reception (10-160 meters) with 60 watts input and correct LC at all frequencies. Very easy to assemble. Chassis ready punched and all holes drilled. Uses *air-wound coils* in class "C" amp. plate circuit. Oscillator coils may be quickly wound on standard 1 1/2-in. plug-in form.

**Built-in 32-watt modulator** assures 100% modulation. Tubes: 6L6 crystal oscillator; HK24 R.F. amp.; 6SJ7 mike input; 6N7 driver; two 6L6's modulators and 5Z3 and RK60 rectifiers. Break in operation with keyed oscillator. 2-inch 0-250 M.A. meter may be switched to osc., amp. and modulator plates. R.F. output link brought out to two terminals on chassis for external antenna tuning (Not furnished).

**Two Power Supplies** built in. For 105 to 125 volt, 50 to 60 cycle A.C. Uses all nationally advertised parts. Complete chassis, Stancor transformers, chokes, condensers, parts and hardware.

**Accessories Needed:** 5-prong coil form 62 RD 6487 (Pg. 12), Center Link Bud Coil 62 RD 7078 to 7081 (Page 12); Triplett Model 327, 0-200 milliammeter 62 RD 6698 (Page 13); DeLuxe Cabinet (see below). Set of tubes as described above (Pages 18 and 30), mounted crystal (Page 13), Pilot bulb 62 RD 5512 (Page 20). Ship. wt. 50 lbs.

**62 RD 5420—60-P Kit. Cash Price . . . . . \$44.80**  
Time Pay. Fr.: \$5 Dn., \$5 a Mo. . . . . \$48.78

**DeLuxe Cabinet for above 14x22x10 3/4 in. Grey crackle finish, nickel trim. . . . . \$7.36**  
**62 RD 5412—Ship. wt. 25 lbs. . . . . \$7.36**

## Stancor 20-P Transmitter Kit

An all band (160 to 5 meters) crystal controlled phone or C.W. transmitter with 20 to 30 watts input. Easily assembled by following simple instructions and diagram which are furnished. *Chassis is already punched to fit* all condensers, transformers, sockets, etc. Output coil link brought out to terminals on chassis.

Uses only two standard 1 1/2-inch diameter plug-in coils; one for crystal oscillator plate, one for amplifier plate. By proper coil prong arrangement the correct LC ratio is automatically maintained at all frequencies without any switching. *Has 10-Watt Modulator built-in on same chassis.*

**Seven Tubes:** 6FG crystal oscillator, 807 amp., 6SJ7 high impedance mike input; 6C5 amp., 6N7 driver, 6N7 modulator and 5Z3 rectifier. Power supply built-in.

**One 0-200 M.A.** Two-inch meter may be switched to oscillator, amp. and modulator plates. For operation on 105 to 125 volt, 50 to 60 cycle, A.C. All Stancor kits include parts by famous manufacturers such as Aerovox, National, Hammarlund, Yaxley, Triplett, Solar, Ohmite, Centralab, etc. With chassis, transformers, parts and hardware, and one set of coil forms for one band.

**Accessories needed:** Crystal (Page 12), and Tubes (see Pages 18 and 36). Triplett Model 327, 0-200 milliammeter 62 RD 6698 (Page 13); Standard Cabinet, 62 RD 5400 (Pg. 11); Pilot Light bulb 62 RD 5512 (Page 20). Wt. 40 lbs.

**162 RD 5419—Cash Price . . . . . \$37.00**  
(Less Accessories) . . . . . \$40.30  
Time Pay. Fr.: \$4 Dn., \$5 a Mo. . . . . \$40.30

# HALLICRAFTER SPEECH AMPLIFIER



## Hallicrafter Model HT-10 with Peak Limiter

A speech amplifier of the highest quality for the man who wants the best. While its appearance perfectly matches any Hallicrafter product, it will harmonize well with any transmitting equipment of modern design.

**Has Full 10-Watts Undistorted Power Output** using two 2A3's in the output stage as pure Class A Amplifiers. Frequency response is from 60 to 10,000 cycles.

**Requires only .005 volts input** to reach the full output of the amplifier. Overall gain 103 db. **Extremely Low Hum Level**—at least 55 db. below full output.

**Input Connection** is high-impedance type. Single input for any crystal or other high-impedance type. Uses shielded screw-type input terminals.

**Special R.F. Filtering**—Mike input screw terminals, input grid resistor, R.F. filter choke and 6L7 tube are completely shielded in one container—it's your assurance against R.F. getting into the audio and modulator circuits to ruin transmission.

**Peak Limiting Circuit is Built-in.** Allows you to use heavier modulation without danger of over-modulating because unnecessary voice peaks have been greatly reduced. Used in many of the present day broadcasting stations because it increases station range without increasing carrier power. Actually reduces the cost per audio watts.

**Audio Level Meter.** Tells just how loud to speak into mike. Calibrated from -10 to + 6 db. 100% modulation may be used as zero reference point.

**Dual Output Transformer** connects to 500-ohm line or direct to either low or high imped. class B grids. Drives 203A's 100-TH's, RK38 and similar tubes to full rated output.

**Convenient Panel Controls Include:** Combined gain control and switch, pilot light, peak limiter, transmit-standby switch and a handy jack for inserting telegraph key. All most used controls for the entire transmitter are at your finger tips. A neatly arranged row of screw terminals at the lower back of cabinet facilitates connections to transmitter.

**Modern Cabinet** finished in Black wrinkle with chrome trim. Hinged cover on top. Size: 21 by 11 by 9 1/2 inches high. Operates on 105-125 volt, 50 to 60 cycle, A.C.

**Tubes:** 6L7 input, two 6J5 amplifiers, one 6R7 peak limiter, two 2A3's output and one 5Z3 rectifier. Complete with volume meter. Can be supplied without meter on request. Write to Ward's at Chicago for price. Ship. wt. 36 lbs. *Mailable.*

**262 RD 3899—Complete with Tubes and Meter. Cash Price . . . . . \$71.50**  
Time Payment Price: \$7 Down, \$7 a Month . . . . . \$77.95



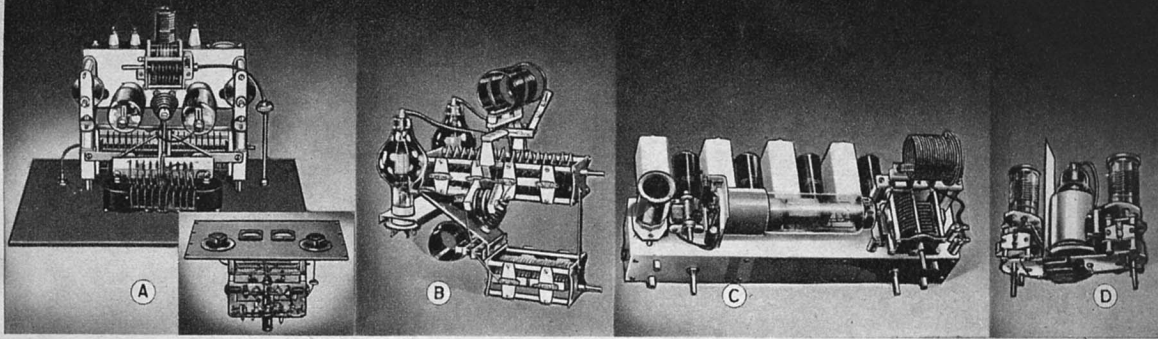


### Stancor 10-P Transmitter Kit

One of the best buys in Amateur Transmitter Kits. A complete 10 to 160-meter band phone and C.W. crystal controlled transmitter with inputs as high as 20 watts on C.W. and 12 on Phone. Everything contained in Machine Grey wrinkle finished steel cabinet measuring only 10 3/4 by 6 1/4 by 6 1/2 inches high. Uses Bud Mid-Get Air Wound end link plug-in coils, only one needed for each band. Uses 6J5 Pierce Oscillator, 6L6 R.F. amp., 6L6 modulator and speech amplifier and 80 rectifier. For use with any single button mike. Mike current supplied by power supply. No batteries needed. Break-in operation on C.W. Front panel holds 0-100 M.A. 2-inch Triplett Model 227 meter, gain control, key jack, standby switch, mike jack and tank tuning. Chassis is ready punched to accommodate all parts without the need for drilling. Power supply built in.

Uses all high grade parts such as Stancor Transformers, IRC, Resistors, Hammarlund, condensers, etc. Comes complete with cabinet, chassis, transformers, hardware but less tubes (Pages 18 and 36), and crystal (Page 12), coil (Page 12), and meter (Page 13). Ship. wt. 16 lbs. Operates from 105 to 125 volt, 50 to 60 cycle, A.C. **\$14.70**  
**162 RD 5418**—Cash Price.  
 Time Payment Price: \$2 Dn., \$2 Mo., \$15.97

For Microphones see Pages 56 and 57. Telegraph Keys of all kinds are listed on Page 11 of this Catalog.



### Bud 500 Watt R.F. Amplifier Kits

**(A)** Uses the new "semi-skeleton" type of construction. Insert shows front panel view. This allows highly symmetrical layout of parts for greatest electrical efficiency. All parts are mounted for shortest connections. Tubes such as TZ40's, HK-54's, 809's, 35-T's, HV-51's, etc., can be used. Kits are rated at a maximum of 1750 volts; up to 500 watts may be used. Complete with photos, instructions and diagrams. No drilling or sawing necessary. All parts punched, drilled and shaped to exact fit. Ship. wt. each, 12 pounds.  
**462 RD 7074**—BPA-500 Kit for 40, 20, 10 and 5 meters included. Black 1 1/2 by 19-inch Black crackle masonite panel, all sockets, condensers, resistors, wire insulators, coil plug in base, dials and hardware but less coils, tubes and meters. Cash Price: **\$23.52**  
 Time Payment Price: \$3 Down, \$4 a Month. **\$25.57**  
**462 RD 7075**—BPA-500-LF Kit same as above but for 160, 80, 40 and 20 meters. Cash Price: **\$24.99**  
 Time Payment Price: \$3 Down, \$4 a Month. **\$27.19**  
**Bud VCL coils can be supplied for above at advertised prices. Specify band.**

### Hammarlund PA-300 Amplifier Foundation Kit

**(B)** Eliminate the usual chassis with its difficult drilling and punching. So simple that even a beginner amateur can now build a neat, business-like transmitter by merely combining the units shown above and at the right above. Unit is entirely suitable for such tubes as 809's, T-20's, 10's, 808's, RK-37's, T-55's HK-24's or 54's. Brackets are designed to accommodate standard variable link inductors. For all bands from 10 to 80 meters. Outputs up to 300 watts.  
**62 RD 7596**—Hammarlund PA 300 Foundation Kit includes all brackets, screw washers and nuts—sufficient to build unit shown above. Tubes, coils and other components are not included, and must be bought separately. Shipping weight 2 pounds. Mailable. Cash Price: **\$1.95**  
**Other Hammarlund Parts Needed for PA-300:** One MTCD-100-B (listed and described on Page 18); one MTCD-100-C (see Page 18); two N-10 condensers (Page 18); one CH-500 (listed on Page 12); two S-4 and one S-5 sockets (Page 23); one standard four prong 1 1/2-inch coil form (see Page 12).

All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards Nearest Mail Order House. Send order direct to Chicago.

### Hammarlund ED-4 Exciter—Amplifier

**(C)** Designed for constructing unit shown above; a four band exciter—amplifier with outputs on 80, 40, 20 and 10 meters. For use with four 6L6's and RK47 or S14, etc., (see Page 36 and 18) to give nearly 100-watts output. 17 by 8 by 9 1/4 in. high. Hammarlund ED Unit includes all hardware, nuts, screws, switches, etc. (See below for parts needed.) **\$8.10**  
**62 RD 7599**—Shipping weight 2 pounds.  
**Parts Needed to Complete ED-4 Unit:** One ETU-80, ETU-40, ETU-10 (see below); one XS-2, four S-8's, one S-5, one S-4 (Pg. 23); six CHX's (Pg. 12); one MC-100-S, one MTC-100-B (Pg. 18); three 62 RD 6495 stand-off insulators (Pg. 20); 4-1 1/2-in. diam. 4 prong forms (see Page 12 for description).  
**Hammarlund EU-4 Exciter Unit Only.** Like above but less final amplifier stage. Uses 6L6's for 80, 40, 20, 10-meter output with sufficient excitation to drive RK-47, S14 or low powered triodes. Other parts needed: One ETU-80, one ETU-40, one ETU-20; one ETU-10; one XS-2; four S-8's; five CHX's.  
**62 RD 7600**—Shipping weight 2 pounds. **\$6.90**  
**Type ETU Exciter Tuning Units** for above. Consists of coil and condenser in shield can for 80, 40, 20 and 10 meters.  
**62 RD 7593**—Ship. wt. 8 oz. State band. ETU Units. **\$3.30**  
 Each.....

### Hammarlund BD-40 Buffer Unit

**(D)** For RK-39, 807, etc. Use as driver for PA-300. All hardware drilled. Includes all brackets, shield, screws.  
**Other Hammarlund Parts needed:** Two MTC-100-C (Pg. 18), two S-4's (Pg. 23), one S-5 (Page 23), one CHX (Page 12), and two 1 1/2-inch diam. 4-prong coil forms (Page 12).  
**462 RD 7597**—Shipping weight 1 pound. **\$2.16**  
**Hammarlund OD-10.** Like above but for use as oscillator doubler unit using a 6L6G. With brackets, screws, washers, nuts, etc.  
**Other Hammarlund Parts needed:** Two MTC-100-C (Pg. 12), two S-4's, one S-8 (Pg. 23), one CHX (Pg. 12), one XS-2 (Pg. 23), two 1 1/2-in. diam. 4-prong forms (Pg. 12).  
**462 RD 7598**—Shipping weight 1 pound. **\$1.68**

## SIGNAL SHIFTERS MODULATION MONITOR—PRESELECTOR AND COIL TURRETS



### Meissner Standard Signal Shifter

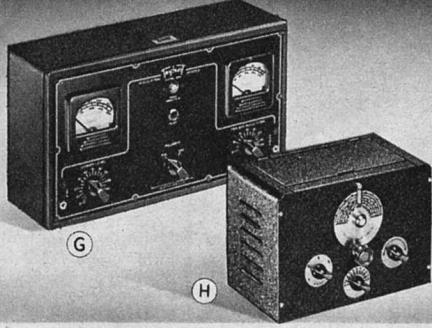
**(E)** Make your QSO's 100%! An electron-coupled exciter with great frequency stability. Select any frequency from operating position. Link-couple it to the first buffer stage—You'll find there's plenty of excitation available. Oscillator and buffer are ganged for single-dial control. Buffer arranged for keying.

A 3-point switch for "Automatic Stand-by," "Continuous operation," and "Manual Stand-by" positions. Uses one set of three coils to cover each "Ham" band. Coils available to cover the 160, 80, 40, 20 and 10-meter bands (see below). Requires 1—6F6, 1—6L6 and 1—80 tubes (Page 36). Measures 9 by 11 1/4 by 11 3/8 inches. Good looking black crackle finish with convenient hinged cover. Complete instructions furnished. Assembled, wired and adjusted with coils for one band (State band), but less tubes. **Not Mailable.**  
**162 RD 2913**—Shipping weight 28 lbs. Cash Price: **\$39.15**  
 Time Payment Price: \$4 Down, \$5 a Month. **\$42.67**

**(F)** DeLuxe Model. In addition to above has key click filter, voltage regulation and dual rectifiers. Produces chirpless "crystal pure" drift-proof signal. For Phone or C.W. Grey or Black crackle steel cabinet; hinged cover. Vernier dial. Needs one 6P6, one 6L6, two 80's, one VR-105-30 and one VR-150-30 tube (Pages 18 and 36). For 105-125 volt, 50 to 60 cycle, A.C. Wired and adjusted with coils for one band (State band and color), but less tubes. **Not Mailable.** Coils for 160, 80, 40, 20 and 10-meter bands. (See below).  
**162 RD 2985**—Shipping weight 28 lbs. Cash Price: **\$44.05**  
 Time Payment Price: \$5 Down, \$5 a Month. **\$47.96**

#### EXTRA PLUG-IN COILS

Complete in sets of three for 160, 80, 40, 20 and 10 meters for either model. State band. Ship. wt. 1 lb. Mailable. **\$2.45**  
**62 RD 2915**—Set of three coils. ....

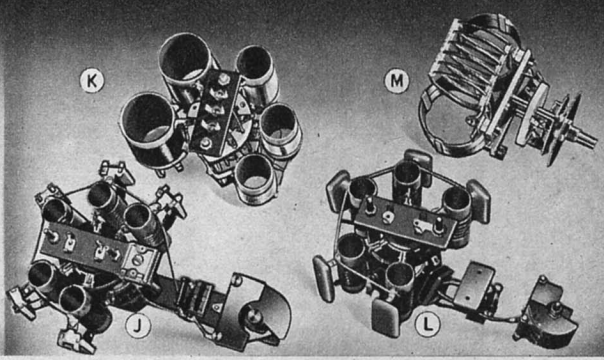


### Triplet Modulation Monitor

**(G)** Model 1696. For use on all bands. Helps you meet regulations on modulation and allows full use of carrier power. Uses two Red Dot Meters with life time guarantee; one carrier level meter; the other a high speed modulation meter calibrated from 40 to 120%; reaches full scale in less than 300 milliseconds yet requires 700 milliseconds to return to zero. This is needed to show instantaneous overmodulation peaks yet indicate average modulation. Neon Flash Indicator. Polarity switch for checking pos. or neg. peaks. Vacuum tube rectifiers. Housed in 1 1/2 by 7 1/4 by 4 1/2 sude finished Black steel case. Complete with Tubes and Neon Bulb. Ship. wt. 21 lbs.  
**162 RD 3648**—Cash Price: **\$32.24**  
 Time Payment Price: \$4 Down, \$5 a Month. **\$35.06**

### Browning Regenerative Presselector

**(H)** Model 5DXP. Bandswitching with complete coverage from 1.6 to 64 M.C. (5 to 185 meters) in five bands. Electrical band spread available at any part of spectrum. Attaches to any receiver for increased gain, selectivity. Smooth regeneration control. For use with high gain 1852 tube. Ideal for improving signal to noise ratio. Antenna throw-over switch. Built-in Kenyon Filament transformer. "B" voltage obtained from receiver by clip which attaches to screen prong of output tube. Calibrated 3 3/8-inch diam. nickel finished dial. Vernier control. For further details see Sept. 1938 QST. 7 by 10 by 6 in. deep. Black crackle finish. Complete less 1852 tube (Pg. 18). Ship. wt. 9 lbs.  
**262 RD 2979**—Cash Price: **\$16.50**  
 Time Payment Price: \$2.50 Down, \$2 a Month. **\$17.90**



### Browning and Bud Turrets

**(J)** BL-5H—For regenerative detector or regenerative presselector. 5-band grid tuning unit consisting of 5 high-Q coils. 5 isolantite trimmer band setting condensers mounted on coils. Series antenna condenser, main tuning condenser, and grid resistor condenser combination. Coils mounted on band switch. Coils cover 10, 20, 40, 80 and 160-meter bands. Each spreads over large portion of tuning scale.  
**62 RD 2920**—Shipping weight 1 pound. **\$7.85**

**(L)** BL-5G Exciter Grid—For exciter or Ham band signal shifter. A complete tuned grid unit consists of 5 cathode tapped coils shunted by silver cap fixed condensers. Coils mounted on two-section band switch and a 100 mmf. tuning condenser. Coils oscillate at fundamental frequencies of 14, 7, 3.5, 1.7 and 875 megacycles, allowing harmonic operation over the 10, 20, 40, 80 and 160-meter bands. Tunes with a 100 mmf. condenser.  
**62 RD 2921**—Shipping weight 1 pound. **\$8.80**

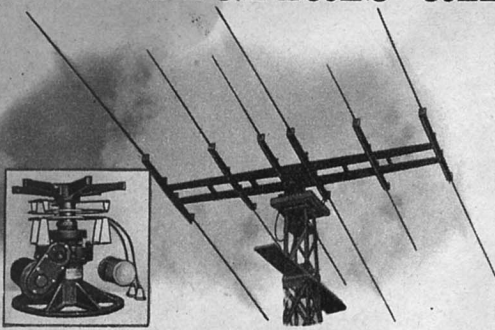
**(M)** BL-5P—Similar to (L) described above. A complete oscillator plate coil-switching assembly having a high LC ratio for use with model BL5G listed above. Tuned by 50 mmf. condenser. Comes to you completely wired and ready for immediate installation. Operates on the second harmonic of the 5G grid tuner.  
**62 RD 2922**—Shipping weight 1 pound. **\$6.65**

**(K)** Consists of 5 coils wound on low-loss coil forms with individual link coupling coils. Uses Isolantite band switch. Covers 10, 20, 40, 80 and 160 meters. Use with 100 mmf. Condenser designed for 807, RK-39, etc., plate circuits. 75-watt capacity. 4 1/2 by 4 1/2 by 4 in.  
**62 RD 2980**—Shipping weight 1 pound 8 ounces. **\$7.35**

**(M)** Bud OCS-1. Switch assembly for pentode oscillator or buffer stage capacity coupled to next stage. Max. input 50 watts. Air wound with ceramic base and band switch. 160-10 meters.  
**62 RD 7094**—Complete with dial plate. Ship. wt. 1 lb. **\$3.23**

# Aerials and Accessories

# Practice



## Mims Original Signal Squirters

A directive transmitting antenna that puts your signal where you want it! Cuts out unwanted signals in your receiver. Concentrates all energy in one direction. All models in kit form. Easily assembled. Copper plated tapered steel tubing elements. Triple enameled. Glazed insulators. Center sections and cross arms of selected dried wood with 3 coats of enamel. Adequate cross bracing. All construction as light as practical without sacrifice of strength. Rotates at approx. 1 R.P.M. 2-Element Type has front to back ratio of 18 db. 3-Element Type, more desirable for DX work, shows front to back ratio of 40 db. dual 10-20 meter. Combination rotary. Additional array does not influence pattern. Complete with Rotator, inducto stub, center section, insulators, elements and all hardware. *Not Mailable.*

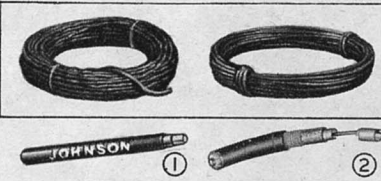
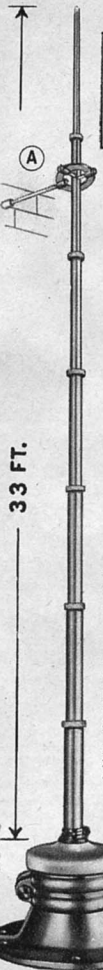
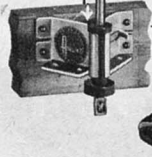
Article Number	Elements	Meter Band	Ship. Wt.	Cash Price
262 RD 5195	2	10	150 lbs.	\$110.00
262 RD 5196	3	10	161 lbs.	116.50
262 RD 5197	2	20	189 lbs.	116.50
262 RD 5198	3	20	209 lbs.	124.50
262 RD 5199	6	10-20	227 lbs.	59.00

**DeLux Rotator** (Small picture.) Instant reversal at any point. Weather-proof. 2 1/2 in. diam. shaft. 262 RD 5193—Ship. wt. 73 lbs. *Not Mailable.* No Inducto Stub. **\$69.50**  
Time Payment Price: \$6 Down, \$7 a Month....

**Direction Indicator** (Not shown.) Operates in either direction. Built-in switch controls beam. For 110-v. 50-60 cycle, A.C. 262 RD 5194—Ship. wt. 14 lbs. *Not Mailable.* **\$24.50**  
Time Payment Price: \$3 Down, \$4 a Month....

## Airline Radio Pole Antenna

Mounts vertically, 12 ft. high. Eliminates all overhead wires. Built-in lightning arrester. Easy to install. Universal mounting bracket makes it possible to mount the aerial on flat surface, on a corner wall or vent pipe. Antenna includes: Aluminum alloy rod (in 3 pieces); built in arrester; 15-foot ground wire; ground clamp; vent pipe clamp; lead-in strip and all necessary screws for installations. 62 RD 7049—Ship. wt. 4 lbs. 8 oz. **\$2.39**



## Aerial Wire and Co-Axial Cable

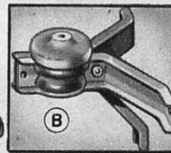
① **Johnson Copperweld Antenna Wire.** Supplied in 100, 150, 200 and 500-foot rolls.  
62 RD 6924—14-Gauge. Ship. wt. per 100 feet 1 lb. 8 oz. 100 feet. **74c**  
62 RD 6923—12-Gauge. Ship. wt. per 100 feet 2 lbs. 8 oz. 100 feet. **\$1.12**  
62 RD 6939—10-gauge. Ship. wt. per 100 feet 3 lbs. 8 oz. 100 feet. **\$1.62**

**Solid Enameled Copper Wire.** Popular for transmitting antennas, R.F. transmission lines. 100-ft. rolls only. Shipping weights 12-gauge, 2 pounds; 14-gauge, 1 pound 8 ounces.  
62 RD 7037—12 gauge. 100-ft. roll. **60c**  
62 RD 7038—14 gauge. 100-ft. roll. **41c**  
**Stranded Copper Antenna Wire.** 100-foot coils. Ship. wts. 12 oz.; 1 lb. 4 oz.; and 1 lb. 4 oz.  
62 RD 5155—Size 7-25 bare. 100 ft. coil. **19c**  
62 RD 5150—Size 7-24 bare. 100 ft. coil. **24c**  
62 RD 5153—Size 7-24 enameled. 100 ft. coil. **32c**

② **Co-Axial Cable.** Flexible! Ceramic bead insulation; copper braid outside conductor; with waterproof vulcanized rubber covering. 75.8 ohms surge impedance. loss per 100 ft., .134 db. at 1500 K.C. Max. length in one piece is 100 ft.  
62 RD 4820—Ship. wt. 2 oz. Per foot. **34c**

## Airline Aluminum Alloy Vertiflex Antenna

Made of strong thick aluminum-alloy tubing (20-meter ant. weighs only 6 lbs.). Self supporting; rust-proof. Comes in approximately 5-ft. sections; tapered compression joint with lock nut for rigidity and perfect electrical contact. No set screws to work loose. With 5-inch porcelain insulated flat base or wall mounting (picture (B)). State mounting wanted. 10-meter size adjusts from 15 to 19 ft.; 20-meter from 30 to 34 ft. *Not Mailable.*  
162 RD 7010—10 meter. Ship. wt. 20 lbs. **\$18.95**  
162 RD 7020—20 meter. Ship. wt. 22 lbs. **\$24.95**

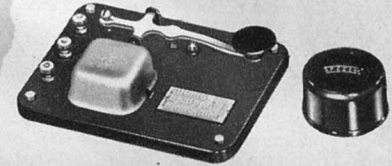


62 RD 7009—Wall Bracket (A). Has cast ring with 3 adjustable tubular ceramic insulators to hold mast in a rigid vertical position. Prevents undesirable sway when mounted next to wall. Wt. 4 oz. Ea. **\$2.95**



## Mac Audio Oscillator

110-volt A.C. or D.C. operation. Use as a practice set or as a tone source. Binding posts terminals. 200-ohm output. Tip jacks for phones. Switch for selecting 600, 800, 1000 cycles. Complete with ballast tube, two 6C5G tubes. Bakelite case. **\$5.95**



## Code Practice Set For the Beginner

Consists of key, buzzer and international code index. Mounted on a 6 by 4-inch metal base. For code practice or two-way communication between 2 points. Instructions. Use with 62 RD 5759 1 1/2-v. batt. Pg. 33. Shipping weight 1 lb. 62 RD 4869—Ea. **\$1.05**

## Speed-X Constant Frequency Buzzer

Model 400. Ideal for practice sets when used with key (see at right). Holds adjustment. Molded base and top. Constant tone. Resistance two ohms. Operates on 2 to 6 volts. Shipping weight 8 oz. 62 RD 4840— **73c** Each.....

## ATTRACTIVE

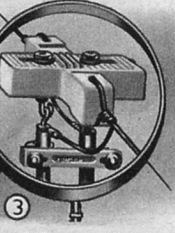


## Professional Cabinets

① Give high voltage protection and keep dust out of equipment! Made of cold rolled sheet steel; drilled for "Amateur" standard panels. (See next page.) Removable rear hinged door with 2 nickel plated Snap catches, 1/2-inch panel mounting face; tapped for 1/2 screws. Black crackle enamel finish. Inside depth clearance 15 1/2 in. With necessary screws, nuts, etc. for assembling. Shipped from Factory at Cleveland, O. Send order to Chicago. Ship. wt. 100 lbs. 262 RD 5922—47 by 21 by 17 in. Cash Price. **\$21.05**  
Time Pay. Price: \$3 Down, \$3 a Month. **\$22.86**  
262 RD 5923—66 1/2 by 17 in. Ship. wt. **\$26.17**  
Time Pay. Price: \$3 Down, \$4 a Month. **\$28.49**

## General Purpose Cabinets

② For general amateur and commercial use—provide a neat attractive housing. Made of heavy welded steel. Drilled to fit all "Amateur" standard panels. Depth of each cabinet is sufficient to accommodate 13-inch chassis with necessary inter-shelf connections. Hinged rear door with nickel snap catch. Louvers at side. Black enamel finish. Solid top. Comes completely set up with mounting screws and washers. Shipped from Factory at Cleveland, Ohio. Send order to Chicago. Ship. wt. 42 lbs. 262 RD 5402—26 1/2 by 19 1/2 by 14 1/2 in. Cabinet for 3 panels. Each. **\$9.55**  
262 RD 5403—35 1/4 by 19 1/2 by 14 1/2 in. Cabinet for four panels. Ship. wt. 50 lbs. **\$11.17**  
Time Payment Price: \$2 down, \$2 a month. **\$12.17**



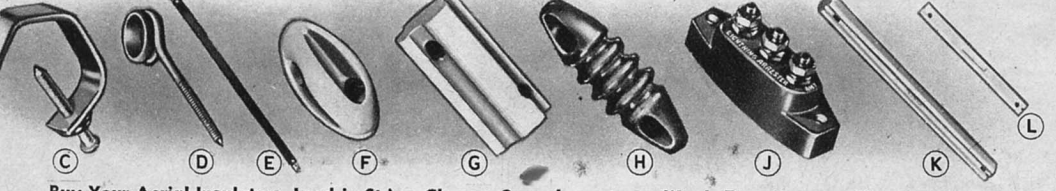
## Johnson "Q" Transmitting Antenna

③ Accurate match between antenna and feeders. Includes: 1 suspension insulator; 2 lengths aluminum tubing for quarter wave matching section; spacing bars; 1 spacing template; No. 12 copperweld antenna wire. End insulators, transmission line not included. Ship. wts. 6, 8 and 10 lbs.  
62 RD 6918—10-meter "Q." **\$4.62**  
62 RD 6920—20-meter "Q." **\$7.20**  
562 RD 6922—40-meter "Q." **\$13.29**



## Use RCA Magic Wave Antenna to Improve Your Radio Performance

May be placed several hundred feet away from radio to get it away from noisy electrical machinery. Can be used with a single wire as furnished; or with sections of iron pipe insulated and mounted vertically where space limitations are an important factor. Uses magnetic core antenna and coupling transformers. *Mailable.*  
62 RD 7041—Kit complete as pictured for one set. Operates 2 to 16 radios with extra transformers, see below. Ship. wt. 3 lbs. 8 oz. Each. **\$3.43**  
62 RD 7042—Distribution Transformer. Used when more than one radio is run from above aerial. Use one for 2 to 4 radios. Ship. wt. 1 lb. Each. **\$1.76**  
62 RD 7043—Extra Set Coupling Transformer. Use one for each extra radio. Ship. wt. 1 lb. Each. **\$1.47**

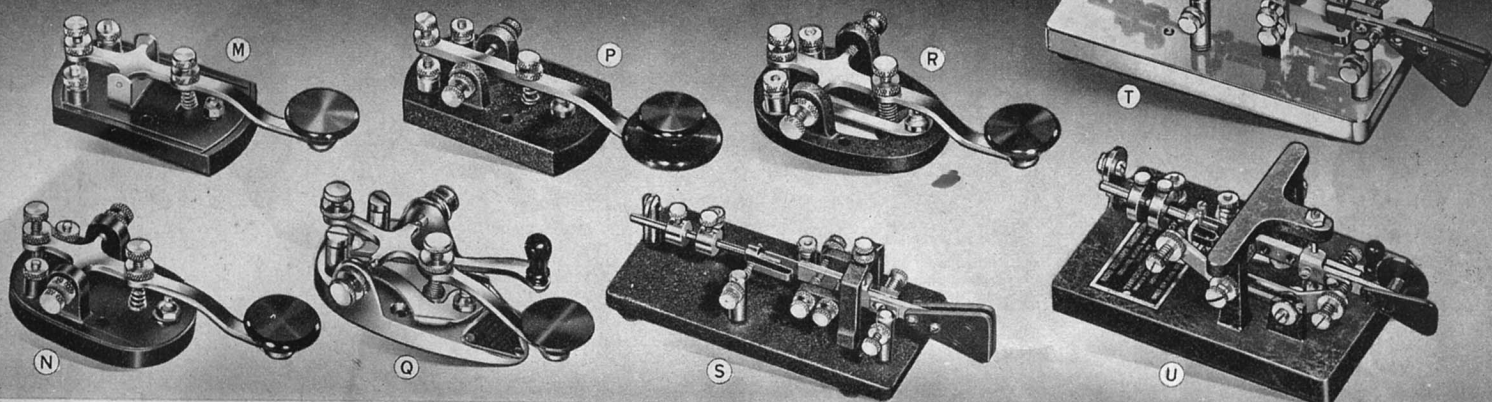


## Buy Your Aerial Insulators, Lead-in Strips, Clamps, Spreaders, etc. on Wards Time Payment Plan, See Page 3.

- ④ Adjustable Ground Clamp. Fits pipes up to 1 1/2-inch diameter. 62 RD 7035—Ship. wt. 3 oz. Each. **3c**
- ⑤ Stand off Insulator. Screw Eye Type. 6 in. long. 62 RD 7001—Ship. wt. 2 oz. Each. **5c**
- ⑥ Window Lead-in Strips. Flexible and insulated. Fahnestock clips. Single or double for 1 or 2 wire lead-ins. 62 RD 6999—For Single wire. Ship. wt. 6 oz. Each. **6c**  
62 RD 7036—For Double Wire. Ship. wt. 4 oz. **9c**
- ⑦ Airplane Type Insulator. Strain insulator—use where space and weight are factors. 3/4 by 1 1/2 in. long. 62 RD 6361—Ship. wt. 4 oz. Each. **4c**
- ⑧ Amateur Strain Insulator. White glazed pressed porcelain. High tensile strength. For guy wires on mast. Diameter 1-inch, two inches long. 62 RD 6358—Ship. wt. 6 oz. Each. **5c**
- ⑨ Antenna Insulator. Light weight. Glazed Brown Porcelain. 62 RD 6359—4 by 1 1/4 in. Wt. 4 oz. **5c**  
62 RD 6360—3 by 1 in. Wt. 4 oz. **3c**
- ⑩ Lightning Arresters. Shipping wt. 8 oz. each. 62 RD 6449—Best quality. Listed by Underwriters'. For all types doublet or doublet antenna. Weather-proof porcelain. Each. **39c**  
62 RD 5185—Kant Strike. (Not shown.) Single wire arrester. Each. **59c**
- ⑪ Johnson Feeder Spreaders. High quality glazed porcelain, non-moisture absorbent. Cross section 3/4 by 1/2 in. 62 RD 4797—2 inch. Wt. 2 oz. Each. **88c**  
62 RD 6928—4 inch. Wt. 3 oz. Each. **12c**  
62 RD 6929—6 inch. Wt. 3 oz. Each. **15c**
- ⑫ Johnson Antenna Insulators. 62 RD 6925—7 inch. Wt. 12 oz. Ea. **11c**  
62 RD 6926—12 inch. Wt. 1 lb. 8 oz. Ea. **53c**  
62 RD 6927—20 inch length. Ship. wt. 2 lbs. Each. **88c**

10 WARDS ALL

# Sets and Transmitting Keys



## Speed-X Moulded Bakelite Hand Keys

Practice Type Number 300 **88c**

A well-built, inexpensive practice key for the beginner. Has perfect action—simple adjustments. Real coin silver contacts. Stately Bronze finished machine parts are all mounted on a moulded Bakelite base... most attractive hand key! One you'll be proud to own. Shipping weight 1 pound.  
62 RD 4839—Each.....88c

Amateur Type Number 301 **\$1.26**

Here's a fine key for the amateur that anyone can afford to own... a good general purpose type! Mounted on a moulded Bakelite base. With handsome nickel plated fittings. Has real coin silver contacts. A flexible pigtail connection to the movable arm insures perfect electrical contact... a real quality feature... eliminates any contact or insulation problems that so often occur. It is impossible for current to pass through the bearings. Shipping weight 1 pound.  
62 RD 4838—Each.....\$1.26

## Dependable, Smooth Heavy Duty and DeLuxe Hand Keys

Speed-X Heavy Duty Key **\$1.91**  
Model Number 320

The finest straight key Speed-X makes. The last word in appearance and performance! Ideal for the advanced amateur. Has 1/4-inch diameter, genuine coin silver contacts for real heavy current work. Well insulated. Chromium plated machine parts and heavy cast metal Black wrinkle finish. Ship. wt. 2 lbs.  
62 RD 4837—Each.....\$1.91

Mac DeLuxe **\$2.25**  
Hand Keys

Specially designed DeLuxe Keys for amateur and commercial operators who want the very best! All keys are designed to give perfect balance.  
62 RD 4834—Cast brass composition base. Chrome plating. Case hardened steel bearing screws. Ship. wt. 1 lb. Each. \$2.25  
62 RD 4833—Professional Model. Brass composition casting. Black lacquered. Ship. wt. 1 lb. Each. \$1.80  
62 RD 4831—Amateur Model. Black wrinkle base, other parts cadmium plated. Ship. wt. 1 lb. Each. \$1.20

## Famous Speed-X Manual and Fast Semi-Automatic Keys

New Standard Model Number 310 **\$1.47**  
Less Switch

A durable, dependable key. Provisions for plugging in Speed-X Hi-Speed models. Black wrinkle finished base with all other parts nickel plated. 1/4 inch pure coin silver contacts. Built to hold speed adjustments. Shipping weight 1 pound.  
62 RD 4825—Each.....\$1.47  
62 RD 4826—Model 310S. Same as above key, but with Switch. Shipping weight 1 pound. Each.....\$1.76  
62 RD 4827—Model 311. Same as 310, but Chrome base. Ship. wt. 1 lb. Each.....\$1.76

Semi-Automatic Key **\$5.44**  
Model Number 515

Especially made to meet the wide demand of Amateurs who want a long lasting, heavy duty, high-speed key. Fully adjustable from lowest to highest speeds. Ruggedly built to hold adjustment at all speeds. Pure coin silver contacts. All parts finished in heavy nickel with Black wrinkle finish on base and casting. Base: 3 by 6 1/4 by 3/4 inches. Ship. wt. 6 lbs.  
62 RD 4836—Each.....\$5.44

## Famous Speed-Action Speed-X and Mac Semi-Automatic Professional Model Keys

Speed-X Semi-Automatic Key Model No. 501 **\$10.29**  
Cash

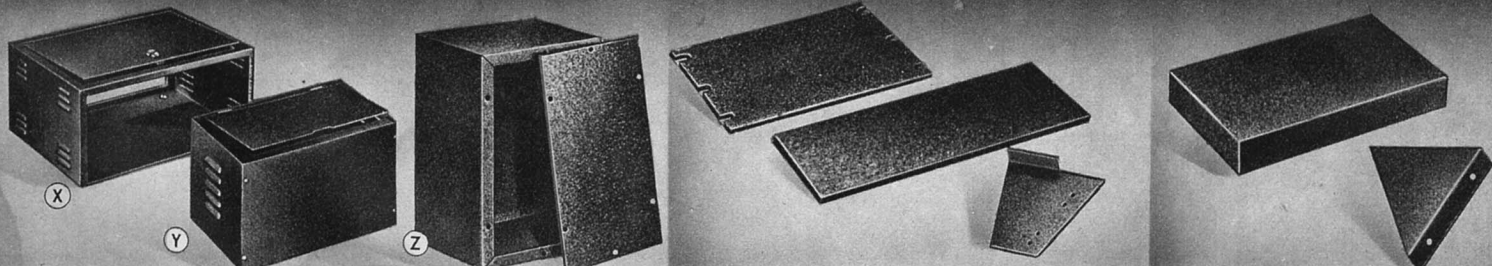
A heavy duty, Hi Speed Key that has met the approval of experienced amateurs and commercial users throughout the world. 1/4 inch diameter coin silver contacts with flexible pigtail connections to the vibrator arm. Prevents current from being carried by the bearings. Vibrator arm extra fast with dot U spring designed for heavy duty work. Adjustable from highest to lowest speeds; absolutely holds adjustment at all speeds. All machine parts and base are polished chromium. With circuit closing switch. Shipping weight 6 pounds.  
62 RD 4835—Cash Price.....\$10.29  
Time Payment Price: \$2 Down, \$2 a Month.....\$11.29

Mac Semi-Automatic DeLuxe Key **\$9.50**

Widely used by Amateur and Professional alike! Designed to meet the requirements of the most exact user. One piece casting for rhythmical, vibrationless sending. 3/8 inch contacts. 1/4 by 3/2 adjustment and contact carrying screws. Oversized case is constructed with hardened steel main pin and bearing screws. Moulded Bakelite dot paddle and dash button. Circuit closing switch. Marbleite finished base. All parts above base are chromium plated. Shipping weight 6 pounds.  
62 RD 4846—DeLuxe Mac Key. Each.....\$9.50  
62 RD 4845—Standard Model. Similar to DeLuxe, but nickel-plated on wrinkle finish base less switch! Ship. wt. 6 lbs. Each.....\$7.50

We can furnish any new Mac or Speed-X Key as it is announced. Write to Chicago for further information and prices.

# STEEL CABINETS, PANELS AND BRACKETS FOR TRANSMITTERS AND RECEIVERS



## Sturdy General Metal Instrument and Receiver Cabinets

Accommodates 13-inch chassis. Hinged cover in top with nicked snap catch. Takes standard 8 1/2 by 19-inch panels. Louvres at side. Black crackle enamel finish. Drilled to accommodate "Amateur" standard panels. Complete with screws and washers. Available. Ship. wt. 20 lbs.  
462 RD 5400—9 by 19 1/2 by 13 1/2 in. For one panel.....\$4.70  
462 RD 5401—17 1/2 by 19 1/2 by 13 1/2 inches for two panels.....\$8.88  
Shipping weight 34 pounds.....

Metal Utility Cabinets. Recessed hinged cover. Finger lift. Front panel attached with self-tapping screws. Louvres on sides. Reinforced spot-welded corners. Glider feet on bottom. Black crackle finish. With panel. Ideal for housing monitors, frequency meters, Preselctors, receivers, etc. (See at right for chassis). Available.  
62 RD 5933—Size: 7 by 10 by 6 in. Ship. wt. 7 lbs.....\$1.62  
62 RD 5934—7 by 12 by 7 1/2 in. Ship. wt. 7 lbs.....1.91  
62 RD 5935—7 by 14 by 7 1/2 in. Ship. wt. 8 lbs.....2.06  
62 RD 5936—7 by 10 by 8 in. Ship. wt. 7 lbs.....1.91  
62 RD 7088—8 by 16 by 8 in. Ship. wt. 9 lbs.....3.47  
62 RD 7089—9 by 15 by 11 in. Ship. wt. 11 lbs.....3.79

Metal Utility Cabinets made of special 1/8 inch steel and welded construction that assure maximum strength at a minimum weight. Ideal for all types of test equipment where a top lid is not necessary. Has removable front panel which bolts on with screws. Available.

62 RD 5924—2 by 4 by 4 in. Ship. wt. 1 lb.....53c  
62 RD 5925—3 by 5 by 4 in. Ship. wt. 2 lbs.....59c  
62 RD 5926—6 by 6 by 6 in. Ship. wt. 3 lbs.....68c  
62 RD 5929—Chassis for above. Ship. wt. 1 lb.....27c  
62 RD 5927—5 by 6 by 9 in. Ship. wt. 3 lbs.....\$1.03  
62 RD 5930—Chassis for above. Ship. wt. 1 lb.....24c  
62 RD 5928—6 by 7 by 12 in. Ship. wt. 5 lbs.....\$1.38  
62 RD 5931—Chassis for above. Ship. wt. 1 lb.....30c

## Steel and Masonite Relay Rack Panels

Both types, steel and masonite, offer strong and rigid support for all types of relay rack units. Finished in beautiful and durable baked Black Crackle enamel. Slotted to fit "Amateur" Standard relay racks. Steel 1/8 in. thick. Masonite 3/16 in. thick.

Steel Relay Panels				Masonite Relay Panels			
Art. No.	Size In.	Ship. Wt.	Price	Art. No.	Size In.	Ship. Wt.	Price
562RD6205	1 3/4 x 19	2 lbs.	29c	562RD5944	1 3/4 x 19	1 lb.	26c
562RD6206	7 x 19	4 1/2 lbs.	54c	562RD5945	7 x 19	1 lb.	50c
562RD6207	8 3/4 x 19	5 1/2 lbs.	62c	562RD5946	8 3/4 x 19	1 lb.	60c
562RD6208	10 1/2 x 19	6 lbs.	69c	562RD5947	10 1/2 x 19	2 lbs.	66c
562RD6209	12 1/4 x 19	7 lbs.	79c	562RD5948	12 1/4 x 19	2 lbs.	76c
562RD6210	15 3/4 x 19	9 lbs.	95c	562RD5949	15 3/4 x 19	3 lbs.	92c

## Steel Chassis Brackets

Constructed of heavy gauge Black Crackle steel... ideal for use where the panel above has to support the entire weight of a unit... an essential to insure proper support to the chassis. One-inch panel flange cut away at the bottom to enable chassis to be mounted flush against panel.  
62 RD 5917—6 1/2 by 8 inches. Ship. wt. 2 lbs. Pair.....33c  
62 RD 5918—6 1/2 by 11 inches. Ship. wt. 3 lbs. Pair.....83c  
62 RD 5919—6 1/2 by 13 inches. Ship. wt. 3 lbs. Pair.....97c

## Easy Working Electralloy Non-magnetic Panels

Not only easy to drill, but takes solder quickly. Clear lacquer finish. 16-gauge thickness. Ship. wt. each, about 2 lbs.  
562 RD 4779—7 by 13 inches. Each.....59c  
562 RD 4781—7 by 24 inches. Each.....79c

## Bakelite Mounting Panels

Have good dielectric characteristics. Use wherever shielding is not necessary. 3/16 in. thick. Ship. wt. each, 2 lbs.  
562 RD 4745—7 by 13 inches. Each.....\$1.73  
562 RD 4747—7 by 24 inches. Each.....\$2.32

## Blank Steel Chassis

Rugged steel chassis bases made from one piece of heavy gauge steel... with all corners spot-welded. Sides folded over on bottom to give additional strength—also permits bottom plates to be attached to the chassis if desired. Finished in attractive Black Crackle enamel.  
462 RD 6200—10 by 12 by 3 in. Ship. wt. 4 lbs. Ea.....74c  
462 RD 6201—10 by 17 by 3 in. Ship. wt. 5 lbs. Ea.....\$1.19  
462 RD 6203—12 by 17 by 3 in. Ship. wt. 7 lbs. Ea.....1.25  
462 RD 6204—13 by 17 by 3 in. Ship. wt. 7 lbs. Ea.....1.29  
462 RD 6202—10 by 23 by 3 in. Ship. wt. 7 lbs. Ea.....1.29

## Triangular Mounting Brackets

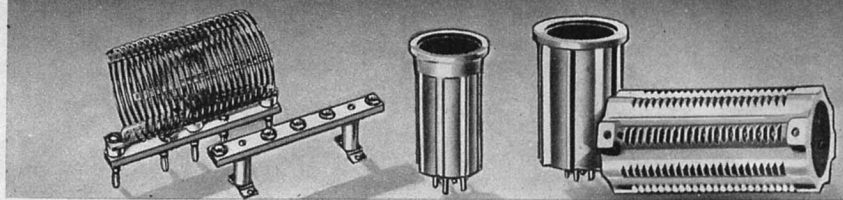
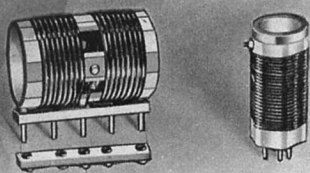
Supports to use where large weights are involved. Heavy Black Crackle steel. Sold in pairs only. Ship. wt. each pair, 1 lb.  
62 RD 6376—5-inch bracket. 35c Per pair  
62 RD 6377—8 in. Pair.....56c  
62 RD 6378—11 in. Pair.....73c

All merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send order to Chicago.

## BUY ON CREDIT

Buy all your radio equipment on Wards Convenient Time Payment Plan. Just build your order up to \$10 and turn to Page 3 for details and table of terms.

# COILS- CHOKES- WIRE AND KITS



## Johnson Coils on Ceramic Forms: 350 and 1,000 Watts\*

Rotating coupling coil at electrical center. 10-80 meter coils tune with 100 mmf. condenser. 160 meter coils require 150 mmf. condenser.

350 Watt With Coupling Coil				1,000 Watt with Coupling Coil			
Band	Article No.	Ship. Wt.	Price	Band	Article No.	Ship. Wt.	Price
10	62 RD 5216	2 lbs.	\$2.20	10	62 RD 5226	4 lbs.	\$3.06
20	62 RD 5217	2 lbs.	2.32	20	62 RD 5227	4 lbs.	3.26
40	62 RD 5218	2 lbs.	2.41	40	62 RD 5228	4 lbs.	3.38
80	62 RD 5219	2 lbs.	2.50	80	62 RD 5229	4 lbs.	3.47
160	62 RD 5220	2 lbs.	2.59	160	62 RD 5230	4 lbs.	3.53

62 RD 5247—Mount. base. Wt. 4 oz. 59c 62 RD 5248—Mount. base. Wt. 6 oz. 88c  
**Plug-in Hi-Q Inductors—Fits Standard 5-Prong Socket**

Band	Center Link Art. No.	Price	Bottom Link Art. No.	Wt.	Price
10	62 RD 5204-(75w.)	91c	62 RD 5209-(75w.)	1 lb.	97c
20	62 RD 5205-(75w.)	91c	62 RD 5210-(75w.)	1 lb.	97c
40	62 RD 5206-(75w.)	91c	62 RD 5211-(75w.)	1 lb.	97c
80	62 RD 5207-(75w.)	91c	62 RD 5212-(75w.)	1 lb.	97c
160	62 RD 5208-(75w.)	91c	62 RD 5213-(75w.)	1 lb.	97c

62 RD 5214—4-Prong Form Only. 1½-in. diam. Ship. wt. 1 lb. Ea. 47c  
 62 RD 5215—5-Prong Form Only. 1½-in. diam. Ship. wt. 1 lb. Ea. 47c

\*Power input to R. F. amplifier.

## Coto Coils—Low Loss

Type TVL handles a full kilowatt, BT and BTVL, up to 300 watts. 160 meter coils tune with 75 mmf. Other bands require 35 mmf. In variable link models a 3 turn coil is pivoted in electrical center of inductance. Flexible insulated leads permit rotation through 90 degrees. Pivot springs maintain constant pressure on link pivot. Ship. wt. 4 lbs.

### Coils Only—Center Tapped

Type BT—Handles 300 watts.

Article Number	Band	Price
562 RD 6566	10	\$1.15
562 RD 6565	20	1.20
562 RD 6564	40	1.41
562 RD 6563	80	1.67
562 RD 6562	160	1.76

### Coils Only—Center Tapped, Variable Link

Type TVL—1000 Watt Type BTVL—300 Watt

Art. No.	Band	Price	Art. No.	Band	Price
562 RD 6589	10	\$2.82	562 RD 6594	10	\$2.68
562 RD 6590	20	2.88	562 RD 6595	20	2.73
562 RD 6591	40	3.23	562 RD 6596	40	2.94
562 RD 6592	80	3.47	562 RD 6597	80	3.21
562 RD 6593	160	3.82	562 RD 6598	160	3.29

### Steatite Mounting Bases Only

Approximately 2½ inches high. Order the type corresponding to your coil. Ship. wt. each, 8 oz.

Art. No.	Type	Price	Art. No.	Type	Price
62 RD 6603	BT	\$1.11	62 RD 6604	BTVL	\$1.17
62 RD 6602	BTVL	1.17			

## Low Loss Coil Forms

Ribbed, low-loss Isotex for high power stages of transmitters. For Banana plug and Jacks. See Pg. 44.  
 62 RD 6492—For 20-40-meter coils. Size 74c  
 2½ by 5 in. Shipping weight 2 pounds. Ea.  
 62 RD 6493—For 80-meter coils. Size 3 by 6 in. Shipping weight 2 pounds. Each. \$1.03  
 62 RD 6494—For 160-meter coils. Size 4 by 7½ in. Shipping weight 3 pounds. Each. \$1.32

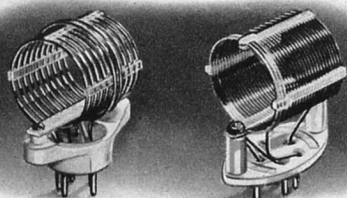
### Plug-in Coil Forms

Special low-loss ribbed bakelite forms. 1½-in. outside diam. Use for winding coils for short wave receivers and for oscillator, doubler, and buffer stages in short wave transmitters. Also used for final amplifier coils in low powered transmitters. Equipped with internally molded threaded stud for mounting midget trimmers. Shipping weight each, 4 ounces.

62 RD 6486—4-Prong Style. Each. 21c  
 62 RD 6487—5-Prong Style. Each. 21c  
 62 RD 6488—6-Prong Style. Each. 24c

**Giant Coil Forms** for making final amplifier coils in low and medium powered transmitters. Low loss bakelite. 2½-in. outside diameter. Ribbed to reduce amount of solid dielectric coming in contact with coil. Good for power inputs up to about 100 watts maximum. Shipping weight 8 ounces. For sockets see Page 21.

62 RD 6489—4-Prong Style. Each. 38c  
 62 RD 6490—5-Prong Style. Each. 41c



## Bud Plug-in Coils

For power inputs up to 50 watts. Ceramic base. Plugs into 5 prong socket. Ceramic base. Windings securely cemented. Wt. 4 oz. 88c

**Center Linked and Tapped** **End Linked No Tap**

Art. No.	Band	Cap.*	Art. No.	Band	Cap.*
62RD7082	10	28	62RD7087	10	28
62RD7081	20	33	62RD7086	20	33
62RD7080	40	50	62RD7085	40	50
62RD7079	80	75	62RD7084	80	75
62RD7078	160	90	62RD7083	160	90

\*Capacity in MMF. needed to tune to low frequency end of band.

## Decker Plug-in Coil

50-w. input. 5 prong. Ceramic base. 10, 20-meter coils silver plated, others copper. Wt. 4 oz. 97c

**Center Linked and Tapped** **End Linked No Tap**

Art. No.	Band	Cap.*	Art. No.	Band	Cap.*
62RD7405	10	50	62RD 7400	10	50
62RD7406	20	50	62RD 7401	20	50
62RD7407	40	50	62RD 7402	40	50
62RD7408	80	50	62RD 7403	80	50
62RD7409	160	100	62RD 7404	160	50

For Pentodes order next higher frequency coil i.e. for 40 order 20-meter coil. \*Cap. in mmf.

## Hammarlund Chokes, Type CH-X

... so small and light in weight they are supported by own leads. 5 universal wound impregnated pies are mounted on Isolantite core. Tinned copper wire leads secured to core by metal end caps. ½-inch diameter; 1½ inches long.  
 62 RD 7591—2. 1 mh; 125 ma. current capacity. Shipping weight 4 oz. 30c

## Hammarlund Chokes, Type CH-500

For parallel feed in high powered transmitters in 10, 20, 40, 80 and 160-meter amateur bands. 6 thin universal wound pies on Isolantite core tapped at each end. Removable brackets. Size (less brackets) 1½ in. diam., 2½ in. long.  
 62 RD 7592—2. 5 mh.; 500 ma. Shipping weight 8 oz. \$1.05

## Johnson Heavy-Duty Chokes for all amateur bands from 1.7 to 30 M.C.

Arrangement and size of pie sections insure high impedance. Shipping weight 8 oz.  
 62 RD 4960—Type 752. Rated 500 mills continuous. 73c  
 62 RD 4961—Type 754. Rated 750 mills continuous. \$1.26  
*Everything Wards sell can be bought on convenient Time Payment Terms. See Page 3.*

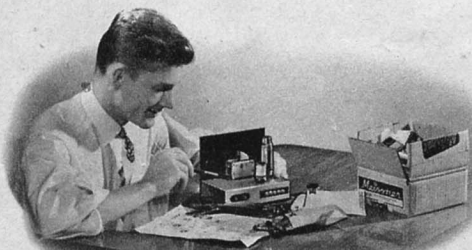
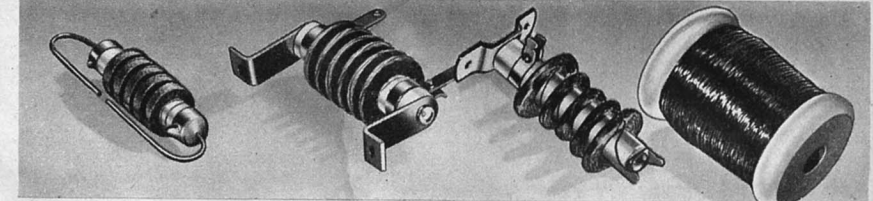
## Magnet Wire in handy spools. Supplied in 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, and 40 gauge. Av. wt. 8 oz. State gauge.

62 RD 7090—Double Cotton Spool. 13c  
 62 RD 7091—Double Silk Spool. 13c  
 62 RD 7092—Enameled Spool. 13c  
 62 RD 7093—Sgt. Cot. Enam. 13c

### Bare Tinned Copper Wire

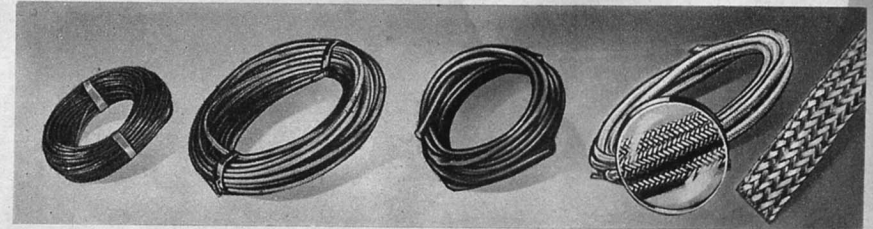
Ship. wt. 25 ft. No. 10, 1¼ lbs.; No. 12, 12 oz.; 50-ft. No. 10, 2¼ lbs.; No. 12, 1½ lbs.

25-Foot Coil			50-Foot Coil		
Art. No.	Size	Price	Art. No.	Size	Price
62 RD 7050	10	34c	62 RD 7051	10	67c
62 RD 7052	12	22c	62 RD 7053	12	39c



## Meissner Student "Midget" Receiver Kits

Easily assembled. Use new 1½-volt dry battery tubes which increase battery life as much as 60%. Each kit supplied with broadcast coil (200 to 545 meters); additional coils listed below. Easy instructions, panel, chassis, resistors, condensers, sockets, wire and hardware. Tubes, (Pg. 36), batteries (Pg. 33), and headphones (Pg. 12), not included.  
 62 RD 3981—One-Tube Kit, complete as described above. Requires in addition one 1½-volt dry cell; one 45-v. "B" Battery (Page 33); earphones and one 1E4G Tube Ship. wt. 4 lbs. \$2.65  
 62 RD 3982—Two-Tube Kit, Similar to above but requires one 1½-v. dry cell; two 45-v. "B" Batteries; one 7½-v. "C" Battery; earphone; one 1C5G and one 1E4G tubes. Ship. wt. 4 lbs. \$2.94  
 62 RD 3983—Three-Tube Kit, Similar to above but requires one 1½-v. dry cell; two 45-v. "B" batteries, one 1H5G tubes. Ship. wt. 5 lbs. \$3.68  
 62 RD 3987—3 short wave plug-in Coils. 17 to 200 meters. Wt. 8 oz. 69c



## Push-Back Hook-Up Wire

Covered, with heavy, double insulation and paraffined. Choice of Red, Yellow, Green, Blue or Black for color coding. State color. Ship. wts. 25-ft. roll, 5 oz.; 100-ft. roll, 1 lb.  
 62 RD 4870—No. 20 solid wire. 25 ft. 10c  
 62 RD 4878—Same, but 100-ft. spool. 36c  
 62 RD 4871—Stranded wire. Black only. No. 20. Price per 25-foot roll. 11c  
 62 RD 4979—Same as above, but 100-ft. 42c

### 18-Ga. Hook-Up Wire

Solid tinned copper; push back wire.  
 62 RD 4888—25-foot coil. Wt. 1 lb. 16c  
 62 RD 4889—100-Foot Coil. Wt. 2 lbs. 54c

### Belden Tinned Colorburr

High voltage, waxed; solid black hookup wire. Puncturing voltage 9000 at 60 cycles. Diameter of conductor: .024 inch.  
 62 RD 4818—25 feet. Ship. wt. 8 oz. 18c  
 62 RD 4819—100 feet. Ship. wt. 1 lb. 48c

All merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send order to Chicago.

## Tubing, Wire and Shielding

### Spaghetti Tubing

Used for insulating wires where extra high voltage protection is necessary. Fine quality varnished cambric tubing. Standard size, in 30-in. lengths. Duco finish. Red or Black. State color. Shipping weight per length 2 ounces.  
 62 RD 4872—Per 30-in. length. 9c

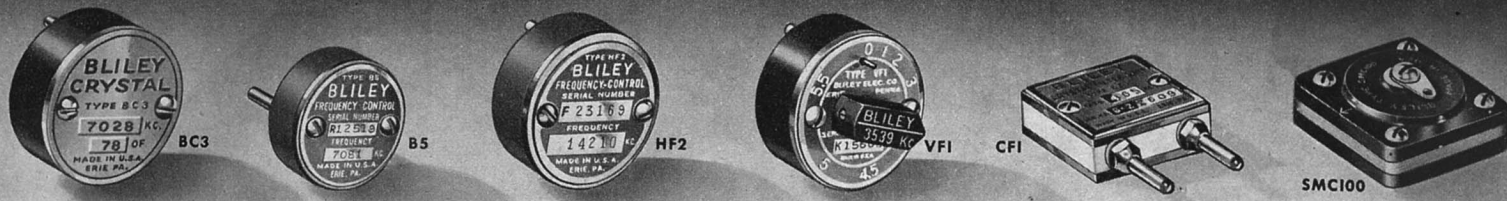
### Shielded Lead-In Wire

For auto radios, lead-ins, s. w. receivers, and for grid leads in the input stages of P. A. amplifiers. Stranded tinned copper wire, with rubber and cotton insulation. Tinned copper shielding.  
 62 RD 4874—Ship. wt. per foot, 2 oz. Per ft. 2½c

### Shielding Only

For flexible leads in transmitters and grid-cap connections in power supplies. ¾ inch braided copper shielding. Easily slipped over any kind of wire. Ship. wt. per foot 3 oz.  
 62 RD 4873—Per foot. 3c

# CRYSTALS- PHONES- METERS



## Bliley Highly Active Precision Crystals for Amateurs—The World's Most Popular Transmitting Crystal

**Type BC3:** The old reliable Bliley model; economical too, because you get quality and accuracy at a price everyone can afford. Drift of only 23 cycles/mc/°C. Heat developed by crystal is quickly dissipated by the stainless steel holder cover plate. Complete with holder. Ship. wt. each, 8 oz. **State frequency.** Exact frequency crystals shipped from factory in Erie, Pa.

62 RD 6986—160 meter, within 10 K.C. .... \$3.35  
62 RD 6982—80-meter crystal within 5 K.C. .... 3.35  
262 RD 6983—80-meter crystal, exact frequency. 4.95  
62 RD 6984—40-meter crystal within 5 K.C. .... 3.35  
262 RD 6985—40-meter crystal, exact frequency. 4.95

**Type B5:** A superior low-drift crystal for 40 meters. Does not exceed  $(\pm)$  4 cycles/mc/°C. 40-meter unit has high activity and power handling capacity; rated R.F. current, 135 mills maximum. Thoroughly engineered. Ship. wt. each, 8 oz. **State frequency.**

62 RD 6987—40-meter crystal within 5 K.C. .... \$4.80  
262 RD 6988—40-meter crystal, exact frequency. 5.90

### Bliley Crystal Calibration Accuracy

All Bliley Amateur Frequency crystal units unless otherwise specified, are guaranteed to oscillate within 0.03% of the indicated frequency. This applies to operation in a conventional triode, pentode, or Tri-tet circuit with the crystal at the calibration temperature. No adjustment will be made on crystals which show signs of having been removed from the holder or have been overloaded.

**Type HF2:** One of the most dependable 10 and 20-meter crystals for amateur bands. Highly active and precision ground; greatly simplifies 5, 10 and 20-meter transmitters by reducing the number of necessary doubler stages and yet retaining maximum efficiency. The twenty-meter unit is directly applicable to conventional crystal circuits. 20-meter crystal for 20-meter final stage; 10-meter type for 10 and 5-meter output. Complete with holder. **State frequency.** Ship. wt. each, 8 oz.

62 RD 6993—20-meter crystal within 15 K.C. .... \$5.75  
62 RD 6994—Within 30 K.C.; from 14,400 to 15,000 K.C. .... \$5.75  
62 RD 6995—10-meter crystal within 50 K.C. .... 5.75

**Type VFI:** Just turn the knob to shift your transmitter frequency and avoid QRM. Plugs into regular 5-prong tube socket; may replace your present crystal without any electrical circuit changes. No need for elaborate electron coupled oscillators or expensive signal shifters when your transmitter is equipped with a Bliley variable crystal. You retain the crystal stability at all frequencies within the range of adjustment. Up to 6 K.C. variation with the 80-meter unit or 12 K.C. with 40-meter unit. Correspondingly wider variations when output is used on Harmonic frequencies. An 80-meter unit allows a 24 K.C. variation on 40 meters; and 48 K.C. on 10 meters. With holder. **State minimum frequency.** Ship. wt. ea., 8 oz.

62 RD 6996—80-meter crystal within 5 K.C. .... \$6.60  
262 RD 6997—80-meter crystal, exact frequency. 8.50  
62 RD 6998—40-meter within 15 K.C. .... 6.60

**Type CFI:** For crystal filters in I.F. circuits. For obtaining the most selectivity from any receiver a crystal filter is an absolute necessity. This Bliley unit with its freedom from spurious peaks assures maximum selectivity, one spot resonance and minimum signal loss. Plugs into any standard 5-prong tube socket. For 456 K.C., 465 K.C., 500 K.C. and 1600 K.C. Shipping weight each, 8 ounces.

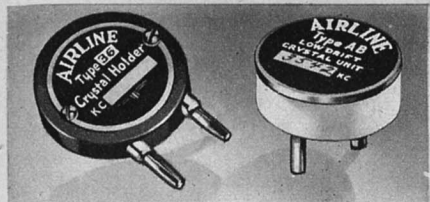
62 RD 6940—For 456, 465 or 500 K.C. each. .... \$5.50  
62 RD 6941—For 1600 K.C. .... 9.50

**Type SMC100:** A crystal suitable for frequency standards. Has two frequencies: 100 K.C. and 1000 K.C. At 100 K.C. the temperature coefficient is approximately minus 10 cycles/mc/°C. Usable harmonics can be had up to 20,000 K.C. from 100 K.C., and through 60,000 K.C. from 1000 K.C. when used in a simple oscillator circuit. For complete constructional information write for free bulletin. Ship. wt. each, 8 oz.

62 RD 6942—Complete in holder. .... \$7.75

Everything Wards Sell can be purchased on Convenient Time Payment Terms. Whether you buy one item selling for \$10 or more, or several hundred items selling for only a few cents each, you can take advantage of Wards Time Payment Plan and pay out of income. Just build your order up to the required \$10 — fill in the Time Payment form on the back of the order blank, and send the small down payment shown in the table of terms on Page 3.

See Ward Time Payment Plan on Page 3.



### Airline Crystals and Holders

Ground to within 5 K.C. of your frequency. Mounted in horizontal holders; fit any standard 5-prong socket. Wt. each, 8 oz. **Shipped from Factory** in Batavia, Ill. Send order to Chicago.

262 RD 5939—Airline Crystal Type AB \$2.50 for 40, 80 or 160 meters. **State frequency.**  
262 RD 5940—A new "X" cut mounted crystal in horizontal holders (see above at right). For 80 or 160 meters within 5 K.C. Complete at a new low price. Ship. wt. ea., 8 oz. **State frequency.** \$1.50  
62 RD 6432—Vertical holder (see left above). Plug springs may be removed to fit standard 5-prong socket. Ship. wt. 8 oz. .... \$1.00



### Frost Phones

One of the first, and one of the best names in radio 20 years ago—and today still a good value in a headset. Magnetic type. Very rugged; adjustable headband. Suitable for the beginner or when cost is an important factor. Ship. wt. per pr. 1 lb. 4 oz.  
62 RD 5479—3000-ohm impd. .... \$1.65  
62 RD 5480—2000-ohm impd. .... \$1.48



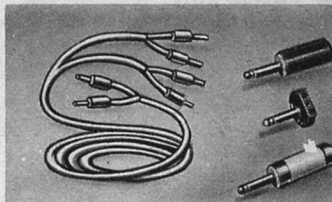
### Trimm Featherwt.

Made of special cobalt steel-alloy. Assures a powerful, permanent light magnet. Bakelite ear pieces supported by lightweight adjustable band. Actual weight 5 oz. Ship. wt. any type 1 pound.  
62 RD 5415—Type 100. 4000 ohms. .... \$5.88  
62 RD 5416—Type 106. 24000 ohms. .... 5.88  
62 RD 5417—(Not shown). Type 65. Standard head set. 2000 ohms. \$2.00



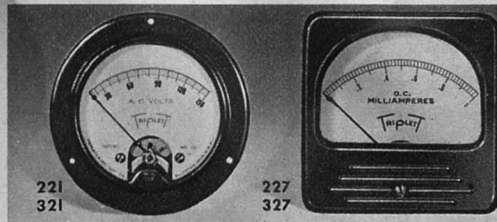
### Brush-Crystal Type

**Type BJ.** In water tight aluminum case. Mounted in soft rubber cap. Rubber covered cord makes contact at only one side passing over headband. Weighs 6 oz. Ship. wt. per pair 2 lbs.  
62 RD 6505. .... \$7.06  
62 RD 6367—Type A. Like above in bakelite case with standard cord. Shipping weight \$5.29 2 pounds. ....



### Phone Plugs and Cords

**Phone Cord.** 5 feet long with pin tips. Flexible stranded conductors. Double braiding.  
62 RD 4758—Wt. 6 oz. Ea. 49¢  
**(1st) Phone Plug.** 29¢  
62 RD 5121—Wt. 2 oz. Ea. 29¢  
**(2nd) Flush-Type Phone Plug.** Shipping weight 2 ounces. 36¢  
62 RD 4626—Each. ....  
**(3rd) Shielded Plug.** Fits any phone jack, but is completely shielded. Use with high impedance mike. Wt. 6 oz. 49¢  
62 RD 4625—Each. ....



### Triplet Panel Instruments

Ship. wt. any type 2 lbs. State Art. No. and Model No.

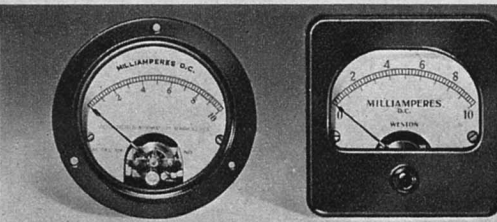
Model	221 D.C., 231 A.C.	227 D.C., 237 A.C.	321 D.C., 331 A.C.	327 D.C., 337 A.C.
Shape	Round	Square	Round	Square
Body Diam.	2 3/16 in.	2 3/8 in.	2 3/8 in.	2 3/4 in.
Overall Diam.	2 1/2 in.	2 3/8 in.	3 1/2 in.	3 1/2 in.

### D.C. MILLIAMPERE METERS

Article No.	Range	Models 221, 227	Models 321, 327
62 RD 6691	0-1	\$3.75	\$4.57
62 RD 6695	0-25	2.94	3.75
62 RD 6696	0-50	2.94	3.75
62 RD 6697	0-100	2.94	3.75
62 RD 6778	0-150	2.94	3.75
62 RD 6698	0-200	2.94	3.75
62 RD 6660	0-300	2.94	3.75
62 RD 6661	0-400	2.94	3.75
62 RD 6699	0-500	2.94	3.75

### A.C. VOLT METERS

62 RD 6704	0-10	2.94	3.75
62 RD 6707	0-150	3.75	4.55



### Weston Panel Instruments

Weston Panel Instruments, May be had in either 3 1/2-in. round or 3 1/8-in. sq. type. State choice. Ship. wt. ea., 2 lbs.

### WESTON D.C. MILLIAMMETERS

Article No.	Range	Price 3 1/2-In. Round	Price 3 1/8-In. Square
62 RD 3394	0-1	\$7.35	\$7.35
62 RD 3395	0-25	6.61	6.61
62 RD 3396	0-100	6.61	6.61
62 RD 3397	0-200	6.61	6.61
62 RD 3398	0-300	6.61	6.61
62 RD 3399	0-500	6.61	6.61

### NEW TRIPLET D.C. VOLTMETERS

Article Number	Range	Model	Price
62 RD 3674	0-1000	321 or 327	\$8.50
62 RD 3681	0-2000	321 or 327	8.50
62 RD 3682	0-3000	321 or 327	8.50

New Triplet Built in Thermocouple R.F. Ammeters. Use same case as models 321, 327 at left.

Article Number	Range Amps.	Ship. Wt.	Models 341 or 347A
62 RD 3675	0-2 1/2	2 pounds	\$4.41
62 RD 3676	0-5	2 pounds	4.41

### Low Priced Readrite Meters

Article No.	Meter	Range	Ship. Wt.	Mod. 55	Mod. 95
62 RD 3613	D.C. Voltmeter	0-10	8 oz.	\$0.59	\$0.79
62 RD 3615	D.C. Voltmeter	0-50	8 oz.	.59	.79
62 RD 3617	D.C. Voltmeter	0-150	8 oz.	1.03	1.24
62 RD 3618	D.C. Voltmeter	0-300	8 oz.	1.91	2.12
62 RD 3620	D.C. Voltmeter	0-750	8 oz.	3.24	3.44
62 RD 3625	A.C. Voltmeter	0-10	8 oz.	1.62	1.82
62 RD 3626	A.C. Voltmeter	0-150	8 oz.	2.65	2.85
62 RD 3635	D.C. Milliammeter	0-5	8 oz.	1.32	1.52
62 RD 3636	D.C. Milliammeter	0-15	8 oz.	.59	.79
62 RD 3637	D.C. Milliammeter	0-50	8 oz.	.59	.79
62 RD 3638	D.C. Milliammeter	0-100	8 oz.	.59	.79
62 RD 3639	D.C. Milliammeter	0-200	8 oz.	.59	.79
62 RD 3640	D.C. milliammeter	0-400	8 oz.	.59	.79
62 RD 3634	D.C. Ammeter	20-0-20	8 oz.	.59	.79
62 RD 3643	A.C. Ammeter	0-10	8 oz.	1.62	1.82

### READRITE MODEL 501 RESISTANCE METER

62 RD 3624—10,000 ohm range. Ship. wt. 8 oz. Ea. .... 88¢

### READRITE MODEL 65-A WIDE FLANGE RING

62 RD 3650—Use with any Model 55 Meter. Gives meter appearance of Triplet Model 221 at left. Ship. wt. 2 oz. .... 9¢











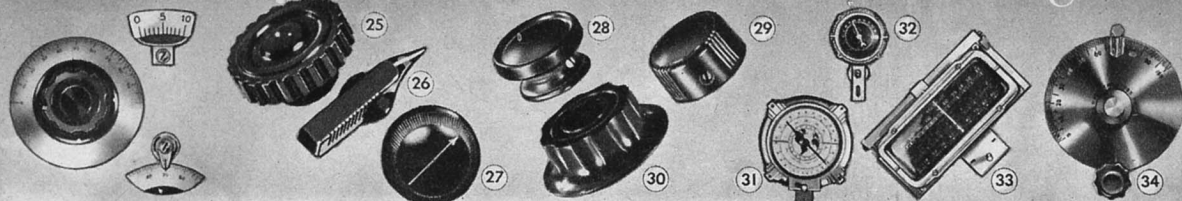






# Quality Hardware at a Real Savings

FOR TERMS SEE PAGE 3



**Transmitter Dials**  
Heavy gauge brass, chromium plated 0-100. Insulated shaft. 2 3/4 inch or 4 inch. Used with either Vernier or plain dial indicators. Dial only. Shipping weight 3 ounces.  
62 RD 4763—2 3/4 in. .67c  
62 RD 4760—4 inch. \$1.03  
**Dial Indicators.** Shipping weight 2 ounces.  
62 RD 4762—Plain Dial Indicator. Each. .6c  
62 RD 4764—Vernier for 2 3/4 inch dial. Each. .18c  
62 RD 4761—Vernier for 4 inch dial. Each. .18c

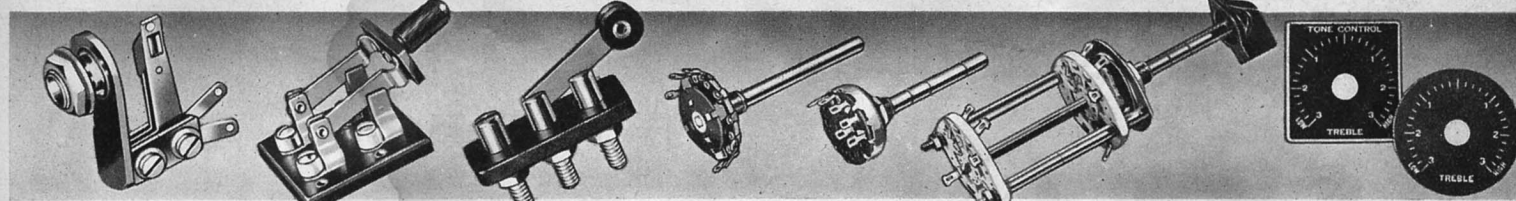
**Knobs and Pointers**  
(25) Bakelite Knob—"Sure-Grip" Knob. 1 inch diam. Shipping weight 2 ounces.  
62 RD 4759—Each. .9c  
(26) Pointer Knobs. Black. 2 sizes for 1/4 inch shaft with set screw. Ship. wt. each 1/2 oz.  
62 RD 4755—1 1/4 inch. Ea. .7c  
62 RD 4753—2 1/4 inch. Ea. .9c  
(27) Popular Bakelite Knobs. Shipping weight each 3 ounces. Round shafts only.  
62 RD 4675—Black bakelite 1 1/2 in. knob. 1/4 in. hole. Engraved white arrow. Complete with set screw. Each. .9c  
62 RD 4676—1 1/2 in. to match. 7c

**Popular Radio Knobs**  
For any type of equipment—Receivers, Transmitters, Instruments and Test Equipment. Made of molded bakelite with hardened set screws for fastening to shaft. All knobs fit 1/4 inch in diameter shaft. Finished black. Ship. wt. each 2 oz.  
(28) 62 RD 4784—1 1/2 in. Ea. .7c  
62 RD 4783—1 1/2 in. Ea. .9c  
(30) 62 RD 4780—1 1/2 in. Ea. .21c  
62 RD 4782—2 1/4 in. Ea. .33c  
(29) 62 RD 4785—1 1/2 in. Walnut finish. Each. .6c  
62 RD 4789—Similar to above, except size is 1 1/4 inch, and finish is Walnut. Each. .8c

**Radio Tuning Units**  
(31) 4-in. Airplane Style Dial. Friction drive. Ratio: 12:1. Double-ended pointer travels 180°. Furnished to read 0-100 or calibrated in Broadcast frequencies. State choice. Wt. 2 lbs. \$1.77  
(32) Airplane Dial for Small Receivers. Visible diam. of scale 2 in. Ratio: 3 1/2 to 1. Single pointer, reading 0 to 100.  
62 RD 4802—Ship. wt. 1 lb. 94c  
(33) Rectangular 3-Band Unit. Pointer travels 5 1/4 in.—180°. Tuning ratio: 9:1. Lithographed scale. Ship. wt. 2 lbs.  
62 RD 4773—Each. \$2.59

**Instrument Dial**  
(34) 2 3/4 inch Friction Drive Dial. Plain celluloid pointer. Compression drive reduces backlash to minimum. Scale reads 0-100 with 180° rotation. Etched numerals on chrome background. Diam. 2 3/4 in. Ship. wt. 8 oz.  
62 RD 4772. 88c  
62 RD 4795—Same as above, but 4-in. diam. \$1.17

**Small Name Plates**  
Choice of names as follows: Amplifier, Antenna, Buffer, Crystal, Doubler, Filament, Voltage, Gain Control, Input, Key, Microphone, Modulator Grid, On-Off, Output, Phone-C.W., Plate, Voltage, Grid, Power Amp. Plate, Send-Receive, Speech Amplifier, Transmitter, etc. With screws. State name.  
62 RD 4597—Ship. wt. 1 oz. Each. .6c



**Yaxley Jacks**  
Bronze springs. Used on 1/2 to 3/8 in. panel. Bakelite insulation. Size 1 1/4 in. long—mounted with 7/16 in. hole. Especially recommended for amateurs and set builders. Ship. wt. each 4 oz.  
62 RD 4988—Open-Circuit Type. .23c  
62 RD 4989—Closed-Circuit Type. .32c  
62 RD 4990—Two-Circuit Type. .32c  
62 RD 4998—Inter-Stage Type. .44c

**Knife Switches**  
These handy knife switches assure firm contact. Designed and constructed under new and improved principles. Heavily nickel plated—brass hardware is mounted on polished black Bakelite. Ship. wts. each 3 oz.; 3 oz.; 3 oz.; 5 oz.  

Art. No.	Pole	Throw	Price
62 RD 4716	1	1	30c
62 RD 4717	1	2	36c
62 RD 4718	2	1	42c
62 RD 4719	2	2	48c
62 RD 4726	3	2	71c

**Miniature Switches**  
Midjet knife switches. Black Bakelite base (size about 1 1/4 by 1/2 in. wide). Nickel plated brass parts, insulated handles. Ship. wt. each 2 oz.  
62 RD 4723—Single pole, single throw. Each. .9c  
62 RD 4724—Single pole, double throw. Each. .19c  
62 RD 4725—D. P. D. T. 1 1/4 by 1 inch. Each. .24c

**Selector Switches**  
To be used especially for analyzers, tube testers, general radio laboratory use, or as rotary toggle switches. 3/8 in. Single Hole Mounting. Laminated Bakelite. Shaft measures 1/4 in. in diam. by 2 1/2 in. long. Wt. 3 oz.  
62 RD 4790—S.P.D.T. .32c  
62 RD 4711—D.P.D.T. .32c  
62 RD 4712—3 P.D.T. .44c  
62 RD 4713—4 P.D.T. .52c  
62 RD 4714—5 P.D.T. .59c  
62 RD 4715—6 P.D.T. .64c

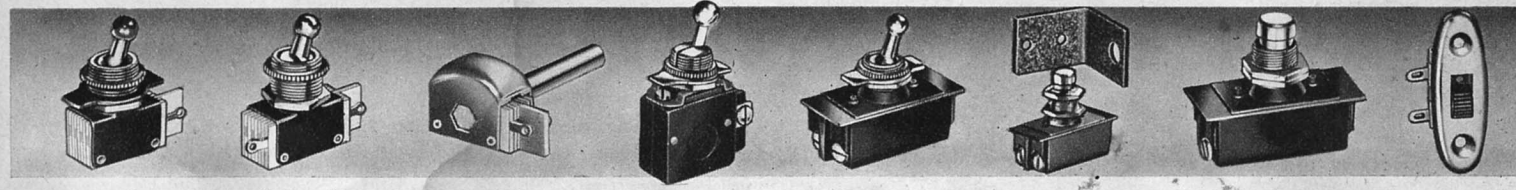
**Yaxley Tap Switches**  
2 in. shaft notched. Diam. 1 1/4". With knob, lock washer, nut.  
62 RD 4768—5-Position Switch. .44c  
62 RD 4770—Dial Plate. Reads 1 to 5. Wt. 2 oz. .9c  
62 RD 4769—12-Position Switch. .44c  
62 RD 4771—Dial Plate for above. Reads 1 to 12. Shipping weight 2 oz. .9c

**Yaxley Band Switches**  
For coil switching—4 contacts per gang. Wide-spaced silver plated contacts. Ceramic insulation. Ship. wt. each, 8 oz.  

Art. No.	Type	No of Gangs	Price
62 RD 4737	161c	1	\$1.00
62 RD 4738	162c	2	1.58
62 RD 4748	163c	3	2.29
62 RD 4749	164c	4	2.89
62 RD 4744	165c	5	3.59

  
62 RD 4750—Same as type 162c but has Bakelite insulation. . . . . \$1.06

**Dial Plates**  
Heavy Black brass. Silver markings 1 to 10. Calibrated but not worded. Wt. ea., 2 oz.  
62 RD 4139—Rectangular type. Fits on 3/8 in. bushing. 2 1/4 by 1 1/2 inches. Each. .12c  
62 RD 4140—Round type. 1 1/2 in. diam. 1/32 center mount. 1/2 inch hole. Each. .12c



**Toggle Switches**  
Single pole, single-throw type. Heavy, fast acting contacts to eliminate sparking. Complete with on-and-off plate. Mounting hole 1 1/2-inch. Adjustable to any thickness panel or cabinet. Bronze finish. For 115-volt A.C. or D.C.  
62 RD 4689—3/8 in. shank. Ship. .21c  
62 RD 4690—3/8 in. shank. Wt. 3 oz. .24c

**Toggle Switches**  
Single pole. Double throw. 1 1/2-inch. Mount hole. Adjustable to any thickness. Nickel plated finish. Shipping weight 3 oz.  
62 RD 4691—3/8 in. shank. Each. 29c  
62 RD 4692—3/8 in. shank. Each. .34c  
62 RD 4695—For switching from Radio to Phonograph. Also for mike, etc. 1 1/2 inch mount. hole. 1/2-inch shank. Ea. 50c

**Rotary Switches**  
Approved by Underwriters. Rated 3 amps at 125 volts; 1 amp. at 250 volts. Copper plated steel incased. Bakelite insulation. 1-in. shaft; 3/8 in. shank. Ship. wt. 2 oz.  
62 RD 4733—Single pole, single throw. .27c  
62 RD 4734—S.P.D.T. Each. .33c  
62 RD 4735—D.P.S.T. Each. .50c  
62 RD 4736—D.P.D.T. Each. .59c

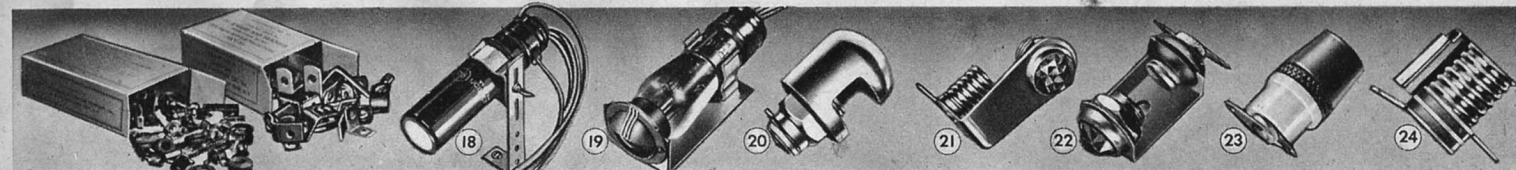
**Power Switch**  
S.P.S.T. Toggle Switch. For Transmitter. Rated 10 amps at 125 volts. Single hole mount. Handles 1 Kw.  
62 RD 4652 .69c  
All merchandise shipped from Chicago, unless otherwise stated, but you pay charges only from Wards nearest Mail Order House. Send order to Chicago.

**Power Switch**  
Real heavy duty Toggle Switches for Transmitters. Will handle over a Kilowatt of power. Single hole mounting. Double pole, single throw. 12 amps. 125-volt rating. Fine for interlocking circuits which prevent plate current being applied before filaments have been turned on. Complete with off and on plate. Ship. wt. 6 oz.  
62 RD 4651—Each. .75c

**Lock Out Switch**  
Comes complete with bracket. Mounts inside cabinet. When door is closed current is on. When door is opened set automatically shuts off. Double pole, single-throw type. Capacity 12 amps at 125 volts; 6 amps at 250 volts. We strongly recommend this switch as a safety measure. Ship. wt. 8 oz.  
62 RD 5937. \$1.38 Each. . . . .

**Push Button Type**  
Single pole two circuit momentary switch. One circuit is "On" and the other normally "Off." One ampere, 125 volt. Shank is 3/8-inch long. Especially useful for use in test instruments, where momentary contact or readings are necessary. Ship. wt. 8 ounces.  
62 RD 4113. 40c Each. . . . .

**Slider Switch**  
On and off Slider Switch. Single pole, single throw. Small and compact. Fine for mike current switch, etc. Has soldering lug terminal; phosphor bronze spring contacts. With chrome mounting plate and screws. Size: 1 1/2 by 1/2 by 1/4 inch. Shipping weight 4 ounces.  
62 RD 4114. 20c Each. . . . .



**Popular Small Hardware Assortment**  
Test Assortment. Includes washers, tip jacks, grommets, soldering lugs, etc. Ship. wt. 4 oz.  
62 RD 5139—98c Pkg. . . . .  
3/32 Machine Screw Assortment. Round head. Various lengths. Ship. wt. 8 oz.  
62 RD 5122—28c Pkg. . . . .  
30 Rubber Grommets. Assorted sizes. Ship. wt. 4 oz.  
62 RD 5140—29c Pkg. . . . .

**913 Tube Mount**  
Socket assembly for RCA 913 Cathode Ray Tube. "L" bracket permits mounting on front panel or base. Thumb screw fastening of spring clip. Complete with amphenol wired plug and bracket. Tube not included. Shipping weight each, 6 ounces.  
62 RD 6435 .59c Each. . . . .  
Use Your Credit, See Page 3.

**"Eye" Mount**  
Amphenol assembly for making your own tuning indicator on sets that have automatic volume control. Assembly consists of socket mounting with shell. 2 1/2 inches; 5-wire color coded cable; 1-meg. target to plate resistor. All the necessary hardware is included. Less tube. All parts are the finest quality. Shipping weight 6 ounces.  
62 RD 6436 .73c Each. . . . .

**PANEL, DIAL AND PILOT LIGHT MOUNTINGS AND ASSEMBLIES**  
20 Polished finish-pen light assembly with reflector and colored jewel. Single hole mounting. For laboratory equipment, signal devices, or for furnishing illumination on any panel front. Mounted in 1/2-inch hole. Bulb not included. Ship. wt. 4 oz.  
62 RD 4993—Each. .28c  
21 Complete without mounting bracket and colored jewel. Single hole mounting. Terminals insulated. Fits cylindrical pilot lamp with miniature base. Less bulb. State Red or Green jewel. Ship. wt. 2 ounces each.  
62 RD 4994—Each. .18c  
22 A new panel indicator. Bulb fits into jewel so maximum light is concentrated through jewel. Bulb easily removed. Less space required by new horizontal design. Red or Green jewel. Less bulb. State color choice. Shipping weight 2 ounces.  
62 RD 5164. 29c Each. . . . .

23 Pilot Light accessible from front of panel. Unscrewing cap reveals bulb. Complete unit mounts in 3/8 in. hole. For 1/2 inch panels up to 3/4 inches thick. Red or Green. Less bulb. Be sure to state color choice. Shipping weight 2 ounces.  
62 RD 5163—Each. .23c

24 A Pilot Light socket for miniature style bulbs. Comes provided with clip for fastening onto chassis. Bulb is not furnished. Shipping weight 2 ounces.  
62 RD 4996 .6c Each. . . . .  
62 RD 4997—Inverted type (not pictured). Shipping weight 2 oz. Each. . . . . 6c

ALL WARDS: 21



# Send for WARDS CAMERA CATALOG

CAMERA CATALOG

*It's Free*

Here are a few of the Outstanding Values it contains



Revere 8 Mm.  
Movie Camera  
**\$1.95**

List Price \$21.95

Equal to many Movie Cameras selling from \$30 to \$50. Interchangeable Wollensak F:3.5 lens. Governor controlled motor. 5 speeds; 8, 12, 16, 24 and 32 frames per sec. Size only 4 3/4 by 3 3/4 by 2 in.

Darkroom Supplies  
and Accessories

All Low Priced At Wards

You'll find all types of easy-to-use, nationally famous, prepared formulas; finest quality printing and enlarging papers; a complete selection of printers, enlargers, developing tanks and many other photographic needs. There are also selected materials for doing your own retouching, coloring or photo mounting.

New Miniature  
Speed Graphic  
**\$9.90**

List Price \$111.00

Famous for its fine action shots. 4 1/2 in. F:4.5 Kodak anastigmat lens. Speeds 1 to 1/1000 sec. time and bulb. Ground glass focusing on back. Pictures 2 1/4 by 3 1/4 in. on plates, cut or pack films.

## Other Famous Names and Brands

You'll find the best in cameras and equipment at Wards... all priced for real savings. Eastman, Agfa, Keystone, Graflex, Argus, Bell & Howell, Sun Ray, Weston, Revere, Defender, Gevaert and Federal. You'll like the selection... you'll like the low prices and you'll like the easy way to buy—by mail at Wards.

## All Sold on Convenient Terms

Wards way to give you more enjoyment from your photographic hobby. That new camera you've been wanting or more equipment for your darkroom... you can buy either or both now and pay while you enjoy them. Any order of \$10 or more may be included in Wards Time Payment Plan by responsible persons having a steady income. In addition, there is no extra charge for Time Payments on any Eastman, Bell and Howell, Keystone, Argus or Univex Camera priced at \$10 or more. Payments range from \$2 a month on a \$10 order to only \$8 a month on an order of \$100. Investigate this today. You can select better quality equipment than if you paid cash.

## MONTGOMERY WARD

Chicago Baltimore Albany St. Paul Denver  
Portland Oakland Kansas City Ft. Worth

Clip out and mail to your Nearest Ward Mail Order House listed above for your copy of Wards Special Camera Catalog.

(Print or Write Name and Address Plainly)

MONTGOMERY WARD—DEPT. RI

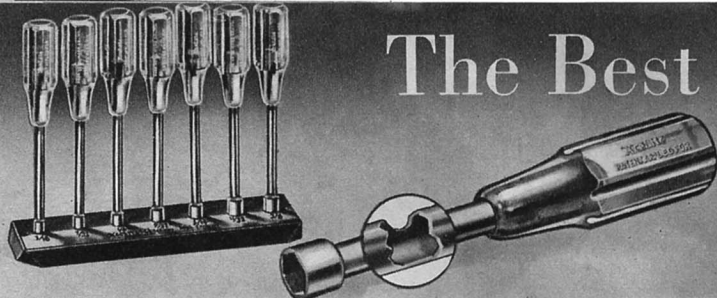
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22 WARDS ALL

# The Best



## Xcelite Shockless Nut Drivers For Servicemen and Amateurs

The original shock-proof, break-proof transparent handle wrenches. Now copied by others. Finest tough alloy-steel shafts and sockets. Built to stand up under years of hard usage. Excellent for use around high voltages, where voltages cannot be switched off during adjustment. Handles will withstand all normal temperatures. Convenient fluted grips on handle for sure grip operation.

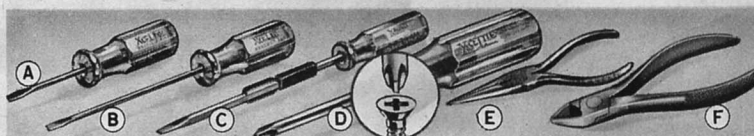
No. 17 Nut Driver Set—Seven wrenches in a convenient rack. Includes 3/16, 1/8, 1/4, 3/32, 1/2, 5/8 inch sizes. 6-in. shaft.  
62 RD 3501—Shipping weight 2 pounds. Per set..... **\$2.82**

No. 15 Nut Driver Set—Five wrenches in

rack. (Not shown.) Includes 3/16, 1/4, 5/16, 3/8 inch sizes. Each shaft 6 in.  
62 RD 3500—Ship. wt. 2 lbs. Per set... **\$2.03**

Individual Nut Drivers. Sold separately in the following sizes. 3/16 inch, 1/8 inch, 1/4 inch, 3/32 inch, 5/16 inch, 1/2 inch, 5/8 inch. Shaft 6 inches long. Shipping weight 6 oz.  
62 RD 3502—State size. Each..... **38c**

Hollow Shaft Nut Drivers. (Shown at right.) Invaluable for installing and removing volume controls and other panel equipment.  
62 RD 3503—1/2-inch size. 6 in. long. Shipping weight 8 ounces. Each..... **59c**  
62 RD 3504—3/8-inch size. 6 in. long. Shipping weight 8 ounces. Each..... **71c**



## New Xcelite Shockless Phillips and Regular Screw Drivers

### (A) Xcelite Screw Drivers—Regular Models

Article No.	Size of Blade In.	Ship. Wt.	Price
62 RD 3505	1/4 by 4	6 oz.	30c
62 RD 3506	1/4 by 8	6 oz.	37c
62 RD 3507	3/8 by 1	6 oz.	40c
62 RD 3508	3/8 by 3	6 oz.	43c
62 RD 3511	3/8 by 6	6 oz.	53c
62 RD 3512	Pocket clip type: 1/2 by 2 (Not shown)	6 oz.	27c

### (B) Xcelite Knob or Set Screw Driver

62 RD 3546—4-inch shaft. Ship. wt. 6 oz. 16c

### (C) Xcelite Screw Holding Screw Driver

62 RD 3513—Holds and starts screws. 1/4 by 5 in. Ship. wt. 6 oz. 35c

### (D) Xcelite Phillips Screw Drivers

Article Number	Type	Blade Length	Handle Type	Ship. Wt.	Price
62 RD 3543	1	3 in.	Wood	6 oz.	33c
62 RD 3544	2	4 in.	Wood	6 oz.	33c
62 RD 3519	1	3 in.	Xcelite	6 oz.	50c
62 RD 3520	2	4 in.	Xcelite	6 oz.	78c

### Xcelite Needle Point Pliers

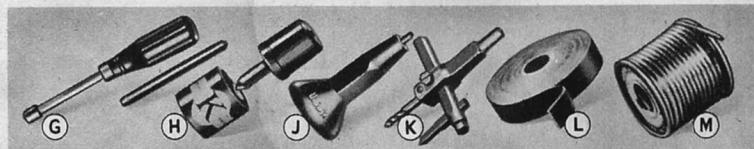
(E) Finest tough steel alloy; handy side cutter. Nose steel tempered.

62 RD 3515—Ship. wt. 12 oz. Each... **\$1.54**

### Xcelite Diagonal Cutting Pliers

(F) Throat of jaw flattened for crushing insulation on wire before removal. Tough forged alloy steel. Cuts easily.

62 RD 3514—Ship. wt. 12 oz. Each... **\$1.47**



## Dependable Tools All Sold on Terms—See Page 3

### (G) Bargain Socket Wrenches

Made of strong tool steel with ebony finished handles. 6 inches long.

62 RD 6226—3/8 inch..... **12c**

62 RD 6227—1/2 inch..... **12c**

62 RD 6228—3/4 inch..... **12c**

62 RD 6229—7/8 inch..... **12c**

62 RD 6230—1 inch..... **12c**

### (H) Socket Hole Punches

For punching sheet metal chassis. Self-starting. No guide hole necessary.

62 RD 6402—7/8-in. hole. Wt. 2 lbs. **\$1.69**

62 RD 6403—1 1/8-in. hole. Wt. 2 lbs. **\$1.69**

62 RD 6404—1 3/8-in. hole. Wt. 2 lbs. **\$1.69**

62 RD 6416—Combination for 7/8, 1 1/8-in. holes. Ship. wt. 3 lbs. **\$2.69**

### (J) Rivet and Eyelet Punch

62 RD 6399—Resets any size. 2 setting tools of hardened steel with assortment of eyelets and rivets. Wt. 1 lb. 4 oz. **\$1.32**

### Pawood No. 4 Circle Cutter

(K) Round and square shank. Cuts holes 7/8 to 4 in. in metal, bakelite, wood, etc. **\$1.25**

62 RD 3518—Ship. wt. 8 oz. **\$1.25**

62 RD 4137—Like above but for 3/4 to 1 1/2 over 7-in. holes (not shown). Wt. 10 oz. **1.88**

### Friction and Rubber Tapes

(L) First grade cellophane wrapped tape (30% more to roll than usual tin foil wrapped tape). Wts. 6, 10, 6, 10 oz.

84 RD 9082—Friction Tape. 4-oz. roll. **9c**

84 RD 9081—Friction Tape. 8-oz. roll. **17c**

84 RD 9084—Rubber Tape. 4-oz. roll. **9c**

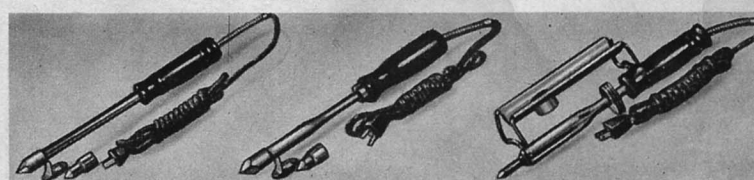
84 RD 9083—Rubber Tape. 8-oz. roll. **17c**

### Kester Rosin Core Solder

(M) 62 RD 4815—4-oz. (approx.) roll in handy tin. Ship. wt. 8 oz. **17c**

62 RD 4816—1-lb. spool. Ship. wt. 1 lb. 8 oz. per spool. **60c**

62 RD 4817—Tin of Kester soldering paste. (Not shown.) Ship. wt. 8 oz. **12c**



### Inexpensive 100-Watt Soldering Iron

Has approval of Underwriter's laboratories, Inc. Element extends into tip. Causes iron to heat much faster. Replaceable nichrome element. Spring prevents wear on cord at handle of iron. Has asbestos insulated 6-foot cord. Enamelled hardwood handle. 1/2 and 3/8-inch diameter tips. Operates on any 110 to 120-volt A.C. or D.C. circuit. Ship. wt. 1 lb. 4 oz. **Mailable**

84 RD 5218—Each..... **98c**

### 125-Watt Soldering Iron—\$2.25 Value

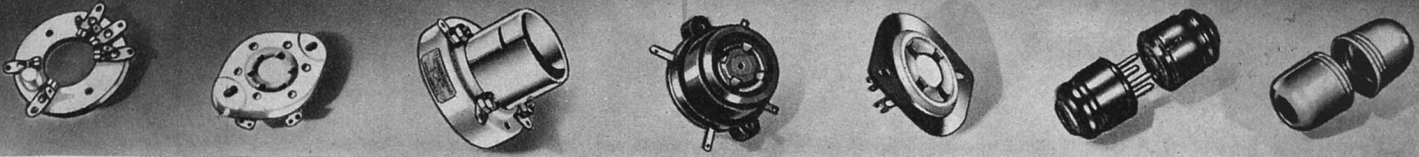
Approved by Underwriter's Laboratories, Inc. Element extends into tip for faster and better heating. Has replaceable nichrome element—guaranteed for two years. Hardwood handle and 6-foot approved asbestos heater cord with spring to prevent wear. Unbreakable rubber plug and convenient metal stand. 1/2 and 3/8-inch diameter tips. Operates on any 110-volt A.C. or D.C. circuit. Ship. wt. ea. 1 lb. 8 oz. **84 RD 5200..... \$1.79**

### Drake DeLuxe 100-Watt Soldering Iron

Our finest quality soldering iron. Approved by Underwriter's Labs., Inc. for your protection. There's More heating power. Heat radiating baffle plates keep handle cool at all times. Convenient tip cleaner built into stand. Holds steel wool. An occasional jab into the well cleans the point. Removable plunger type copper tip. Nickel-plated seamless housing. Complete with stand and 6-foot cord. Shipping wt. 2 lbs. **62 RD 3517..... \$2.75**

All merchandise shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send order to Chicago.

# Quality Tools, Sockets and Accessories



## Famous Johnson Transmitting Sockets

**Johnson "Alsmag 196" Sockets**  
Especially designed low-loss sockets for short-wave equipment. Metal parts counter-sunk to permit mounting on metal surfaces without short circuiting. Cadmium plated phosphor-bronze contacts. Mounting holes spaces 1 3/4 inches. Ship. wt. each, 4 oz.

62 RD 6911—4-Prong..... **29c**  
62 RD 6912—5-Prong..... **32c**  
62 RD 6913—6-Prong..... **35c**  
62 RD 6914—7-Prong. Small..... **38c**

**Johnson Transmitting Tube Socket**

62 RD 6908—Type 210—for 4-Prong tubes for 210, etc. Ship. wt. 12 oz. .... **50c**

62 RD 5246—Type 209—Like 210, but for hi-voltages. Ship. wt. 12 oz. .... **56c**

62 RD 6909—Type 211—50-watt size for 03A, 838, 211, etc. Ship. wt. 1 lb. .... **73c**

62 RD 6910—Type 216—Giant 5-Prong for 803 and K-28 tubes. Wt. 1 lb. 8 oz. .... **\$1.47**

## Receiving Tube Sockets

**Bakelite Insulation Base Mounting**

62 RD 4880—4-Prong. Wt. 3oz. **15c**  
62 RD 4881—5-Prong. Wt. 3oz. **18c**  
62 RD 4882—6-Prong. Wt. 3oz. **21c**  
62 RD 4883—7-Pr. Wt. 3 oz. **24c**  
62 RD 4885—Octal Wt. 3 oz. **24c**  
\*Universal

**Sub-Panel**

62 RD 4884—4-Prong. Wt. 3oz. **12c**  
62 RD 4885—5-Prong. Wt. 3oz. **15c**  
62 RD 4886—6-Prong. Wt. 3oz. **18c**  
62 RD 4887—7-Pr. Wt. 3 oz. **18c**  
62 RD 4886—Octal Wt. 3 oz. **21c**  
\*Universal

## Amphenol Sockets

**Bakelite Wt. ea. 4 oz.**

62 RD 6242—4-Prong..... **7c**  
62 RD 6243—5-Prong..... **7c**  
62 RD 6244—6-Prong..... **7c**  
62 RD 6245—7-Prong..... **9c**  
62 RD 6246—Octal..... **9c**

**Stealite Wt. ea. 4 oz.**

62 RD 6247—4-Prong..... **24c**  
62 RD 6248—5-Prong..... **24c**  
62 RD 6249—6-Prong..... **24c**  
62 RD 6250—7-Prong..... **24c**  
Small..... **24c**  
62 RD 6251—7-Prong..... **29c**  
Large..... **29c**  
62 RD 6252—Octal..... **29c**

## Cable Plugs and Shields

For speaker and microphone cords. Bakelite insulation with steel shield.

**Male Plugs**

62 RD 6257—4-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6258—5-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6259—6-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6260—7-Prong. Ship. wt. 4 oz. **15c**  
62 RD 4702—Octal. Ship. wt. 4 oz. **15c**

**Female Plugs**

62 RD 6253—4-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6254—5-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6255—6-Prong. Ship. wt. 4 oz. **15c**  
62 RD 6256—7-Prong. Ship. wt. 4 oz. **15c**  
62 RD 4703—Octal. Ship. wt. 4 oz. **15c**  
62 RD 6261—2-Pc. Shield. Wt. 4 oz. **15c**



## Hammarlund Sockets

**"S" Isolantite Sockets**  
Perfect contact. Square inset anchorage prevents twisting, or shifting.

Article Number	Type	Prongs	Shp. Wt.	Price
62 RD 7583	S-4	4	4 oz.	36c
62 RD 7584	S-5	5	4 oz.	36c
62 RD 7585	S-6	6	4 oz.	36c
62 RD 7586	S-7	7 (large)	4 oz.	36c
62 RD 7587	S-7.8	7 (small)	4 oz.	36c
62 RD 7588	S-8	8	4 oz.	45c

## XS-2 Crystal Socket

Isolantite. For mounting above or below base or in 1 1/2-in. diam. coil.

62 RD 7589—Two Prongs. Ship. wt. 4 oz. **30c**

## Amphenol A.C. Connectors

- Female Receptacle.** Set in Cadmium-plated steel mounting plate with slotted holes to fit any hole spacing from 1 1/2 to 1 3/4 inches. Ideal for mounting directly on metal walls, panels, chassis, etc. . . . or any place where it is impractical to use other types. For use with type (2) below. With mounting plate. **15c**
- Male Receptacle.** Solidly set in cadmium-plated steel mount plate. Comes with slotted holes that fit all holes spacing from 1 1/2 to 1 3/4 inches. Mount on chassis panels, etc. With mounting plate. For use with type (1) or type (3). **15c**
- Female Cable Outlet.** Rubber grommet protects cable from abrasions. Accommodates cables up to 1/2-in. diam. For use with type (2) above. Finger grip design. Black japan finish. A handy fitting! **16c**

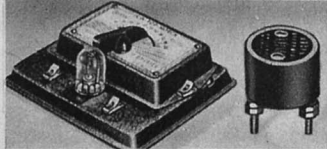
## Hammarlund Shields

- Coil Shield—Type CS-3.** Very effective for shielding standard 1 1/2-in. diam. plug in coils. Made of heavy aluminum and slotted for easier handling. Diam. 3 in., height 3 1/2 in. with base. Ship. wt. 4 oz. each. **30c**
- Power Tube Shields.** For use with screen grid, pentode & beam tubes. Reduces feed back. Offered in two sizes: PTS for use with low powered tubes—PTS-H for large pentodes and tetrodes. Ship. wt. 4 oz. each.

Article No.	Type	Size Inches	Price
62 RD 7594	PTS	2 1/4 by 3	24c
62 RD 7595	PTS-H	2 1/4 by 2 1/2	24c

## Tube Shields

- Three Piece Tube Shield.** Tubular. Snug aluminum shield. For 55, 57, 60C and similar tubes. Base fits socket. Removable top cap. **62 RD 4808—Ship. wt. 4 oz. .... 9c**
- Glove Fit Shield Type ST12.** Two parts held together by ring. Aluminum. Fits 57, 58, 75, 77, 78 and other dome construction tubes. **62 RD 4739—Ship. wt. 4 oz. .... 7c**
- 62 RD 4746—Type ST14.** Like above but for long bulb tubes with grid caps. Hardware. Wt. 4 oz. .... **7c**
- Grid Cap Shield for metal tubes.** Allows full shielding of exposed grid caps on metal tubes. **62 RD 4740—Ship. wt. 2 oz. .... 4c**



## Top Notch Crystal Set

A super-sensitive crystal mounted under a dust-proof glass cover—brings in many stations with exceptionally fine clarity. Attractively engraved and numbered dial with knob selector. In good looking Black crystalline metal case. Selector coil wound on solenoid form for highest efficiency. All that is necessary to operate this crystal set is to connect aerial and ground (A high 100 ft. antenna is recommended, see wire, Page 10), attach to headphones (Page 13) and it's ready to tune in. Ship. wt. 2 lbs.

62 RD 4144..... **88c**

## Fixed Crystal Detector

Housed in moulded case. Fixed—no Eothersome adjustments are necessary for the most sensitive spots. Shipping weight each, 2 ounces.

62 RD 6365..... **45c**



## Complete Portable Electroplating Outfit

Real electroplating . . . just brush it on! No previous experience is necessary to do a thorough job . . . quality of plate is equal to commercial platings, thickness for thickness. No acid or liquids used. Plates on all metallic surfaces (base or plated), except chrome or aluminum. Cadmium plates over brass, copper, bronze or iron (also for worn spots on chromium plating). Use the harder, tougher nickel for plating over brass, copper and bronze. Copper is used as an undercoat over iron and steel parts before plating nickel or silver. Silver is ideal on electrical contacts, etc. Articles ready for immediate use after plating. Outfit consists of: 1 oz. of compound (copper, nickel or cadmium), 1 oz. metal polish, 1/2-inch plating brush. Wires with clips attached, emery paper, brass strip for practice, instructions. Use 6-v. dry cell (Pg. 33) not included.

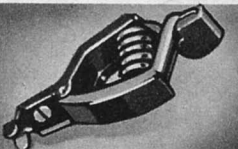
62 RD 4791—State Compound Wanted. Ship. wt. 2oz. Kit **\$1.00**

62 RD 4792—Silver Plating Outfit. Contains 1 oz. Silver compound, undercoat, undercoat brush, balance same as **\$1.75**

62 RD 4791. Ship. wt. 2 lbs. Kit..... **\$1.75**

62 RD 4793—1 oz. of Plating Compound (copper, nickel or cadmium). State Compound Wanted. Ship. wt. 4 oz. .... **35c**

62 RD 4794—1 oz. of Silver Plating Compound with undercoat. Ship. wt. 4 oz. .... **\$1.00**



## Battery Clips

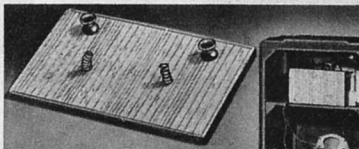
Heavily galvanized to prevent rusting. Clips have strong long-life springs . . . sharp teeth for excellent electrical contact. Will give dependable service.

62 RD 5538—3/4-in. clips. Ship. wt. 5 oz. Pr. .... **19c**

62 RD 5539—1 1/4-in. clips. Ship. wt. 3 oz. Pr. .... **7c**

For storage batteries and other battery accessories see Page 33.

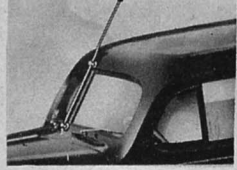
Any item in this Catalog can be bought on Wards Convenient Time Payment Plan—it's the most practical plan ever offered. See Page 3 for details.



## New Antenna-Scope

Completely Eliminates Outside Aerial. An Antenna-scope with iron core. This new Antenna-scope consists of a self-contained loop antenna which can be quickly attached to any broadcast receiver with the double vacuum cups which are provided. Will connect easily to any receiver. Ideal for receiver modernization. Greatly reduces any bothersome static. Improves signal to noise ratio. The new, handy screw-driver adjustment allows this new Antenna-scope to meet the inductive requirements of either super heterodyne or TRF circuits. Permeability tuned! A very compact unit! Measures only 6 1/2 by 1 1/4 by 1/2 inch. Comes complete to you with full instructions on how to install it. Housed in a durable light weight case. Shipping weight 1 lb.

62 RD 4829..... **\$1.47**



## Windshield Aerial

Designed to meet the style of the latest model coupes and sedans. Mounts either in center of windshield or at the side, if preferred. Lead-in wire enters through rubber between windshield and body. Staff is of stainless steel and chrome plated brass with ornamental Catalin insulator. Extends from 24 to 45 inches. Furnished with suction cups and special cement for easy mounting. Equipped with insulated lead-in wire. Ship. wt. 2 pounds. *Mailable.*

562 RD 7028—Set **\$1.39**

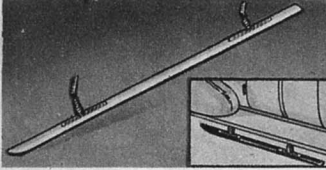


## Door Hinge Aerial

Easily and quickly installed without defacing body of your car. To mount just slip pin out of door hinge, set in bracket hole and replace the pin. Attractive Black Catalin insulator on aerial screws into bracket. Rod is of chrome-plated brass that adjusts from 25 to 47 inches. Lead-in wire already attached. Shipping weight 1 lb. 8 oz. *Mailable.*

562 RD 5408—Set..... **98c**

562 RD 5405—Shielded Lead-in. 34 inches long with plug. Shipping weight 8 ounces..... **39c**



## "Magic Ski" Auto Aerial

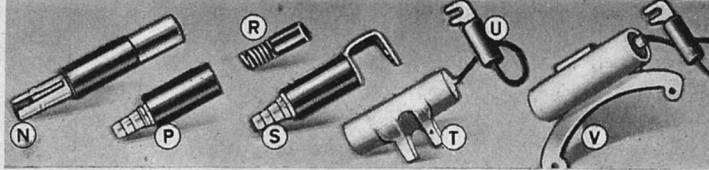
Mounts under running board of your car out of sight. The unique design prevents snow, mud and ice from accumulating. We especially recommend using the "Magic Ski" in pairs, one under each running board for obtaining the maximum in distance and volume. Very easy to attach. Flexible mounting brackets and full instructions are included. Ship. wt. each, 5 lbs.

462 RD 5406—Each..... **\$2.29**

Two for..... **\$4.58**

62 RD 5407—Low Capacity Shielded Lead-in Wire for above. 66 inches long. Only one necessary. Ship. wt. each, 8 oz. .... **49c**

Buy all of your radio aerial needs on Terms—Build Your Order up to \$10 and Use Your Credit. See Page 3.

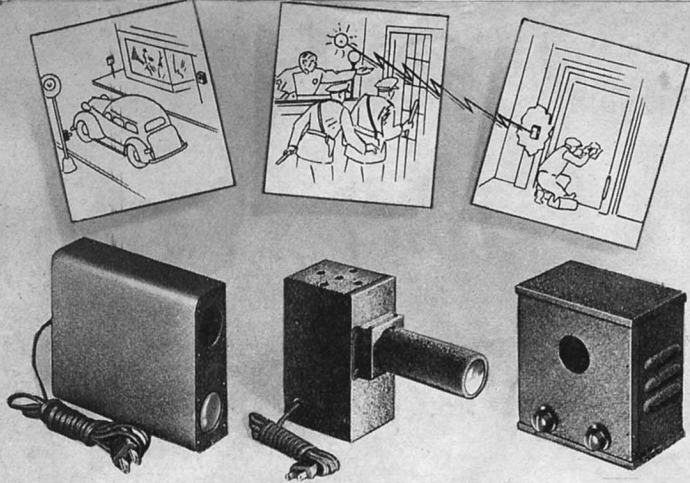


## Automobile Radio Noise Suppressors—Easy to Install

- Distributor Suppressor.** For all automobiles except Ford V-8. Shipping weight 4 ounces. **62 RD 5423—Each..... 16c**
- Distributor Suppressor.** For Ford V-8. Be sure to state year and model of your car. Insert in place of present brush. Ship. wt. 2 oz. each. **62 RD 5422—Each..... 16c**
- Standard Spark Plug Suppressors.** Shipping weight 4 ounces each. **62 RD 5425—Each..... 16c**
- Spark Plug Suppressor.** Universal Mounting. Fits all cars except Ford V-8. Shipping weight 4 ounces each. **62 RD 5424—Each..... 16c**
- Generator Noise Suppressor for all models of cars.** Comes complete with flexible lead and lug connector (see U above). Easy to install. Wt. 4 oz. ea. **62 RD 5421—Complete each..... 29c**
- Ignition Coil Noise Suppressor.** Fits all Ford V-8 automobiles except 1936 model. Comes complete with flexible lead and lug connector like (U) above. Ship. wt. 3 oz. each. **62 RD 5428—Complete each..... 29c**

All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send order direct to Chicago.

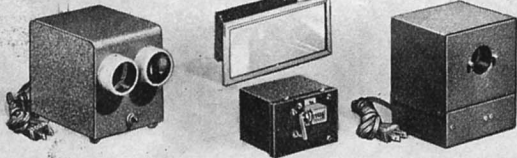
# Finest Relays... Filters



**Worner "Foto-lectric" Alarm Unit, Model 601.** (White light.) For guarding halls, etc. Use up to 15 ft. With light source, amp, external mirror and chime. For 115-volt, 60 cycle, A.C. 462 RD 5834—Wt. ea., 4 lbs. \$11.47

**Worner Model 201-L.** Has light source for 201-R. Uses auto bulb. For 115-v., 60 cycle, A.C. 462 RD 5831—Ship. wt. 5 lbs. \$6.17  
**62 RD 5850—Worner 301 R-L.** 2 units; invisible light source, cell, amp, relay, bell. Operates up to 75 ft. For 115-v., 60 cycle A.C. Wt. 8 lbs. 12 oz. \$27.34  
**62 RD 5851—External Bell.** Rings even if cut off from circuit. Locates anywhere. Shipping weight 5 lbs. 8 oz. \$7.64

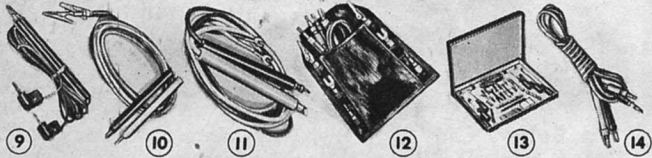
**Worner Model 201R.** Photo-cell and Relay. Effective up to 75 ft. Operates on 115-v., 60 cycle, A.C. Ship. wt. 10 lbs. 462 RD 5832... \$15.58



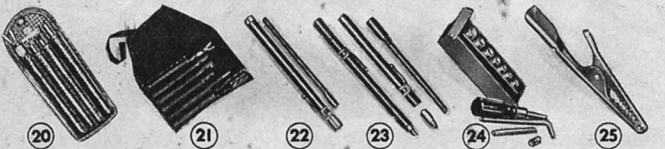
**Worner Photo Cell Unit, Model 101.** White light. Ideal for guarding doorways, etc. Effective up to 30 ft. Light source, cell and amplifier in one unit. External mirror furnished. Without bell. For 115-v., 60 cycle, A.C. 462 RD 5833—Ship. wt. 7 lbs. \$16.76

**Worner Mirror Model 301.** For extending light beam; either infrared or regular. Reflects beam back and forth; person is sure to interrupt beam at some point and sound alarm. Ship. wt. 4 lbs. 462 RD 5829... \$2.65  
**Guardian Counter—** for counting operations or people up to 99,999 with Photo cell. Wt. 3 lbs. 462 RD 5853... \$10.00

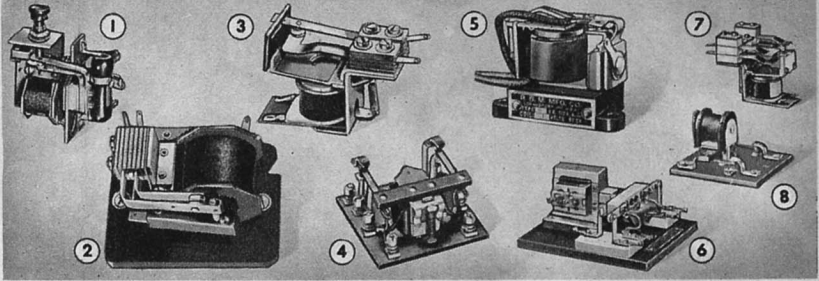
**Worner "Fotolectric" Kit, Model 101.** white light. Consists of photo electric cell with amplifier tube, relay, chassis, and case with wiring diagram. Ready to assemble. Ideal for the electronic experimenter and amateur. For 115-v., 60 cycle, A.C. Shipping weight 4 pounds. 462 RD 5830... \$9.26



9 **62 RD 5151—Pencil Type Test Leads.** Red and Black Phenoline insulation kinkless rubber wire, 5-in. handles. Sharp tips threaded, screw into handle. Molded grip tips. 65-in. leads. Shipping weight 8 ounces. \$75c  
 10 **62 RD 3488—Pin Point Test Prods.** Replaceable needle points. Prods. Red and Black. 50-in. leads; alligator clips. Shipping weight 6 ounces. \$52c  
 11 **62 RD 3481—Needle Point Test Leads.** enables tester to penetrate insulation on wires without stripping. Cable leads are 50-in. flexible Red and Black rubber leads with spade terminals. Shipping weight 6 ounces. \$29c  
 12 **62 RD 3484—** Same as above, but 36 in. long with banana plugs and alligator clips. Shipping weight 6 ounces. \$41c  
 13 **62 RD 4136—All Purpose Test Lead Kit.** Pocket leatherette case. Contains: 60-in. pair coated kinkless rubber covered test leads. One end has insulated phone tips, other interchangeable insulated banana plugs, alligator clips, insulated spade lugs, and needle points. Ship. wt. 1 lb. \$1.32  
 14 **62 RD 3455—American Testing Kit.** 5 popular testing instruments. Wrenches for 1/4, 3/8 and 1/2 inch nuts. Red and Black pencil prods with interchangeable tips, 2 each long and short insulated solderless prods. Two plug-in prongs with jacks, 2 insulated tapered lugs, 2 needle point phone tips and 2 alligator clips. Shipping weight 3 pounds. \$2.95  
 15 **62 RD 4138—Fused Test Lead Set.** Easily removable spring contacts. Uses standard cylindrical fuses (Page 20). Sharp needle points. Complete with alligator clips, spade lugs, phone tips—all fit on banana plugs. Use fuse size slightly smaller than meter movement. Shipping weight 1 pound. \$1.47



20 **62 RD 3498—Neutralizing Tool Kit.** Neutralizing and aligning kit contains tools to fit all standard radio sets. Consists of 12 separate units telescoping into each other, forming 4 separate tools. All parts made of special bakelite. Supplied in vest pocket case. Shipping weight 8 ounces. \$2.95  
 21 **62 RD 3497—DeLux Alligning Kit.** 14 tools (many telescoping together) forming 6 units. In pocket size black leatherette case. For every operation in aligning any type of receiver. Shipping weight 12 ounces. \$2.95  
 22 **62 RD 3494—Neutralizing Tool.** Two tools in one. Equipped with metal nibs, sockets and nibs fit practically all types of hexagon or slot adjust. \$69c  
 23 **62 RD 3491—Tool Set.** 3 tools in one for aligning condensers. Fits practically all radios. Tools telescope forming one compact unit with clip. Shipping weight 6 ounces. \$71c  
 24 **62 RD 3499—Socket Wrench Sets.** Includes 4-inch straight extension, 6-inch L-shaped extension and screw driver. Hardened steel sockets provided for 1/8, 1/4, 3/8, 1/2, 5/8 and 3/4 inch nuts. Knurled socket to fit any nut 3/16 to 3/8. Shipping weight 1 pound. \$88c  
 25 **62 RD 3493—Alligator Clips.** Long, powerful jaws. Just snap on where contact is desired. Used on test leads, testing prods and instruments where contacts must be changed quickly. Shipping weight 2 ounces. \$5c



## Guardian Overload Relay

1 S.P.S.T. type; no reset until overload stops. Adjustable, can be set to open at any value between 150 and 650 M.A., D.C. Handles 1500 watts. Usually connected between transformer primary and 110 or 220-volt line. Wt. 1 lb. 62 RD 6586—Type X100, adjustable. \$6.47

## Guardian Keying Relay—Type K-100

2 An A.C. or D.C. relay. Operates from 5 to 16-volt A.C. or 1.5 to 4-volt D.C. May be operated on any filament transformer delivering 5 to 16-volt A.C. Contacts are capable of handling 2000 volts. Follows a key or "Bug" at any speed without any chatter. 62 RD 5855—Shipping weight 8 ounces. \$3.56

## Guardian Transmitter Relay, R-100

3 A general purpose type operates on 110-volt, 60-cycle A.C. current. Self-insulated. Use in transmitter R.F. circuits up to 1 K.W. and 14 mcs., and on all circuits up to 5 K.W. for shorting coil turns, switching crystals, keying, etc. 62 RD 5856—Shipping weight 8 ounces. \$1.78

## Ward Leonard Change-Over Relay

4 Type 507-531 for switching antenna to transmitting or receiving. Connects across primary of plate transformer and antenna is automatically switched from receiver when transmitter is turned on. When turned off, antenna automatically switches back to receiver. Low capacity double pole, double throw switch. Heavy coin silver contacts easily handle 4 amperes. No A.C. chatter. Operated by 110 volt, 60 cycle, A.C. 62 RD 5857—Shipping weight 1 pound. \$5.88

## Marvel All Purpose Relay

5 For remote control on transmitting or keying. Also for aerial change-over or lock-out. Operates on 90 to 135 volts A.C. at 75 M.A. Has shaded pole to reduce annoying hum and chatter. Shipping weight 6 ounces each. 62 RD 6550—All Purpose Relay. \$2.00

## Gordon Antenna Change-Over Relay

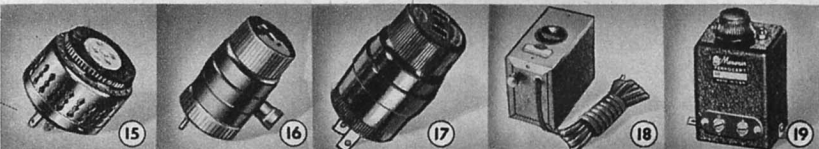
6 Double pole, double throw. Handles 1 K.W. with ease. Ideal for beam antenna. Multi-band transmitter tank switching and 60-cycle power switching. Uses Alsimag 196 insulation, Husky 3/8-inch coin silver self-wiping contacts. Has four pounds pull. All contacts are spaced 1/2-inch apart. Relay draws only 5 watts from 110 volt, 50 to 60 cycle, A.C. Shipping weight 2 pounds. 62 RD 4588—Each. \$8.82

## Guardian Antenna Change-Over Relay

7 Type A-100. Double pole, double throw. 1 K.W. rating R.F. up to 28 M.C. Alsimag 196 insulation. All solder lug terminals for easy connection. Insulated from ground. For operation on any 110 volt, 50 to 60 cycle, alternating current circuit. Shipping weight 1 pound. 62 RD 5828—Each. \$3.85

## Staco Antenna Change-Over Relay

8 Double pole, double throw. For antenna switching from transmit to receive. Ball bearing pivots. Short R.F. path. Metal parts, cadmium plated. 4 amp. Silver contacts. For 110-v., 50 to 60 cycle, A.C. Shipping weight 1 pound. 62 RD 5836—With Bakelite insulation. \$2.55  
 62 RD 5837—With Mycalex insulation. 3.45



## Voltage Controls, Filterettes, Wave Traps

15 **62 RD 5252—Adjustable Voltage Control.** Adjusts line voltage on any 115-volt alternating current radio set. Increases tube life. Ship. \$1.79

16 **62 RD 5250—Voltage Control (Not shown).** Non-adjustable for small sets. Shipping weight 8 oz. \$43c

17 **62 RD 6442—Tobe Plug-type Filterette.** Use for reducing interference from all small appliances. Binding post for ground connection. Highly effective in reducing interference. Ship. wt. 6 ounces. Each. \$73c

18 **62 RD 6583—Tobe Electric Razor Filterette.** Scientifically designed and constructed radio noise eliminator. Ideal for electric razors. Use between electric light circuit and electric razor. Shipping weight 6 ounces. Each. \$59c

19 **62 RD 6447—Tobe Power Line Filterette.** Reduces power line interference in radios. Insert between radio and electric receptacle. All-wave type. Also very effective when placed between interfering device and line. Shipping weight 5 pounds. \$2.79

## Meissner Universal Wave Traps

20 **62 RD 4595—Dual Broadcast Model.** Two frequencies: (1) 400 to 475 K.C. to prevent I.F. interference. (2) Covers broadcast band to eliminate interference from strong nearby stations. Shipping weight 1 pound. Each. \$1.56  
 21 **62 RD 4596—Amateur Dual Model (Not shown).** Attenuates two different frequencies: (1) in 40-meter band. (2) 80 to 160 meters. Reduces amateur interference. Ship. wt. 1 pound. \$1.56  
 22 **62 RD 4598—20 Meter Trap (Not shown).** Similar to above but for one frequency only in 20 meter band. Shipping weight 1 pound. Each. \$3.45

Use Your Credit to buy. See Page 3 for full details and table of terms



## Quam Permic Mike

A simple, practical microphone that compares favorably with many microphones selling at much higher prices... actually a Combination Magnetic and Permanent Magnet type. Long lasting and sturdy—yet highly sensitive and faithful. Microphone is not affected by humidity or temperature. Can be connected to your radio for home broadcasting. Has proved very popular with wireless phonos with mike terminals.

Covers a frequency range of 60 to 8000 cycles with output level of -50 db. Feeds directly into grid of tube. Shipping weight 1 lb. 8 oz. 62 RD 3228... \$1.76

## Ohmite Dummy Antennas

A simple, and direct means of measuring R.F. power whether it be the antenna output of a driver, oscillator or buffer when used with R.F. ammeter (see description on Page 13). Consists of a non-inductive space wound resistance element mounted in an air evacuated and gas filled bulb. 4-prong steatite base. Conveniently mounted in standard tube socket. There is no comparison with the old style lamp bulb which has a changing inductive load. Shipping weight 1 pound each. (100-watt types sphere shaped. 250-watt types cylindrical shape.)

62 RD 7341—For 73-ohm lines; up to 100 watts. \$3.23  
 62 RD 7342—For 600-ohm lines; up to 100 watts. 3.23  
 62 RD 7344—For 73-ohm lines; up to 250 watts. 6.47  
 62 RD 7345—For 600-ohm lines; up to 250 watts. 6.47

## Ohmite Parasitic Choke

Has many different uses. Combines inductance shunted with resistance to overcome parasitic oscillations. Use in plate leads of gaseous rectifier tubes to substantially reduce or eliminate bothersome "hash" in nearby receivers. Try one in stubborn amplifier grid circuits when neutralization seems otherwise impossible. Ship. wt. 4 oz. 62 RD 7343—Each. \$88c

All merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send order to Chicago.





# Latest Model Volt-Ohm-Milliammeters

Simple measuring instruments that indicate voltage, current and resistance. Each the best in its class. May be used in radio receiver and transmitter trouble shooting. Not confined to radio alone! Many electrical appliances may also be tested.

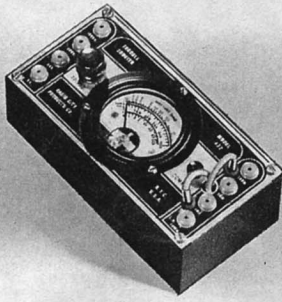
All of Wards Testing Equipment is Sold on Convenient Terms  
Use your credit to buy all of your needs now and pay for them in small monthly payments. Just built your order up to \$10 or more. See Page 3 for complete details and Table of Terms.



**Readrite Model 510**

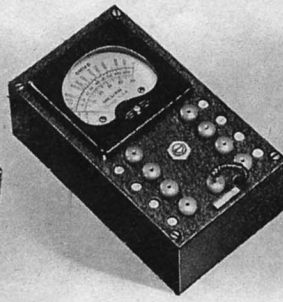
Economical, dependable testing instrument for D.C. only. 2-inch square Readrite meter with full open dial for reading D.C. Volts: 0-300; Ohms: 0-10,000. Case is made of sturdy black wood, nicely finished. Measures 2 3/4 by 2 1/2 inches. Comes with switching arrangement; attached test leads. Complete with self-contained 3-volt battery. Wt. 3 lbs. **62 RD 5436.....\$2.20**

**Model 511:** Similar to above. For D.C. only. 2-inch square Readrite meter with an open, full dial for quick reading of D.C. volts: 0-3-30-300; ohms: 0-10,000. Black wood case measures only 2 3/4 by 2 1/2 in. Test leads attached. Complete with battery and switching. Ship. wt. 3 lbs. **62 RD 5437.....\$2.79**



**Radio City Model 432**

For D.C. measurement only. Has 2-inch 1 M.A. meter movement, within 2% accurate. Reads: D.C. Volts: 0-5-0-50-0-500-0-1000 at 1000 ohms per volt. D.C. MILLIAMPERES: 0-1-0-10. OHMS: 0-500-0-50,000-0-500,000. Ohms zero adjuster. Each of first 5 divisions on low range equal 2 ohm. Steel case with Black crackle finish. 5 1/2 by 3 by 2 inches deep. Black and Brushed Chrome trim panel. Test leads not furnished (see Page 24). Self-contained batteries for all ohm ranges are furnished. Ship. wt. 2 lbs. 8 oz. **62 RD 7129.....\$5.84**  
**62 RD 7130**—Like above, but Model 432. For A.C. and D.C. A.C. Volts 0-5-50-500-1000. Db. RANGE: -12 to +54 in four ranges. Hardwood case. Ship. wt. 2 lbs. 8 ounces. Each. **\$7.95**



**Million Model S**

For D.C. only. 3-inch 1 M.A.-meter movement. Reads: Volts D.C.: 0-5-50-500-1000 at 1000 ohms per volt. Mills. D.C. 0-1. Low Ohms: 0-1000. High ohms: 0-500,000. Zero adjuster with same setting for both ohm scales. Jacks and plug range selection. Black wrinkle steel case and panel. 2 by 3 by 6 in. long. Ship. wt. 2 lbs. **262 RD 6900.....\$6.95**  
**Model A.** A.C. and D.C. A better grade instrument with rotary switch range selection. 3-inch 1 M.A.-meter. Volts D.C.: 0-6-120-300-1200 (1000 ohms p.v.). Volts A.C.: 0-6-300. Mills D.C.: 0-1-30-300. Ohms Low: 0-2000. High 0-500,000. Zero adjuster. Db: 10 to +12. Leads attached. Gray case, ivory panel. 2 by 3 1/2 by 6 in. With batts. Ship. wt. 2 lbs. **262 RD 6948.....\$9.95**



**Readrite Model 738**

For D.C. only. Triplett Red Dot 3-inch 1 1/2 M.A. Triplett meter. Reads: D.C. Volts: 0-15-150-750-1500 at 1000 ohms per volt. D.C. Mills: 0-1 1/2-15-150. Low ohms, 0-500 High range 0-500,000. External batteries can be used for still higher resistance measurements. Ranges selected by ROTARY SWITCH; with zero adjustment. Molded pocket size case with rounded corners, 3 1/2 by 5 3/4 by 2 1/2 in. Silver and black panel. With internal batteries test leads, clips. **62 RD 6864—Ship. wt. \$7.35**  
**Model 739**—Like above but for A.C. and D.C. Volts: 0-15-150-750-1500 (D.C. at 1000 ohms p. v.). D.C. Mills: 0-1 1/2-15-150. Ohms: Same ohmmeter ranges. **62 RD 6966—Ship. wt. \$9.70**  
5 lbs.



**Universal Model 612**

Universal A.C. and D.C. Pocket tester. 3-inch Triplett Red Dot Guaranteed meter with 2 high quality sapphire jewel bearings. A.C.-D.C. Volts: 0-15-150-450 (60 ohms per volt); A.C.-D.C. Mills: 0-15. Ohms: 0-20,000 and 0-100,000. Capacitance range. .01 to 20 mfd. Range selector is rotary switch for all ranges. Ohmmeter has separate zero adjustment. Black molded case, 3 1/2 by 5 3/4 by 2 1/2 inches. Handsome silver and black panel. No batteries are needed. Current supply is from either A.C. or D.C. source by means of cord and plug, complete with leads. Ship. weight 5 lbs. **62 RD 5438.....\$7.79**  
*All merchandise shipped from Chicago, unless otherwise stated, but you pay shipping charges only from Wards nearest Mail Order House. Send order direct to Chicago.*



**Triplett Model 666**

Meters Below have Triplett Red Dot Lifetime Guarantee  
A.C.—D.C. 3-in. meter. Volts: 0-10-50-250-500-1000 (1000 ohms p.v.). D.C. MILLS: 0-1-10-50-250. Ohms: 1/2-300; 0-250-1000. Black molded case. 3 1/2 by 5 3/4 by 2 1/2 in. Batt., leads, clips. **62 RD 4072—Ship. \$13.72**  
**Model 666-H.** Like above but A.C.—D.C. Volts: 0-10-50-250-1000-5000. D.C. MILLS: 0-10-100-500. Same ohm ranges. **62 RD 4099—Ship. \$14.21**  
wt. 4 lbs.



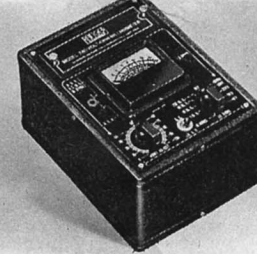
**Supreme Model 542**

A.C. and D.C. 3-in. meter. Accurate knife-edged pointer. 5000 ohms per volt. READS D.C. Volts: 0-6-150-300-1500 at 5000 ohms per volt. D.C. MILLS: 0-0.3-6-30-150. First division 5 microamperes. Ohms: 0.2, 000-20, 000-200,000-2 meg. A.C. Volts: 0-6-30-150-600. 4 output ranges: 0-6-30-150-600. Db: -6 to +10; +8 to +24; +22 to +38; +34 to +50. Black molded bakelite case, 3 by 5 3/4 by 2 inches. Weighs 23 ounces—24 ranges. With internal batts. Wt. 4 lbs. **62 RD 6882.....\$15.97**



**Million Model VV**

For A.C. and D.C. Large 4-in. 1 M.A. meter movement. Knife edge pointer. A.C.—D.C. Volts: 0-6-120-300-1200 at 1000 ohms p.v. D.C. MILLS: 0-1-30-300-600. Ohms: 0-1,000. 0-2 1/2 megohms. Db: -10 to +12. Rotary switch range selection. Connections brought out to single pair of built-in heavy duty test leads. Zero ohms adjustment. Pearl Grey metal case, 8 by 5 3/4 by 3 1/2 in. deep. Walnut panel. With handle, rubber feet, batts, and instructions. Wt. 8 lbs. **262 RD 6949.....\$17.95**



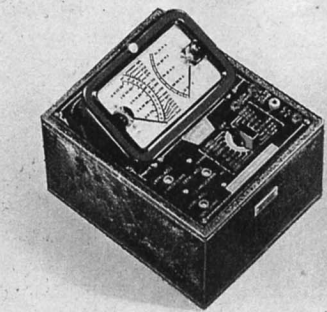
**Readrite Model 740**

For A.C. and D.C. 3-inch Triplett Red Dot Meter. (D.C. accurate within 2%; A.C. 5%). READS A.C. AND D.C. Volts: 0-10-100-250-500-1000 (1000 ohm per volt D.C.). D.C. MILLS: 0-1-10-50-250. Low Ohms: 0-3000-250,000. Rheostat adjustment for external 1 1/2 v. for reading to 2 1/2 megs. Ranges selected by rotary switch. Sturdy steel case with attractive Black crackle enamel finish. 5 3/4 by 7 3/4 by 4 1/4 inches. Silver and Black panel. With self contained 1 1/2 v. battery, test leads, accessories. **62 RD 3421—Shipping \$19.11**  
weight 9 pounds.



**Precision Model 844L**

For A.C. and D.C. Large, 4 1/4 inches. 400 microamp. meter. (2% D.C. accurate; 3% A.C. accurate). A.C.—D.C. Volts AND OUTPUT RANGES: 0-12-60-300-600-1200-6000 (at 1000 ohms per volt). D.C. MILLS: 0-1-12-120-600 and 0-12 amperes. Ohms: 0-400; 0-100,000; 0-1 meg.; and 0-10 megs. Six db. ranges from -10 to +64. Ranges selected by selector switch. Walnut finished hardwood case with handle. Size: 7 by 8 by 4 in. Grey steel panel. Less test leads and batteries. **62 RD 7137—Shipping \$22.50**  
**62 RD 4828—Batteries for above. Shipping weight 4 pounds. \$1.58**



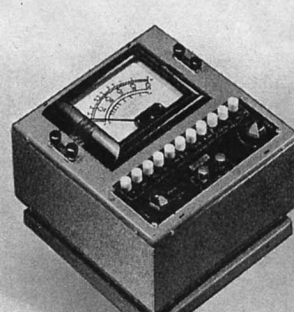
**Triplett Red Dot Model 1200A**

Two separate 3-in. Meters for greater scale distribution. A.C.—D.C. Volts: 0-10-50-250-500-1000 (D.C. 2,000 o.p.v.). MILLS: 0-1-10-50-250. Ohms: 1/2 to 500; 1,500; 1.5, 3 megs. Size: 7 1/2 by 6 1/2 by 5 3/4 in. Batt., leads. Latest model furnished with Black suede finished case, handle and snap-on cover, similar to Model 1232A, Signal Generator, Page 30. **62 RD 6725—Ship. wt. 12 lbs. \$23.35**  
**Model 1200 C**—Like above but 5,000 ohms p.v. **62 RD 4091—Ship. wt. 13 lbs. \$26.29**  
**Model 1200 E**—Like above but 25,000 ohms p.v. **62 RD 4092—Ship. wt. 13 lbs. \$30.55**



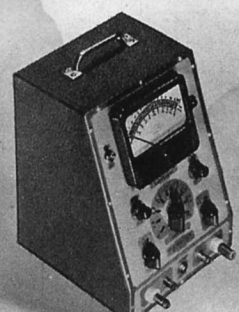
**Hickock Model 4955-S**

Uses a large 4-inch square 500 micro-amp. meter. 4-color scales. Reads: A.C.—D.C. Volts and output readings 0-10-50-250-500-2500 db. values with calibrated chart supplied. D.C. Microamps; 0-500. D.C. MILLS: 0-1-5-50-500. Ohms: .05-30; 5-10,000, 50-ohms—1 meg. 500 ohms to 10 megs. Ranges selected by rotary switch. Metal case; 7 by 4 1/2 by 3 1/2 inches. 4-foot leads furnished. With internal long life batteries. For terms see Page 3. **262 RD 7099—Shipping weight \$24.11**  
4 lbs. 12 oz.



**Jackson Multimeter 642**

Push-button range selection, pushing one releases others. 6-in. 100 microamp. meter A.C.—D.C. Volts: 0-10-100-250-500-1000 (20,000 ohms p.v.). Microamperes 0-100 (MILLS): 0-10-100-250. Amperes 0-10. Ohms: 0-3000-300,000-30 megs. Db: -10 to +14. 10 to 34, 30 to 54. Steel case, panel in grey crackle. 8 1/2 by 8 1/2 by 4 1/2 in. Removable snap-on cover protects meter and controls. Complete with internal battery and leads. **62 RD 3976—Shipping weight \$39.15**  
8 lbs.



**RCA-Rider Voltohmmyst—20A**

New Electronic volt-ohmmeter for D.C. Does not affect receiver operation while testing. 4-in. meter with silver etched dial. 9 ranges, 0-05-10-100-250-500-1000-2500-5000 volts. Ohms: 7 ranges from .01 ohms to 1000 megs. within 3%. Ranges selected by rotary switch. Grey crackle steel case, 7 1/2 by 8 1/4 by 1 1/2 in. Chrome panel. 4-ft. test leads, two 6K6G and one 6X5 tubes included. Terminals are heavy-brass, nickel-plated. Operates on 105-125-volts, 25-60 cycles A.C. Draws 12 watts. **62 RD 6648—Shipping weight \$57.50**  
17 pounds.

# Latest Radio Set Testers

Radio Set Testers measure voltage and currents found in each receiver. Each tube is removed from its radio socket and plugged into tester. A plug and cable arrangement from instrument plugs into each tube socket on chassis. In this way operating voltages and currents are quickly read on the meters—shows a lack of, or change in, normal conditions. The plug and cable arrangement eliminates test leads and removing chassis from cabinet.

## Economical Readrite Model 641 Handy Free Point Tester



Makes all series and parallel instrument connections through the circuit sockets to all parts of the circuit. Use with any of VOMAS on opposite page. Has sockets for handling any type receiving tubes, including the Loctal and Bantam Jr. Standard RMA markings. With 8 automatic switch type and 10 single action jacks. Housed in metal case with attractive Black wrinkle finish. 11 1/2 by 7 1/2 by 4 1/2 inches. Silver and black panel. Complete with accessories. Ship. wt. 8 lbs.

**\$10.73** Cash

62 RD 3404—Cash Price. . . . . \$10.73  
Time Payment Price: \$2 Down, \$2 a Month. \$11.73

NOTICE: Any instrument in these lines not listed on these pages, can be furnished at standard prices. Write to us for further information.

Buy them all on Time Payments—See Page 3.



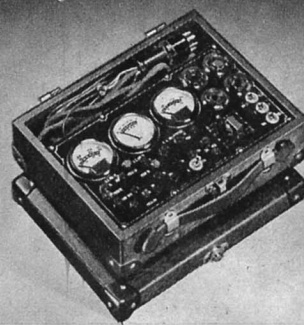
### Readrite Model 720-A

Measures resistance, capacity, continuity, tube voltages. RMA standard socket terminals—unnecessary to remove chassis when localizing defects. Two magnetic vane 2 inch meters: D.C. Volts: 0-15-150-300-600; Mills: 15-150. A.C. Volts: 0-10-25-150-750. Black leatherette covered case, cover and handle 11 by 8 by 4 1/2 in. Ship. wt. 10 lbs.

62 RD 3427—Cash Price. **\$14.70**  
Time Pay. Pr.: \$2 Dn., \$2 a Mo. \$15.97

Model 730-A. Same as above, but has Triplett Red Dot Model 223D C. Voltmeter with scale reading 15-150-300-600 volts at 1000 ohms per volt. Ship. weight 11 pounds.

62 RD 3428—Cash Price. **\$18.23**  
Time Payment Price: \$2.50 Down, \$3 a Month. . . . . \$19.80



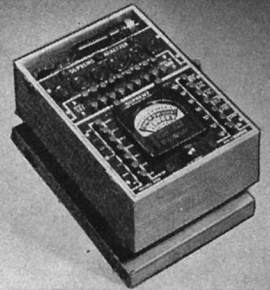
### Readrite Model 710-A

Uses 3, 2 inch magnetic vane meters to check all parts of radio circuits by plugging into receiving tube sockets. D.C. Volts: 15-60-300-600. D.C. MILLS: 0-15-150 A.C. Volts READ: 0-10-140-700. Positive selector switch connects all D.C. circuits to D.C. meter. Jacks for individual range connections for 3 meters. Silver and Black panel in Black leatherette covered case with cover and handle. Size: 11 by 8 1/2 by 4 in. Ship. wt. 10 lbs.

62 RD 3423—Cash Price. **\$16.18**  
Time Payment Price: \$2.50 Dn., \$2 Mo. . . . . \$17.55

Model 712-A. Like above but has Triplett 223 D.C. Voltmeter with 1000 ohms per volt. Reads: D.C. V.: 15-60-300-600. Wt. 11 lbs.

62 RD 3424—Cash Price. **\$21.76**  
Time Pay. Pr.: \$3 Dn., \$3 a Mo. \$23.64



### Supreme 592-593

Volts, ohms, and current tests by pushing 2 buttons. 6 sockets. 4-in. meter. MICROAMPS: 0-70-700. MILLS: 0-7-35-140-350. AMPS: 0-1-4-14. D. C. Volts at 25,000 o.p.v. 7 ranges: 0-3.5-7-35-140-350-700-1400 volts. D. C.-v. at 1000 o.p.v. 7 RANGES 0-3.5-7-35-140-350-700-1400 v. OHMS 6 ranges: 1/4-50-5,000-50,000-500,000-5 meg-50 meg. With batts. A.C. Volts: 7 ranges: 0-3.5-7-35-140-350-700-1400. OUTPUT METER, and db. Oak case; cover, handle, 9 by 13 by 5 1/2 in.

62 RD 7098—Ship. wt. 18 lbs.  
Cash Price. . . . . \$56.20  
Time Pay.: \$3 Dn., \$6 Mo. \$61.52

Model 592 Multimeter only.  
162 RD 6877—Cash Price \$40.18  
Time Pay.: \$5 Dn., \$5 Mo. \$43.70



### Weston Model 772—Type 2

For receivers, transmitters or P.A. systems. 4 1/2-inch, 50 microampere, 20,000 ohm p.v. meter. 3% accurate on A.C. Practically no error from 50 to 7,000 cycles. A.C.-D.C. VOLTS: 0-2.5-10-50-250-1,000. A.C. reading on single-arc scale. D.C. MILLS READ: 0.1-1-10-50-250-1 amp.-10 amp. OHMS: 0-3,000-30,000-3 meg.-to 30 meg. DECBELS in 5 ranges: -14 to +54. Diode currents in A.V.C. circuits and A.F.C. currents are quickly and accurately measured. Ideal for condenser leakage tests. Black panel trimmed in red and chrome. Natural hardwood finished case, cover with handle. 15 1/2 by 5 1/2 by 8 1/2 in. With test leads and plugs.

62 RD 3538—Ship. wt. 12 lbs. . . . . **\$49.50**  
Time Pay. Pr.: \$5 Dn., \$5 Mo. . . . . \$53.95



## POPULAR COMBINATION RADIO TUBE AND SET TESTERS BY FAMOUS MANUFACTURERS

**Radio City Model 801.** Tests all tubes, including Metal MG, sprayshield and ballast. Individual elements test. Neon leakage, short test. Line voltage indicator. Good-Bad scale. 1 M.A. fused 4 1/2-in. meter. BUILT-IN VOLT-OHM MILLIAMMETER. Scales: A.C.-D.C. volts: 0-10, 50, 500, 1000 at 1000 ohms p.v. on D.C. MILLS: 0-1, 10, 100, 1000 and 0-10 amp. OHMS: 0-500-5000, 1 meg., -10 meg. Db's.: -8 to +55 in 3 ranges. Condenser leakage test. Test leads. Leatherette covered wood case, removable cover with handle. 12x12 1/2 x 6 in. For 115 v. 50-60 cycle A.C.

62 RD 7128—Shipping weight **\$27.40**  
14 lbs. Cash. . . . . \$27.40  
Time Pay. Pr.: \$3 Dn., \$4 Mo. . . . . \$29.84

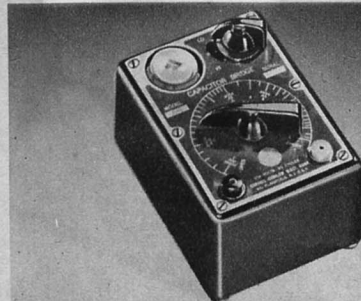
**Precision 920 P.** Mutual conductance type. Roller chart. 400 microamp. 4 1/2-in. meter. Fil. volts from 1.4 to 120. Free point Fil. prong selection. Leakage and noise test. Condenser leakage tests. A.C.-D.C. in 6 ranges from 12 to 3000 v. CURRENT: 0-600 M.A. in 4 ranges; also to 12 amps. OHMS: 0-400-100,000, 1 meg., 10 meg. Db's.: -10 to +64 in 4 ranges. Walnut finish case, removable cover and handle. 12x3x6 in. Batt. test leads. For 115-v. 50-60 cycle A.C.

62 RD 7135—Wt. 20 lbs. Cash. **\$52.87**  
Time Pay. Pr.: \$5 Dn., \$5 a Mo. . . . . \$58.67

62 RD 7136—Like above but metal case no cover. Wt. 21 lbs. See Terms **\$48.95**  
on Page 3. Cash Price. . . . . \$48.95

**Supreme 504.** Famous filament return selector. Tests all tubes. Fil. volts from 1.5 to 115. Good-?Bad tube scale. Roller tube chart. Short, open and leakage test. 500 micro-amp. 4-in. meter. D.C. Volts: 0-5, 25, 100, 250, 500, 1000, 2500 A.C. Volts: 0-5, 10, 50, 250, 1000. CURRENT: 0-500 microamps. 2.5, 10, 50, 250 M.A. -1 to 10 amps. OUTPUT: 5, 10, 50, 250, 1000. OHMS: 1, 10, 20M, 20M, 2Meg., 20 meg. Condenser test. Push button range selector. Attractive natural hardwood case. Removable cover and strong handle. Shipping weight 21 lbs.

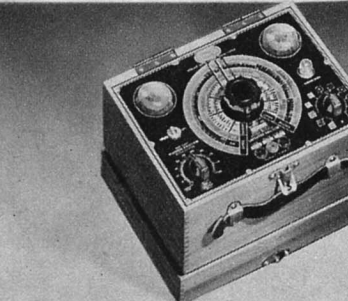
62 RD 7095—Cash Price. . . . . **\$64.63**  
Time Pay. Pr.: \$6 Dn., \$6 a Mo. . . . . \$70.49



### Cornell-Dubilier Cap. Bridge

Model BN. Midget size 3 1/2 by 5 by 3 inches deep; for portable use. Measures paper, mica, electrolytic and air condensers between .00001 and 50 mfd. calibrated dial—no charts required. Read capacity values directly! Indicates power factor of electrolytic types. Shows shorted and open condensers. Also a continuity tester. Uses Wien bridge. Visual 6A76G indicator. 12A7 rect. and amp. Handsome Walnut finished Bakelite case. Comes complete with leads and full instructions. Accuracy independent of line voltage fluctuations. Operates on any 115 volt, 60 cycle, alternating current line.

62 RD 6947—Less Tubes. **\$9.70**  
Shipping weight 3 pounds. . . . . \$9.70



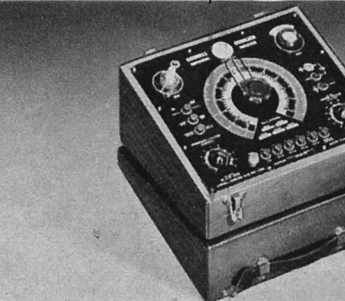
### Solar Bridge Model CB-1-60

Measures all capacitors. .0001 to 70.0 mfd. OHMS: 50-2 meg. POWER FACTOR to 50%. Wien bridge. Natural wood case, remov. top. 9 1/2 by 7 1/2 by 6 1/2 in. For 110-v., 60 cycle, A.C. Uses one 6E5 indicator and 1V tube—not included.

462 RD 6477—Ship. wt. 7 lbs. **\$17.84**  
Time Pay. Pr.: \$2.50 Dn., \$3 a Mo. . . . . \$19.37

Model CC-1-60: Similar, range: .00001 to 800 mfd. 600 v. DC available for tests. Same tubes—not included.

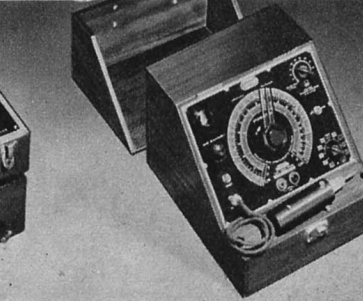
462 RD 6599—Ship. wt. 8 lbs. **\$24.40**  
Cash Price. . . . . \$24.40  
Time Pay. Pr.: \$3 Dn., \$4 a Mo. . . . . \$26.54



### Cornell-Dubilier Analyzer

Model BF-50. Measures paper, mica, air, electrolytic and motor condensers from .00001 to 240 mfd., power factor up to 50%. Wien bridge. Resistance up to 1500 meg. Uses 6E5 visual zero indicator, 12A7 amp. rec. All direct readings on linear scale calibration. With push button switching. 6-color coded scales uniformly spaced markings over a total of 60 in. Requires no external standards or zero adjusters. For 110 volts. 50-60 cycle, A.C. Size: 6 1/2 x 12 x 9 3/4 in.

62 RD 6946—Ship. wt. 11 lbs. **\$24.40**  
Cash Price Less tubes. . . . . \$24.40  
Time Payment Price: \$3 Down, \$4 a Month. . . . . \$26.54



### Solar Condenser Exam-Eter

CAPACITY BRIDGE range: 10 mmf. to 1600 mfd. for all types including motor starter condensers types. Wien Bridge; OHMS: 50-7 1/2 meg. Power factor up to 50% PEAK VOLT-METER; 0-30-3000 volts. 0-3000 v. range for measuring television power circuits. Also has LEAKAGE INDICATOR. 6E5 Magic Eye zero indicator. Other tubes: 80, 1-V, and 6H6. With test leads, tube. Natural finished hardwood cabinet, removable lid, lock, key. 10 1/2 by 12 by 9 1/2 in. Wt. 12 lbs.

162 RD 6899—Not Available.  
Cash Price. . . . . **\$38.22**  
Time Payment Price: \$4 Down, \$5 a Month. . . . . \$41.64

The Tube Testers shown here are simple, easily understood instruments. There is no need for complicated numerical meter readings since all indications are given clearly in terms of "Good," "Doubtful," and "Bad." Anyone can operate them without technical knowledge—and with good results.

# All of the

**Triplet Red Dot Lifetime Guarantee**  
Triplet protects you for the lifetime of the Tester against defective workmanship in the indicating instrument mounted in Triplet Testers.



### Million Model DF Tester

A new universal type of tube tester at a price that makes it available to all servicemen. Tests emission and shorts on all tubes while hot. 3-inch D'Arsonval meter provides easy-to-read "Good-Bad" scale. Neon glow bulb tests for shorts and leaks up to 2 megohms, hot leakage test for continuity, shorted, or leaky by-pass or electrolytic condensers. Also has polarity test. Ten sockets provided for all new types including "hearing aid" midjet tubes, localts and "S" series. Filament switch covers from 1.4 to 115 volts with spare positions for future. Accurate line voltage adjustment.

Emission and short tests by rotary selector switch. All test circuits fused and effectively insulated from the power line. Spanish grain leather-like carrying case with removable cover. Walnut grained panel with white designations. 9 by 9 by 5 in. Complete with 8-foot power cord and plug. For 105 to 125 volt, 60 cycle, A.C. Ship. wt. 12 lbs. *Not Mailable.*  
**162 RD 6857—Cash Price, \$16.95**  
Time Payment Pr: \$2.50 Dn., \$2 a Mo. 18.40

*All merchandise shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards Nearest Mail Order House. Send order to Chicago.*



### Readrite Model 432-A

Direct reading square Triplet Red Dot 3-inch meter with "Good-Bad" 3-color scale. Has two sapphire jewel bearings. Readrite Ranger Tube Tester checks all tubes—Approved R.M.A. circuit—tester has sockets for localts, single ends, Bantam Jr., Gaseous rectifiers, Ballast, all regular types and the new high voltage series 11726, etc. Separate plate tests on diodes and rectifiers. Neon short test immediately indicates the slightest shorts and leakages. Separate line voltage indicator permits constant line indication and control without switching and readjusting the load controls. Safeguard against future tube filament changes provided by a flexible filament switching arrangement in 19 steps from 1 to 110 volts.

Black artificial leather case with carrying handle, removable cover—for either counter or portable use. 9 by 8 1/2 by 7 inches. Modern etched silver and black panel. For 110 volts, 60 cycles. Shipping wt. 18 lbs. *Not Mailable.* See combination with Volt-Ohm-Milliammeter Page 31.

**162 RD 6859—Cash Price, \$17.49**  
Time Pay. Pr: \$2.50 Dn., \$2 a Mo. 18.99  
**162 RD 6862—Same as above but in Natural Oak carrying case. Ship. wt. 19 lbs. Cash Price, \$21.17**  
Time Pay. Pr: \$3 Dn., \$3 a Mo. 22.99



### Radio City Tube Checker 308P

Dynoptimum test! All tests made under R.M.A. specified voltages and loads—considered by many as the finest co-relative test available! Compares favorably with types selling for as high as \$30. Three-inch D'Arsonval meter, within 2 per cent accurate. Easy, direct reading scale... marked in "Poor-Good."

Tests, 35, 45, 50, 70 and up to 100-volt tubes, all metal, M. G., glass, OZ4, cold cathode rectifiers, octal, localt and single end tubes. Tests all ballast tubes—with separate ballast tube chart included with each tube tester. Individual tests of each section of full wave rectifiers, duo diodes and all multi-purpose tubes. *Hot inter-element* short and leakage test between all individual elements. Neon hot cathode leakage test. Audible noise test. Spare socket. Adjustable line voltages from 105 to 135 with line voltage indication directly on the meter.

Black artificial leather case, 11 1/4 by 12 by 7 in. with removable cover accessory tray and handle. Black metal panel with aluminum trim. Operates on 105 to 125, 60 cycle A.C. *Not Mailable.*

**162 RD 7126—Ship. wt. 12 lbs. Cash \$18.58**  
Time Pay. Pr: \$2.50 Dn., \$3 a Mo. 20.19  
**162 RD 7127—Same as Above, but Counter Model (not shown). Wt. 12 lbs. Cash, \$16.62**  
Time Pay. Pr: \$2.50 Dn., \$2 a Mo. 18.03



### Triplet Red Dot Model 1213

*Meter carries famous Red Dot Lifetime Guarantee.* Contains sockets necessary to test all present day tubes including localts, the new Bantam, Jr., the high voltage series, 11726 single-end types, all regular octal, magic eye tubes, pilot lamps, ballast tubes, plain glass, spray shield tubes and gaseous rectifiers. Provisions also for future tubes, with filament voltages ranging from 1 to 110 volts.

3-inch Triplet meter with zero adjustment, "Good-Bad" reading scale. Comes complete with simple, practical tube chart... a hinged card index type attached with bottom card under the spring clips of the removable cover of tester, or can be removed and fastened to wall. All tube listings are before you at a glance. Sections can be quickly changed.

Tester has separate line voltage control indicator. Gives hot leakage test for cathode, heater and inter-elements, with shorts test between any 2 elements. Provisions for checking open filaments, hot leakage check and separate plate tests of full wave rectifiers. Black enamel suede finish case; silver grey, black and red trimmed etched panel. Snap-on cover with handle and holder for charts. 7 1/2 by 6 1/2 by 3 1/2 in. With handle. For 105 to 125-v, 60 cycle, A.C. (*Not Mailable.*)

**162 RD 5432—Ship. wt. 14 lbs. Cash, \$21.56**  
Time Pay. Pr: \$3 Dn., \$3 a Month. 23.42



### Triplet Model 1610

*Famous Red Dot Lifetime Meter Guarantee.* Easily operated push-button Tube Tester with individual switching of each tube element to separate terminals. Filament Volts from 1—110. Roller type tube chart locates quickly more than 250 tubes. Settings shown directly below each row of switch buttons. Uses emission test.

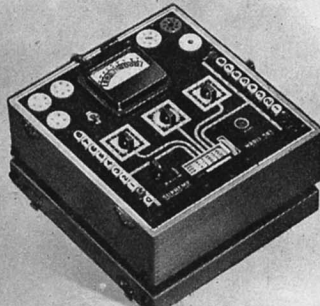
Direct reading 3-color "Good-Bad" illuminated scale on 3-in. meter includes all types—localt, Bantam Jr., Gaseous, rectifiers, high voltage series, 11726 etc. Neon inter-element short and leakage tests while cathodes are hot. Tests separate plates on diodes and rectifiers. Ballast tubes tested. Housed in new modern Black suede seamless case and panel, trimmed in attractive chrome. With handle and removable cover. 15 1/4 by 11 1/2 by 6 1/2 in. Ship. wt. 40 lbs. Operates on 105—125 volts, 50 to 60 cycles A.C. *Not Mailable.*

**162 RD 4058—Cash Price, \$38.22**  
Time Pay. Price: \$4 Dn., \$5 a Mo. 41.64

### Triplet Model 1611

Like above but includes Volt-ohm-milliammeter. *Meter has Red Dot Lifetime Guarantee.* Meter ranges: A.C.-D.C. Volts: 0, 10, 50, 250, 500, 1000 (1000 ohms per volt D.C.). Mills: 0, 1, 10, 50, 250. Low ohms, shunt-type circuit, 2 to 500 ohms. Series type circuit 0 to 300,000 ohms, 1.5 and 3 megs. Plug-in copper-oxide rectifier.

**162 RD 4057—Ship. wt. 42 lbs. Cash Price, \$48.51**  
Time Pay. Price: \$5 Dn., \$5 a Mo. 52.86



### Supreme Model 503

Readings indicated on 4-inch "Good-Bad" English reading scale. Speedy operation is assured because of a new, fast-acting, replaceable 2-color roller chart mounted on panel with clearly understood "arrow-ways" that lead from each number to corresponding switch. Only 6 sockets for all tubes... *You can't use the wrong socket!* No rewiring, spare sockets, etc. needed for future tubes. Tests all past, present and future receiving tubes. All types localts, octals, non-octals, television video amplifiers, single ended, gas rectifiers, ballast, etc. Fil. volts on tap from 1.5—110 volts.

Eliminate obsolescence by *Supreme filament selector*—automatically changes instrument for any combination of tube base constructions. Has *Supreme Varivolt Selector* which offers 23 filament taps from 1.5 volts to full line voltage of 117 volts.

Checks tubes 7 ways: Shorts, visual open filament check, standard 200M ohm hot leakage, super-sensitive 2 meg, hot leakage, open elements, complete quality, separate tube selection and rectifier plate test. Has balanced ratio-load circuit. All tests are made at the proper applied anode voltages and rated load for all tube types. Black and satin aluminum glare-free panel; Red and ivory fittings. Cover on slip-hinged oak carrying case 5 1/2 by 11 1/2 by 12 in. For operation on 105 to 125-volt, 50 to 60 cycle, A.C. *Not Mailable.*

**162 RD 6855—Ship. wt. 16 lbs. Cash Price, \$44.05**  
Time Pay. Pr: \$5 Dn., \$5 a Month. 47.96



### New Weston Model 777-1

Tube and Battery Tester. In Portable Case. For checking and selling tubes on the job. Makes total emission tests as well as individual electrode tests on each individual element. Point-to-point check! Separate electrode switches for grid, plate, screen, suppressor, diode or cathode are provided for emission, short and leakage tests. Tests every tube commercially available. Will check all filament voltages up to and including 120 volts; neon short check, cathode leakage, noise test, RMA load test. Fused for extra protection.

*New—Checks 1.5, 6, 45, and 90-volt batteries on English reading scale marked "Good" and "Replace".* Just what you need for checking the new portable radio batteries. Eliminates all doubt in your customer's mind as to condition of his batteries... results in greater tube sales for you! Has big, sensitive 4-inch meter set off from beautiful red and black panel. "Good-Bad" reading scale.

Natural finish hardwood portable carrying case of the finest construction. Light in weight with handy compartment for storage of tubes or tools. Size: 15 1/2 by 8 1/2 by 5 1/2 inches. Shipping weight 17 lbs. For 105—125 v. 50 to 60-cycle line. *Not Mailable.*

**162 RD 7139—Cash Price, \$49.50**  
Time Payment Price: \$5 Dn., \$5 a Mo. 53.95

### Counter Type 777-2

**162 RD 7140—Similar to above but with new rotator type tube charts. Case natural finish hardwood 14 1/2 by 10 1/2 by 7 inches. Ship. wt. 19 lbs. Cash Price, \$54.75**  
Time Payment Price: \$5 Dn., \$5 a Mo. 59.73



### Jackson Dynamic Model 637

Tube Tester and Ohmmeter combines 27 ranges—10 functions; Protected against obsolescence in every way. Full Vision 6-inch meter set in highly polished Bakelite case. Illuminated for easy reading. Direct readings on "Good-Bad" scale. Tests all tubes (with provision for many more), including Bantams, localts, single ended and high voltage Filament types. With new high-voltage power supply—tests tubes at higher plate voltages (over 200 v. for some) to assure more accurate results. Also tests ballast tubes for opens, shorts or leakages without test prods.

Full range Filament Selector from 1.4 volts to 115 volts. Filament Selector marked in volts at each position to avoid error.

Has 10 Tester functions. Tube Tester, Ballast Tube Tester, quick indicating neon continuity tester, condenser test for shorted and leaky condensers.

Push Button Range Selection on all Voltage, current and resistance scales. Remarkably easy to use. *Multi-range A.C.-D.C. Voltmeter:* 0, 10, 100, 250, 500, 1000, 2500. *Db. Meter:* from -10 to 14, 10 to 34, 30 to 54. *Multi-range D.C. Mills:* 0, 1, 10, 100, 250. *Ammeter range:* 0 to 10 amp. *D.C. Triple Range Ohmmeter* 0—3000—3000-ohms—0—30 megs.

Natural finish hardwood case with accessory tray. Size: 14 1/2 by 13 1/2 by 6 inches. Removable cover; handles. *Complete with internal batteries for ohmmeter and test prods.* Ship. wt. 14 lbs. *Not Mailable.*

**162 RD 3978—Cash Price, \$48.51**  
Time Pay. Pr: \$5 Dn., \$5 a Month. 52.86

# Best Nationally Known Tube Testers



## Jackson Dynamic Model 634

Makes an accurate, thorough test on every tube... often finds "poor" tubes which might pass for "good" in ordinary testers! 3-inch square type reading "Good-Bad" meter. Dynamic output tests all tubes, including Bantams, localts, single ended and high voltage filament types. Tests multi-section tubes correctly plus OZ4 Gas rectifiers.

**New high voltage power supply**, a special feature. Tests tubes at higher plate voltages (some over 200 volts) for more accurate results. Full range filament selection from 1.4 to 115 volts. Marked directly in volts at each position. Eliminates guess work and helps you avoid mistakes.

**Improved switching system**—Spare circuits and switch positions provided for future tubes plus "spare" socket position on the grey panel. Full range line voltage control—neon shorts test circuit.

Case is made of welded steel, 8½ by 8½ by 4½ inches. Finished in good looking grey Morocco, with handy carrying handle. Tester is compact and easily portable. Has metal cover to protect panel. Ship, wt. 10 lbs. Operates on 105 to 125 volts, 50 to 60 cycle A.C. *Not Mailable.*

162 RD 3977—Cash Price..... **\$28.37**  
Time Pay. Price: \$3 Dn., \$4 a Mo. 30.91



## Triplet Counter Type 1612

Has giant 7-inch *Red-Dot Lifetime Guaranteed Indicating Meter* with "Good-Bad" reading. Also illuminated speed-roll tube chart! Tube ratings appear almost instantly, and can be selected before tube filament has time to fully heat. 36-tube types are visible and illuminated at one time. Filament voltages provided from 1 to 110 volts. All connections made for future tubes.

Fully balanced R.M.A. approved circuit. Leakage test for Cathode, Heater and inner elements, with short tests between any 2 elements, check for open filaments, and any 2 elements. Hot leakage check, separate section tests of multi-section tubes and separate plate test of fullwave rectifiers. Tests all tubes. Noise test jack, line voltage indicator.

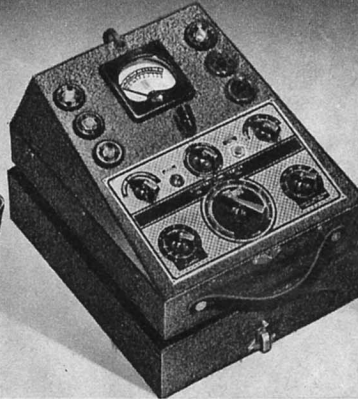
Silver grey and maroon suede enamel seamless steel case. SIZE: 15¼ by 11½ by 6 inches, less cover. For 115-v. 50-60 cycle, A.C. Ship. wt. 38 lbs. *Not Mailable.*

162 RD 5429—Cash Price..... **\$29.24**  
Time Pay. Price: \$3 Dn., \$4 a Month. 31.86

### Portable Style Model 1613

Same as above, but has detachable cover with attached handle. CASE SIZE with Cover, 15¼ by 11½ by 6½ in. Ship. wt. 42 lbs.

162 RD 5430—Cash Price..... **\$34.14**  
Time Pay. Price: \$4 Dn., \$5 a Month. 37.15

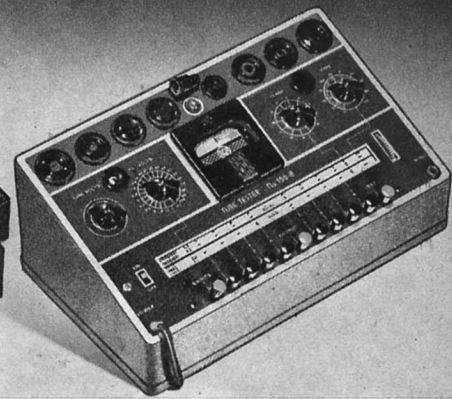


## Clough-Bregle Model 225

Actually two testers in one—a counter instrument or a handy portable instrument for use in customers' homes. Dynamic test provides a reliable index to *mutual conductance* of radio tubes. Closely controlled loads and voltages applied to each element—plate current measured in accurately calibrated circuit to give a simple "Good-Bad" indication. 3-inch meter for quick, easy reading. The new Dynatester tube chart lists over 600 tubes—yet is an extremely fast "finding" chart.

Tests all tubes including localts and rectifiers. Also tests, with hot cathode a point-to-point check of each element of every tube, even to pilot light taps on ballast tubes, short circuits and inter-element leakage. Special test circuit for tubes requiring higher inter-element resistance than RMA standard of 250,000 ohms. For future new tubes a spare socket and extra switch bank are provided. Unwelded metal case with silver color etched panel and black inlay. Finished in Green and gray crackle enamel; polished bakelite trim. Removable cover. 11½ by 9½ by 5 inches. Ship. wt. 18 lbs. For 105 to 125-v. 50 to 60 cycle, A.C. *Not Mailable.*

262 RD 6956—Cash Price..... **\$33.80**  
Time Pay. Pr.: \$4 Dn., \$5 a Month. 36.78



## RCA Counter Model 156-C

All tests made by push buttons, automatically released and retained. 3-inch direct reading "Good-Bad" meter. Shows line voltage up to the instant of actual test—not necessary to set line voltage before inserting tube in socket. All tests to R.M.A. standards. Tests all standard receiving tubes including Ballast, Localt, and Bantam base, miniature lamps, (Xmas tree, flashlight bulbs), magic eye tubes for brilliance and opening and closing; 4-prong and octal base ballast tubes for noise and opens. Also gas tubes such as OZ4-C, OZ4-G, 874 etc. Spare switch section and 2 spare sockets for future. Also provision for 120 volts.

Easily read figures on roll chart—guide lines indicate buttons to be pressed for tube under test. Line voltage adjustment. Pilot light lithographed panel. Blue-gray wrinkle steel case, 13½ by 5¾ by 8 inches. Operates on 105 to 125-volt, 50 to 60-cycle, A.C. 25 watts. *Not Mailable.* Ship. wt. 16 lbs.

162 RD 7170—Cash Price..... **\$37.95**  
Time Payment Price: \$4 Dn., \$5 a Mo. 41.35

### Portable Model 156-B

Similar shape to instrument above, but portable type with handle and cover to fit. Ship. wt. 16 lbs. *Not Mailable.*

162 RD 7145—Cash Price..... **\$39.95**  
Time Payment Price: \$4 Dn., \$5 a Mo. 43.55



## Triplet Model 1510

Meter has *Red Dot Lifetime Guaranteed* Dynamic mutual conductance tube tester. Selector switch controls. Tubes checked under actual operating conditions—allows selection of plate, screen, control grid voltages, etc. for properly checking any type. Direct "Good-Bad" tube reading on 3-color 3-inch illuminated meter. Illuminated line indicator. Diodes and rectifier plates tested separately. Separate gas test and accurate neon short and leakage check. Rotating chart for over 350 tubes, including ballast and future types. Black satin finished steel case. Sloping panel. Removable cover. CASE SIZE: 15¼ by 11½ by 7½ inches high. For 105 to 125 volt, 50 to 60 cycle, A.C. Ship. wt. 38 lbs. *Not Mailable.*

162 RD 4060—Cash Price..... **\$48.68**  
Time Pay. Price: \$5 Dn., \$5 a Mo. 53.05

### Triplet Model 1511

Like Model 1511, plus *Volt-Ohm Milliammeter*. Ranges are, D.C. Volts: 0-10-50-250-500-1,000 at 1,000 ohms per volt; D.C. Mills: 0-10-50-250; Ohms: 2-500-300,000 ohms-1.5 megs. - 3 megs.; A.C. Volts: 0-10-50-250-500-1,000 at 400 ohms per volt. With chart—10 to 42 db. V-O-M-A section is separate panel with tip jacks and controls attached. For 105 to 125-v. 50-60 cycle, A.C. with provisions for using batteries if desired. *Not Mailable.* Ship. wt. 39 pounds.

162 RD 4059—Cash Price..... **\$58.48**  
Time Pay. Price: \$5 Dn., \$6 a Mo. 63.83



## Hickock Model 530-P

New! Dynamic mutual conductance in microhms. Triple range 0-3,000-6,000-15,000 micromhos. Has sufficient plate current to accurately check both emission and mutual conductance. Each tube receives the proper voltage. Meter is not affected by the amount of plate current. Large, 4-in. illuminated dial; "Good-Bad" scale. Selector switches take care of all tubes up to 110 volts, localt, octal, pilot lamps, ballast and magic eye. Checks gas, short (hot or cold) and opens. Each element is tested separately.

Giant roll chart twice as large as older types. Gives settings quickly and with utmost simplicity. There are no complications... no customer confusion.

In handsome artificial Brown leather case with accessory compartment. Complete with removable cover and carrying handle. Sloping panel. SIZE: 14 by 13¾ by 6 inches. Actual weight 15 lbs. Ship. wt. 22 lbs. Operates on 105 to 115 volt, 50 to 60 cycle, A.C. *Not Mailable.*

262 RD 7142—Portable 530. Cash Price..... **\$51.74**

Time Pay. Price: \$5 Dn., \$5 a Mo. 56.41

### Counter Type 530C

Same as portable type above, but counter model of 530. Multi-color translucent glass dial. Shipping weight 22 pounds. *Not Mailable.*

262 RD 7143—Cash Price..... **\$51.74**  
Time Pay. Price: \$5 Dn., \$5 a Mo. 56.41



## Famous RCA Oscilloscopes

**RCA Model 151-2.** 2-inch Cathode Ray Tube! Two separate high gain amplifiers for both vertical and horizontal deflection to assure high sensitivity—.5 volts (RMS) per inch of deflection. *Amplifier range and gain:* Flat 20-15,000 cycles, gain 50. All controls and terminals mounted on front panel, complete with easily read, tilted calibrated screen on cathode ray tube. Timing axis (horizontal sweep) 30-10,000 cycles. Five tubes: One RCA-902 (2 inch), one RCA 885, two RCA 6C6, one RCA 80. Sturdy steel case finished in handsome Grey wrinkle lacquer with smart nickel trimming. Reversed etched nickel-silver panel and large, soft rubber feet. CASE SIZE: 13¾ by 9¼ by 7¾ inches deep. With special snap handle. Operates on 110 to 120 volts, 50 to 60 cycles; 30 watts. Ship. wt. 16 lbs. *Not Mailable.*

162 RD 7171—Cash Price..... **\$49.95**  
Time Pay. Pr.: \$5 Down, \$5 a Month... 54.45

### RCA Model 151 One-Inch Screen

Like above but 1-in. cathode ray tube. (Not shown.) A general purpose oscilloscope for applications in radio transmitters, sound equipment, industrial and educational fields. SPECIFICATIONS: *Radiotrons:* Total 5; 1 RCA-913; 1 RCA-885; 2 RCA-6C6; 1 RCA-80. Sensitivity: 1.75 volts (RMS) for full scale deflection. *Amplifier:* Flat 20-15,000 cycles, gain 50. *Timing Axis:* 30-10,000 cycles. *Power Supply:* 110 volts, 50-60 cycles. *Input Power:* 30 Watts. SIZE: 13¾ by 9¼ by 7¾ in. deep. Ship. wt. 16 lbs. *Not Mailable.*

162 RD 7172—Cash Price..... **\$39.95**  
Time Pay. Pr.: \$4 Down, \$5 a Month... 43.55

## C-B Graphoscope Model 127

Consists of a controlled frequency modulated oscillator and 3-inch oscilloscope in one compact unit. Ideal for "Dynamic radio receiver testing"—the only precise manner of following a signal through and identifying the point where its path has been stopped by breakdown of parts or misadjustment. Only 2 major working controls... rest are pre-adjustors. Continuously variable, sweep width 0-50 Kc. Pre-loaded 120-cycle sweep and pure sinusoidal 60-cycle frequency modulation to produce symmetrical and automatically centered double-trace images. Mixer tubes in push-pull operation. Balance out harmonics to produce only wanted signal. Temperature compensation of fixed oscillator holds drift to less than 1 Kc. Output controlled by 3-step, ladder type attenuator.

**Linear Calibration:** 2 ruled demountable screens. (1) Graduations covering 0-50 Kc. Width for measurement of selectivity curves. (2) Linear for measurement of peak voltages. Unwelded steel case 9¼ by 10 by 13 in. in Green hard-baked crystalac with silver color and black. 2 screens and steel tube shade.

10 Tubes supplied: 906 cathode ray; 42 hor. amp.; 6C6 vert. amp.; 884 saw tooth osc.; 6C5 fixed freq. osc.; 6K7 freq. mod.; two 76 mixer; two 80 rect. Ship. wt. 31 lbs. For 105 to 125-volt, 50 to 60 cycle, A.C. *Not Mailable.*

262 RD 6958—Cash Price..... **\$91.63**

Time Pay. Pr.: \$9 Down, \$8 a Month... 99.89

Model 128: Same as above, without freq. modulator. 6 tubes. Ship. wt. 30 lbs.

262 RD 6957—Cash Price..... **\$63.21**  
Time Pay. Pr.: \$6 Down, \$6 a Month... 68.93

# LATEST SELECTION OF SIGNAL GENERATORS

Modern Receivers require periodical alignment of the tuned circuits in order to give continued high performance. Signal Generators provide a steady signal at a variety of frequencies during the aligning process. Every generator on this page gives you guaranteed satisfaction. Some offer more complete facilities and greater operating conveniences; The degree of calibration accuracy is also greater. They may be used with an output indicating device or with a Signal Tracer.



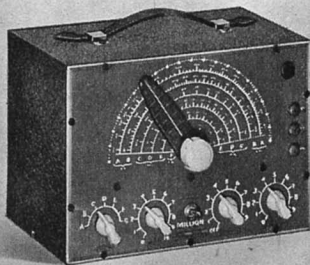
**Readrite Model 540**

Completely battery operated. Frequency Range from 110 to 20,000 K.C. with plug-in coils. Five frequency bands all of which are at fundamental output. Has Toggle switch for either modulated or unmodulated signal. Attenuator in output circuit for controlling strength of signal to receiver under test. Black crackle finished metal case with carrying handle. Also has compartment with snap-on cover for coils and test leads. Measures 5 1/2 by 7 1/2 by 4 1/2 in. deep. Silver and Black panel. Ship. wt. 11 lbs.

462 RD 3419—Cash Price..... **\$19.11**  
Time Pay. Pr.: \$2.50 Dn., \$3 a Mo. 20.77

Readrite Model 557—(Not shown). In Black art. leather covered wood case 12 by 6 1/2 by 5 1/2 in. Wt. 12 lbs.

462 RD 5435—Cash Price... **\$18.52**  
Time Pay. Pr.: \$2.50 Dn., \$3 a Mo. 20.12



**Million Model OD**

Operates from 110-v. A.C. or D.C. Frequency Range: 100-25,000 K.C. Modulated or unmodulated signal. Variable attenuator changes output from approx. 20,000 microvolts to almost zero. Separate coils for each range, 7-point band selector switch and as many scales. Suppressor modulated oscillator with buffer, practically eliminating frequency modulation. Audio output brought out separately for testing P.A. amplifiers; variable from zero to approx. one volt. Chassis has welded joints for better stability. Uses 6C6 osc. 76 R.F. buffer, 76 audio generator and 12Z3 rect. Pearl Gray shielded case, carrying handle, bronze panel and ivory knobs. 7 by 10 by 6 in. Shipping weight 10 lbs.

262 RD 6833—Cash Price... **\$19.95**  
Time Payment Price:  
\$2.50 Down, \$3 a Month..... 21.70



**New Triplett Model 1232-A**

For 110 volt, 60-cycle operation with built-in line filter. Six separate band scales cover from 115 K.C. to 30.5 M.C. Has new full vision Six-Scale Dial for quick easy reading. Tuning knob directly geared, permitting more accurate setting. Total scale length over 50 inches. Positive six-point band switch. Six trimmer calibrated coils. Output sufficient for all service requirements. Improved attenuation; zero for all practical purposes. Has triple shielding; top panel insulated from R.F. main wiring beneath double shielded panel. Coils and band switch individually shielded. Fixed 400-cycle audio—note brought out separately for testing P.A. amplifiers.

In new modern steel case with lustrous black suede enamel finish. Size: 7 1/2 by 6 1/2 by 5 1/2 inches deep. Complete with tubes, cover, carrying handle and accessories. Ship. wt. 17 lbs.

462 RD 5433—Cash Price... **\$29.24**  
Time Payment Price:  
\$3 Down, \$4 a Month..... 31.86

**Model 1231A**

Same as above but for battery operation. Complete with tubes and self-contained batteries. Ship. wt. 17 lbs.

462 RD 7141—Cash Price... **\$26.95**  
Time Payment Price:  
\$3 Down, \$4 a Month..... 29.35



**RCA Model 153**

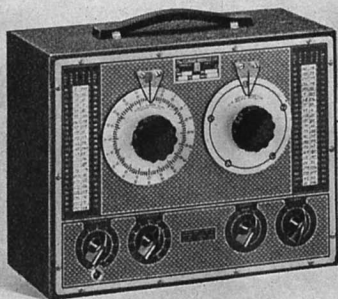
Operates on 110 to 120-volts, 50-60 cycle, A.C., fuse protected. Consumes only 30 watts. Covers from 100 to 30,000 K.C. in 6 fundamental bands. Supplies either unmodulated or 400-cycle modulated carrier controlled by front panel switch also provisions for plugging in external sweep modulation for visual alignment. Fixed 400-cycle A. F. available for external testing of P.A. amplifiers (output up to 8-v.) R.F. output minimum—2 microvolts to a high of 1 volt. Giant 6-inch dial with a total length of 50 inches. Calibration accurate within 2%. Thoroughly shielded for best attenuation. Output impedances of 10, 750, and 4,000 ohms. Uses 5W4 rectifier, 6C5 A.F. oscillator, 6K8-R.F. oscillator. Steel cabinet with carrying handle; finished in attractive Blue-gray wrinkle finish; lithographed panel, rubber feet. Shipping weight 15 pounds.

462 RD 7173—Cash Price..... **\$29.95**  
Time Payment Price:  
\$3 Down, \$4 a Month..... 32.65

## Take Advantage of Wards Time Payment Plan

Buy all of the testing equipment you need now. Everything Wards sell can be bought on Convenient Monthly Payments with only a few dollars down. See Page 3. Any Models made by these manufacturers can be supplied by Wards.

All merchandise in this Catalog is shipped from Chicago unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

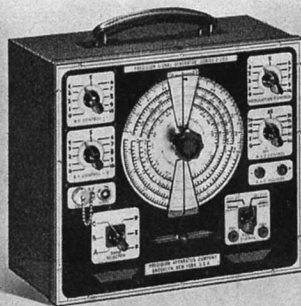


**Clough Brengle Model OCX**

Operates from 115-v. 50 to 60 cycle, A.C. Covers from 100 K.C. to 30 M.C. in 5 bands. Accuracy of 1/2%. Hand calibrated charts attached permanently to front panel. Total of over 15 ft. of scale length. Uses the Famous "Roto-inductor" band switching mechanism by which each coil assembly is physically introduced into the oscillating circuit through the same contacts while the remaining coils are completely removed from the field.

Output variable from 1/2 to 100,000 microvolts with a highly effective dual attenuator system. R.F. signal can be had with or without fixed 400-cycle audio note; at 30 per cent modulation, audio frequency tone is also brought out externally. Uses one 6J5 R.F. oscillator, one 76 A.F. unity coupled oscillator and 84 rectifier. Cabinet is beautifully finished in Dark Green and Silver. Measures 9 1/4 by 12 by 7 1/2 inches deep. Shipping weight 25 pounds.

262 RD 6955—Cash Price... **\$33.80**  
Time Payment Price:  
\$4 Down, \$5 a Month..... 36.78



**Precision Model E-200**

For 115 volt, 50 to 60 cycle, A.C. operation. Range: 110 K.C. to 72 M.C. 6 position band switch. Accuracy of 1% on all bands. Large 6-inch engine-turned dial, chrome finished; Over 5 ft. of scale length. Separate coils for each band mounted on exclusive unit oscillator circuit for shortest, direct leads. Supplies independently controlled A.V.C. voltage to the Receiver.

In Black ripple finish steel case, carrying handle. Size: 12 by 10 1/2 by 6 inches deep. Complete with tubes and coaxial cable. Calibrated attenuation. Thoroughly shielded. Electrostatically shielded power transformer; filtered A.C. line. Shielded coaxial cable connector. 6SK7 e.c. osc. modulated at 400 cycles by 6C5 sine wave A.F. osc. (modulation variable from 0-100%). 80 rect. A.F. tone output available externally with as much as 60-volt output controllable from zero to maximum! Ship. wt. 20 lbs.

462 RD 7138—Cash Price... **\$35.23**  
Time Payment Price:  
\$4 Down, \$5 a Month..... 38.35



**Supreme 571**

Operates from any 115-v., 50 to 60 cycle, A.C. line. Range: 65 K.C. to 20.5 M.C. in 5 bands on fundamental output. Stable Harmonics increase range to 82 M.C. 1/2 of 1% accurate. Ladder type attenuator controls output down to .5 microvolt. Double shielding throughout. Has 6 types of signals: (1) Straight C.W.; (2) 400 cycle at 30% standard audio modulated R.F. or (3) 400 cycle at 75% high level audio modulated R.F. which simulates present day broadcast modulation and allows checking for distortion; (4) external audio modulated R.F.; (5) externally frequency modulated R.F. (by using separate frequency modulator); (6) 400-cycle fixed audio note. Uses electron coupled oscillator, with 0.1 volt output on all bands. Features shadow tuning to eliminate parallax error found in ordinary dials. In handsome natural oak case. Complete with accessories. Size: 8 3/4 by 7 1/2 by 9 1/2 inches high. Shipping weight 16 pounds.

462 RD 6856—Cash Price... **\$36.75**  
Time Payment Price:  
\$4 Down, \$5 a Month..... 40.03



**Hickock Model 180**

Operates on any 110 volt, 40 to 65 cycle A.C. line. Six fundamental R.F. ranges: 100 K.C. to 30 M.C. 1/2% accur. Approx. 100 in. of direct reading scale. Output: 1 to 100,000 microvolts.

Nine output selections. (1) Freq. Mod. R.F. (30 K.C. sweep), (2) Amplitude Mod. R.F. (400 cycles), (3) Unmod. R.F., (4) 100 K.C. Mod. (400 cycle)—100 K.C. to 15,000 K.C., (5) 100 K.C. unmod.—100 K.C. to 15,000 K.C., (6) 1000 K.C. Mod. (400 cycles)—1000 K.C. to 100 M.C., (7) 1000 K.C. Unmod.—100 K.C. to 100 M.C. Selections numbered 4, 5, 6 and 7 may be had with crystal control. (Not furnished.) (8) 100 to 10,000 cycle Variable A.F., (9) 400 cycle Fixed A.F.

All attenuator controlled. 0-400 cycles, fixed A.F. 100 to 10,000 cycles var. Accuracy 5%; 0-1 volt variation. Reads db. from -10 to +38 in 3 ranges. Tubes: 6K7, 6C6, 6SK7 and 1V. Steel case, with etched aluminum panel. Size: 13 by 13 by 7 inches deep. Comes complete with tubes but less crystal. Shipping weight 21 lbs.

262 RD 7144—Cash Price..... **\$55.86**  
Time Pay. Pr.: \$5 Dn., \$6 a Mo. .... 60.95

# QUALITY PROVEN SIGNAL TRACERS

The signal itself is most important in any radio! In case of receiver failure the easiest, quickest trouble shooting method is signal tracing. You actually see or hear at what stage the signal no longer exists. Then it is the simplest task to determine the individual part which is giving you trouble. There's no need for measuring every potential in the entire receiver when this electric finger points clearly to the source of disorder.

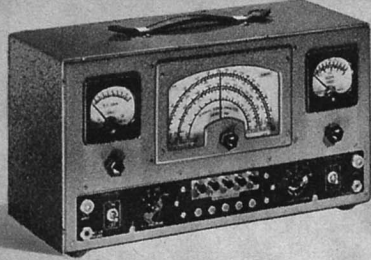


## Supreme Audolyzer Model 562

A quick acting audible signal detector. Easy to operate because you need only listen to the signal from the built-in loud speaker to find the "dead" stage. You hear distortion as well! Built-in speaker is connected to high gain tuned R.F. amp., detector and audio system. R.F. amp. covers I.F., R.F. and short wave frequencies range (100 K.C. to 15 M.C.). Finds dead portion of any receiver by connecting your modulated signal generator to the receiver; touch Audolyzer's probe to aerial post, then R.F. tube, grid, plate, etc. Right through receiver. Signal is heard in Audolyzer speaker until you hit dead stage. No signal at any point indicates a defective stage!

**Built-in Vacuum Tube Voltmeter** D.C. voltages without disturbing receiver's operation. 7 D.C. ranges 0-1, 3, 10, 30, 100, 1000 at 15 megs. input. Center scale zero so that one test lead can always remain grounded while probing with other. Measures osc. output voltage and A.V.C. voltage. **Calibrated T.R.F. amplifier determines Receiver I.F. frequency.** You can make dozens of other tests such as fidelity, for leaky condensers, antenna efficiency, etc. Can be used with any oscilloscope for seeing distortion. Beautiful natural finish hardwood case with carrying handle. Black front panel. Size: 12 by 15½ by 10 inches deep. Complete instructions. For 115-v., 50 to 60 cycle, A.C. Shipping weight 30 pounds.

162 RD 7097—Not Mailable. Cash... **\$76.93**  
Time Pay. Price: \$7 Dn., \$7 a Month... **83.92**



## Jackson Signal Analyzer

**Model 660.** Provides complete dynamic signal testing for all receiver circuits. A tuned R.F. voltmeter with amplifiers analyzes the R.F. signal anywhere in the receiver without disturbing operation of set. Built-in **Electronic Voltmeter** measures any A.C.—D.C. or Audio voltages. Fast and easy to use. **Voltage Regulated** power supply for more stable operation. **Measures:** Signal voltage and frequency, osc. voltage and frequency; audio signal; all A.V.C. and A.F.C. volts; all D.C. volts, A.C. power supply and filament volts. Locates distortion and noise in any receiver. Tests aerial efficiency and gain per stage on direct reading meter. Use with oscilloscope for obtaining resonance curves.

**All indications read directly on meters;** no balancing adjustments required for readings. **R.F. Frequency Range** 90 K.C. to 16 megacycles. Push button range selection. Dials and meters illuminated. Frequency scales protected behind glass. Complete with leads, etc. Housed in welded steel case finished in two-tone crackle Grey. Measures 17 by 8¾ by 7¼ inches deep. Complete with 7 tubes, leads and instructions. For 105-125 volt, 50 to 60 cycle, A.C. Ship. wt. 25 lbs.

162 RD 3975—Cash Price... **\$77.91**  
Time Pay. Pr.: \$7 Dn., \$7 a Mo. **85.00**



## RCA Rider Chanalyst 162

The 1940 signal tracing instrument; use it on old sets, new sets, or future models. Tests each circuit, while set operates, without affecting receiver performance. Traces signal from antenna to loudspeaker. **Eliminates guesswork.** Checks with lightning speed the very troubles that ordinarily take hours to detect. Means more profit; more service jobs per hour, more business for you.

**Complete R.F.—I.F. Channel** has range of 95 to 1700 K.C. calibration accurate to within 2%. **Oscillator Channel** range: 600 K.C. to 15,000 K.C. calibration  $\pm 2\%$ . **Audio Frequency Channel;** range: 150 cycles to 150,000 cycles. Any channel may be substituted for corresponding sections in receiver under test. **Electric Voltmeter Ranges:** -5 to +5, -25 to +25, -100 to +100, -500 to +500. Input impedance 10 megs. Center zero scale for measuring with one prod always grounded. Measures all D.C. voltages in any receiver. **Built-in Voltmeter;** range: 25 to 250 watts. Accurate to within  $\pm 10\%$ . Uses 3-6K7's, one 6H6, four 6E5's, one 18S2, one 76, one 6X5G and one 6Q7.

Housed in handsome Grey crackle steel case with good looking aluminum finish panel. Case size: 10¾ by 16 by 9 inches high. For operation on 105-125-v., 50 to 60 cycle, A.C. line. Ship. wt. 30 lbs.

162 RD 6659—Complete with tubes and test leads. Cash Price... **\$107.50**  
Time Pay. Pr.: \$10 Dn., \$8 a Mo. ... **117.25**



## Supreme Model 560 Vedolyzer

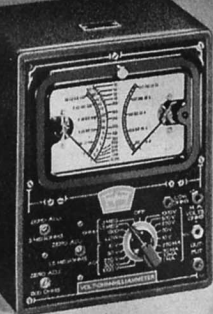
For servicing broadcast and television receivers. SEE the ACTUAL R.F., I.F., and A.F. SIGNAL any place and every place in any receiver on the screen. Traces Radio Signal through every stage, and you see the actual signal on the screen of the Vedolyzer. Thus, you see where the signal begins to distort and how much! Check for correct I.F. and oscillator frequency, A.V.C., R.F., A.F.C. signal grid and D.C. grid voltages.

Contains frequency compensated wide-range amplifier from 20 cycles to 4.5 megacycles, which includes A.F., I.F. broadcast and television video frequencies, a Radio Frequency Oscilloscope with 3-in. tube for viewing wave forms, modulated envelopes, modulation factor, distortion, etc., **built-in vacuum tube volt-ohmmeter;** D.C. volts range: (0/2/6/20/60/200/600/6000). A.C. volts range: (0/3/9/30/90/300/900/3000). R.F. voltage ranges: (0/0.03/0.09/0.3/0.9/3.0/9/30/90). Ohm and megohms ranges: (0/1M/10M/100M/1 meg/10 meg/100 meg/1000 meg). Wave analyzer and frequency meter for measuring both frequency and amplitude of fundamentals and harmonics, internal sinusoidal line supply frequency sweep, an internal linear sweep from 15 to over 30,000 cycles. Checks more than one stage at a time for intermittents. An exceptional convenience feature.

Natural finish hardwood case, carrying handle! Black panel. Size: 12 by 15½ by 13 inches deep. For operation on any 115 volt, 60 cycle, A.C. line. Ship. wt. 36 lbs.

162 RD 7096—Cash Price... **\$126.90**  
Time Pay. Price: \$12.50 Dn., \$9 a Month. **138.34**

# INSTRUMENT KITS AND POPULAR TESTER COMBINATIONS



## Triplett 1200-A Kit

Enables any Engineer, Amateur or Serviceman to build his own model 1200A volt-ohm-milliammeter shown above. Comes with Model 120 Red Dot Lifetime Guaranteed Triplett Twin instrument. Has separate meters for reading A.C. and D.C. values. Gives better accuracy and scale distribution. Scale readings same as Model 1200-A (Page 26). Also included mounted resistors and shunts; selector switch; rheostat assembly; set of diagrams and easy-to-follow instructions; hook-up wire; hardware; marked panel plate and test leads less battery and carrying case. **Not Mailable.**

162RD3677—Ship. wt. 12 lbs. Cash Price... **\$17.96**  
Time Payment Price: \$2.50 Down, \$3 a Month. **19.51**

## Model 1200-C Kit

Complete kit for the construction of a volt-ohm-milliammeter with readings the same as Model 1200-C, shown above. 250 microampere movement. 5000 ohm per volt D.C. suitable for checking A.V.C. Reads resistance to 7½ megohms. Complete with mounted resistors and shunts; selector switch; rheostat assembly; complete diagrams and full instructions. Hook-up wire, hardware, and marked panel plate. Complete with test leads, but less case and battery. **Not Mailable.**

162RD5431—Ship. wt. 13 lbs. Cash Price... **\$20.90**  
Time Payment Price: \$3 Down, \$3 a Month... **22.69**



## Readrite Model 641-740

Free point tester and volt-ohm-milliammeter combination. Both units in handy portable cases. Housed in sturdy metal case with attractive Black baked enamel finish. Size: 11¾ by 7¾ by 4¾ inches. Panels are modernistic Silver color and black. Convenient built-in compartments with friction fitting covers to hold accessories. Strong leather strap handles for convenience in carrying. Tester fully described on Page 27; VOMA on Page 26. Ship. wt. 16 lbs. **Not Mailable.**

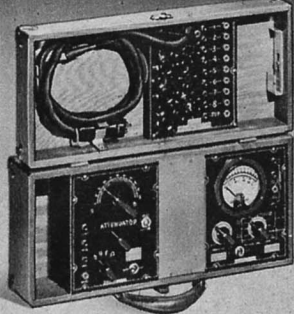
162 RD 6863—Cash Price... **\$28.35**  
Time Pay. Pr.: \$3 Dn., \$4 a Mo. ... **30.89**



## Readrite Model 540-740

Signal generator and volt-ohm-milliammeter combination in 2 units—both in convenient portable cases. The ultimate in portable test instruments. In durable metal case with handsome Black baked enamel finish. Size: 11¾ by 7¾ by 4¾ inches. Panels are Silver color and Black. With built-in compartments, fitted cover. Leather strap handles for carrying. Signal generator similar to Model 541, Page 30. VOMA described on Page 26. Ship. wt. 19 lbs. **Not Mailable.**

162 RD 3415—Cash Price... **\$36.75**  
Time Pay. Pr.: \$4 Dn., \$5 a Mo. ... **40.03**



## Triplett Portable Lab

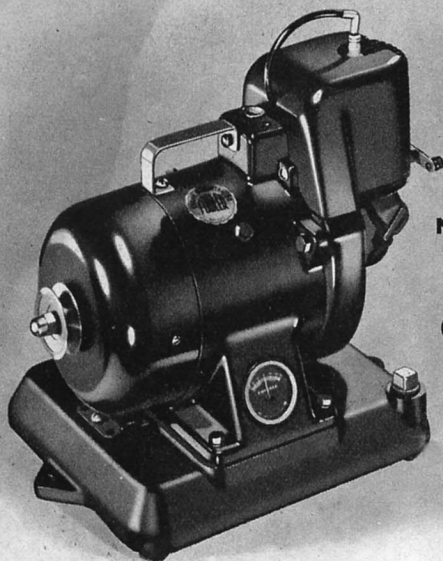
**Model 1181-B.** Many prefer the extreme compactness of these testers which have been kept up-to-date. **Combines:** Model 1125-A Volt-Ohm-Milliammeter (A.C. and D.C. Volts 0-15-75-150-750 at 1000 ohms per volt. D.C. Mills: 1.5-15-150. A.C. Mills: 15-150 Ohms 1.5 and 3 megs); Model 1151 all wave signal generator (covers frequencies from 110 K.C. to 18 M.C. Battery operated); Model 1166-B free point Auxiliary Set Tester (measures voltages, currents, resistance and continuity). Etched panels. Handsome quartered oak case with removable cover. Size: 16½ by 7½ by 4¾ inches. All batteries and accessories are included. Ship. wt. 18 lbs. **Not Mailable.**

162 RD 5434—Cash... **\$40.99**  
Time Payment Price: \$5 Down, \$5 Monthly **44.59**

## Readrite Tube Tester—VOMA Combination—Model 432-A-742

This precision 3-inch instrument has a sensitivity of 1 M.A. Tube tester described and pictured on Model 432-A, Page 28. The Volt-Ohm-Milliammeter is mounted on separate panel in same case with range selector switch, ohmmeter zero adjuster and jacks. VOMA ranges are A.C.—D.C. Volts: 0-10-50-250-500-2500 (D.C. at 1000 ohms per volt). D.C. Mills: 0-1-10-100. Ohms: 5-500; 0-100,000-1½ megs. Battery operated for those who need greatest accuracy. Black artificial leather case similar to 432-A, but larger. Size: 12½ by 8½ by 7½ inches. Less batteries. Shipping weight 20 pounds.

162 RD 6865—Not Mailable. Cash Price... **\$26.31**  
Time Payment Price: \$3 Down, \$4 a Month... **28.64**



## NEW SEMI-DIESEL ENGINE CHARGER

### Little Giant, 6 Volt, 240 Watts—3 Moving Parts

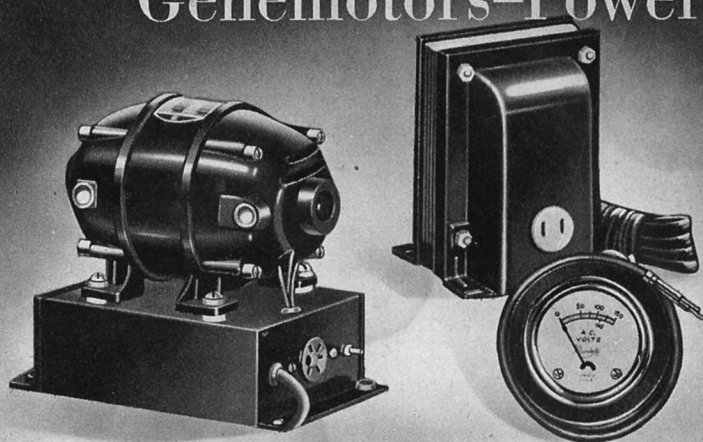
**Low First Cost**—Low operating cost! So safe and simple to run anyone can operate it! Only 3 moving parts: piston, rod and crankshaft. No valves to grind—no tappets to leak—no carburetor. Fuel injected through hollow crankshaft from 3-qt. fuel tank in cast iron base (runs approx. 6 to 8 hrs. on one filling). Air taken in through separate port; atomization occurs in special mixing chamber to assure quick starting.  $\frac{1}{2}$  to 1 horsepower engine connected directly to generator; automatically lubricated—Wing nut binding posts for connecting battery. Operates best on the cheapest gasoline, but may be run satisfactorily on Kerosene. Engine must first start on gasoline. Ignition supplied from battery to be charged. Push-button starter. 2½-in. V-pulley to drive power saws, separators, etc. Handy Carrying Handle. Automatic cut-out prevents battery discharge. Lights 6 rooms when used with storage battery 162 RD 670 and Lighting Kit at right.

**Specifications:** 6 volts, 240 watts. Red finish. (SIZE OVERALL: 17½ by 12 by 16¾ in. high). Mounting holes in base. Engine: 2 stroke, one cylinder. Bore 2 in.; stroke 1½ in. Displacement 4.7 cu. in. Generator with 30 ampere maximum charging rate. 4 pole with 4 brushes. Ammeter indicates charging rate of generator when battery is connected.

162 RD 6630—Ship. wt. 75 lbs. Not Mailable. Cash Price.....\$35.25  
Time Payment Price: \$4 Down, \$5 a Month..... 38.38

**\$35.25**  
Cash

\$4 Down, \$5 Month



### Genemotor Converters

Ideal for Public Address Systems, Power Amplifiers, Receivers, A.C. Motors, Phonographs, or any apparatus requiring a reliable source of alternating current. Designed and constructed in accordance with the most rigid specifications of one of the world's leading makers of power supply equipment. Needs no lubrication. Noise-free. Equipped with double-wound armature... gives cooler operation and longer life. Complete with cord and plug in outlet for A.C. Ship. wt. 35 lbs. Supplies 110 volt, 50 to 60 cycle, A.C. from D.C. voltages (see table). See Page 3 for Terms.

Article Number	D.C. Input Volts	Out-put Watts	Cash Price
262 RD 3287	32	110	\$24.40
262 RD 3288	32	150	27.05
262 RD 3260	32	200	29.69
262 RD 3261	32	250	32.69
262 RD 3289	110	110	24.40
262 RD 3262	110	150	27.05
262 RD 3290	110	200	29.69
262 RD 3263	110	250	32.69
262 RD 3264	110	300	37.98
262 RD 3265	220	110	25.61
262 RD 3266	220	200	31.55

### Step-Down Transformer

For operating 110-volt, 50 to 60 cycle A.C. amplifiers, receivers, etc. from 220 to 250-volt, 50 to 60-cycle, A.C. Easy to install. Plugs into light socket and amplifier or receiver plugs into transformer. Primary winding tapped so that secondary always gives correct voltage.

562 RD 2754—100-watt output. For 12 or 15-watt amplifiers. Ship. wt. 11 lbs. Each.....\$6.95

562 RD 2755—250-watt output. For 20, 25 and 40-watt amplifiers. Ship. wt. 11 lbs. Each.....\$7.95

Readrite A.C. Voltmeter: Model 85.0—150-volt range. Shows correct voltage when adjusting transformer.

62 RD 3651—Ship. wt. 1 lb.....\$3.75

All merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

## FREE POWER WITH A WINCHARGER



### 125 Watt, 16 Ampere—Charges in 7½ Mile Breeze

No radio interference even when charging. Also has sufficient power to permit additional operation of electric lights in good wind areas. Reaches high efficiency in 12-mile wind (average for U.S.) Keeps radio and auto batteries full charged at all times.

**6-Ft. Propeller** of vertical grained Douglas Fir with 3 coats weather-proof varnish, copper-armored leading edges, copper-banded tips. Perfectly balanced for smooth service. Governor prevents racing.

**Special Wind-Electric Generator**, ball bearing, oil sealed. Resists all kinds of weather; heat and cold. Air cooled by forced draft.

**Double Brush Collector Rings** gather all electricity generated. Ball bearing turntable. **5½-Foot Tower**—four durable rail steel legs, cross-braced. Rust-resistant. Fits any roof. Easily installed.

**Complete** with 5½-ft. tower, instrument panel (panel mounts anywhere between Charger and Battery), Automatic Cut-out, Safety Fuse, Ammeter and Instructions.

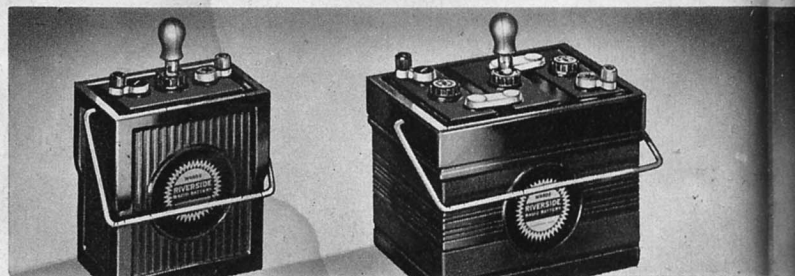
162 RD 7100—6-Volt Charger with 5½-ft. Tower. Ship. wt. 80 lbs. Cash Price \$23.50  
Time Payment Price: \$3 Down, \$4 a Month..... 25.55

162 RD 7106—6-Volt Charger with 10-ft. Tower. Ship. wt. 109 lbs. Cash Price 25.50  
Time Payment Price: \$3 Down, \$4 a Month..... 27.75

**NOTE:** We can supply all Winchargers up to 25-amp. Write for information.

**\$23.50**  
Cash

\$3 Down, \$4 Month



### Supreme 2-V. Storage Battery

Convenient built-in Charge Indicator and 19 long-life, extra thick, large plates.

**Leak-proof** molded rubber case. Non-corroding rubber terminal nuts for easy connection. Operates the average 2-volt radio approximately 2 months on each charge.

**Standard Rating.** 145 ampere hours; usual 1-amp. radio rating 190 amp. hours. Size: 7¼ by 4¾ by 9 inches. Shipped to you fully charged. Ship. wt. 23 lbs. \$3.39  
162 RD 662—Not Mailable.....

### Standard 2-V. Storage Battery

15 plates, 116 A.H. standard rating, 145 A.H. Usual 1-amp. radio rating. Leak-proof rubber case. Rubber terminal nuts. Not Mailable. Shipped fully charged. Ship. wt. 19 lbs. \$2.65  
162 RD 671—Ship. wt. 19 lbs. \$2.65

### Supreme 6-V. Storage Batteries

**Built-in Charge Indicator** shows condition at a glance. 3 colored balls disappear one at a time as battery discharges—as battery is charged they rise till all are seen when battery is fully charged. Extra thick plates for long life.

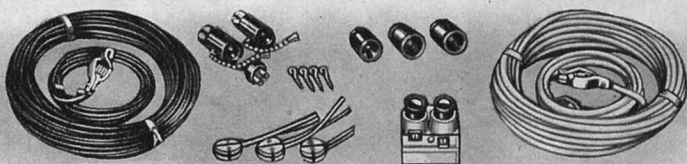
**Leak-Proof Rubber Molded Case** is acid-proof and lasts almost indefinitely. Non-corroding rubber terminal nuts. Shipped fully charged. Not Mailable.

162 RD 667—19 plates. 145 amp. \$7.65  
hrs. 7 by 11 by 9 in. Ship. wt. 50 lbs.

162 RD 669—21 plates. 165 amp. hours. 7 by 13 by 9 in. \$7.85

Shipping weight 56 lbs. \$7.85  
162 RD 670—25 plates. 225 amp. hours. 7 by 16½ by 9 in. \$11.95

Shipping weight 85 lbs. \$11.95



### Complete Wiring Kit for Six Lights

For 6-volt electric lights. Includes: Two coded 50-ft. rolls of insulated copper wire, 6 sockets, 2 pull-chain socket adapters, fuse block with fuses and two 8-ft. battery leads with clips. Easy to install. Instructions. Bulbs extra. Order 15 or 25-watt, 6-volt bulbs at right. Shipping weight, 10 pounds.  
62 RD 6621—Complete Kits... \$6.98

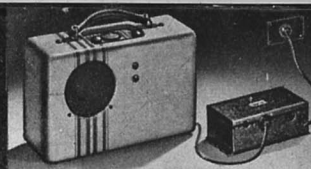
### Bulbs for Wiring Kit

15 or 25-watt, 6-volt Electric Light Bulbs to be used with the wiring kit listed and described at left. Bulbs are American made—superior to foreign makes. Shipped to you Postpaid. Be sure to state wattage (15 or 25).

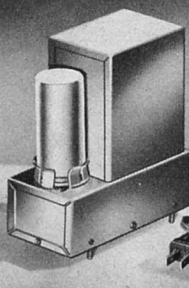
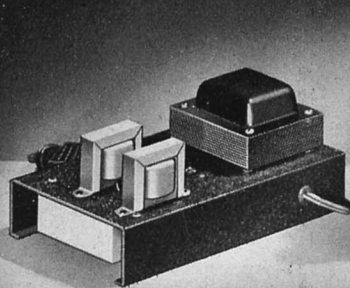
84 PRD 8097—6 or more. Each.... \$13c



# Packs and Converters for Every Purpose



Designed for Portable AC-DC Operation



## Power Pack

For operation of shortwave receivers on 105 to 125 volt, 50 to 60 cycle, A.C. Delivers 260-volt direct current at 65 M.A. Tapped at 180, 90, 22½-volts; also 6.3 volts A.C. at two amps. (Rated by others at 300-volts). Two section condenser input filter Uses type 80 rectifier tube (turn to Page 36 for further tube descriptions) . . . tube not included. Output connections are made to octal tube socket. Mounted on steel chassis. Comes complete with A.C. cord and plug. Shipping weight 7 pounds 8 ounces. *Mailable.* **\$5.10**

*There is no item too small to include on your Time Payment Order. See Page 3 for Terms.*

## New Mallory Vibrapacks

For operating portable radio transmitters, receivers and police transmitters from six-volt car or storage battery. Models VP-552 and VP-554 operate Hallicrafter receivers on Page 4. Complete with special Mallory vibrator high voltage transformer and built-in noise suppression filters. Use with standard type smoothing filter (which are built into all Hallicrafter sets). Type VP-552 and VP-554 supplies up to 100 M.A.; VP-555 supplies up to 200 M.A.; and VP-557 supplies up to 150 M.A. Type VP-552 is self-rectifying. Type VP-554, Type VP-555 and Type VP-557 are supplied with tube rectifiers.

Article Number	Type	Output Voltages	Shp. Wt.	Cash Price
62 RD 5840	VP-552	225-250-275-300	6½ lbs.	**\$10.88
62 RD 5825	VP-554	225-250-275-300	7 lbs.	†† \$11.76
62 RD 5876	VP-555*	300	10 lbs.	†† \$22.05
62 RD 5827	VP-557*	400	10 lbs.	†† \$22.05

\*Special dual packs for high output.  
\*\*Time Pay. Pr.: \$2 Dn.; \$2 a Mo. . . . \$11.88  
†Time Pay. Pr.: \$2 Dn.; \$2 a Mo. . . . 12.76  
††Time Pay. Pr.: \$3 Dn.; \$3 a Mo. . . . 23.96  
†††Time Pay. Pr.: \$3 Dn.; \$3 Mo. . . . 23.96

## "Elec." Converters

**Model 202.** Converts 110-v. D.C. to 110-v. A.C. Operates 110-v. A.C. radios. 1.6 ampere drain. 150 watt output. See Page 3 for terms. **562 RD 3277— \$18.23**  
Shp. wt. 15 lbs. . . .  
**Model 10GE.** Converts 32-v. D.C. to 110-v. A.C. Operates 110-v. A.C. radios from Farm Plants. 3.7 amp. drain. 100 watts output. **562 RD 3278— \$15.88**  
Shp. wt. 15 lbs. . . .  
**Model 251.** 6-v. D.C. Power Pack to 300-v. D.C. For small portable transmitters and P.A. systems. 9 amp. drain. 100 M.A. output. **562 RD 3279— \$14.70**  
Shp. wt. 10 lbs. . . .  
**Model 883.** Converts 110-v. D.C. to 110-v. A.C. 200 watt output. Does not use a transformer. Most economical conversion method. **562 RD 5849— \$14.70**  
Shp. wt. 4 lbs. . . .

## Battery Set Power Packs

These new power packs replace your batteries and plug into light socket. No costly wornout batteries to replace, yet you enjoy the good tone of your radio all year round. Easily connected by following the clear simple instructions furnished.  
**62 RD 6626—**For operating any radio using 2-v. Air Cell, 2-v. Storage or 3-v. Dry "A" Battery from 100 to 120-v. 50 to 60-cycle A.C. Replaces "A" and "B" Batteries. 8½ by 6½ by 6 in. Wt. 16 lbs. 4 oz. *Mailable.* . . . \$14.95  
Time Pay. Pr.: \$2 Dn., \$2 Mo. . . . 16.25  
**62 RD 6627—**For operating any radio using 2-Volt Air Cell, 2-Volt Storage or 3-Volt Dry "A" Battery from a 6-Volt Storage Battery. Replaces "A" and "B" Batteries. 8 by 6½ by 6 in. Wt. 11 lbs. *Mailable.* . . . \$12.95  
Time Pay. Pr.: \$2 Dn., \$2 Mo. . . . 14.05  
**62 RD 6624—**For operating any One-Battery Radio using 6-volt Storage Battery from 100 to 120-volt, 50 to 60-Cycle A.C. 8¾ by 6¾ by 6¾ in. Wt. 16 lbs. 4 oz. *Mailable.* . . . \$14.95  
Time Pay. Pr.: \$2 Dn., \$2 Mo. . . . 16.25

## Portable Converter

The ideal way to operate your 1½-volt 4, 5 or 6 tube battery radio any place where 115-v. A.C. or D.C. circuit is available. Saves your batteries for use in locations where only batteries can be used. Voltages correct at all times. Small enough to be placed in usual battery compartment (may also be used externally if you so desire).  
Battery leads plug into converter which plugs in light socket. Universal sockets accommodate almost all styles of battery plugs. 3¾ x 2½ x 6¾ in. long. Brown crackle enamel finish. Comes complete with tube and 6-ft. cord. Shipping weight each 2 pounds 12 ounces.  
**62 RD 6628— \$5.65**  
Each. . . .

## REPLACEMENT BATTERIES FOR NEW PORTABLES AND OTHER RADIOS

See Page 3 for Time Payments



## CHOOSE THE CORRECT GENERAL BATTERY FOR YOUR PORTABLE RADIO FROM HANDY INDEX BELOW

The handy Index shown below shows at a glance just which of the new General 1.4-volt Portable Batteries you should order for your radio. It's our way of helping you in getting the correct battery as a replacement for the radio you now own—whether it's an Airline, Philco, R.C.A., General Electric, or any other. When in doubt as to which battery you should use, send us the model number and make of your set; will help you find the correct battery.

**Guaranteed!** All of the General Batteries listed below are Guaranteed to give the same hours of service that you have received from the battery you are now using or have used in your present radio, regardless of price. The finer Hywat construction used throughout these famous long-life batteries assures you of the best possible performance and service. Each battery is convenient plug-in type. Fits any 1½-volt battery plug.

**General Batteries** are known the world over for their performance. They are made by the Country's largest manufacturer of batteries who makes more than half of all the batteries used by Nationally known makers of Portable Radio sets in use today! These manufacturers have used these batteries as original equipment . . . it's your sure guarantee of excellent service when used as replacement batteries for your radio.

### GENERAL PORTABLE "B" BATTERIES FOR 1.4 VOLT RADIOS

Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:	Shp. Wt.		Price
										Lbs.	Oz.	
62 RD 4949	Large Size Portable	45	4½ x 2½ x 5¾	V30B	B30	762	P5303	3½ lbs.	Airline, Philco, RCA and Many Others	3	8	\$1.29
62 RD 4951	Med. Size Portable	45	2½ x 3¾ x 4½	V30A	A30	738	430P	2½ lbs.	Airline, Admiral, Belmont Western Auto	2	8	1.29
62 RD 4946	Small Size Portable	45	3 x 2½ x 4½	V30AA	Z30	738	430P	1½ lbs.	Detrola, (Midget), Gen. Electric, etc.	1	8	1.29

### GENERAL PORTABLE "A" BATTERIES FOR 1.4 VOLT RADIOS

Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:	Shp. Wt.		Price
										Lbs.	Oz.	
62 RD 5021	Portable "A"	1½	2½ x 2½ x 4	4F1	4F	742	P94A	1½ lbs.	Philco, RCA, and Many Others	1	8	39c
62 RD 5005	Portable "A"	1½	3¾ x 2½ x 4	6F1	6F	743	P96A	2¼ lbs.	Motorola, Admiral, DeWald, etc.	2	8	59c
62 RD 5022	Portable "A"	1½	3¾ x 1½ x 6½	3L1	3L	741	P98A	2½ lbs.	Airline, Belmont, Admiral, etc.	2	8	39c
62 RD 5020	Portable "A"	1½	3¾ x 2¾ x 5¾	8F1	8F	741	P98A	3 lbs.	Detrola, Emerson, etc.	3	8	79c

### "A" AND "B" PACKS PORTABLE AND HOME RADIOS

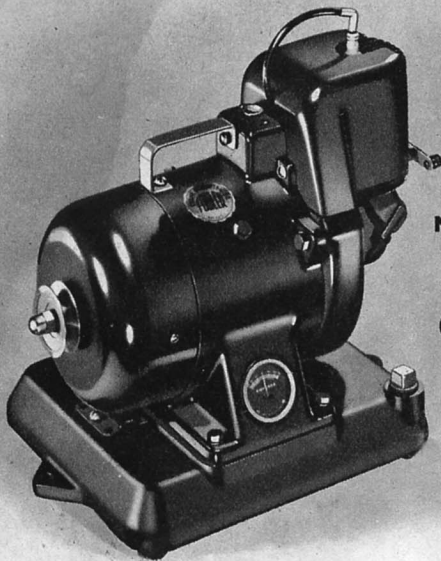
Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:	Shp. Wt.		Price
										Lbs.	Oz.	
62 RD 5003	Portable A-B Pack	90 -1½ v.	5¾ x 2¾ x 7	60A2L	5DA60	.....	.....	4¾ lbs.	Sonora, DeWald, Firestone, etc.	7	8	\$2.95
62 RD 5047	A-B Pack	90 -1½ v.	16 x 4½ x 6¾	60DL-11L	.....	.....	.....	24½ lbs.	Almost All Home Sets	24	8	4.39
62 RD 5004	A-B Pack	61½ -1½ v.	9¾ x 1½ x 4¾	41A-4FL	.....	.....	.....	4½ lbs.	Philco, Detrola	5	8	2.39
62 RD 5001	A-B Pack	90 -1½ v.	12 x 1½ x 6¾	60A-4L	.....	.....	.....	6½ lbs.	Philco	7	8	3.29

### FAMOUS GENERAL LONG-LIFE DRY BATTERIES

**462 RD 5769—**24 cell, 3-volt Dry "A" battery. Designed for 2-v. radios. Voltage regulating resistor, 10% by 4½ by 6½ in. Shp. wt. 21 lbs. Each. . . . \$2.39  
**62 RD 4948—**3-Volt "A" Battery for portable apparatus using 3-v. tubes. Wt. 1 lb. 8 oz. . . . 51c  
**62 RD 5758—**Duropower Flashlight Cell. For standard flashlights. Wt. 4 oz. Each. . . . 6c  
**62 RD 5759—**Compact 1½ volt "A" Battery. 4 tubular cells connected on parallel giving approximately same life as standard No. 6 Dry Cell, but measures only 2½ by 2½ by 3½ inches. Actual weight 16 ounces. Shipping weight 1 lb. 8 oz. Each. . . . 28c  
**General "C" Battery—**Dependable, Satisfactory Service Assured  
**62 RD 5768—**4½-volt "C" battery. Taps at 3 volts. Size 4 by 1½ by 3 inches. Actual weight 16 ounces. Shipping weight 1 pound. Each. . . . 28c

### GENERAL MIDGET "A", "B" AND "C" BATTERIES

**62 RD 5760—**4½-volt Flashlight Battery with screw terminals. 2¾ by 1½ by 2½ inches. Actual weight 4 ounces. Shipping weight 8 oz. Each. . . . 24c  
**62 RD 5767—**2½-v. "B" or "C" Battery. Taps at 3, 4½, 6, 9, 10½, 6½ volts. Size: 2½ by 2½ by 2½ in. Actual weight 1½ lbs. Shp. wt. 2 lbs. Each. . . . 65c  
**62 RD 4945—**Extremely small 45-volt "B" Battery. Standard Plug in Socket. Size: 3 by 1¼ by 4½ in. 11 oz. actual weight. Shipping weight 1 lb. 8 oz. Each. . . . \$1.29  
**62 RD 5008—**General 4F4, 6 volt Battery. Plug in "A" Battery. Size: 2½ by 2½ by 4 inches. Shipping weight 1 lb. 8 oz. Each. . . . 39c  
**62 RD 5762—**2½-v. "B." 3½ by 2½ by 2½ in. Clip connectors. Wt. 1 lb. 8 oz. Each. . . . 91c



## NEW SEMI-DIESEL ENGINE CHARGER

### Little Giant, 6 Volt, 240 Watts—3 Moving Parts

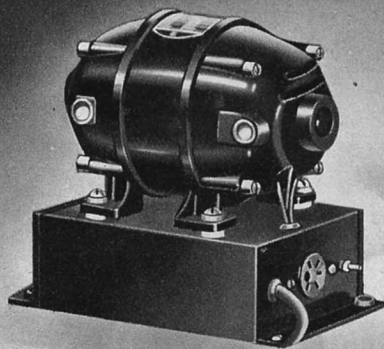
**Low First Cost**—Low operating cost! So safe and simple to run anyone can operate it! Only 3 moving parts: piston, rod and crankshaft. No valves to grind—no tappets to leak—no carburetor. Fuel injected through hollow crankshaft from 3-qt. fuel tank in cast iron base (runs approx. 6 to 8 hrs. on one filling). Air taken in through separate port; atomization occurs in special mixing chamber to assure quick starting.  $\frac{3}{4}$  to 1 horsepower engine connected directly to generator; automatically lubricated—Wing nut binding posts for connecting battery. Operates best on the cheapest gasoline, but may be run satisfactorily on Kerosene. Engine must first start on gasoline. Ignition supplied from battery to be charged. Push-button starter. 2½-in. V-pulley to drive power saws, separators, etc. Handy Carrying Handle. Automatic cut-out prevents battery discharge. Lights 6 rooms when used with storage battery 162 RD 670 and Lighting Kit at right.

**\$35.25**  
Cash

\$4 Down, \$5 Month

**Specifications:** 6 volts, 240 watts. Red finish. (SIZE OVERALL: 17½ by 12 by 16¼ in. high). Mounting holes in base. Engine: 2 stroke, one cylinder. Bore 2 in.; stroke 1½ in. Displacement 4.7 cu. in. Generator with 30 ampere maximum charging rate. 4 pole with 4 brushes. Ammeter indicates charging rate of generator when battery is connected.

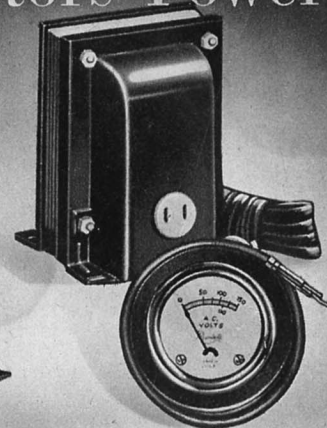
162 RD 6630—Ship. wt. 75 lbs. Not Mailable. Cash Price..... **\$35.25**  
Time Payment Price: \$4 Down, \$5 a Month..... **38.38**



### Genemotor Converters

Ideal for Public Address Systems, Power Amplifiers, Receivers, A.C. Motors, Phonographs, or any apparatus requiring a reliable source of alternating current. Designed and constructed in accordance with the most rigid specifications of one of the world's leading makers of power supply equipment. Needs no lubrication. Noise-free. Equipped with double-wound armature... gives cooler operation and longer life. Complete with cord and plug in outlet for A.C. Ship. wt. 35 lbs. Supplies 110 volt, 50 to 60 cycle, A.C. from D.C. voltages (see table). See Page 3 for Terms.

Article Number	D.C. Input Volts	Out-put Watts	Cash Price
262 RD 3287	32	110	\$24.40
262 RD 3288	32	150	27.05
262 RD 3260	32	200	29.69
262 RD 3261	32	250	32.69
262 RD 3289	110	110	24.40
262 RD 3262	110	150	27.05
262 RD 3290	110	200	29.69
262 RD 3263	110	250	32.69
262 RD 3264	110	300	37.98
262 RD 3265	220	110	25.61
262 RD 3266	220	200	31.55



### Step-Down Transformer

For operating 110-volt, 50 to 60 cycle A.C. amplifiers, receivers, etc. from 220 to 250-volt, 50 to 60-cycle, A.C. Easy to install. Plugs into light socket and amplifier or receiver plugs into transformer. Primary winding tapped so that secondary always gives correct voltage.

562 RD 2754—100-watt output. For 12 or 15-watt amplifiers. Ship. wt. 11 lbs. Each..... **\$6.95**

562 RD 2755—250-watt output. For 20, 25 and 40-watt amplifiers. Ship. wt. 11 lbs. Each..... **\$7.95**

**Readrite A.C. Voltmeter:** Model 85.0—150-volt range. Shows correct voltage when adjusting transformer.

62 RD 3651—Ship. wt. 1 lb..... **\$3.75**

*All merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send your order direct to Chicago.*

## FREE POWER WITH A WINCHARGER



### 125 Watt, 16 Ampere—Charges in 7½ Mile Breeze

No radio interference even when charging. Also has sufficient power to permit additional operation of electric lights in good wind areas. Reaches high efficiency in 12-mile wind (average for U.S.) Keeps radio and auto batteries full, charged at all times.

**\$23.50**  
Cash

\$3 Down, \$4 Month

**6-Ft. Propeller**—of vertical grained Douglas Fir with 3 coats weather-proof varnish, copper-armored leading edges, copper-banded tips. Perfectly balanced for smooth service. Governor prevents racing.

**Special Wind-Electric Generator**, ball bearing, oil sealed. Resists all kinds of weather; heat and cold. Air cooled by forced draft.

**Double Brush Collector Rings** gather all electricity generated. Ball bearing turntable. **5½-Foot Tower**—four durable rail steel legs, cross-braced. Rust-resistant. Fits any roof. Easily installed.

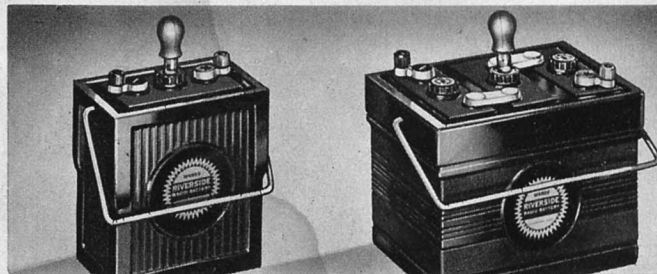
**Complete** with 5½-ft. tower, instrument panel (panel mounts anywhere between Charger and Battery), Automatic Cut-out, Safety Fuse, Ammeter and Instructions.

162 RD 7100—6-Volt Charger with 5½-ft. Tower. Ship. wt. 80 lbs. Cash Price **\$23.50**  
Time Payment Price: \$3 Down, \$4 a Month..... **25.55**

162 RD 7106—6-Volt Charger with 10-ft. Tower. Ship. wt. 109 lbs. Cash Price **25.50**  
Time Payment Price: \$3 Down, \$4 a Month..... **27.75**

**NOTE:** We can supply all Winchargers up to 25-amp. Write for information.

32 WARDS ALL



### Supreme 2-V. Storage Battery

Convenient built-in Charge Indicator and 19 long-life, extra thick, large plates.

**Leak-proof** molded rubber case. Non-corroding rubber terminal nuts for easy connection. Operates the average 2-volt radio approximately 2 months on each charge.

**Standard Rating.** 145 ampere hours; usual 1-amp. radio rating 190 amp. hours. SIZE: 7¼ by 4¾ by 9 inches. Shipped to you fully charged. Ship. wt. 23 lbs. **\$3.39**  
162 RD 662—Not Mailable.....

### Standard 2-V. Storage Battery

15 plates, 116 A.H. standard rating, 145 A.H. Usual 1-amp. radio rating. Leak-proof rubber case. Rubber terminal nuts. **Not Mailable.** Shipped fully charged. **\$2.65**  
162 RD 671—Ship. wt. 19 lbs. ...

### Supreme 6-V. Storage Batteries

**Built-in Charge Indicator** shows condition at a glance. 3 colored balls disappear one at a time as battery discharges—as battery is charged they rise till all are seen when battery is fully charged. *Extra thick plates* for long life.

**Leak-Proof Rubber Molded Case** is acid-proof and lasts almost indefinitely. Non-corroding rubber terminal nuts. Shipped fully charged. **Not Mailable.**

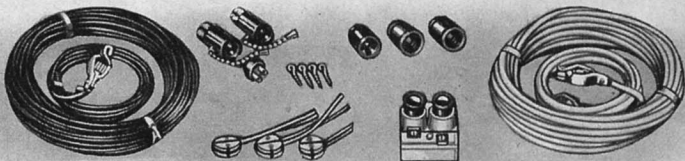
162 RD 667—19 plates, 145 amp. **\$7.65**  
hrs. 7 by 11 by 9 in. Ship. wt. 50 lbs.

162 RD 669—21 plates, 165 amp. hours. 7 by 13 by 9 in. **\$7.85**

Shipping weight 56 lbs. ....

162 RD 670—25 plates, 225 amp. hours. 7 by 16½ by 9 in. **\$11.95**

Shipping weight 85 lbs. ....



### Complete Wiring Kit for Six Lights

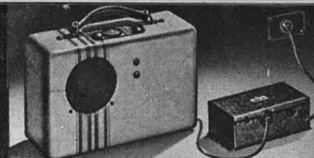
For 6-volt electric lights. Includes: Two coded 50-ft. rolls of insulated copper wire, 6 sockets, 2 pull-chain socket adapters, fuse block with fuses and two 8-ft. battery leads with clips. Easy to install. Instructions. Bulbs extra. Order 15 or 25-watt, 6-volt bulbs at right. Shipping weight, 10 pounds. **\$6.98**  
62 RD 6621—Complete Kits.....

### Bulbs for Wiring Kit

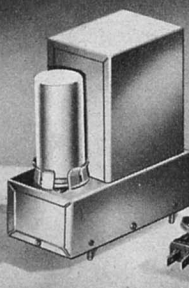
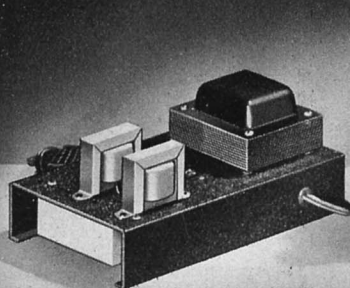
15 or 25-watt, 6-volt Electric Light Bulbs to be used with the wiring kit listed and described at left. Bulbs are American made—superior to foreign makes. Shipped to you *Postpaid*. Be sure to state wattage (15 or 25).

84 PRD 8097—6 or more. Each..... **13c**

# Packs and Converters for Every Purpose



Designed for Portable  
AC-DC Operation



## Power Pack

For operation of shortwave receivers on 105 to 125 volt, 50 to 60 cycle, A.C. Delivers 260-volt direct current at 65 M.A. Tapped at 180, 90, 22½-volts; also 6.3 volts A.C. at two amps. (Rated by others at 300-volts). Two section condenser input filter Uses type 80 rectifier tube (turn to Page 36 for further tube descriptions) . . . tube not included. Output connections are made to octal tube socket. Mounted on steel chassis. Comes complete with A.C. cord and plug. Shipping weight 7 pounds 8 ounces. **Mailable.**  
**62 RD 5847—Each.. \$5.10**

## New Mallory Vibrapacks

For operating portable radio transmitters, receivers and police transmitters from six-volt car or storage battery. Models VP-552 and VP-554 operate Hallicrafter receivers on Page 4. Complete with special Mallory vibrator high voltage transformer and built-in noise suppression filters. Use with standard type smoothing filter (which are built into all Hallicrafter sets). Type VP-552 and VP-554 supplies up to 100 M.A.; VP-555 supplies up to 200 M.A.; and VP-557 supplies up to 150 M.A. Type VP-552 is self-rectifying. Type VP-554, Type VP-555 and Type VP-557 are supplied with tube rectifiers.

Article Number	Type	Output Voltages	Ship. Wt.	Cash Price
62 RD 5840	VP-552	225-250-275-300	6½ lbs.	**\$10.88
62 RD 5835	VP-554	225-250-275-300	7 lbs.	†† \$11.76
62 RD 5826	VP-555*	300	10 lbs.	†† \$22.05
62 RD 5827	VP-557*	400	10 lbs.	†† \$22.05

\*Special dual packs for high output.  
\*\*Time Pay. Pr.: \$2 Down;  
\$2 a Month. . . . . \$11.88  
†Time Pay. Pr.: \$2 Dn.; \$2 a Mo. . . . . 12.76  
††Time Pay. Pr.: \$3 Dn.; \$3 a Mo. . . . . 23.96  
†††Time Pay. Pr.: \$3 Dn.; \$3 Mo. . . . . 23.96

There is no item too small to include on your Time Payment Order. See Page 3 for Terms.

## "Elec." Converters

**Model 202.** Converts 110-v. D.C. to 110-v. A.C. Operates 110-v. A.C. radios. 1.6 ampere drain. 150 watt output. See Page 3 for terms.  
**562 RD 3277— \$18.23**  
Ship. wt. 15 lbs. . . . .  
**Model 10GE.** Converts 30-v. D.C. to 110-v. A.C. Operates 110-v. A.C. radios from Farm Plants. 3.7 amp. drain. 100 watts output.  
**562 RD 3278— \$15.88**  
Ship. wt. 15 lbs. . . . .  
**Model 251.** 6-v. D.C. Power Pack to 300-v. D.C. For small portable transmitters and P.A. systems. 9 amp. drain. 100 M.A. output.  
**562 RD 3279— \$14.70**  
Ship. wt. 10 lbs. . . . .  
**Model 883.** Converts 110-v. D.C. to 110-v. A.C. 200 watt output. Does not use a transformer. Most economical conversion method.  
**562 RD 5849— \$14.70**  
Ship. wt. 4 lbs. . . . .

## Battery Set Power Packs

These new power packs replace your batteries and plug into light socket. No costly wornout batteries to replace, yet you enjoy the good tone of your radio all year round. Easily connected by following the clear simple instructions furnished.  
**62 RD 6626—**For operating any radio using 2-v. Air Cell, 2-v. Storage or 3-v. Dry "A" Battery from 100 to 120-v. 50 to 60-cycle A.C. Replaces "A" and "B" Batteries. 8½ by 6½ by 6½ in. Wt. 16 lbs. 4 oz. **Mailable. . . . \$14.95**  
Time Pay. Pr.: \$2 Dn., \$2 Mo. 16.25  
**62 RD 6627—**For operating any radio using 2-Volt Air Cell, 2-Volt Storage or 3-Volt Dry "A" Battery from a 6-Volt Storage Battery. Replaces "A" and "B" Batteries. 8 by 6½ by 6 in. Wt. 11 lbs. **Mailable. . . . \$12.95**  
Time Pay. Pr.: \$2 Dn., \$2 Mo. 14.05  
**62 RD 6624—**For operating any One-Battery Radio using 6-volt Storage Battery from 100 to 120-volt, 50 to 60-Cycle A.C. 8½ by 6½ by 6½ in. Wt. 16 lbs. 4 oz. **Mailable. . . . \$14.95**  
Time Pay. Pr.: \$2 Dn., \$2 Mo. 16.25

## Portable Converter

The ideal way to operate your 1½-volt 4, 5 or 6 tube battery radio any place where 115-v. A.C. or D.C. circuit is available. Saves your batteries for use in locations where only batteries can be used. Voltages correct at all times. Small enough to be placed in usual battery compartment (may also be used externally if you so desire).  
Battery leads plug into converter which plugs in light socket. Universal sockets accommodate almost all styles of battery plugs. 3½ x 2½ x 6½ in. long. Brown crackle enamel finish. Comes complete with tube and 6-ft. cord. Shipping weight each 2 pounds 12 ounces.  
**62 RD 6628— \$5.65**  
Each. . . . .

## REPLACEMENT BATTERIES FOR NEW PORTABLES AND OTHER RADIOS

See Page 3 for Time Payments



## CHOOSE THE CORRECT GENERAL BATTERY FOR YOUR PORTABLE RADIO FROM HANDY INDEX BELOW

The handy index shown below at a glance just which of the new General 1.4-volt Portable Batteries you should order for your radio. It's our way of helping you in getting the correct battery as a replacement for the radio you now own—whether it's an Airline, Philco, R.C.A., General Electric, or any other. When in doubt as to which battery you should use, send us the model number and make of your set; will help you find the correct battery.

**Guaranteed!** All of the General Batteries listed below are Guaranteed to give the same hours of service that you have received from the battery you are now using or have used in your present radio, regardless of price. The finer Hywat construction used throughout these famous long-life batteries assures you of the best possible performance and service. Each battery is convenient plug-in type. Fits any 1½-volt battery plug.

**General Batteries** are known the world over for their performance. They are made by the Country's largest manufacturer of batteries who makes more than half of all the batteries used by Nationally known makers of Portable Radio sets in use today! These manufacturers have used these batteries as original equipment . . . it's your sure guarantee of excellent service when used as replacement batteries for your radio.

### GENERAL PORTABLE "B" BATTERIES FOR 1.4 VOLT RADIOS

Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:		Ship. Wt.		Price
									Lbs.	Oz.	Lbs.	Oz.	
62 RD 4949	Large Size Portable	45	4½ x 2½ x 5¾	V30B	B30	762	P5303	3 lbs.	Airline, Philco, RCA and Many Others	3	8	\$1.29	
62 RD 4951	Med. Size Portable	45	2½ x 3½ x 4½	V30A	A30		430P	2 lbs.	Airline, Admiral, Belmont Western Auto	2	8	1.29	
62 RD 4946	Small Size Portable	45	3 x 2¼ x 4½	V30AA	Z30	738		1½ lbs.	Detrola, (Midget), Gen. Electric, etc.	1	8	1.29	

### GENERAL PORTABLE "A" BATTERIES FOR 1.4 VOLT RADIOS

Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:		Ship. Wt.		Price
									Lbs.	Oz.	Lbs.	Oz.	
62 RD 5021	Portable "A"	1½	2½ x 2½ x 4	4F1	4F	742	P94A	1½ lbs.	Philco, RCA, and Many Others	1	8	39c	
62 RD 5005	Portable "A"	1½	3½ x 2½ x 4	6F1	6F	743	P96A	2¼ lbs.	Motorola, Admiral, DeWald, etc.	2	8	59c	
62 RD 5022	Portable "A"	1½	3½ x 1½ x 6½	3L1				2 lbs.	Airline, Belmont, Admiral, etc.	2	8	39c	
62 RD 5020	Portable "A"	1½	3½ x 2¾ x 5¾	8F1	8F	741	P98A	3 lbs.	Detrola, Emerson, etc.	3	8	79c	

### "A" AND "B" PACKS PORTABLE AND HOME RADIOS

Article Number	Battery Description	Volts	Size	General Type	Replaces Burgess	Replaces Eveready	Replaces Ray-O-Vac	Actual Weight	Used in Following Radios:		Ship. Wt.		Price
									Lbs.	Oz.	Lbs.	Oz.	
62 RD 5003	Portable A-B Pack	90	1½ v. 5½ x 2¾ x 7	60A2L	5DA60			4½ lbs.	Sonora, DeWald, Firestone, etc.	7		\$2.95	
62 RD 5047	A-B Pack	90	1½ v. 16 x 4½ x 6¾	60DL-11L				24½ lbs.	Almost All Home Sets	24	8	4.39	
62 RD 5004	A-B Pack	61½	1½ v. 9¾ x 1½ x 4¾	41A-4FL				4½ lbs.	Philco, Detrola	5		59c	
62 RD 5001	A-B Pack	90	1½ v. 12 x 1½ x 6¾	60A-4L				6½ lbs.	Philco	7		3.29	

### FAMOUS GENERAL LONG-LIFE DRY BATTERIES

**462 RD 5769—**24 cell, 3-volt Dry "A" battery. Designed for 2-v. radios. Voltage regulating resistor. 10% by 4½ by 6½ in. Ship. wt. 2 lbs. Each. **\$2.39**  
**62 RD 4948—**3-Volt "A" Battery for portable apparatus using 3-v. tubes. Wt. 1 lb. 8 oz. . . . 51c  
**62 RD 5758—**Duroperon Flashlight Cell. For standard flashlights. Wt. 4 oz. Each. . . . 6c  
**62 RD 5759—**Compact 1½ volt "A" Battery. 4 tubular cells connected on parallel giving approximately same life as standard No. 6 Dry Cell, but measures only 2½ by 2½ by 3½ inches. Actual weight 16 ounces. Shipping weight 1 lb. 8 oz. Each. . . . **28c**

### General "C" Battery—Dependable, Satisfactory Service Assured

**62 RD 5768—**4½-volt "C" battery. Taps at 3 volts. Size 4 by 1½ by 3 inches. Actual weight 16 ounces. Shipping weight 1 pound. Each. . . . **28c**

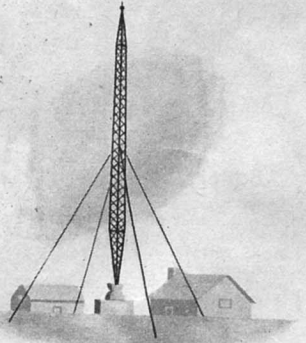
### GENERAL MIDGET "A", "B" AND "C" BATTERIES

**62 RD 5760—**4½-volt Flashlight Battery with screw terminals. 2½ by 1½ by 2½ inches. Actual weight 4 ounces. Shipping weight 8 oz. Each. . . . **24c**  
**62 RD 5767—**2½-v. "B" or "C" Battery. Taps at 3, 4½, 6, 9, 10½, 6½ volts. Size: 2½ by 2½ by 2½ in. Actual weight 1½ lbs. Ship. wt. 2 lbs. Each. . . . **65c**  
**62 RD 4945—**Extremely small 45-volt "B" Battery. Standard Plug in Socket. Size: 3 by 1½ by 4½ in. 11 oz. Actual weight. Shipping weight 1 lb. 8 oz. Each. . . . **\$1.29**  
**62 RD 5008—**General 4F4, 6 volt Battery. Plug in "A" Battery. Size: 2½ by 2½ by 4 inches. Shipping weight 1 lb. 8 oz. Each. . . . **39c**  
**62 RD 5762—**2½-v. "B." 3½ by 2½ by 2½ in. Clip connectors. Wt. 1 lb. 8 oz. Each. . . . 91c

ALL WARDS 33

# Books

BY THE WORLD'S BEST INFORMED  
RADIO ENGINEERS



## BOOKS FOR THE BEGINNER

Inexpensive . . . Popular 10c Booklets

Include them on your Time Payment order. See Page 3 for full details.

- 62 PRD 6218—Radio for the Beginners. Simple and clear. . . . . 10c
- 62 PRD 6213—How to Read Radio Diagrams. Facts you want to know. . . . . 10c
- 62 PRD 3443—Alternating Current for Beginners. Easily understood. . . . . 10c
- 62 PRD 6327—How to Build Doerle Short Wave Sets. Very complete. . . . . 10c
- 62 PRD 6328—How to Make the Most Popular One and Two Tube Receivers. . . . . 10c
- 62 PRD 3444—All About Aerials: A thorough explanation of their uses and value. . . . . 10c
- 62 PRD 6211—Beginners Radio Dictionary. An ideal and complete reference book. . . . . 10c
- 62 PRD 6212—How to Have Fun With Radio. A book of interest to you. . . . . 10c

## Important, Concise Facts You'll Want to Know

- 62 PRD 3475—How to Become a Radio Amateur. An interesting, easily understood Book that tells you how to get started right! Also tells clearly how you can build a simple but effective transmitter and receiver (ARRL). Each. . . . . 25c
- 62 PRD 6225—Building a Radio-Telephone Transmitter. An introduction for the man with a B or C license. Treats the theory and practice of modulators and multi-stage transmitters. Read it before you take the Class "A" examination. (ARRL). Each. . . . . 25c
- 62 PRD 3466—Ten Most Popular Short Wave Receivers. 36 pages packed full of enlightening facts about receivers. For the interested SWL builder—Clear and concise. A book you'll want to own! (Short Wave Craft). Each. . . . . 25c
- 62 PRD 3468—Short Wave Beginners Book. A complete introduction to this very interesting subject of Short Wave. Helps anyone to understand better the mysteries of short waves. (Short Wave Craft.) Each. . . . . 25c
- 62 PRD 3467—How to Build and Operate Short Wave Receivers. 72 Pages with complete and interesting diagrams and charts. (Short Wave Craft.) Each. . . . . 39c
- 62 PRD 3489—101 Short Wave Hook-Ups. Everything from one to eight sets. 74 pages with simple charts. (Short Wave Craft.) Each. . . . . 39c
- 62 PRD 3495—How to Get the Best Short Wave Reception. Exactly the book you need for getting elusive DX stations. (Short Wave Craft.) Each. . . . . 39c
- 62 PRD 3485—Radio Questions and Answers. (Radio Craft.) Each. . . . . 39c

## Convenient Book Index

All of the radio books offered on these two pages have been indexed into four major classifications . . . Books for the Beginner—books for the Licensed Amateur—books for the Serviceman—and books for the Engineer! It's a convenient index arranged to make it as easy as possible for you to locate just the books you are most interested in.

Just locate the column that is headed by your classification as a radio man—there, listed below, you will find the books you'll want to read and study.

## Radio Dictionary, Illustrated

Harold P. Manly, Editor. Lists 3800 definitions of words and terms used in radio, including aeronautical, navigation, industrial control, sound, motion pictures, public address systems, television, electricity, magnetism, etc. Simple, easy-to-understand language. An ideal reference and an absolute necessity for understanding new developments in radio. 300 pages, 500 illustrations. Cloth binding. Size 6 by 9 inches. Latest edition. A book indispensable to servicemen, experimenters and amateurs. . . . . 57 PRD 3860—Each. . . . . \$2.19

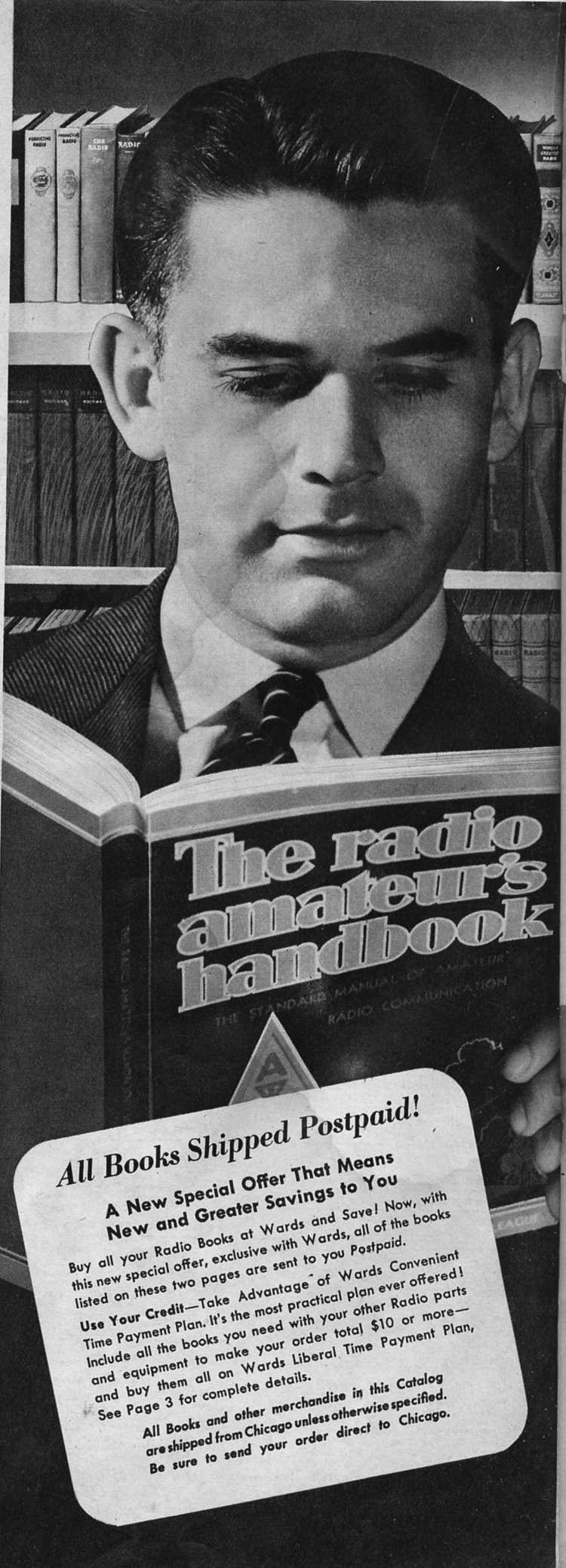
## GENERAL—OF INTEREST TO EVERYONE

### Cathode-Ray and Television—All Popularly Priced

- 62 PRD 6331—RCA Cathode-Ray Tube. A complete treatment. . . . . 25c
- 62 PRD 5509—Practical Television by RCA. An interesting new book that discusses the subject of Television—its theory and installation. . . . . 25c
- 62 PRD 6220—Cathode-Ray Oscilloscope (Radio Craft). . . . . 39c
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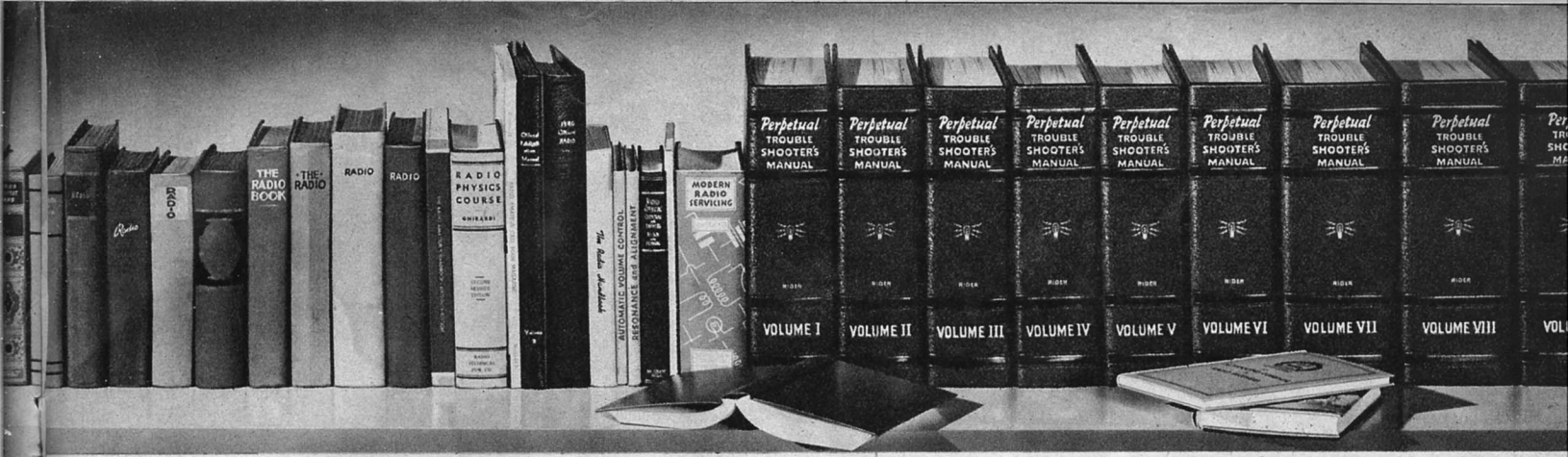
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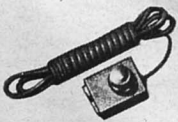
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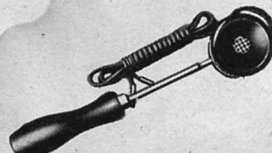


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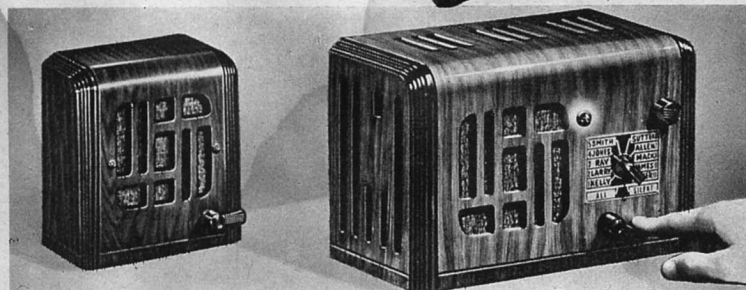
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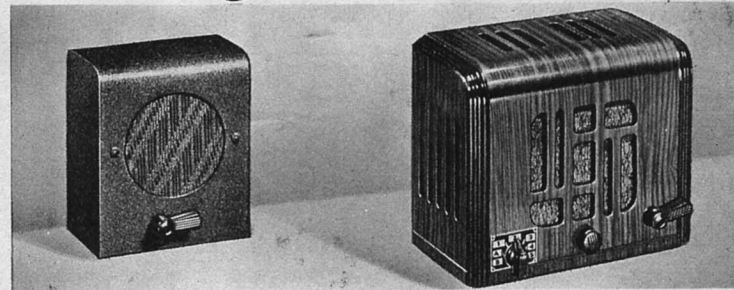
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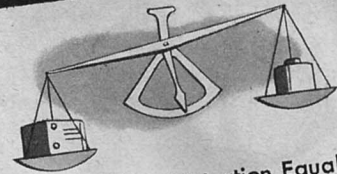
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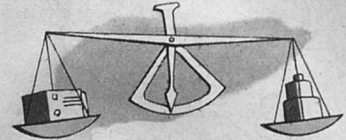
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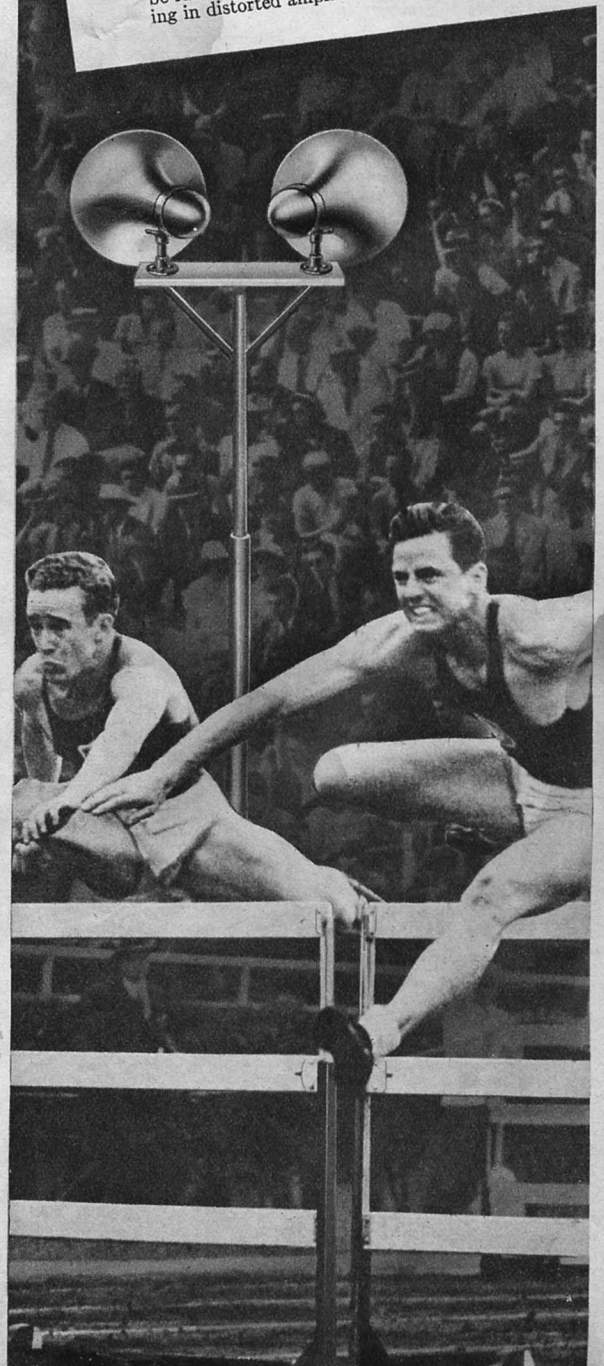
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"SOLO AMP"



**Amplifies Any Instrument . . . Brings It Out of the Background for Brilliant Solo Effects**

Soloists! Play to bigger audiences with Wards Solo-Amp. Popularize instruments which in the past have had to remain in the background. Guitars, Violins, Piano or Clarinet can be made louder than any other instrument in the orchestra if desired. Especially adaptable to the Guitar, the unusual solo arrangements so distinctive to Swing Music can now be accomplished with greater finesse. The Solo-Amp with its *special foot control* may be used on any string or reed instrument. As many Solo-Amps may be attached as there are mike sockets on your Amplifier. Use Mike Mixer 462 RD 3080 (Page 58) to add additional Solo-Amps.

**Operates Like an Automobile Accelerator.** Foot Control regulates Volume . . . leaves hands free to play. Also makes possible a variety of new and unusual musical effects. Moved quickly up and down it produces an unusual tremolo effect. For a romantic fade-in on the guitar increase the volume slowly.

**Genuine Brush Crystal.** Nothing to get out of order. Gives clear, accurate reproduction. Size: 1/2 by 1 by 1/4 in. thick. Can be attached to bridge of string instruments or the bells of woods. Insert under bridge or clamp with "C" clamp, included. For 25 cycle, 115-V.

Complete With  
12-Watt Amplifier

**\$39<sup>95</sup>** Cash

\$4 Down, \$5 a Month

or 220-V. 60 cycle, 12-watt model add \$5.00. For 25 cycle, 115-V. or 220-V. 60 cycle, 20-watt model add \$7.50. Models below for 115V. 50 to 60 cycle A.C.

**Easy to Attach or Detach.** Does not mar instruments. For complete satisfaction we recommend these Airline Amplifiers: 12-Watt (Page 40); 15-Watt (Page 43); and 20-Watt (Page 41). Can also be used with Battery Operated Amplifiers (Pages 50 and 51).

**62 RD 2846**—Solo-Amp with 25-ft. cord. Attaches to any high gain amplifier. Shipping weight 1 pound. Each. . . . . **\$7.95**

**62RD2849**—Foot Control with 20-ft. Cord connection. Wt. 4 lbs. Each. **5.95**

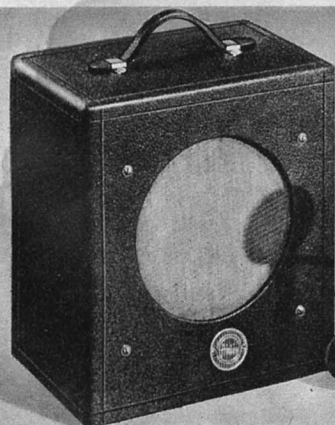
**162 RD2310**—Solo-Amp with Foot Control and 12-Watt Amplifier in 17 by 13 1/4 by 10 1/4 in. Carrying Case. Shipping weight 30 pounds. Can also be used with Microphone instead of Solo Amp. *Not Mailable.* Cash Price. . . . . **\$39.95**

Time Payment Price: \$4 Down, \$5 a Month. . . . . **43.55**

**162 RD 4220**—Solo-Amp, Foot Control, 20-Watt Amplifier in 19 1/4 by 17 1/4 by 9 1/4 in. Carrying Case. Operates 2 Solo-Amps, Mikes or one of each. Ship. wt. 45 lbs. Cash **\$59.95**

Time Payment Price: \$5 Down, \$6 a Month. . . . . **65.45**

Wards New  
**ECONOMY ENTERTAINER**



**New Economy Entertainer—For Soda Fountains, Taverns, Restaurants, Parking Lots, Etc.**

**Dozens of Uses**—One of the most versatile Amplifiers we know of; has dozens of applications—yet is priced at an amazingly low price! In restaurants, on small dance floors, wayside inns; in the home, in a game or playroom. Have it connected for baseball and football games to give scores in cigar stores, bowling alleys or pool rooms. Ideal for small paging systems in parking lots, or giving orders from a soda fountain to the kitchen.

**Speaker May be Easily Detached** from Amplifier and operated at any distance up to 30 feet away from Amplifier. Now you can use the Amplifier in one room—and the speaker in another . . . a feature that has proven especially popular in restaurants, soda fountains, parking lots, etc. There are also provisions for extra speakers (see listing below and Page 52 for details).

**For Phonograph Attachment** simply plug Record Player 462RD3383 (fully described on Page 59) into amplifier. (Phonograph not included.) Connections are easy to make. There are no complicated wirings necessary—no technical knowledge is required. Economy Entertainer has one Volume Control and Tone Control for both Microphone and Phonograph. Can also be arranged for a radio attachment if so desired.

**Portable Carrying Case** finished in attractive Brown leather-like material. So compact that the entire system is no larger than a small piece of luggage, yet it will cover any num-

Complete

**\$26<sup>95</sup>** Cash

\$3 Down, \$4 a Month

ber of requirements . . . can be easily carried around.

**Technical Description:** 4-Tube Total: One 6SJ7; one 6SF5; one 6N6G; one 80 tube. 8-watt normal output; 8 ohm for use on any standard P.M. speaker. On-off switch. Operates on 105 to 125-volt, 50 to 60-cycle, A.C. For 25 cycle, 115-v. or 220-v. 60 cycle model add \$5.

**462 RD 2049**—8-Watt Amplifier complete with Tubes; special Crystal Diaphragm Mike with 25-ft. cord; Table Mike Stand; 8-in. P.M. Speaker with 25-ft. cable. Mounted in portable carrying case. Shipping wt. 20 lbs. Cash Price. . . . . **\$26.95**

Time Payment Price: \$3 Down, \$4 a Month. . . . . **29.35**

**462 RD 2044**—Extra Cinaudagraph speaker, 562 RD 2457 (see Page 52 of this Catalog for complete description) with 25-foot cord in Metal Wall Baffle, 62 RD 2330 (see Page 54 for details). Shipping weight 10 pounds. Each. . . . . **\$6.88**

See Wards 15-Day Trial Offer on Opposite Page—All Merchandise in This Catalog Shipped from Chicago Unless Otherwise Specified. You Pay Transportation Charges Only from Wards Nearest Mail Order House. Send Orders Directly to Chicago.

FOR SMALL INSTALLATIONS  
YOU CAN'T BEAT THESE

# Airline Amplifiers



Parking Lots



Outdoor Gatherings

## 12 WATTS-5 TUBES

Amplifier  
with Tubes

**\$15.58**  
CASH

**\$2.50 DOWN**  
**\$2 A MONTH**

All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

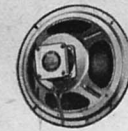


### Your Choice of Microphones



#### THREE STANDARD MIKES

This 12-watt Airline Amplifier is offered with your choice of three standard microphones, all complete with 25-foot cord and plug... you choose the one that best suits your own individual needs. All microphones are fully described on Pages 56 and 57. (SG) Airline Carbon; (SCA) Airline American C-6; and (SY) American Dynamic D8T. Each is furnished with 62 RD 2897 Microphone Stand similar to Desk Stand that comes with 562 RD 2884 listed on Page 58.



12-watt Amplifier accommodates either one or two 562 RD 2505 8-in. Airline P.M. Speakers, similar to 562 RD 2456 listed on Page 52. Speakers come complete with 35-ft. cord and plug. Included with complete outfits listed at bottom of page.

The strictest kind of laboratory tests have convinced us it's the finest 12-watt Amplifier in America. Actual comparison will prove it has features usually found only in much higher priced models.

**Ready to Set Up in a Few Minutes** for operation. Just plug it into the A.C. lighting socket and begin your program. It's as simple as that... no previous technical experience required.

**Takes Carbon, Crystal or Dynamic Microphone** (shown at right above). Operates perfectly with any type of mike you choose. Supplies all necessary current needed for Carbon mike.

**Plug-in Phonograph Connection**... Easy to operate. Just plug tips into amplifier and phonograph is ready to play. You may attach any type phono, with either a crystal or magnetic type pick-up (See Pages 58 and 59 for phonograph description).

**One Volume and Tone Control** for both Mike and phono. Off-on Switch or tone control permits you to leave volume control at any desired position... always ready for use; no need for readjustment.

**Uses one or two 8-inch P.M. Speakers** by simply plugging them in. No complicated wiring necessary.

**15-Day Trial** on all Airline Amplifiers. Prove their superior quality and better performance. See Page 38 for complete details.

**Licensed** by E. R. P. I. under U. S. patents of A. T. & T. Co., and Western Electric Co. Inc.

**New Crackle Finish** in attractive Dark Brown and Tan. Size 8 by 10 1/2 by 7 1/2 inches. Recessed, illuminated dial enables you to use it anywhere regardless of the lighting available. Strong carrying handles. For use on 105 to 125-volt, 50 to 60-cycle A.C. only. For 25 cycle 115V or 220V, 60 cycle add \$5. Shielded Case included.

**For More Complete Outfits** ready to put into operation (nothing else to buy) see bottom of page. *Mailable.* Ship. wt. 12 lbs.

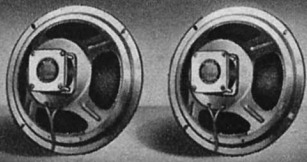
**462 RD 2032**—Amplifier with Tubes. Cash Price..... **\$15.58**  
Time Payment Price: \$2.50 Down, \$2 a Month..... **16.89**

**462 RD 2039**—Amplifier with Tubes; one 562 RD 2505 8-in. P.M. Speaker with 35-ft. cord, plug (above); Mike (SG), Pg. 57; Desk Stand. No mike or speaker choice. Ship. wt. 20 lbs. Cash... **\$22.95**  
Time Payment Price: \$3 Down, \$3 a Month..... **24.95**

#### TECHNICAL DESCRIPTION

5 tubes total: one 6SJ7 high gain input stage; one 6SC7 electronic mixer-phase inverter; two 6V6G beam power output tubes in push-pull; one 5Z3 rectifier. 12-watt continuous output.

Resistance coupled amplifier stages throughout. One microphone input socket and one phonograph input. Carbon or low level mikes plug in same socket; operating potential supplied at socket for carbon types... this eliminates an external battery. Output impedance: three 4-prong sockets; to accommodate one or two eight-ohm speakers. Can also be arranged to handle up to four speakers if so desired. Draws 70 watts.

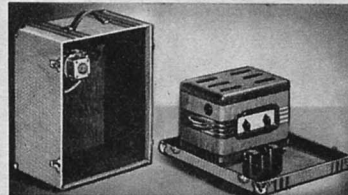


#### Complete with Two 8-inch Airline Permanent Magnet Speakers

Includes 12-watt Amplifier with Tubes; two 562 RD 2505 8-in. Permanent Magnet Speakers (see above); one 62 RD 2897 Microphone Desk Stand (pictured and described above); and Airline Carbon Microphone (SG) (see above). Ship. wt. 25 lbs. *Mailable.*

**462 RD 2033**—Complete with Carbon Microphone. Cash Price..... **\$24.95**  
Time Pay. Price: \$3 Dn., \$4 Mo. . . **27.15**

**462 RD 2542**—Complete with choice of (SCA) Airline American C-6 or (SY) American Dynamic D8T. **State choice.** Ship. wt. 20 lbs. *Mailable.* Cash... **\$28.95**  
Time Pay. Price: \$3 Dn., \$5 Mo. . . **31.55**

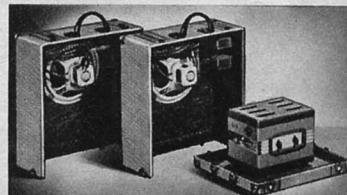


#### Complete with One Speaker in Single Speaker Carrying Case

Includes 12-watt Amplifier with Tubes; one 562 RD 2505 8-in. Speaker (see above); one 462 RD 5291 luggage-type Case (Page 54); one 62 RD 2897 Mike Desk Stand (shown above); and Airline Carbon Microphone (SG) (see above). Ship. wt. 26 lbs. *Mailable.*

**462 RD 2543**—Complete with carbon Microphone. Cash Price..... **\$28.95**  
Time Pay. Price: \$3 Dn., \$5 Mo. . . **31.55**

**462 RD 2544**—Complete with choice of (SCA) Airline American C-6 or (SY) American Dynamic D8T. **State choice.** Ship. wt. 26 lbs. *Mailable.* Cash... **\$35.95**  
Time Pay. Price: \$4 Dn., \$5 Mo. . . **39.15**

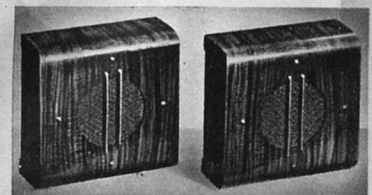


#### Complete with Two Speakers in 3-Division Carrying Case

Includes 12-watt Amplifier with Tubes; two 562 RD 2505 8-in. Speakers (see above); one 462 RD 5290 modern luggage style Carrying Case (Page 54); one 62 RD 2897 Mike Stand (see above); and Airline Carbon Mike (SG) (see above). Ship. wt. 30 lbs. *Mailable.*

**462 RD 2545**—Complete with Carbon Microphone. Cash Price..... **\$31.95**  
Time Pay. Price: \$4 Dn., \$5 Mo. . . **34.75**

**462 RD 2546**—Complete with choice of (SCA) Airline American C-6 or (SY) Am. Dynamic D8T. **State choice.** Ship. wt. 30 lbs. *Mailable.* Cash... **\$39.95**  
Time Pay. Price: \$4 Dn., \$5 Mo. . . **43.55**



#### Complete with Two Speakers in Walnut Finish Wall Baffles

Includes 12-watt Amplifier with Tubes; two 562 RD 2505 8-in. Speakers (see description above); two 562 RD 2330 Wall Baffles (see Page 54); one 62 RD 2897 Microphone Desk Stand (shown above); and Airline Carbon Microphone (SG) (see above). Ship. wt. 28 lbs. *Mailable.*

**462 RD 2037**—Complete with Carbon Microphone. Cash Price..... **\$29.95**  
Time Pay. Price: \$3 Down, \$5 Mo. . . **32.65**

**462 RD 2547**—Complete with choice of (SCA) Airline American C-6 or (SY) American Dynamic D8T. **State choice.** Ship. wt. 28 lbs. *Mailable.* Cash Price..... **\$34.95**  
Time Pay. Price: \$4 Down, \$5 Mo. . . **38.05**

**EVERYTHING SOLD ON TIME** Any Order of \$10 or more can be bought on Wards Convenient Terms. See Page 3.

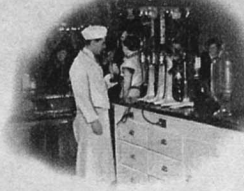
**15-DAY TRIAL**... At Wards on Sound Equipment... so you can prove the superior quality of Airline Sound Systems for yourself. See Page 38.



Amusement Centers



Dances—Night Clubs

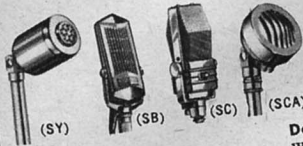


Fountains—Restaurants

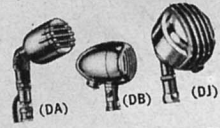


Window Demonstrations

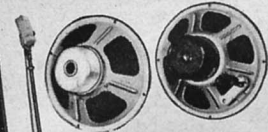
Your Choice ...



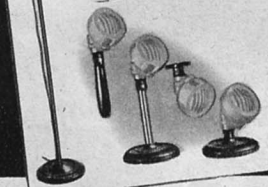
Standard Mikes: With 25-ft. cord; plug. (SY) Am. Dynamic; (SB) Airline Velocity; (SC) Airline Velocity; (SCA) Airline Am. C6. Pgs. 56-57.



Deluxe Mikes with 25-ft. cord; plug. (DA) Electro-Voice Dynamic; (DB) Am. Bullet Dynamic; (DJ) Airline Brush. Pages 56-57.



Either Jensen 562 RD 2623 or Cinaudagraph 562 RD 2461, 12-in. P.M. Dynamic Speakers, Pages 52-53. Both with 35-ft. cord; plug.



Your choice of Standard 4-Way Mike Stand (562 RD 2884) or adjustable floor Stand (462 RD 3075). Page 58.

MODULATES 40 TO 60 WATTS R.F. INPUT

See Transformer 62RD3114, Page 14, for coupling 500-ohm to Class C load. 8 tubes: Two 6SF5 inputs; one 6SC7 mixer; one 6N7G Phase inverter Driver; two 6L6G's; one 5Z3 rect. one 6H6 limiting rectifier. Two mike inputs; one phono input. Output sockets for one or two 8-ohm P.M. speakers and 500-ohm tap.

Overall dimensions: 17 1/4 in. long, by 11 3/4 in. deep and 8 in. high. Power requirements: 130 watts at 105 to 125 volts, 50 to 60-cycle, A.C. Licensed by E.R.P.I., under U. S. Patents of A. T. & T. Co. and Western Electric Co., Inc.

A completely new design at a new low price. Check the features—then ask yourself where can I buy as fine an Amplifier as this at such small cost and low Monthly Payments?

Automatic Volume Limiter. No blasting at any volume! Maintains a constant volume level automatically even if the announcer shouts directly into the microphone. Set the knob for any volume you want... if desired volume is exceeded the automatic control prevents any further volume increase.

Two Mikes or Phono and one Mike may be Used at Same Time. A feature especially desirable when a musical background is wanted. Each mike and phono attachment has individual volume control. (For phonograph listings see Pages 58 and 59.)

New Dual Action Tone Control. Turn the knob to the right to accent high notes; to the left for bass notes. Prevents the distortion found in ordinary tone controls often used on amplifiers at this low price. Nothing else like it.

Plus These Other Features: Automatic Mike Silencer Sockets—pre-

vents hum when one mike is removed. Operates up to two 12-inch P.M. Speakers by just plugging them in. Illuminated Control Panel makes operating easier. Control panel and knobs are recessed to prevent accidental damage to knobs, and to permit lighting the panel indirectly.

Durable Brown Crackle Finish with good looking chrome band trim. Size 8 by 11 by 17 inches. For use on 105 to 125-volt, 50 to 60-cycle, A.C. only. For 25 cycle 115v or 220v, 60 cycle add \$5.

For More Complete Outfits ready to use (no extra parts to buy), see bottom of page. Ship. wt. 40 lbs. Not Mailable.

162 RD 2090—Amplifier with Tubes. Cash Price.....\$34.95 Time Payment Price: \$4 Down, \$5 a Month..... 38.05

162 RD 2091—Amplifier with Tubes, 4-Way Mike Stand; Crystal Mike (SCA); 12-inch Cinaudagraph P.M. Speaker 562 RD 2461 with 35-ft. cord and plug (Pg. 52). No Mike or Speaker choice. Ship. wt. 55 lbs. Not Mailable. Cash.....\$49.95 Time Payment Price: \$5 Down, \$5 a Month..... 54.45

20 WATTS—8 TUBES



Amplifier with Tubes

\$34.95 CASH

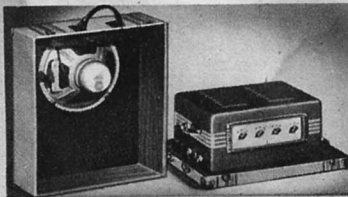
\$4 DOWN \$5 A MONTH

AUTOMATIC VOLUME LIMITER

No blasting at any volume. This built-in control automatically maintains a constant volume level even when the announcer shouts directly into the mike.



No Blasting



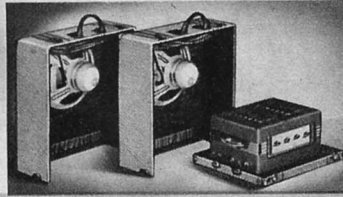
Complete with One Speaker in Single Speaker Carrying Case

Includes 20-watt Amplifier with Tubes; one 562 RD 2623 Jensen or 562 RD 2461 Cinaudagraph 12-in. P.M. Speaker (see Page 52); one 462 RD 5296 luggage style Carrying Case (see Pg. 54); 4-Way Mike Stand\* (see above); and choice of Mikes (see above). State Mike and Speaker choice. Ship. wt. 65 lbs. Not Mailable.

162 RD 3567—Complete with any Standard Microphone. Cash Price.....\$59.95 Time Pay. Price: \$5 Dn., \$6 Mo. . . 65.45

162 RD 3568—Complete with any Deluxe Microphone. Cash Price.....\$61.95 Time Payment Price: \$6 Down, and \$6 Month..... 67.55

\*NOTE: If the Adjustable Microphone Floor Stand (described above) is desired instead of Standard 4-Way Microphone Stand (see details above), so state and add \$2.75 to Cash Price.



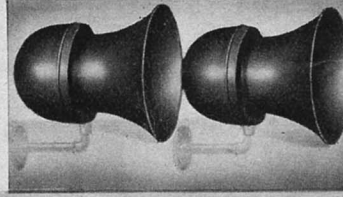
Complete with Two Speakers in 3-Division Carrying Case

Includes 20-watt Amplifier with Tubes; two 562 RD 2623 Jensen or 562 RD 2461 Cinaudagraph 12-in. P.M. Speakers (see Page 52); one 462 RD 5293 luggage style Carrying Case (Page 54); one 4-Way Mike Stand\* (see above); choice of Mikes (above) State Mike, Speaker choice. Ship. wt. 85 lbs. Not Mailable.

162RD3569—Complete with any Standard Microphone. Cash Price.....\$64.95 Time Pay. Price: \$6 Dn., \$6 Mo. . . 70.85

162 RD 3570—Complete with any Deluxe Microphone. Cash Price.....\$66.95 Time Payment Price: \$6 Down, and \$7 Month..... 73.05

\*NOTE: If the Adjustable Microphone Floor Stand (described above) is desired instead of Standard 4-Way Microphone Stand (see details above), so state and add \$2.75 to Cash Price.



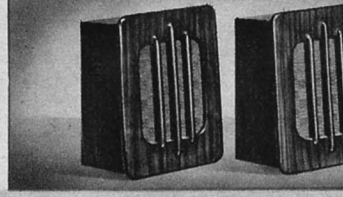
Complete with Two Speakers in Special Steel Projectors

Includes 20-watt Amplifier with Tubes; two 562 RD 2623 Jensen or 562 RD 2461 Cinaudagraph Speakers (see Page 52); two 462 RD 3083 Steel-Alloy Projectors (see Page 55); 4-Way Mike Stand\* (see above); and choice of Mikes (see above) State Mike and Speaker choice. Ship. wt. 85 lbs. Not Mailable.

162RD3565—Complete with any Standard Microphone. Cash Price.....\$72.95 Time Pay. Price: \$7 Dn., \$7 Mo. . . 79.55

162 RD 3571—Complete with any Deluxe Microphone. Cash Price.....\$74.95 Time Payment Price: \$7 Down and \$7 Month..... 81.75

\*NOTE: If the Adjustable Microphone Floor Stand (described above) is desired instead of Standard 4-Way Microphone Stand (see details above), so state and add \$2.75 to Cash Price.



Complete with Two Speakers in Walnut Finished Wall Baffles

Includes 20-watt Amplifier with Tubes; two 562 RD 2623 Jensen or 562 RD 2461 Cinaudagraph Speakers (see Page 52); two 562 RD 2883 or 562 RD 2898 Wall Baffles (see Page 54); 4-Way Stand\* (see above); choice of Mikes (see above); State Mike, Speaker and Baffle choice. Ship. wt. 85 lbs. Not Mailable.

162 RD 3566—Complete with any Standard Microphone. Cash Price.....\$69.95 Time Pay. Price: \$6 Dn., \$7 Mo. . . 76.35

162 RD 3572—Complete with any Deluxe Microphone. Cash Price.....\$71.95 Time Payment Price: \$7 Down and \$7 Month..... 78.45

\*NOTE: If the Adjustable Microphone Floor Stand (described above) is desired instead of Standard 4-Way Microphone Stand (see details above), so state and add \$2.75 to Cash Price.

# The Music Box A Complete Sound System

WITH RECORD, MIKE AND RADIO REPRODUCTION



RESTAURANTS



HOTELS



CLUBS



## 15-Watts—5-Tube Combination \$119.95

The music box! One of the most convenient amplifying systems ever designed for portable use or permanent installation . . . a single compact unit that offers you both dependable automatic record reproduction and fine mike pickup . . . at an amazingly low price for such fine quality.

**Easy to set up and use!** Ready for immediate operation. Just plug it into the A.C. lighting socket and begin your program. There's nothing else to do.

**Webster Record Changer, Model W-1270** described on Page 60 is built into top of Cabinet—plays up to twelve 10-inch records or ten 12-inch records automatically. Microphone and phono may be used at same time if desired.

**Built-in Radio for important broadcasts** . . . High quality T.R.F. circuit. Similar to the radio described on Page 46. Also offered without radio if desired.

**Use Mike and Phono at Same Time.** Each has its own individual volume control and tubes. Ideal when musical tones are to be shaded or accented for background work.

**Powerful 15-Watt Output** sufficient to cover most large hotel lobbies, school assembly rooms or field houses. Every form of entertainment from one compact unit.

**Attractive Brown Crackle finish metal Cabinet, 30 by 16 by 18 inches high.** Has convenient, protective removable lid, equipped with easy-working hinges. Lid may be either open or closed while playing record changer.

**System includes:** One special 15-watt Airline Amplifier with a record changer using a crystal pickup, together with a built-in Permanent Magnet, heavy duty speaker, specially mounted to eliminate vibration and feed back. (Note: *One or two extra Speakers may be used*); One high fidelity Electro-Voice Microphone, Dynamic Model 620, Page 57, and the DeLuxe adjustable take-down floor stand (462 RD 3187, Page 58) . . . it's a complete Sound System all in one—nothing else to buy!

**Amplifier Technical Description:** 5 Tubes: One 6SJ7; one 6SC7; two 6L6G's and one 5U4G rectifier. 15-watt output; 20-watt peak. Power consumption 130 watts. Use on 105 to 125 volt, 50 to 60 cycle, A.C. Shipping weight 75 lbs. *Not Mailable.*

**162 RD 4162**—Complete with Amplifier—Radio—Automatic-Phono Combination, Mike and Stand. Cash Price . . . \$149.95  
Time Payment Price: \$12.50 Down, \$10 a Month. . . . . 163.70

**162 RD 4160**—Complete with Amplifier—Automatic-Phono Combination, mike and mike stand but less radio. Cash Price. . . . \$119.95  
Time Payment Price: \$10 Down, \$9 a Month. . . . . 130.95

## The Most Compact PHONO-AMP COMPLETELY PORTABLE



### 15-Watts — 5-Tube Phono Combination

\$65.00  
Cash \$6 Down  
\$6 a Month

A new, more compact amplifier that means new and greater convenience for you . . . a compact amplifier-phonograph combination all in one that makes it easily portable. It's an ideal outfit for use in churches, advertising demonstrations, club rooms, class rooms, mortuaries, etc.

**System includes** one dependable, high power 15-watt Airline Amplifier with a fine quality 78 R.P.M. electric phonograph (either Manual or Automatic changer) using a crystal pickup. Both units in one combination, Together with powerful 10-inch Permanent Magnet Dynamic Speaker (similar to 562 RD 2460, Page 52), your choice of Microphones (see at right), and adjustable microphone floor stand. Housed in a Brown artificial leather carrying case, 26 inches long, 18 inches wide, and 14 inches deep. Very attractive, yet extremely rugged.

**Smaller and More Compact** than any previous model. Can be easily carried around for greater convenience and versatility. *Set it up in 5 minutes* all ready for operation! Just plug it into any ordinary light socket and begin your program.

**With Treble—Bass Control.** You can emphasize either bass or treble. Turn knob to right to stress the brilliant high notes; to the left for mellow lows. More effective than single Tone Control found on radios and many ordinary Amplifiers.

**Adjustable Mike Stand 462 RD 3075, Page 58,** adjusts from 36 to 57 inches. 10-inch cast iron base. Finished in lustrous Brown crackle with Modern Chrome trim.

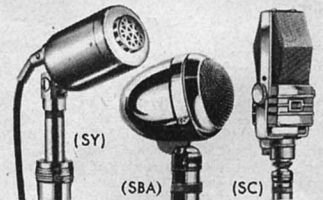
**New 15 Day Trial**—An exclusive Ward offer! Order this or any other Airline Amplifier in the regular way, either Cash or Down Payment. Try it for 15 days. If you are not entirely convinced it's the best dollar-for-dollar value on the market today, send it back, and we'll refund every cent including transportation charges both ways.

**For Use on 105 to 125-volt, 50 to 60-cycle, A.C. power line.** Be sure to State Mike Choice. Shipping weight 35 pounds. *Not Mailable.*

**162 RD 4153**—15-Watt Amplifier-Phono Combination with 78 R.P.M. Phono Motor, Manual Record Player, 462 RD 3075 Mike Stand, and Mike Choice. Cash. . . \$65.00  
Time Payment Price: \$6 Down, \$6 a Month. . . . . 70.90

**162 RD 4154**—15-Watt Amplifier-Phono Combination similar to above but with Webster Automatic Record Changer (See Pg. 60). Handles either ten 12-inch or twelve 10-inch records. (Not Mixed.) 4 control buttons: one for playing 10-inch records; one for 12-inch records; one for changing to Manual operation, and one for rejecting records during operation. **State Choice of Mikes.** Shipping weight 50 lbs. Cash Price \$89.00  
Time Payment Price: \$8 Down, \$8 a Month. . . . . 97.10

**Technical Description:** 5 tube total; one 6SJ7; one 6SC7; two 6L6G and one 5U4G. Amplifier: 15-Watt continuous output; 18-Watt peak. Master On-Off switch and fuse on Amplifier front panel; Phono On-Off Switch conveniently located in motor board.



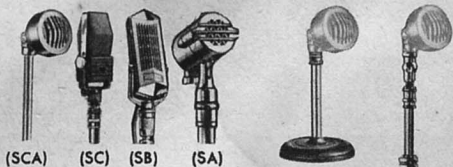
#### YOUR CHOICE OF MIKES

Each microphone complete with 25-foot cord and plug. You choose the one that best suits your individual needs. (SY) American D8T; (SBA) Airline T-3; (SC) Airline Velocity (see Pages 56 and 57 for complete details).

All merchandise in this Catalog shipped from Chicago, but you pay shipping charges only from Wards nearest Mail Order House. Send order to Chicago.

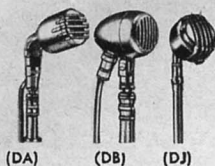
# THE LATEST 15 OR 25 WATT AMPLIFIER MADE

## Your Choice—Mikes and Stands



### Standard Mike Selection

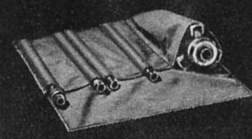
Each mike comes complete with 25-foot cord and plug. (SCA) Airline C-6. (SC) Airline Velocity; (SB) Airline Velotron; (SA) American Dynamic Clipper. For complete details see Pages 56 and 57 of this Catalog.



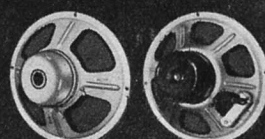
### DeLuxe Mike Selections

With 25-foot cord and plug. (DA) Electro 620; (DB) Am. Bullet; (DJ) Airline A.P. See Pages 56 and 57 for complete descriptions.

**STANDS . . .** Both amplifiers come with 4-Way Stand. May be used suspended from ceiling, as a desk stand, hand mike or table stand. **If new DeLuxe Stand is desired, in place of 4-way, so state, and add \$4.95 to cash price.** For details see Page 58.



DeLuxe Mike Stand complete with carrying bag. Convenient take-down type with 4-way feature. Offered with amplifiers below.



Dynamic Speaker Choice: 15-watt with Jensen or Cinaudagraph 10-in. P.M., 25 watt with Jensen or Cinaudagraph 12-in. P.M.



Phono Connection for magnetic or crystal pickup. Just plug it in. May be used with or without mike. Has separate control.



## 15 Watt Amplifier with Tubes

**\$34.95** CASH

**\$4 DOWN**  
**\$5 A MONTH**



Treble and Bass Control Speaker Selector

### Technical Description for 15-Watt Amplifier

**7-Tube Total:** Two 6J7 Pre-amps; one 6J7 tone control; one 6J5 driver; two 6F6G's output tubes; one 5Z3. Kenyon transformers; Centralab carbon resistors; "Tobe" high voltage condensers. 3 input channels . . . 2 for mikes; 1 for phono. Three sockets for one or two, eight-ohm speakers, and 500-ohm taps. **SIZE:** 15½ by 8½ by 8 inches. Operates on 105 to 125 volt, 50 to 60 cycle, A.C. **Fully licensed** by Electrical Research Products, Inc., under U. S. Patents and A. T. and T. Co., and Western Electric Co., Inc., your assurance of dependable, safe operation.

One of Ward's biggest values . . . really low priced! New compact 15-watt Airline Supreme Quality Amplifier with all the latest features. Don't confuse with others selling at near this low price . . . This is not merely a steel chassis with standard radio parts . . . but a professionally engineered job designed by Airline Engineers and made by the World-famous *Hallcrafters* . . . all parts are fully guaranteed for long, satisfactory service.

**Easy to Operate . . .** everything possible has been done to simplify its operation. Can be set up in a few minutes. Just plug the Microphones and Speakers into amplifier and connect to the light socket.

**Beautiful New Design**—finished in Brown Crackle enamel with Modern Chrome trim. Complete with Cover.

**Use Two Mikes at Same Time.** Ideal for soloist and accompanist. Individual Volume Control and Tube for each.

**Other Quality Features:** Special Phono connection; Individual Mike Volume Controls; Individual Treble and Bass Controls, Mike Silencer Socket. (No Speaker Selector included with 15-Watt Amplifier).

**15 Day Trial**—Order any Airline Amplifier in the regular way, Cash or Down Payment. Compare it with others. If you're not convinced return it and we'll refund every cent you've paid. For 25 cycle, 115 volt or 220 volt,

60-cycle models add \$7.50 to price of either 15 or 25-watt amplifier.

**162 RD 4215—15-Watt Amplifier with Tubes.** Ship. wt. 33 lbs. *Not Mailable.* Cash Price. . . . **\$34.95**  
Time Payment Price: \$4 Down, \$5 a Month. . . . **38.05**

**162 RD 4214—15-Watt Amplifier with Tubes;** one 12-inch Airline P.M. Speaker (562 RD 2504, Page 53); with 35-ft. cord and plug. (SCA) Airline Crystal Mike; 4-way stand. No Mike or Speaker Choice. Ship. wt. 48 lbs. Cash Price. . . . **\$47.95**  
Time Payment Price: \$5 Down, \$5 a Month. . . . **52.25**

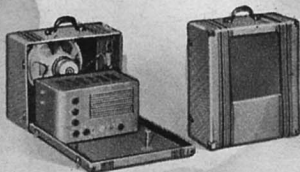
**25-Watt Amplifier.** Similar to above but with *built-in speaker selector* (Pat. No. 2176732) Enables you to use from one to four speakers by just plugging them in, and turning the indicator to the number of speakers you want to use. Ship. wt. 45 lbs. *Not Mailable.*

**162 RD 4225—25-Watt Amplifier with Tubes. . . . \$49.95**  
Time Payment Price: \$5 Down, \$5 a Month. . . . **54.45**

**162 RD 4229—25-Watt Amplifier with Tubes,** one Cinaudagraph 12-inch P.M. Speakers (562 RD 2461 Pg. 52) with 35-foot cord and plug; Airline Microphone (SCA); and 4-way microphone stand. No mike or speaker choice. Ship. wt. 56 lbs. Cash Price. . . . **\$67.50**  
Time Payment Price: \$6 Down, \$7 a Month. . . . **73.65**

**25-Watt Amplifier Modules 50—60 Watts R. F.** See Transformer 62RD3114, Page 15.

**9-Tubes:** Two 6J7 mike input; one 6J7 phono; two 6J7's mixers and tone control; one 6J5 driver; two 6L6G output; one 5Z3. Kenyon transformers. Centralab carbon resistors. Genuine "Tobe" condensers. Three input channels; two microphone, one phono. Each with separate control. Four, eight-ohm speaker sockets; also a 500-ohm terminal. Size: 9 by 9 by 16¼ inches. Operates on any 105 to 125 volt, 50 to 60 cycle, A.C. line. **Licensed** by E.R.P.I., A.T. and T. Co. and Western Electric Company, Inc.



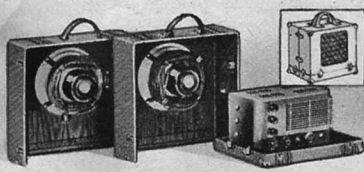
### Complete With One Speaker and Carrying Case

**Includes 15-watt Amplifier** with Tubes; one 10-inch P.M. Speaker (see top of page); 462 RD 5294 (Page 54) Single Speaker Carrying Case (of sturdy plywood with Airplane luggage covering); 4-way Mike Stand (see above) and choice of Mikes (see above). **State Mike and Speaker Choice.** Ship. wt. 45 lbs. *Not Mailable.*

**162 RD 4280**—With any Standard Microphone. Cash Price. . . . **\$55.95**  
Time Pay. Pr.: \$5 Down, \$6 a Mo. . . **61.05**

**162 RD 4281**—With any DeLuxe Microphone. Cash Price. . . . **\$57.95**  
Time Pay. Pr.: \$5 Down, \$6 Mo. . . **63.25**

**162 RD 4282**—With any Long Distance Microphone. Cash Price. . . . **\$62.95**  
Time Pay. Pr.: \$6 Down, \$6 a Mo. . . **68.65**



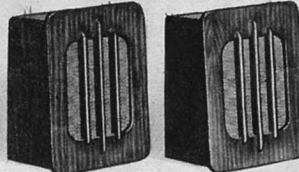
### Complete With Two Speakers and Carrying Case

**Includes 15-watt Amplifier** with Tubes; two 10-inch P.M. Speakers (top of Page); 462 RD 5290 Airplane type three-division Carrying Case (Page 54); 4-way Mike Stand and choice of Mikes. **State Mike and Speaker Choice.** Shipping weight 56 lbs. *Not Mailable.*

**162 RD 4288**—With any Standard Microphone. Cash Price. . . . **\$64.50**  
Time Pay. Pr.: \$6 Down, \$6 Mo. . . **70.35**

**162 RD 4289**—With any DeLuxe Microphone. Cash Price. . . . **\$66.50**  
Time Pay. Pr.: \$6 Down, \$7 Mo. . . **72.55**

**162 RD 4290**—With any Long Distance Microphone. Cash Price. . . . **\$71.50**  
Time Pay. Pr.: \$7 Down, \$7 a Mo. . . **77.95**



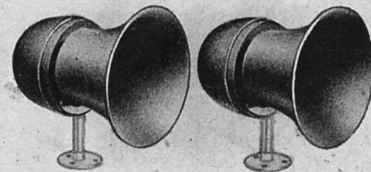
### Complete With Two Speakers in Walnut Finish Wall Baffles

**Includes 15-Watt Amplifier** with Tubes; two 10-inch Permanent Magnet Speakers (see top of page); two 562 RD 2883 or 562 RD 2898 Wall Baffles (see Page 54); 4-Way Microphone Stand (see above) and choice of Mikes (see above). **State Mike, Speaker and Baffle choice.** Shipping weight 75 lbs. *Not Mailable.*

**162 RD 4294**—With any Standard Microphone. Cash Price. . . . **\$64.50**  
Time Pay. Pr.: \$6 Down, \$6 Mo. . . **70.35**

**162 RD 4295**—With any DeLuxe Microphone. Cash Price. . . . **\$66.50**  
Time Pay. Pr.: \$6 Down, \$7 Mo. . . **72.55**

**162 RD 4296**—With any Long Distance Microphone. Cash Price. . . . **\$71.50**  
Time Pay. Pr.: \$7 Down, \$7 Mo. . . **77.95**



### Complete With Two Speakers in Steel-Alloy Projectors

**Includes 15-Watt Amplifier** with Tubes; two 12-inch P.M. Speakers; two 462 RD 3083 Special Spun Steel Airline Projectors (see Page 55); 4-Way Mike Stand (see above) and choice of Microphones. Be sure to **State Microphone and Speaker Choice.** Shipping weight 85 lbs. *Not Mailable.*

**162 RD 4277**—With any Standard Microphone. Cash Price. . . . **\$67.95**  
Time Pay. Pr.: \$6 Down, \$7 Mo. . . **74.15**

**162 RD 4278**—With any DeLuxe Microphone. Cash Price. . . . **\$69.95**  
Time Pay. Pr.: \$6 Down, \$7 Mo. . . **76.35**

**162 RD 4279**—With any Long Distance Microphone. Cash Price. . . . **\$71.95**  
Time Pay. Pr.: \$7 Down, \$7 Mo. . . **78.45**

\*NOTE: If 25-Watt Amplifier and extra heavy speakers in these combinations are desired, so state, and add \$22 to Cash Price.

\*NOTE: If 25-Watt Amplifier and extra heavy speakers in these combinations are desired instead of 15-watt, so state, and add \$22 to Cash Price.

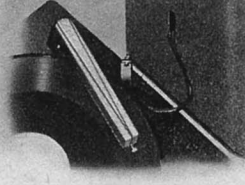
\*NOTE: If 25-Watt Amplifier and extra heavy speakers in these combinations are desired, so state, and add \$22 to Cash Price.

\*NOTE: If 25-Watt Amplifier and extra heavy speakers in these combinations are desired, so state, and add \$22 to Cash Price.

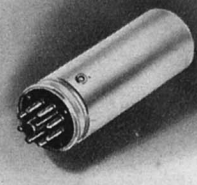
Only Airline  
Offers All  
These Features



**USES TWO MIKES AT SAME TIME**  
Ideal for duets, announcer and soloist, singer and accompanist. Each microphone has a separate control and a separate tube. Very convenient when orchestral tones are to be shaded.



**PLUG-IN PHONOGRAPH CONNECTION**  
Universal phono input—operates with either crystal or magnetic electric pickup. Very easy to operate—simply plug phono-graph tip-jacks into the amplifier.



**"PLUGGIN" CONDENSERS**  
Assure you of uninterrupted service! Can be changed in one minute. Order a spare condenser with your amplifier.  
**62 RD 6790—Ship. wt. 8 oz. Each. \$1.56**

## 40 WATT AMPLIFIER . . 11 TUBES



### COMPLETE WITH TWO SPEAKERS AND CARRYING CASES

Includes 40-Watt Amplifier with Tubes and Carrying Case; two 12-inch P.M. Speakers (See top of opposite page); Dual Speaker Carrying Case 462 RD 4705 (see page 54); Deluxe Folding Floor Stand; and choice of Microphones (shown at right). Sturdy plywood cases, with attractive Brown DuPont Fabricard covering, also accommodate mike and stand. State Mike and Speaker Choice. Ship. wt. 97 lbs.

162 RD 4040—With Standard Microphone. Not Mailable. Cash Price, \$99.95  
Payments: \$9 Dn., \$8 Mo. . . \$109.05

162 RD 4041—With DeLuxe Microphone. Not Mailable. Cash Price . . \$102.95  
Payments: \$10 Dn., \$8 Mo. . . \$112.25

162 RD 4042—With Long Distance Microphone. Not Mailable. Cash Price, \$109.95  
Payments: \$10 Dn., \$8 Mo. . . \$119.95

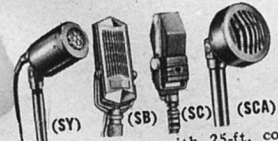


DESIGN PATENT  
APPLIED FOR

**BUILT-IN  
SPEAKER SELECTOR  
(PAT. NO. 2176732)**

## The Best Equipment

### 3 TYPES OF MIKES

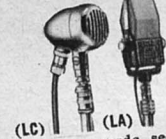


Standard Mikes with 25-ft. cord. Airline plug. (SY) Am. Dyn. (SB) Airline Vel. (SC) Airline Velocity. (Pgs. 56-57.)  
Airline Am. C-6 crystal. (Pgs. 56-57.)



DeLuxe Mikes with 25-ft. cord and plug. (DA) Electro-Voice Dynamic; (DB) American Bullet Dynamic; (DJ) Airline Brush AP.

For details see Pages 56-57.



Long Distance Mikes complete with 100-foot cord and plug. (LC) Airline Brush AP; (LA) Electro-Voice Velocity. See Pages 56 and 57 for details. For longer cords see 562 RD 4877 fully described on Page 57 of this Catalog. For Time Payments see Page 3.

One of the finest 40-watt amplifiers on the market today! Especially designed and built according to our rigid specifications by the world famous **Hallcrafters!** As Easy to Operate as your radio; Mike and Speakers plug-in quickly.

Has built-in individual treble and bass controls. Either treble or bass notes or both can be deepened or sharpened at will . . . especially fine when Amplifier is used for both music and speech.

Eleven powerful tubes produce full 40 watts (55 watts peak) . . . such an amplifier would be advertised by many as 60 watts. Remember Wards ratings are conservative!

Two mikes and phonograph may be used at same time. Separate control for each sets the volume just as desired.

Operates up to six speakers at full power. Simply plug in and turn Automatic Speaker Selector to number being used.

Amplifier with Tubes

**\$59<sup>95</sup>**  
Cash

\$6 a Month, See Page 3

Features—Kenyon transformers . . . "Pluggin" condensers.

15 day trial — Order any Ward Amplifier in the regular way (Cash or Down Payment) and try it for 15 days. If it isn't the best you ever heard, send it back and we will refund every cent you've paid.

Brown Crackle Finish with chrome trim. 19 by 10 by 12 inches. For 105 to 125 v., 50 to 60 cycle, A. C. For 25 cycle 115-v. or 220-v., 60-cycle model add \$7.50. For complete outfits, see above at left and below. Not Mailable. Ship. wt. 50 lbs.

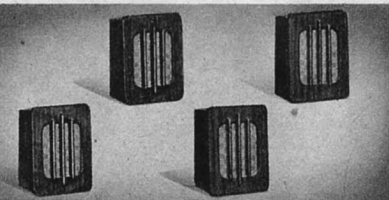
162 RD 4240—Amplifier with Tubes. Cash Price . . . . . \$59.95  
Time Payment Price: \$5 Down, \$6 a Month . . . . . 65.45

162 RD 4258—Amplifier with Tubes; (SCA) Mike; Stand 562 RD 2884; four 562 RD 2461 Cinaudagraph Speakers with 35-ft. cord and plug. Wt. 85 lbs. No Mike or Speaker Choice. Cash, \$94.95  
Time Payment Price: \$9 Down, \$8 a Month . . . . . 103.55

### MODULATES 80 TO 100 WATTS R.F.

See transformer 62 RD 3115 (Pg. 14) for coupling 500 ohm to class C load. Three 6J7 inputs; two 6J7 volt. amp. (also bass and treble); one 6J5 amplifier; one 6FG driver; two 6L6G beam power tubes; one 5Z3 Plate voltage rectifier; one 80 screen voltage rectifier tube. 40-watt continuous output; 55-watt peak. Two mike inputs, one phono input. Four speaker sockets and 500 ohm output.

Licensed by E.R.P.I.; A. T. and T. Co. and Western Electric Co. Inc.



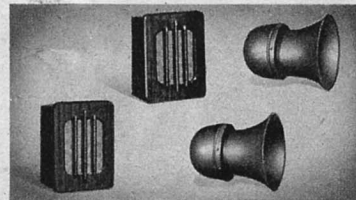
### Complete with Four Speakers in Walnut Finish Wall Baffles

Includes 40-watt Amplifier with Tubes; four 12-inch P.M. Speakers (see top of opposite page); four 562 RD 2883 or 562 RD 2898 Walnut finish Wall Baffles (see Page 54); DeLuxe Stand and choice of Microphones (see above). Be Sure to State Microphone, Speaker and Baffle choice on your order. Ship. wt. 90 lbs. Not Mailable.

162 RD 4245—Complete with any Standard Microphone. Cash Price . . . \$134.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 147.20

162 RD 4246—Complete with any DeLuxe Microphone. Cash Price. \$136.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 149.40

162 RD 4247—Complete with any Long Distance Microphone. Cash. . . \$141.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 154.90



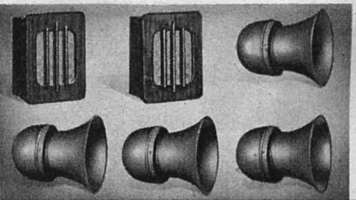
### With 4 Speakers—2 in Walnut Finish Baffles; 2 in Projectors

Includes 40-watt Amplifier with Tubes; four 12-in. P.M. Speakers (see top of opposite page); two 562 RD 2883 or 562 RD 2898 Walnut finish Wall Baffles; 2 Volume Controls; two 462 RD 3083 Projectors. (Page 55); DeLuxe Stand and choice of Mikes (see above). State Mike, Speaker and Baffle choice. Shipping weight 110 lbs. Not Mailable.

162 RD 4248—Complete with any Standard Microphone. Cash Price . . . \$139.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 152.70

162 RD 4249—Complete with any DeLuxe Microphone. Cash Price . . . \$141.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 154.90

162 RD 4250—Complete with any Long Distance Microphone. Cash. . . \$146.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 160.40



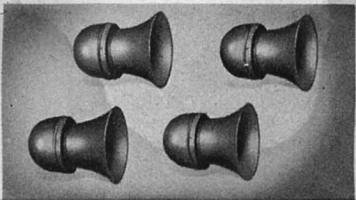
### With 6 Speakers—2 in Walnut Finish Baffles; 4 in Projectors

Includes 40-watt Amplifier with Tubes; six 12-in. P.M. Speakers; two 562 RD 2883 or 562 RD 2898 Walnut finish Wall Baffles; 2 Volume Controls, Speaker Selector Box (Page 55); four 462 RD 3083 Projectors. DeLuxe Stand and choice of Mikes. Be Sure to State Mike, Speaker and Baffle choice wanted. Shipping weight 140 pounds. Not Mailable.

162 RD 4251—Complete with Standard Microphone. Cash Price . . . . . \$169.95  
Time Pay. Pr.: \$15 Dn., \$12 Mo. . . 185.45

162 RD 4252—Complete with any DeLuxe Microphone. Cash Price . . . \$171.95  
Time Pay. Pr.: \$15 Dn., \$12 Mo. . . 187.65

162 RD 4253—Complete with any Long Distance Microphone. Cash Price. \$176.95  
Time Pay. Pr.: \$20 Dn., \$12 Mo. 192.65



### Complete with Four Speakers in Airline Projectors

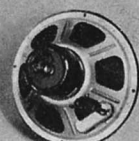
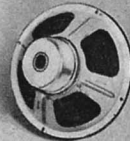
Includes 40-watt Amplifier with Tubes; four 12-inch P.M. Speakers (see top of opposite page); four 462 RD 3083 Special Steel-Alloy Projectors (see Page 55); DeLuxe Mike Stand and choice of Microphones (see above). Be sure to state Both Microphone and Speaker choice on your order. Shipping weight 130 pounds. Not Mailable.

162 RD 4254—Complete with any Standard Microphone. Cash Price . . . \$139.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 152.70

162 RD 4255—Complete with any DeLuxe Microphone. Cash Price . . . . . \$141.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 154.90

162 RD 4256—Complete with any Long Distance Microphone. Cash. . . \$146.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 160.40

Include All of Your Sound Equipment in Wards Convenient Time Payment Plan—See Page 3.



### SEPARATE TREBLE AND BASS CONTROLS

Emphasize either the clear, distinct treble tones or the rich, rhythmic bass notes in music... both if you prefer. Especially useful when your amplifier is used for both voice and music.

### AUTOMATIC SPEAKER SELECTOR

Simply plug in desired number of speakers and turn pointer to corresponding number. Built into the 40-watt Amplifier. Comes as separate unit with the 60 and 100-watt Amplifier below.

### CHOICE OF 12-INCH P. M. SPEAKERS

Either Jensen (562 RD 2630, Page 52) or Cinaudagraph (562 RD 2462, Page 55), both with 35-foot cord and plug. For longer cords, see 62 RD 3531 or 62 RD 3532 (Page 55).

for the Job...

### DELUXE STAND

Without question the finest Mike Stand made... exclusive with Wards!

**4-Way Adjustable.** Permits use as regular floor stand, 52 to 60 inches high; child's floor stand; for use while sitting down, as banquet or high desk stand. Four 12-inch sections, one telescoping. Base can be easily screwed to any section.

**Convenient Folding Base.** Easily packed... Only 13 inches long when folded.

**Attractive Chromium Plated Tubing** with pearl gray crackle enamel base.

For more complete description see Page 58.

## 60 AND 100 WATT AMPLIFIERS



### AUTOMATIC SPEAKER SELECTOR (PAT. NO. 2176732)

Controls up to 6 speakers. Enables you to locate speakers several hundred feet from amplifier without loss of volume. Simply plug speakers into selector, and turn indicator knob on selector to number of speakers being used. Speakers automatically matched to amplifier. Connects with only two wires. Included with 60- and 100-Watt Amplifiers.

All merchandise shipped from Chicago, unless otherwise specified. You pay transportation charges only from Wards nearest Mail Order House. Send order direct to Chicago.

### 60-Watt Amplifier Modulates 120 to 150 Watts R.F. Input

See Transformer 62 RD 3115, Pg. 15, for coupling 500-ohm amp. output to class C radio frequency amp. 12 Tubes: Two 6J7 volt. amp.; one 6F5 mixer; one 6CS tone control; four 6L6G power amps.; one 6P6 driver; 3 rect.—two 5U4's for output stage and 80 for plate voltage to input stages. Two complete filter systems. 80-watt peak. 2 high impedance Mike inputs; one phono input; 500-ohm output. Pilot light and fused 110-volt line. Metal case of heavy arc-welded rust-resisting steel. Licensed by E.R.P.I., A.T. and T. Co., and Western Electric Co., Inc.

Compare power, performance, quality features with any other amplifier at anything like this price!

**Built to our rigid specifications by Lyon and Healy,** famous manufacturers of sound systems.

**Easy to Operate**—Set up quickly. Wherever baffles and projectors are shown in group listings below, heavy duty volume controls are included for lowering volume on baffle speakers.

**Genuine Kenyon or Electro Transformers and Chokes**—Finest available for quality sound systems.

**Inverse Feed Back,** permits higher power with clearer tone. Mike Silencer socket automatically prevents hum if any one mike is removed from one of the two mike sockets. Attractive Brown crackle finish. Size: 21 by 21 by 9 inches. 15 Day Trial. Order any other Ward Amplifier in the regular way, either Cash or Down Payment. If it's not the best value on the market, send it back and we will re-

### 60-Watt with Tubes

**\$72.95** Cash

\$7 a Month, See Page 3

fund every cent you've paid:

**162 RD 4263—60-Watt Amplifier with Tubes and Speaker Selector.** Ship. wt. 55 lbs. *Not Mailable.* For use on 105 to 125-v. 50 to 60 cycle, A.C. For 25 cycle 115-v. or 220-v. 60 cycle model add \$15.

Cash Price... \$72.95

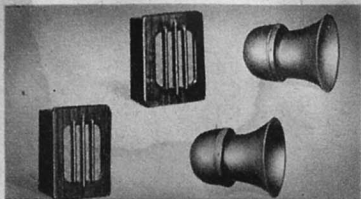
Time Payment Price: \$7 Down, \$7 a Month... 79.55

**162 RD 4003—100-Watt Amplifier with Tubes and Speaker Selector.** Similar to 60-W. but with six 6L6G's. For 25 cycle 115-v. or 220-v. 60 cycle model

add \$15. Ship. wt. 70 lbs. Cash... \$79.95

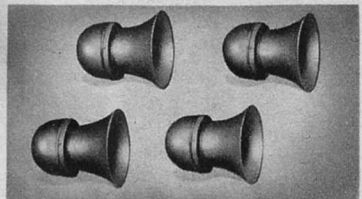
Time Payment Price: \$7 Down, \$7 a Month... 87.25

100-Watt Amplifier with 14 tubes, Modulates 200 to 250 Watts input to R. F. amplifier. See Transformer 62 RD 3116, Page 15, for coupling 500-ohm output to Class C Stage.



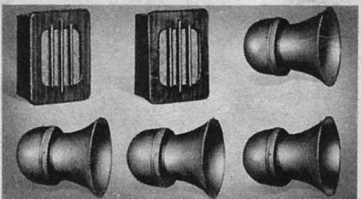
With Four Speakers—2 in Walnut Finish Baffles; 2 in Projectors

Includes 60-Watt Amplifier with Tubes; Speaker Selectors; four 12-inch P.M. Speakers; two 562 RD 2883 or 562 RD 2898 Walnut finish Wall Baffles (see Page 54); two Volume Controls; two 462 RD 3083 Airline Projectors; DeLuxe Stand; Choice of Microphones (see descriptions above at left). **Be Sure to State Microphone, Speaker and Baffle Choice on your Order.** Ship. wt. 140 lbs. *Not Mailable.*  
162 RD 4267—Complete with any Standard Microphone. Cash Price... \$145.95  
Time Payment Price: \$12.50 Down, \$10 a Month... \$159.30  
162 RD 4268—Complete with any DeLuxe Microphone. Cash Price... \$147.95  
Time Payment Price: \$12.50 Down, \$10 a Month... \$161.50  
162 RD 4269—Complete with any Long Distance Mike. Cash Price... \$152.95  
Time Payments: \$15 Dn., \$10 Mo. 166.75



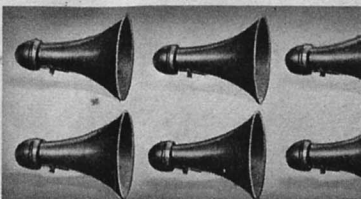
Complete with 4 Speakers in 4 Steel-Alloy Projectors

Includes 60-Watt Amplifier with Tubes and Speaker Selector; four 12-inch Permanent Magnet Speakers (see top of opposite Page for description); four 462 RD 3083 Airline Steel-Alloy Projectors (see Page 55 for details) DeLuxe Microphone Floor Stand and choice of Microphones (see above for details). **Be Sure to State Microphone and Speaker Choice.** Ship. wt. 140 lbs. *Not Mailable.*  
162 RD 4273—Complete with any Standard Microphone. Cash Price... \$144.50  
Time Payment Price: \$12.50 Down, \$10 a Month... \$157.70  
162 RD 4274—Complete with any DeLuxe Microphone. Cash Price... \$146.50  
Time Payment Price: \$12.50 Down, \$10 a Month... \$159.90  
162 RD 4275—Complete with any Long Distance Mike. Cash Price... \$149.95  
Time Payments: \$12.50 Dn., \$10 Mo. 163.70



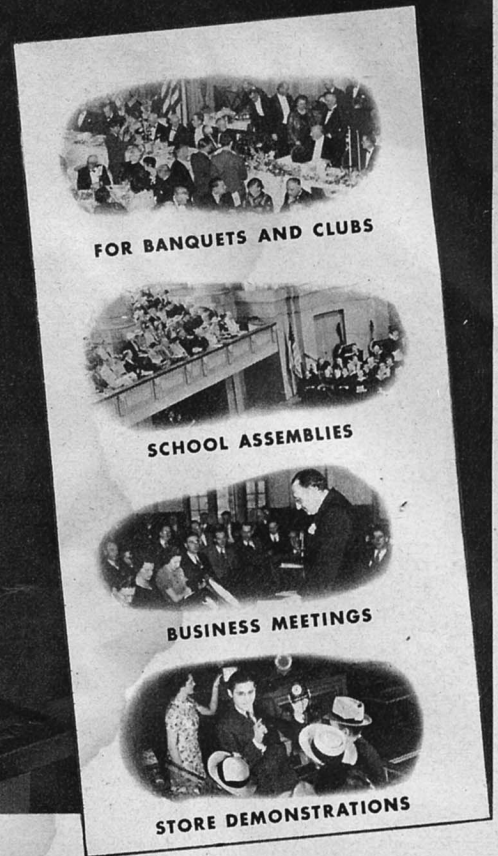
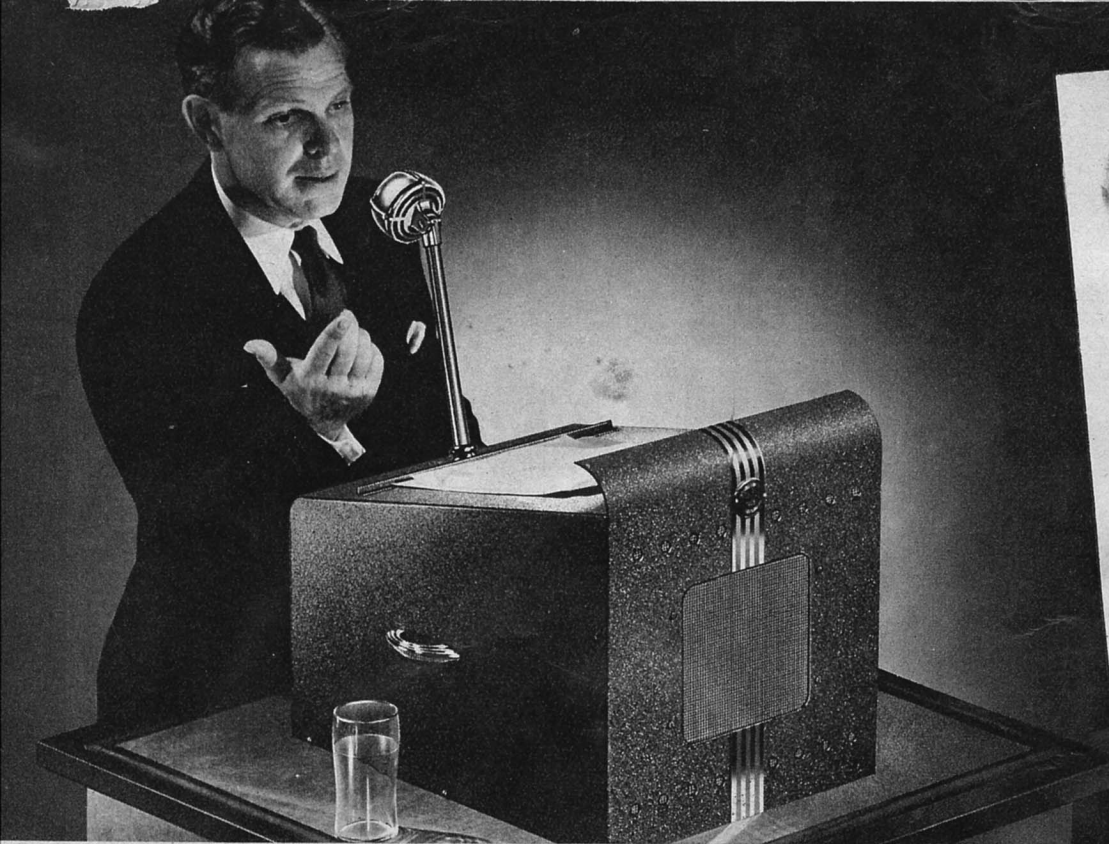
Complete with 6 Speakers—2 in Walnut Finish Baffles; 4 in Projectors

Includes 100-Watt Amplifier with Tubes; Speaker Selector; six 12-inch P.M. Speakers (see above); two 562 RD 2883 or 562 RD 2898 Walnut finish Baffles (Page 54); with two 62 RD 3201 Volume Controls; four 462 RD 3083 Projectors (Page 55); DeLuxe Mike Stand and Choice of Microphones (see above at left for full descriptions). **Be sure to state Microphone, Speaker and Baffle Choice.** Shipping weight 215 lbs. *Not Mailable.*  
162 RD 4007—Complete with any Standard Microphone. Cash Price... \$190.00  
Time Payments: \$20 Dn., \$12 a Mo. 207.00  
162 RD 4008—Complete with any DeLuxe Microphone. Cash Price... \$192.00  
Time Payments: \$20 Dn., \$12 a Mo. 209.20  
162 RD 4009—Complete with any Long Distance Mike. Cash Price... \$197.00  
Time Payments: \$20 Dn., \$12 a Mo. 214.70



Complete with Six Speakers in Steel-Alloy Trumpets

Includes 100-Watt Amplifier with Tubes; separate Speaker Selector unit. Six special Airline 462 RD 2895 Steel-Alloy Trumpets complete with special 8-inch Permanent Magnet Speakers (see Page 55 for full description); DeLuxe Microphone Floor Stand and your choice of Microphones (see above at left). **Be Sure to State Your Microphone Choice on Your Order.** Shipping weight 225 pounds *Not Mailable.*  
162 RD 4004—Complete with any Standard Microphone. Cash Price... \$242.95  
Time Payments: \$25 Dn., \$14 Mo. 264.75  
162 RD 4005—Complete with any DeLuxe Microphone. Cash Price... \$244.95  
Time Payments: \$25 Dn., \$14 Mo. 266.95  
162 RD 4006—Complete with any Long Distance Microphone. Cash Price \$249.95  
Time Payments: \$25 Dn., \$14 Mo. 272.45



# THE NEW ORATOR—A COMPLETE, EFFICIENT, COMPACT SOUND SYSTEM

ALL READY TO BEGIN OPERATION . . . JUST PLUG IT INTO ANY A.C. LIGHT SOCKET

**For the First Time**—A complete, compact and efficient sound system that requires no "Setting-up"! Anyone can operate it because it's only necessary to plug it into any A.C. light socket and begin your program. It's really as easy as that. No technical knowledge is required.

**All in One.** Contains Microphone, Amplifier, Speaker and Illuminated Reading Table. There are absolutely no individual parts to connect—easier to use than an ordinary radio set. You'll find it ideally suited for dozens of applications (see above at right). Just the thing for church pulpits, school exercises, commencement exercises, lodges, club meetings, hotels, etc.

**Uses Specially Designed Microphone** that eliminates annoying background noises, assures lifelike tone of the speaker or announcer. Mike is a voice-type crystal for complete, faithful reproduction. Adjustable to just the right height for effective pickup at all times—yet allows complete freedom of movement to the speaker.

**With Convenient Phonograph Connection.** Just plug in any record player (see Page 58) and a choice of the world's finest recorded music is yours. Has individual volume control for Phonograph so you can regulate the music any way you like.

**Provides a Full 12 Watts Undistorted Power**—Enough power to amplify even the most frail voice without the slightest distortion. Any speaker can use it with satisfaction.

**Volume Control** for accurately setting and regulating the loudness or softness of your voice to fit the size room in which it is to be used. Regulation can be done easily.

Complete Unit  
**\$95.00**  
 Cash  
 \$9 Down, \$8 a Month

**Handy Tone Control** emphasizes either the brilliant high notes or brings out more of the mellow bass tones—either way you wish to meet the individual acoustic differences of your hall. Both volume and tone controls are placed within easy reach on top of case for simple quick regulation.

**Powerful Dynamic Speaker** mounted on specially designed tone chamber carries your voice faithfully to the farthest corner of the room—to every person in your audience. There is no comparison with an ordinary baffle; full eight inch diameter speaker of highest efficiency has plenty of power.

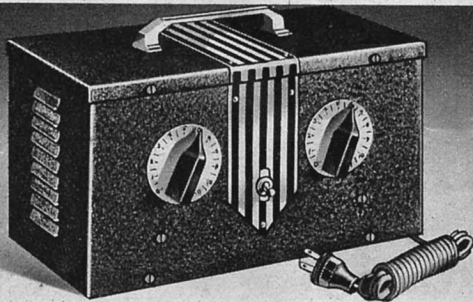
**Two Additional Speakers** may be plugged in at any time to cover still larger crowds in overflow rooms, outdoor gatherings, exceptionally large halls, etc. (See Pages 52 and 53 for extra speakers). You can use 8, 10 or 12-inch size speakers.

**Small in Size**—Only 18 by 22 by 17 inches wide. Fits easily on most speaker tables and rostrums. Licensed by E. R. P. I., A. T. & T. and Western Electric Co., Inc.

**Illuminated Indirectly** for easy reading of speeches, etc. An especially valuable feature because you are always assured of adequate light even in rooms dimly lighted or dark. Made of strong furniture steel; finished in attractive Walnut-Tan crackle enamel.

**Tubes Used:** One 6SJ7 input; one 6SC7 driver; two 6L6G beam power output tubes and one heavy duty 5U4G rectifier. Shipping weight 75 lbs. *Not Mailable.*

**162 RD 4163—Complete** as described above. Cash Price . . . . . **\$95.00**  
 Time Payment Price: \$9 Down, \$8 a Month . . . . . **103.60**



**Dual Channel Pre-Amplifier**

For operating up to two mikes more than 100 feet from amplifier (or as far away as several blocks); separate control for each input. Use with any amplifier. Arranged for 200/500-ohm line (see transformer below). Shielded and hum free. Two mike sockets; 3 amplifier stages. Attractive Brown crackle finish with modern chrome trim. Complete with Tubes and Cord. Shipping weight 30 pounds.

**462 RD 2856**—For use on 105 to 125 volt, 50 to 60 cycle, A.C. Cash Price . . . . . **\$29.95**

Time Payment Price: \$3 Down, \$4 a Month . . . . . **32.65**

**462 RD 2931**—Same as above but *battery operated*. Uses four 1½-volt dry cells and 3 portable 45-volt "B" batteries. All batteries are included. Shipping weight 27 lbs. **\$30.94**

Cash Price . . . . . **\$30.94**

Time Payment Price: \$4 Down, \$5 a Month . . . . . **33.63**

**62 RD 3112**—Long Distance Transformer to match above Pre-Amplifiers to mike sockets on any Amplifier, with 30-in. cord and plug. Ship. wt. 2 lbs. **\$3.77**

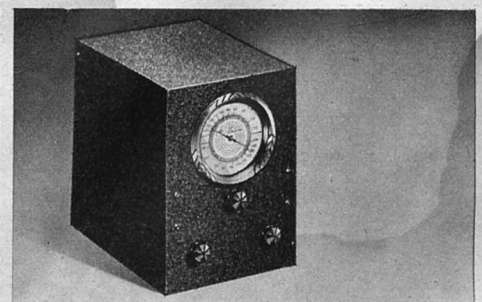


**Hushatone Pillow Speakers**

The Hushatone connects to any radio and slips under your pillow or cushion to bring you radio reception without disturbing others in the same room. You hear it only when your head rests on the pillow—which acts in a similar manner to a sounding board. Permits listening to programs late at night, or whenever personal reception is desired. A real pleasure for invalids and shut-ins! Very effective in lulling infants or adults to sleep. The flip of a switch (not included. See Page 21, 62 RD 4695) cuts off radio loudspeaker and turns on Hushatone. The regular control on your radio gives any volume you like. Actually has better tone than many loudspeakers because it uses the famous Brush Crystal unit . . . you'll find it equally faithful on both high and low tones.

No larger than a child's hand! Completely enclosed in soft rubber and then vulcanized . . . allows sterilizing without any damage to the unit. Complete instructions tell you just how to connect it.

**62 RD 2839**—With 5-Foot Cord. Shipping weight 1 lb. **\$4.41**



**Airline Public Address Tuner**

A high fidelity radio set that permits reception of radio programs using full power output of your amplifier. Automatic Volume Control. With dual channel output—your programs may be monitored with earphones without plugging directly into circuit. High and low impedance terminals. If tuner is located more than 25 ft. from amplifier; use 2 long distance transformers; one as stepdown at tuner; other as stepup at amplifier. 4 Tubes: Two 6SK7; one 6H6; one 5W4. Tubes included.

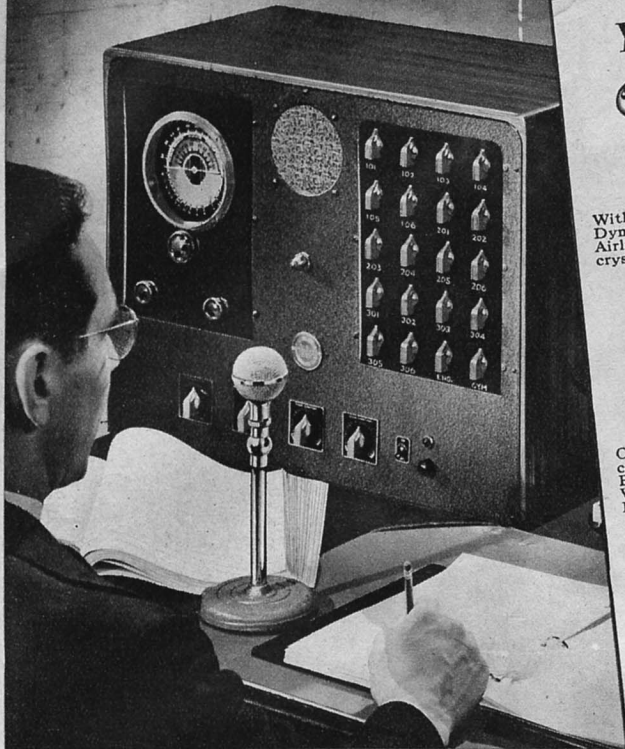
Size: 11 by 14 by 10 inches. Use on 105-125 volt, 50 to 60 cycle, A.C.

**562 RD 2939**—Ship. wt. 11 lbs. Cash Price. **\$39.95**

Time Payment Price: \$4 Down, \$5 a Month . . . . . **43.55**

**62 RD 3112**—Long Distance Transformer. Shielded. Built for inserting in cable between Tuner and Amplifier. Phenolic shielded screw-type connectors. Secondary is 50-ohm impedance to match low impedance line. Primary, high impedance. Black suede enamel finish. **\$3.77**





## Your Choice of



**STANDARD MIKES**  
 With 25-foot cord and plug. (SA) American Dynamic Clipper; (SB) Airline Velotron; (SC) Airline Velocity; (SCA) Airline American C-2 crystal. See Pages 56 and 57 for details.



**DELUXE MIKES**  
 Complete with 25-foot rubber covered shielded cable and attachment plug. Your choice of (DA) Electro Voice Dynamic; (DD) Electro Voice V2 Velocity; (DJ) Airline Brush A.P. See Pages 56 and 57 for full descriptions.



**TWO FAMOUS SPEAKERS**  
 Your choice of Cinaudagraph 562 RD 2456 or Jensen 562 RD 2640. See Pages 52 and 53. Both require only 2-wire cord for quick easy connections. For measuring information and prices of cord, see information listed below.

# FINEST ALL-PURPOSE SCHOOL OR INSTITUTIONAL SOUND SYSTEMS

TALK, PLAY RECORDS OR RADIO, LISTEN TO ANY ROOM OR GROUP OF ROOMS YOU WISH

Here's quick, instant communication from the Superintendent's office or other central points, to any or all the rooms in your school or institution. Now there is no need to dispatch messengers when the touch of a finger instantly transmits your message directly to any room or group of rooms you wish. Radio programs, phonograph records, speaking, singing and various other forms of instruction or entertainment can, likewise, be transmitted to any room or group of rooms desired quickly and easily.

**Individual Room and Emergency Controls**—Individual selector knobs are marked for instant identification so you can get any room or group of rooms you want. An Emergency Control instantly connects all rooms for general calls, instructions, etc. Carry on fire drills with marvelous precision by individual announcements to each room or to all rooms at once. Let prominent School Board Officials, Parent-Teacher Leaders, and visiting celebrities speak to any room or group of rooms, right from your office. Cover entire school at one time. These and many other important uses will be found for this modern School and Institutional Sound System.

**Built-in Radio for Important Broadcasts**—Bring your students and others the highly educational programs now being broadcast daily. Let Civics Classes listen to the Country's leaders without disturbing the other classes. Music appreciation hours, broaden your students' outlook on the renowned classics and composers. Homemakers' programs are broadcast many times during the day, allowing you to augment your present Domestic Science Classes. This radio uses a Tuned Radio Frequency circuit to take full advantage of the fine tonal qualities of the sound system. Big, easy-to-see and easy-to-tune dial for quick and accurate tuning. A valuable addition to any Sound System.

**Phonograph Connection for World's Finest Music**—A record player (see Page 58) is easily plugged into this Sound System, bringing a choice of the world's finest recorded music. Students love to march to well timed martial rhythm. Play selections while changing classes and observe the marvelous order the students maintain. Licensed by E.R.P.I., under U. S. Patents of A. T. & T. Company and Western Electric Company, Inc. Also it's an effective attention-getter before making important announcements.

**Provides Regular Auditorium Sound System, Too**—Auditorium Switch on front panel permits

One to Ten-Room Model  
**\$17700** Cash  
 \$20 Down, \$12 a Month

you to use the unit as described above, or as a regular Sound System in your Chapel or Auditorium. A second mike socket allows a Long Distance Mike (see Page 57 for complete listings) located in auditorium to be plugged in, without moving the outfit out of your office.

**Special Talk-Back or Listening Feature**—On special request we can equip your school system so you can listen to the activities in the individual class room, when you wish. By simply turning the pointer for any room to the "listening" position, you can hear the teacher instructing students, and other activities. Also permits instructors to answer any question you may ask. Instructors cannot talk to main office until they are called on the loud speaker. Requires the use of special shielded cable. For complete information and prices, write to Radio Wholesale and Technical Department, Montgomery Ward, Chicago, Illinois. We will send you full information immediately without obligation.

**Monitor Speaker and Convenient Controls**—Built-in 6-inch P.M. Dynamic Speaker permits you to hear incoming radio programs, phonograph selections, etc., as they are being transmitted over the system. Individual volume controls on each mike socket, radio, and phonograph connection, and Separate Bass and Treble Controls permit regulation of, and instant comments on, any program being transmitted. Size: 32 by 28 by 14 inches. Small enough to fit conveniently on top of your desk.

**Easy to Install**—Clear, easy to understand instructions accompany each outfit. Your science or physics department can easily install it, or you may call in your house electrician. Microphones and Record Player simply plug in, as does the cord to the lighting socket or wall plug. See below for amount of wire needed.

**10, 20 and 30-Room Sizes**—All three standard sizes offered below have features explained above. If future plans include no more than ten rooms, then the 10-room is the size for you to order. If you are likely to need more than the 10-room outfit later, we recommend ordering one of the larger sizes now. Equipment for converting a 10 or 20-room outfit into a 20 or 30-room outfit can be supplied by us at any time. For prices and complete ordering information, see below. Write Radio Wholesale and Technical Dept., Chicago, Illinois for specifications for more than 30 rooms.

## THREE POPULAR STANDARD ROOM SIZES TO CHOOSE FROM

Each size includes Walnut Finish Cabinet with Amplifier; Tubes; Controls; Built-in Radio with Tubes; Monitor Speaker; Choice of Mikes (see above); Desk Stand of 562 RD 2884, Page 58. **Stare Mike Choice.** Order speakers and cord from listings below. For use on any 105 to 125 volt, 50 to 60 cycle, A.C. line. Cord and plug on Amplifier plugs into light socket or wall plug. If Record Player is desired, order 462 RD 3383 or 462 RD 3353

(see Pages 58 and 59) and plug into Amplifier and light socket. For Long Distance microphones see Pages 56 and 57 for complete descriptions.

**Technical Description: Amplifier** 28-watts normal, 39-watts peak. 8 Tubes: Two 6E5; one 6F8G; one 6C8G; two 6N7G; two 6L6G's; one 83. Has 2, 4, 8, 166, 250 and 500-ohm output. **Radio:** tuned frequency circuit, two 6K7, one 6H6, one 5W4. Range: 550-1720 K.C.

### 1 to 10-Room Model

Includes outfit as described above with 10 room switches on panel. Shipping weight 53 lbs. *Mailable.*

**462 RD 7903**—With Choice of any Standard Microphone. Cash Price: **\$177.00**  
 Time Payment Price: \$20 Down, \$12 a Month... **192.70**

**462 RD 7904**—With Choice of any DeLuxe Microphone. Cash Price: **\$179.00**  
 Time Payment Price: \$20 Down, \$12 a Month... **194.90**

### 1 to 20-Room Model

Includes outfit as described above with 20 room switches on panel. Shipping weight 53 lbs. *Mailable.*

**462 RD 7905**—With Choice of any Standard Microphone. Cash Price: **\$185.00**  
 Time Payment Price: \$20 Down, \$12 a Month... **201.50**

**462 RD 7906**—With Choice of any DeLuxe Microphone. Cash Price: **\$187.00**  
 Time Payment Price: \$20 Down, \$12 a Month... **203.70**

### 1 to 30-Room Model

Includes outfit as described above with 30 room switches on panel. Shipping weight 53 lbs. *Mailable.*

**462 RD 7907**—With Choice of any Standard Microphone. Cash Price: **\$195.00**  
 Time Payment Price: \$20 Down, \$12 a Month. **212.50**

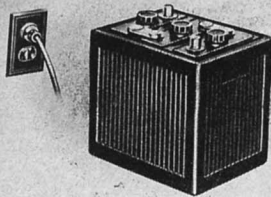
**462 RD 7908**—With Choice of any DeLuxe Microphone. Cash Price: **\$197.00**  
 Time Payment Price: \$20 Down, \$12 a Month. **214.70**

## Order the Speakers and Connecting Wire You Need from Listings Below

**Your Choice** of Jensen 562 RD 2640 or Cinaudagraph 562 RD 2457 (Pages 52 and 53) 8-inch P.M. Speakers, each with a transformer and Walnut finish Metal Wall Baffle, 562 RD 2330 (Page 54). When complete speaker groups are ordered, such as 10 speakers for a 10-room outfit, we offer one speaker in the Airline Special Projector 62 RD 3092 (Page 55) at no extra cost when so requested. More suitable for use in boiler rooms, etc., and replaces one of the baffles. Shipping weight 9 pounds. *Not Mailable.* **\$5.50**  
**162 RD 7909**—Speaker with Walnut Finish Wall Baffle and Transformer. Each

**To Determine** wire you need to connect speakers to amplifier, measure distance in feet from amplifier to each speaker location. Include height of speaker above the floor; and ceiling heights when speaker is on different floor from amplifier. After measuring distance for each speaker, add the distances together to give total length of two-conductor twisted wire needed. Adding 15% of the total length takes care of wire for partitions, corners, etc. *1000 feet of wire included* with each of the above outfits without extra charge. Order 62 RD 9088 speaker wire (Page 55).

# BATTERY OR A. C.



Airport



Political Rallies

Sound Trucks



Needs No  
YOUR

Pickups . . .

Astatic crystal 62 RD 3031 (Pg. 61) or Bruno Magnetic Symphonic.

Speakers

With 35-ft. cord; plug.

**22-Watt Amplifier:** 12-in. P.M. Jensen, 562 RD 2630 or 12-in. P.M. Cinaudagraph 562RD2462.

**30-Watt Amplifier:** 12-in. P.M. Jensen, 562 RD 2627 or 12-in. P.M. Cinaudagraph, 562RD 2463. Pages 52 and 53.

Mike Stands

Your choice of Standard 4-Way (562 RD 2884) or the new DeLuxe Stand (62 RD 3187) . . . without a doubt the finest Mike Stand made! See full descriptions on Page 58.

Amplifier with Tubes

\$59.95 CASH

\$5 DOWN \$6 A MONTH

All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.



## 22-Watt DeLuxe Convertible Sound System

**Ideal when used as a sound truck system.** Operates from either 6-volt storage (auto) battery or 105 to 125-volt A.C. light socket at a flip of the switch. The perfect advertising medium for traveling carnivals, circuses, shows, political campaigners, salesmen-demonstrators. The best way to give quick, dramatic announcements . . . attract public attention quickly!

**Newly developed tone control** gives exceptionally fine variation of both bass and treble tones . . . permits you to get tone effects never before possible on a Convertible System—assures you of greatly improved reproduction. Licensed by E. R. P. I., under U. S. Patents of A. T. & T. Co., and Western Electric Co. Inc.

**Use two mikes and phono at same time.** (When using Astatic pickup.) Each mike has its own individual volume control. Only one mike can be used when purchased with Bruno Symphonic Pickup (this Bruno pickup has automatic needle chuck—needs no set screw).

**Special battery-saving "stand-by" switch** reduces battery drain when

amplifier is being used with 6 volts. Tubes are kept warm, and amplifier is always ready for instant operation.

**Constant speed phonograph motor** 78 R.P.M. for both A.C. and 6-volt operation. Speed does not vary . . . no adjustments necessary.

**Brown Crackle Finish Case** with convenient handles and attractive harmonizing decorations. Size: 15 by 16 by 10 1/2 in.

**For Complete Outfits** ready to put into operation, see listings at bottom of page. For new car top mounting see Page 55.

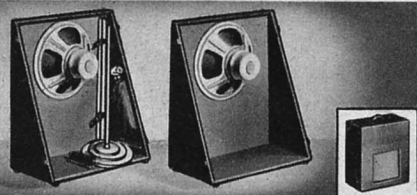
**162 RD 3820—Amplifier with Tubes. State Pick-Up choice.** Ship. wt. 40 lbs. *Not Mailable.* Cash Price . . . . . \$59.95  
Time Payment Price: \$5 Down, \$6 a Month . . . . . 65.45

**162 RD 3819—Same as above, with (SA) Dyn. Clipper Mike** with handle; switch; two 12-in. P.M. Speakers; Cinaudagraph 562RD2461 (P. 52) with 35-ft. cord; plug. No mike or speaker choice. Shipping weight 65 lbs. *Not Mailable.* Cash Price . . . . . \$82.95  
Time Payment Price: \$8 Down, \$7 a Month . . . . . 90.45

## 35-Watt Peak

**8 Tube Total:** Two 6F5's Microphone inputs with individual gain controls; one 6Y7G mixer; one 6N7G power driver; two 6L6G push-pull beam power output tubes in push-pull; two 6X5G rectifiers. One red socket for one 8-ohm speaker; two black sockets for two 8-ohm speakers. Also 500-ohm terminals. Up to four 8-ohm speakers can be used if desired. Two input channels for two microphones and one phonograph.

Can also be arranged for radio attachment. 22 watts normal output; 35 watts peak. Meets specifications of other amplifiers rated at 35-watts usable power. Has 18-ampere battery drain.



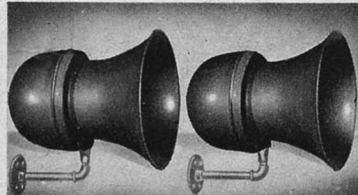
### Complete with 2 Speakers in Dual Speaker Carrying Case

Includes 22-watt Amplifier with Tubes; two 12-inch P.M. Speakers (see above); one 462 RD 4705 Brown leatherette Dual Speaker Carrying Case (see Page 54); 4-Way Microphone Stand\* (see above); and choice of Pick-Ups and Microphones (see above). **Be sure to state Mike, Pick-Up and Speaker choice.** Shipping weight 75 lbs. *Not Mailable.*

**162 RD 3817—Complete with any Standard Microphone.** Cash Price . . . . . \$94.95  
Time Pay. Price: \$9 Dn., \$8 Mo. . . . . 103.55

**162 RD 3818—Complete with any DeLuxe Microphone.** Cash Price . . . . . \$96.95  
Time Pay. Price: \$9 Dn., \$8 Mo. . . . . 105.75

\*NOTE: Above outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, **so state**, and add \$4.95 to Cash Price.



### Complete with 2 Speakers in Two Steel-Alloy Projectors

Includes 22-watt Amplifier with Tubes; two 12-inch P.M. Speakers (see above); two 462 RD 3083 Steel-Alloy Projectors (see Page 55); 4-Way Microphone Stand\* (see above); and choice of Pick-Ups and Microphones (see above). **State Microphone, Pick-Up and Speaker choice.** Ship. wt. 85 lbs. *Not Mailable.*

**162 RD 3824—Complete with any Standard Microphone.** Cash Price \$98.95  
Time Pay. Price: \$9 Dn., \$8 Mo. . . . . 107.95

**162 RD 3825—Complete with any DeLuxe Microphone.** Cash Price . . . \$100.00  
Time Pay. Price: \$9 Dn., \$8 Mo. . . . . 109.10

\*NOTE: Above outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, **so state**, and add \$4.95 to Cash Price.



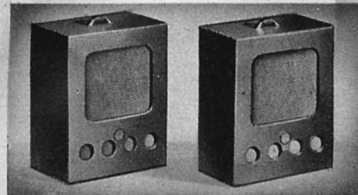
### Complete with 2 Speakers in Two New Compact Trumpets

Includes 22-watt Amplifier with Tubes; two high-power 8-inch Airline P.M. Dynamic Speakers mounted in two 462 RD 3190 rain-proof Compact Trumpets (Page 54); 4-Way Stand\*; choice of Pick-Ups and Mikes (see above). **State Mike, Pick-Up choice.** Shipping weight 95 lbs. *Not Mailable.*

**162 RD 3826—Complete with any Standard Microphone.** Cash Price . . . \$119.95  
Time Pay. Price: \$10 Dn., \$9 Mo. . . . . 130.95

**162 RD 3827—Complete with any DeLuxe Microphone.** Cash Price . . . \$121.95  
Time Pay. Price: \$12.50 Dn. \$9 Mo. . . . . 132.90

\*NOTE: Above outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, **so state**, and add \$4.95 to Cash Price.



### Complete with 2 Speakers in Dynamic Reflex Baffles

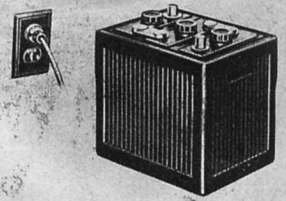
Includes 22-watt Amplifier with Tubes; two 12-inch P.M. Speakers (see above); two 462 RD 3146 Reflex Baffles (see Page 54); 4-Way Microphone Stand\* (see above); and choice of Pick-Ups and Microphones (see above). **Be sure to state Microphone, Pick-Up and Speaker choice.** Ship. wt. 95 lbs. *Not Mailable.*

**162 RD 3828—Complete with any Standard Microphone.** Cash Price . . . \$108.95  
Time Pay. Price: \$10 Dn., \$8 Mo. . . . . 118.85

**162 RD 3829—Complete with any DeLuxe Microphone.** Cash Price . . . \$110.00  
Time Pay. Price: \$10 Dn., \$8 Mo. . . . . 120.00

\*NOTE: Above outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, **so state**, and add \$4.95 to Cash Price.

# ELECTRIC OPERATED



Outdoor Gatherings



Indoor Crowds



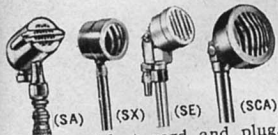
Sport Events



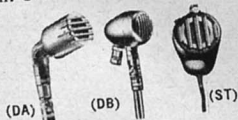
## Power Pack

### CHOICE OF

#### Standard Mikes



With 25-foot cord and plug. (SA) Am. Dynamic Clipper; (SX) Brush US; (SE) Electro Voice Dynamic; (SCA) Airline Am. C-6. See Pages 56 and 57.



#### Deluxe Mikes

With 25-ft. cord; plug. (DA) Elec. Dyn.; (DB) Am. Dyn.; (ST) Elec. Hand Dyn. Pages 56 and 57.



Amplifier with Tubes

**\$85.95**  
CASH

\$8 DOWN  
\$7 A MONTH



Removable Cover protects turntable and pick-up. Equipped with split hinges—can be slipped off instantly. Speaker Selector (patents pending). Use from 1-4 speakers by turning knob. Assures correct connection. Record Album protects records. Slides in bottom of amplifier. Space for a dozen 10 or 12-inch records.

### 42-Watt Peak

**Ten Tube Total:** Class A Circuit. Two 6F5 separate Mike channel Amplifiers; one 6F8G electronic mixer; one 6C8G electronic tone compensator; one 6C5G power driver; two 6L6G push-pull beam power output; three separate 6X5G rectifiers. 30 watts normal output, 42 watts peak. 22 amperes battery drain. Two microphone and one phonograph input. Can be arranged for radio attachment. Mike gain of 125 db. Phono gain of 85 db. Selector switch on output permits connection and matching of from one to four 8-ohm speakers and 500-ohm line. 4 speaker sockets and separate 500-ohm terminals. Can be arranged to handle up to eight speakers.

## 30-Watt Supreme Convertible Sound System

**Our Best Convertible Amplifier.** Operates on either 6-volt storage battery of 105 to 125-volt A.C. A flip of the switch makes ready for use on either of these power sources.

**No Power Pack to Buy or Attach.** Entirely self-contained. The ideal system for those whose work requires an amplifier in both rural (where power lines are not available) and urban (where power lines are convenient) districts. Uses two Microphones and one phono at same time with Astatic pickup. Only one Microphone and Bruno Symphonic-pickup may be used at the same time.

**Electronic Tone Compensation with Dual Controls.** You can boost the high treble or low notes in speech, or music to suit your requirements. Each control independent of the other. Licensed by E. R. P. I., under U. S. Patents of A. T. & T. Co. and Western Electric Co. Inc.

**Constant Speed Phono Motor.** 78 R.P.M. assured regardless of whether it is being used on 6-volt D.C. or 105 to 125-volt, 60-cycle A.C. Plays any size records up to 12 inches.

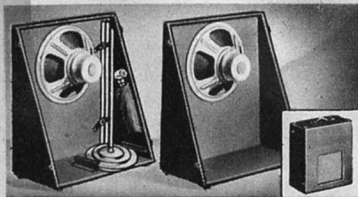
**"Stand-by" Battery Saving Switch** reduces battery drain over one half during stand-by periods, or when changing records. Keeps tubes hot, ready for instant use. No waiting before operation begins.

**New Brown Crackle Enamel Finish** with harmonizing colored control knobs, and smart chrome trim. Built-in record compartment . . . album holds 12 records. Size: 16 by 16 by 12 inches high.

**For Complete Outfits** ready for immediate operation, see bottom of page. For 25 cycle 115 v or 220 v 60 cycle, add \$5.

**162 RD 3830—Amplifier with Tubes. State Pick-Up choice.** Ship. wt. 50 lbs. *Not Mailable.* Cash Price . . . . . \$85.95  
Time Payment Price: \$8 Down, \$7 a Month . . . . . 93.75

**162 RD 3834—Same as above, with (SA) Dyn. Clipper Mike** with handle; switch; two 12-in. P.M. Speakers, 562 RD 2462 Cinaudagraph (Pg. 52) with 35-ft. cord; plug. No Mike or Speaker choice. Ship. wt. 70 lbs. *Not Mailable.* Cash Price . . . . . \$109.50  
Time Payment Price: \$10 Down, \$8 a Month . . . . . 119.45



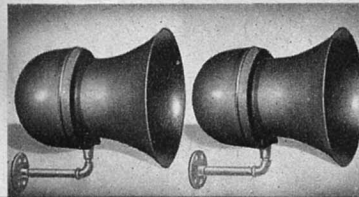
### Complete with 2 Speakers in Dual Speaker Carrying Case

Includes 30-watt Amplifier with Tubes; two 12-inch P.M. Speakers (see above); one 462 RD 4705 Dual Speaker Carrying Case (see Page 54); 4-Way Mike Stand\* (see above); and choice of Pick-Ups and Microphones (see above). **Be sure to state Microphone, Pick-Up and Speaker choice.** Shipping wt. 85 lbs. *Not Mailable.*

**162 RD 3835—Complete with any Standard Microphone.** Cash Price . . . \$124.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 135.70

**162 RD 3836—Complete with any DeLuxe Microphone.** Cash Price . . . . . \$126.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 137.90

\*NOTE: Above Outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, so state, and add \$4.95 to Cash Price.



### Complete with 2 Speakers in Two Steel-Alloy Projectors

Includes 30-watt Amplifier with Tubes; two 12-inch P.M. Speakers (see above); two 462 RD 3083 Steel-Alloy Projectors (see Page 55); 4-Way Microphone Stand\* (see above); and choice of Pick-Ups and Microphones (see above). **Be sure to state Mike, Pick-Up and Speaker choice.** Ship. wt. 80 lbs. *Not Mailable.*

**162 RD 3837—Complete with any Standard Microphone.** Cash Price . . . \$127.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 139.00

**162 RD 3838—Complete with any DeLuxe Microphone.** Cash Price . . . \$129.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 141.20

\*NOTE: Above Outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, so state, and add \$4.95 to the Cash Price.



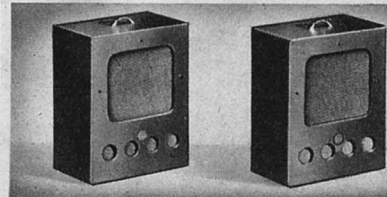
### Complete with 2 Speakers in Two New Compact Trumpets

Includes 30-watt Amplifier with Tubes; two high-power 8-inch Airline P.M. Dynamic Speakers mounted in rain-proof Compact Trumpets (see Page 54); 4-Way Mike Stand\* (see above). Choice of Pick-Ups and Mikes. **State Mike and Pick-Up choice.** Shipping weight 90 pounds. *Not Mailable.*

**162 RD 3839—Complete with any Standard Microphone.** Cash Price . . . \$139.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 152.70

**162 RD 3840—Complete with any DeLuxe Microphone.** Cash Price . . . \$141.95  
Time Pay. Pr.: \$12.50 Dn., \$10 Mo. 154.90

\*NOTE: Above Outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the Standard 4-Way Stand, so state, and add \$4.95 to Cash Price.



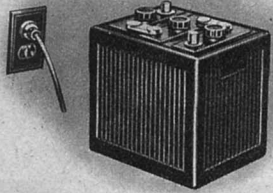
### Complete with 2 Speakers in Dynamic Reflex Baffles

Includes 30-watt Amplifier with Tubes; two 12-inch Permanent Magnet Speakers (see above); two 462 HR 3146 Reflex Baffles (see Page 54); one 4-Way Microphone Stand\* (see above). Choice of Pick-Ups and Microphones (see above). **Don't forget to state Microphone, Pick-Up and Speaker choice.** Shipping weight 100 pounds. *Not Mailable.*

**162 RD 3841—Complete with any Standard Microphone.** Cash Price . . . . . \$129.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 141.20

**162 RD 3842—Complete with any DeLuxe Microphone.** Cash Price . . . . . \$131.50  
Time Pay. Price: \$12.50 Dn., \$9 Mo. 143.40

\*NOTE: Above Outfits also offered with the new DeLuxe Microphone Stand (see above). If you wish DeLuxe Stand instead of the standard 4-Way Stand, so state, and add \$4.95 to Cash Price.



# BATTERY OR A. C.

Outdoor Sports Events

Indoor Meetings

Rallies Political

Amplifier with Tubes

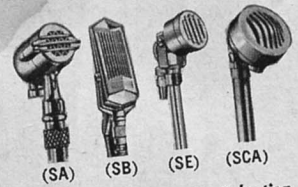
**\$26.95**  
CASH

3 DOWN  
4 A MONTH

All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.



**Needs No Power**  
YOUR CHOICE OF MIKES



Standard Mike Selection

Each comes complete with 25-foot cord and plug. Four Microphones are offered to you with the Standard Selection at no extra cost—You choose the one that best suits your needs. (SA) American Clipper Dynamic; (SB) Airline Velotron; (SE) Dynamic; (SCA) New Airline Electro-Voice Dynamic; (SCA) New Airline American C-6. (See Pages 56 and 57 for complete Microphone description.)

## 12-WATT CONVERTIBLE AMPLIFIER . . . YOU CAN USE IT ANYWHERE

A completely new 12-watt convertible Sound System that can be used anywhere . . . at about half the price asked for the usual convertible amplifier. Operates from 105 to 125-volt, 60-cycle, A.C. light socket, or from a 6-volt storage or auto battery . . . *without the use of a Power Pack!* Take it out in the country, set it up just as quickly and get the same performance as you do in the city. A mere turn of the switch changes amplifier from A.C. electric-operated to battery-operated. Battery cables and clips furnished in addition to A.C. cord and plug.

**Easily Operated, Self-contained Unit.** No previous operating experience or technical knowledge is required for its operation. Has easy plug-in connections for speaker, microphone and power. Can be completely set up, ready for use, in only a few minutes.

**Permanent Magnet Dynamic 8-inch Speaker** supplied with complete combinations listed below. This type speaker is much better than old-fashioned electro-dynamic type frequently offered with amplifiers at about this price. Comes equipped with 35-foot cable and quick attachment plug. Simply plug it into the amplifier which has sockets for two Speakers. No complicated wiring necessary.

**Can Be Used with Phonograph Pickup.** Play records by merely plugging in record player. (Pages 58 and 59.) Operates with either crystal or magnetic pickup. Same Volume Control on illuminated panel

for Mike and Phono. Tone Control for emphasizing high or low tones. May also be used with carbon mike (See Page 56).

**Licensed by E. R. P. I. under U.S. Patents of A. T. & T. Co., and Western Electric Co. Inc.** Has new, attractive Brown Crackle Finished case with chrome trim. There is no extra charge for the case at Wards. Size: 11 by 8 by 7 inches.

**15-Day Trial**—an exclusive Ward offer. Order this or any other Airline Amplifier in the regular way, either Cash or Down Payment, and compare it with other amplifiers selling at anywhere near this low price. If you are not convinced that it's the biggest dollar-for-dollar value you can find, send it back and we will refund every cent you have paid, including shipping charges both ways. For complete outfits, ready to put into operation immediately (nothing else to buy), see bottom of page.

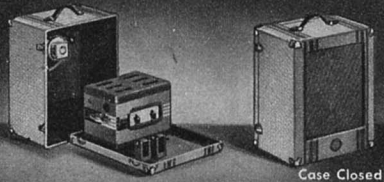
**162 RD 3310—Amplifier with Tubes.** Ship. wt. 16 lbs. **\$26.95**  
Not Mailable. Cash Price. . . . .  
Time Payment Price: \$3 Down, \$4 a Month. . . . . **29.35**

**162 RD 3300—Amplifier with Tubes;** one 8-in. Airline P.M. Speaker, 35-ft. cord, plug; one (SCA) Mike; one 562 RD 2884 Stand. No mike or speaker choice. Ship. wt. 25 lbs. **Not Mailable.** Cash. . . . . **\$36.95**  
Time Payment Price: \$4 Down, \$5 a Month. . . . . **40.25**

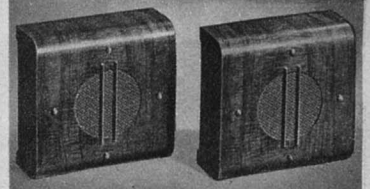
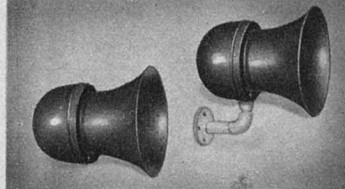
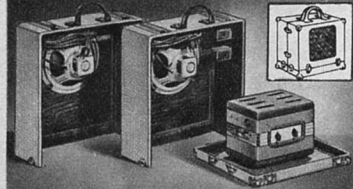
### 16-WATT PEAK

Tube complement for 12-watt convertible Amplifier: Five tube total: one 6J7 input; one 6Y7G mixer-phase inverter; two 6V6G beam power output tubes in push-pull; one 6X5G rectifier. Output of 12 watts normal; 16 watts peak. Don't be misled with fictitious power ratings and fewer tubes found on many other amplifiers.

One mike and one phono input with fader control for separate operation. Voltage for carbon mike supplied at socket. Drain on 6-volt battery; 7 amperes. Output impedance: three 4-prong sockets; to operate one or two eight-ohm speakers. Can also be arranged to use up to four speakers if you so desire.



Case Closed



#### Complete with One Speaker in Single Carrying Case

Includes 12-watt Amplifier with Tubes; one 8-inch Airline P.M. Speaker similar to 562 RD 2458 (see Page 52); one 462 RD 5291 Airplane Style Carrying Case (see Page 54); your choice of 4-Way or DeLuxe Mike Stand and choice of Standard Mikes (see above at right). **Be sure to state Microphone choice.** Ship. wt. 25 lbs. **Not Mailable.**

**162 RD 2312—Complete with 4-Way Mike Stand.** Cash. . . . . **\$45.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **50.05**

**162 RD 2313—Complete with DeLuxe Floor Stand.** Cash. . . . . **49.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **54.45**

#### Complete with Two Speakers in 3-Division Carrying Case

Includes 12-watt Amplifier with Tubes; two 8-inch Airline P.M. Speakers similar to 562 RD 2458 (Page 52); one 462 RD 5290 Airplane Style 3-Division Carrying Case (Page 54); choice of 4-Way or DeLuxe Mike stand; choice of Standard Mikes. (See above at right.) **State Mike choice.** Ship. wt. 35 lbs. **Not Mailable.**

**162 RD 2314—Complete with 4-Way Mike Stand.** Cash. . . . . **\$47.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **52.25**

**162 RD 2315—Complete with DeLuxe Mike Stand.** Cash. . . . . **51.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **56.65**

#### Complete with Two Speakers in Special Steel Projectors

Includes 12-watt Amplifier with Tubes; two 8-inch Airline P.M. Speakers similar to 562 RD 2458 (see Page 52); two 462 RD 3092 steel-alloy Airline Projectors (Page 55); your choice of 4-Way or DeLuxe Microphone Stand, and choice of Standard Mikes (see above at right). **State Mike choice.** Ship. wt. 45 lbs. **Not Mailable.**

**162 RD 2316—Complete with 4-Way Mike Stand.** Cash Price. . . . . **\$54.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **59.95**

**162 RD 2317—Complete with DeLuxe Mike Stand.** Cash. . . . . **59.95**  
Time Pay. Price: \$5 Dn., \$6 Mo. . . . . **65.45**

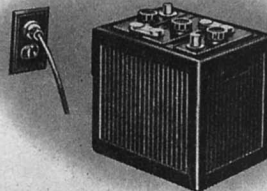
#### Complete with Two Speakers in Walnut Finish Wall Baffles

Includes 12-watt Amplifier with Tubes; two 8-inch Airline P.M. Speakers similar to 562 RD 2458 (Page 52); two 562 RD 2330 Walnut Finish Wall Baffles (Page 54); choice of 4-Way or DeLuxe Stand; choice of Standard Mikes (see above at right). **State Mike choice.** Ship. wt. 40 lbs. **Not Mailable.**

**162 RD 2318—Complete with 4-Way Mike Stand.** Cash. . . . . **\$44.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **48.95**

**162 RD 2319—Complete with DeLuxe Stand.** Cash. . . . . **49.95**  
Time Pay. Price: \$5 Dn., \$5 Mo. . . . . **54.45**

# ELECTRIC OPERATED



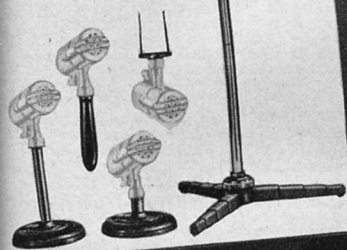
Sound  
Tracks

Outdoor  
Gatherings

Farm  
Sales, Etc.

## Pack! AND STANDS

Both Amplifiers offered with your choice of either Standard 4-way or DeLuxe Mike Stand (Finest stand made.) (See full details on Page 58.)



Amplifier  
with Tubes

\$55.95  
CASH

\$5 DOWN  
\$6 A MONTH

## 15-WATT CONVERTIBLE AMPLIFIER . . . EASY TO CONNECT

### 21-WATT PEAK

6 Tubes total; one 6J7 input; one 6Z7G phase inverter driver; two 6L6G beam power output tubes in push pull; and two 6X5G rectifiers. This combination assures your getting a full undistorted output of 15 watts continuous and 21 watts peak sound power.

One microphone and one phonograph input for simultaneous operation if desired. Each has a separate control. Drain on 6-volt battery is only 15 amperes. Output impedance: 3 four-prong sockets; takes 1 eight-ohm speaker at red socket and one 8-ohm speaker at each of two black sockets. Can be arranged to handle up to four speakers. No complicated speaker wiring necessary.

**Use anywhere—at any time.** A tremendous help to those engaged in religious work, political campaigns, orchestras, entertaining, funeral directing, and all types of activity that demand an amplifier for use in both rural and city areas.

**Just plug it in for Battery or A.C. operation.** In districts where regular lighting current is not available, this system operates from an ordinary 6-volt automobile storage battery. To operate in towns where electric lighting of 105 to 125-volt, 60-cycle, alternating current is available, merely plug amplifier into regular light socket.

**With Built-in Power Pack . . .** no need to buy an expensive auxiliary A.C. Power Pack. It's already in the amplifier!

**Supplies enough 110-volt A.C.** to operate the built-in 110-volt record player while system is operating on 6-volt battery. Built-in converter develops alternating current. Saves cost of additional 6-volt record player! Mike and phono may be operated at same time.

**Battery Saving Switch** keeps tubes hot when rest of amplifier is turned off . . . saves 2/3 of battery drain (when operating on 6-volt); keeps amplifier ready for instant use. Licensed by E.R.P.I. under U. S. Patents of A. T. & T. Co. and the Western Electric Co. Inc. Take advantage of all the refinements offered by these famous companies.

**Other Features:** Separate Volume Controls for both Microphone and Phonograph . . . enables you to provide a subdued musical background while speaking; amplifier also comes with Tone Control. Accommodates either one or two Permanent Magnet Speakers.

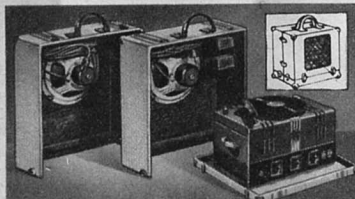
**Popular Brown Crackle Finish** with attractive chrome trim and red control knobs. Overall size: 16 by 14 by 10 inches high.

**15-Day Trial Offer—**Order this or any other Airline Amplifier in the regular way, either Cash or Down Payment. Compare it with any other amplifier selling at anywhere near Wards low price. If you are not satisfied by actual comparison that it's equal or better in every way, send it back and we will refund every cent you have paid, including transportation charges both ways.

**For complete outfits—**ready to put into immediate operation (nothing else to buy), see listings at bottom of page. *Not Mailable.*

162RD4150—Amplifier with Tubes. Ship. wt. 32 lbs. Cash. **\$55.95**  
Time Payment Price: \$5 Down, \$6 a Month. . . . . 61.05

162RD4186—Amplifier with Tubes, (SCA) Mike (Pg. 56), 4-Way Stand (Pg. 58) and Airline 12-in. P.M. Speaker (like 562 RD 2504, Pg. 53). No mike or speaker choice. Ship. wt. 42 lbs. Cash Price. **\$65.95**  
Time Payment Price: \$6 Down, \$6 a Month. . . . . **\$71.95**

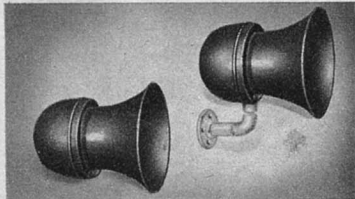


Complete with Phono and 2 Speakers in 3-Division Carrying Case

Includes 15-watt Amplifier with Tubes; two 10-in. P. M. Speakers, 562 RD 2622 Jensen or 562 RD 2460 Cinaudagraph (Page 52); one 462 RD 5290 Airplane Style Carrying Case (Page 54); 4-Way stand. Add \$4.50 for DeLuxe Stand; **State Mike and Speaker choice.** (See above.) Ship. wt. 52 lbs. *Not Mailable.*

162RD4187—Complete with 4-Way Mike Stand. Cash Price. **\$79.95**  
Time Pay. Price: \$7 Dn., \$7 Mo. . . 87.25

162RD4188—Same as above, less Phono. Cash Price. . . . . **\$69.95**  
Time Pay. Price: \$6 Dn., \$7 Mo. . . . 76.35

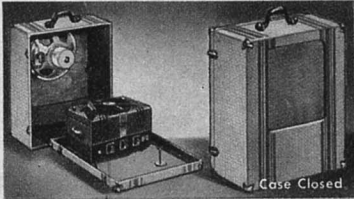


Complete with Phono and 2 Speakers in Steel Airline Projectors

Includes 15-watt Amplifier with Tubes; two 12-in. P.M. Speakers, 562 RD 2630 Jensen or 562 RD 2462 Cinaudagraph (Pg. 52); two 462 RD 3083 Projectors (Pg. 55); choice of Standard Mike or DeLuxe Stand; choice of Standard Mikes (see above). **State Mike and Speaker choice.** Ship. wt. 60 lbs. *Not Mailable.*

162RD4189—Complete with 4-Way Mike Stand. Cash Price. **\$79.95**  
Time Pay. Price: \$7 Dn., \$7 Mo. . . 87.25

162RD4190—Complete with DeLuxe Mike Stand. Cash. . . . . **\$84.95**  
Time Pay. Price: \$8 Dn., \$7 Mo. . . 92.65

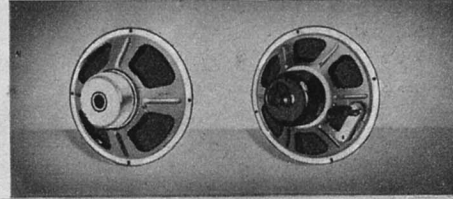


Complete with Phono and 1 Speaker in Single Carrying Case

Includes 15-watt Amplifier with Tubes; one 10-in. P.M. Speaker (choice of 562 RD 2622 Jensen or 562 RD 2460 Cinaudagraph (Page 52)); one 462 RD 5294 Airplane Style Carrying Case (Page 54); 4-Way stand. Add \$4.50 for DeLuxe Stand, **State Mike and Speaker choice.** (See above.) Ship. wt. 48 lbs. *Not Mailable.*

162RD4191—Complete with 4-Way Mike Stand. Cash Price. **\$67.95**  
Time Pay. Price: \$6 Dn., \$7 Mo. . . 74.15

162RD4192—Same as above less Phono. Cash Price. . . . . **\$59.95**  
Time Pay. Price: \$5 Dn., \$6 Mo. . . 65.45



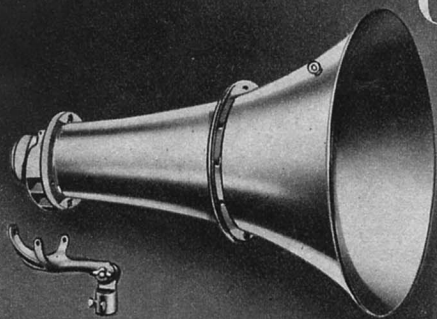
With Phono and Two Jensen or Cinaudagraph 10-Inch 'P.M. Speakers

Includes 15-watt Amplifier with Tubes; two 10-inch P.M. Speakers (choice of 562 RD 2622 Jensen or 562 RD 2460 Cinaudagraph (see Page 52)); your choice of 4-Way or DeLuxe Microphone Stand; and choice of Standard Mikes (see above). **State Mike and Speaker choice.** Ship. wt. 48 lbs. *Not Mailable.*

162RD4193—Complete with 4-Way Mike Stand. Cash Price. **\$69.95**  
Time Pay. Price: \$6 Dn., \$7 Mo. . . 76.35

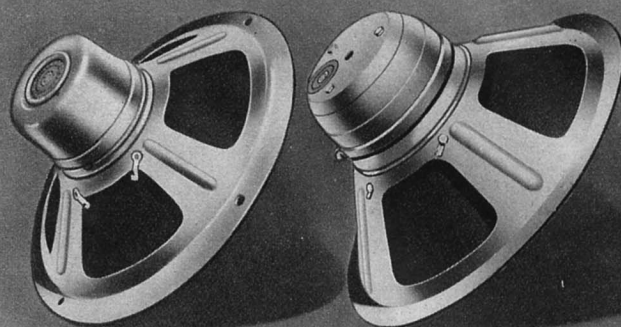
162RD4194—Complete with DeLuxe Mike Stand. Cash. . . . . **\$74.95**  
Time Pay. Price: \$7 Dn., \$7 Mo. . . 81.75

# CINAUDAGRAPH "Magic Magnet"



## Facts About Cinaudagraph

- Cinaudagraph Corporation was first to make the new magic magnet alloy speakers.
- Large permanent magnets assure the greatest possible power handling capacity and maximum efficiency.
- Polyfibrous molded type cone gives the utmost in fidelity.
- Voice coils are wound on a special mica or alloy sleeve instead of the usual cardboard form used by many others.
- They connect to any Airline Amplifier within 150 feet without the use of a long distance transformer.



## Cinaudagraph—Speakers and Trumpets

The best Speaker you can buy for outdoor work. Has greatest power . . . greatest "spotlight" coverage of any known speaker. Best suited for church—chime systems, or any place where power, direction of sound and tonal quality are the principal needs. Far superior to the projector type of horn. May be suspended from ceiling by attaching wires to rings solidly attached on the trumpet. Made of durable spun aluminum. Sold with or without bracket and stand. (Listed separately—see below).

### Cinaudagraph Trumpets with Speakers

**162 RD 2045**—Trumpet complete with FYA 8-in. P.M. Speaker. 15 to 20 watts; 6 to 8-ohm voice coil. 24-in. bell diam.; 28 in. long. Shipping weight 26 pounds. *Not Mailable.* Cash Price . . . . . **\$37.05** Time Pay. Pr.: \$4 Dn., \$5 a Mo. . . . . **40.36**

**162 RD 2046**—Trumpet complete with HWA 10-in. P.M. Speaker. 25-30 watts; 6 to 8-ohm voice coil. 24-in. bell diam.; 20 in. long. Ship. wt. 45 lbs. *Not Mailable.* Cash Price . . . . . **\$47.35** Time Pay. Pr.: \$5 Dn., \$5 a Mo. . . . . **51.59**

**162 RD 2047**—Trumpet complete with SUA 10-in. P.M. Speaker. 30-40 watts; 6 to 8-ohm voice coil. 32-in. bell diam.; 30 in. long. Ship. wt. 45 lbs. *Not Mailable.* Cash Price . . . . . **\$84.96** Time Pay. Pr.: \$8 Dn., \$7 a Mo. . . . . **92.66**

Speaker and Trumpet  
**\$37.05**  
CASH  
\$4 DOWN  
\$5 a Month

### Floor Stands and Brackets

Just the thing for temporary installations. Black crackle finish. Stand adjustable from 5 to 8 ft. Will never slip from desired height. Brackets drilled to fit speaker and threads on stand. Correct design assures perfect balance; prevents tipping. *Mailable.*

#### Brackets for Trumpets

**62 RD 2473**—To fit 162 RD 2045. Speaker and Trumpet. Wt. 8 lbs. . . . . **\$2.06**  
**62 RD 2474**—To fit 162 RD 2046. Speaker and Trumpet. Wt. 8 lbs. . . . . **\$2.65**  
**62 RD 2475**—To fit 162 RD 2047. Speaker and Trumpet. Wt. 8 lbs. . . . . **\$3.38**

#### Portable Stand to Fit All Brackets

**462 RD 2484**—Wt. 25 lbs. Cash . . . . . **\$10.29** Time Pay. Pr.: \$2 Dn., \$2 a Mo. . . . . **11.29**

## CINAUDAGRAPH PERMANENT MAGNET

**8-inch diameter.** Designed especially to meet the requirements of good fidelity at low cost, and where power capacity does not exceed 8-watts. All speakers have the same moisture resistant cones . . . and require no extra current for their operation. May be used as extra speakers on 12-watt Airline Amplifiers. (See Page 40.) 6 to 8-ohm voice coils. *Mailable.*

LOW AS  
**\$248**

**10 and 12-inch diam.** LOW AS  
When better bass note reproduction is needed these larger diameter speakers are better suited than the 8-inch at left. Heavier magnets contribute to higher power handling capacity. May be used as extra speakers without transformers on Airline Amplifiers rated up to 30 watts. Cones are moisture resistant. Voice coils are standard 6 to 8 ohms. *Mailable.*

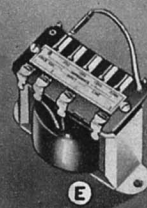
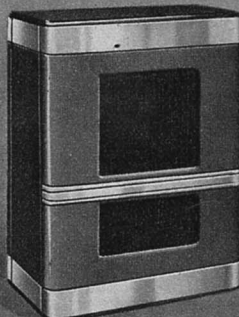
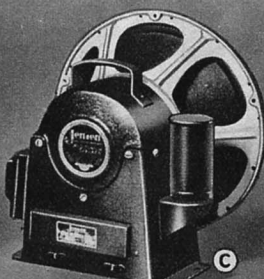
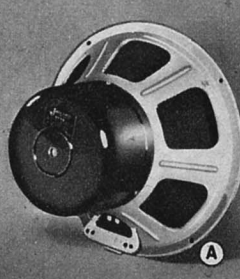
LOW AS  
**\$529**

**562 RD 2456**—Cinaudagraph Model MA6-8. ¾-inch voice coil. Handles 4 to 8 watts. Shipping weight 6 lbs. Each. **6-inch diam.** . . . . . **\$2.48**  
**562 RD 2457**—Cinaudagraph Model EZ8-7. 1-inch voice coil. Handles 5 to 8 watts. Shipping weight 6 pounds. Each . . . . . **\$4.41**  
**562 RD 2458**—Cinaudagraph Model EZ8-10. 1-inch voice coil. Handles 6 to 8 watts. Shipping weight 6 pounds. Each . . . . . **\$6.17**

**562 RD 2459**—Cinaudagraph Model NZ10-7. 10-inch diam. 1-inch voice coil. 7 to 9 watt capacity. Shipping weight 7 pounds. Each . . . . . **\$5.29**  
**562 RD 2460**—Cinaudagraph Model NZ10-10. 10-inch diam. 1-inch voice coil. 8 to 10-watt capacity. Shipping weight 7 pounds. Each . . . . . **\$7.20**  
**562 RD 2461**—Cinaudagraph Model FB12-8. 12-inch diam. 1¼-inch voice coil. 10 to 12-watt capacity. Shipping weight 7 pounds. Each . . . . . **\$9.11**

*All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.*

# JENSEN P. M. SOUND SYSTEM SPEAKERS



## (A) P.M. Speakers—8, 10 and 12 Inch

For all Sound Systems. Unusually great sensitivity and efficiency plus high power handling capacity. Use on radio sets with addition of transformer. Voice coil 6-8 ohms. May be used as extra speakers on Airline Amplifiers without transformers as far as 150 feet away. *Mailable.*

Article Number	Jensen Type	Size in Inches	Power Watts*	Ship. Wt.	Price
562 RD 2640	PM8DS	8	4-6	6 lbs.	\$4.41
562 RD 2624	PM12GS	12	9-12.6	6¾ lbs.	5.79
562 RD 2621	PM10C	10	9-12.6	6 lbs.	6.17
562 RD 2623	PM12C	12	10-14	7¼ lbs.	7.79
562 RD 2622	PM10H	10	10-14	11 lbs.	9.41

\*First figure is continuous power rating; second is peak power.

## (B) 12-Inch P.M. Concert Speakers

For heavy duty Sound Systems, or wherever tone and power capacity are most essential. Voice coil 6-8 ohms. All fit Airline Amplifiers, no transformer needed when used within 150 ft. of Amplifier. For greater distance, see transformers at right. For cord and plug see Page 55. No. 562-RD 2630 is a new Improved PM12-H, made especially for Wards. Less transformer. *Mailable.*

Article Number	Jensen Type	Field	Power Watts*	Ship. Wt.	Price
562 RD 2630	PM-12H	PM	12-16.9	10½ lbs.	\$11.46
562 RD 2627	PM-12B	PM	14-19.6	11½ lbs.	14.70
462 RD 2626	A-12PM	PM	15-21	17½ lbs.	20.43

\*First figure is continuous power rating; second figure is peak rating.

## (C) Electro Dynamic Auditorium Speakers

More efficient than other 12-in. Electro-Dynamic speakers. Field supply built in. Use on 105 to 125-volt, 50 to 60-cycle, A.C. Use with any Ward Amplifier. 14-in. size handles 20 to 25 watts; 18-in., 25 to 40 watts. *Not Mailable.*

Size	Art. No.	Type	Input Ohms	Ship. Wt.	Cash Price	Time Payment Price
14 in.	162 RD 2308	M10 AC	8	56 lbs.	\$50.42	\$5 Dn., \$5 Mo. \$54.96
14 in.	162 RD 2304	M10 AC	500	59 lbs.	52.48	\$5 Dn., \$5 Mo. \$57.23
18 in.	162 RD 2309	M18 AC	8	65 lbs.	59.34	\$5 Dn., \$6 Mo. \$64.77
18 in.	162 RD 2307	M18 AC	500	68 lbs.	61.40	\$6 Dn., \$6 Mo. \$66.94

## (D) New Bass Reflex Speakers

The last word in tone quality for P.A. systems. Special cabinet design increases total range several octaves. Ideal for either speech or music. No transformer necessary if used with Airline Sound Systems, unless speaker is operated from 500-ohm tap or more than 150-foot distance. Approximate shipping weights: 10, 20, 30 and 40 pounds. *Mailable.* For Terms see Page 3.

Article Number	Type	Power Watts*	Speaker Included	Voice Coil	Cash Price
462 RD 3183	KM-81	8-11	PM8-C	6	\$14.41
462 RD 3184	KM-121	10-14	PM12-C	6-8	21.23
462 RD 3185	KM-121	14-20	PM12-B	6-8	28.14
462 RD 3186	KM-121	15-21	A12-PM	6-8	33.87

\*First figure is continuous power rating; second figure is peak rating.

## (E) Long Distance Transformers

For operating speakers 150 ft. or more from Amplifier. Public Address Type matches 500, 1000, 1500, and 2000 ohms; no center tap. Radio Type match 4500, 7000, 10,000 and 14,000 ohms. May also be used for Public Address Systems where a large number of speakers are connected to one Amplifier. Available with center tap. *Mailable.*

### For 6-8 Ohm Voice Coils

Article Number	Type	Power Watts*	Ship. Wt.	Price
62 RD 2634	Radio	4-6	1 lb. 8 oz.	\$0.88
62 RD 2638	Radio	12-16	2 lbs.	1.62
62 RD 2637	P.A.	4-6	1 lb. 8 oz.	.88
62 RD 2636	P.A.	8-12	1 lb. 8 oz.	1.32
62 RD 2639	P.A.	10-16	2 lbs.	1.62
62 RD 2641	P.A.	15-20	3 lbs.	2.21

\*First figure continuous rating; second, peak power.

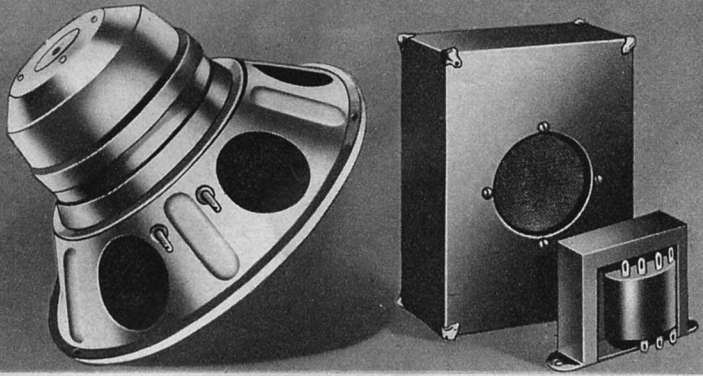
## (F) Field Exciter Unit

For Speakers which require their own power. Permits use of such speakers as extra speakers on sound systems. Supplies 2 speakers. Rectifies 110-volt, 50-60 cycle, A.C. to 110-volt D.C. Gives 9 watts filtered field power for any 110-volt D.C. speaker of 1000-3000 field ohms. With 6-ft. cord and socket. Takes type 80 rectifier tube. (Not included.)

**562 RD 3248**—Ship. wt. 8 lbs. *Mailable.* . . . . **\$2.94**

*35-ft. cord and plug furnished if speakers are bought for use with Airline Amplifiers.*

# SPEAKERS



## SPEAKERS

**12-13-inch diameter. Better fidelity than speakers at left. Ideal as extra speaker on even the largest sound systems. Specially treated cones withstand moisture; unequalled for music and speech. 6-8-ohm voice coils. Connect to any Airline Amplifier without transformer when used within 100 feet. *Mailable.***

**562 RD 2462** — Cinaudagraph Model FB12-II; 12-in. diam. 1 1/4-in. voice coil, 12-18-watt capacity. Wt. 9 lbs. Cash. **\$10.88** Time Pay. \$2 Dn., \$2 Mo. **11.88**

**562 RD 2463** — Cinaudagraph Model FY12-12; 12-in. diam. 1 1/2-inch voice coil. 15 to 18-watt cap. Wt. 9 lbs. Cash. **\$16.17** Time Payment Price: \$2.50 Down, \$2 a Month **17.54**

**462 RD 2464** — Cinaudagraph HW13-13; 13-in. diam. 2 1/2-in. voice coil. 20 to 30-watt capacity. Ship. wt. 34 lbs. Cash. **\$35.87** Time Pay. \$4 Dn., \$5 Mo. **39.06**

## Infinite Baffle

A Speaker unsurpassed for good bass note reproduction. Completely enclosed. Modern gray finish Cabinet with Cinaudagraph P.M. Speaker built-in. 6 to 8 ohms. *Mailable.*

**462 RD 2481** — With 8-in. P.M. Speaker, 18 by 13 by 7 1/2 in. Type 1BC. Wt. 20 lbs. Cash. **\$12.94** Time Pay. Price: \$2 Dn., \$2 a Month. **\$14.03**

**462 RD 2480** — With FB12-8, 12-in. P.M. Speaker. 35 by 35 by 11 inches. Wt. 25 lbs. Cash. **\$26.74** Time Pay. Price: \$3 Dn., \$4 a Month. **\$29.11**

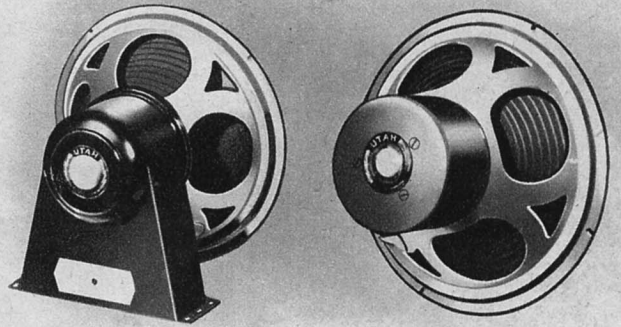
**462 RD 2482** — With HW13-13, 13-inch P.M. Speaker 35 1/2 by 35 1/2 by 11 1/2 in. Ship. wt. 18 lbs. Cash Price. **\$53.51** Time Pay. Price: \$5 Dn., \$5 a Month. **\$58.36**

## Transformers

**62 RD 2797** — LOW AS **\$112**  
Use as speaker or output Transformer on any radio set. Seven taps, 1200 to 10,000 ohms, permit matching any power tubes to any standard speaker. Has soldered lug terminals and drilled mounting feet. Instructions included. Shipping weight 1 lb. Each. **\$1.12**

**62 RD 2799** — Extra heavy duty Cinaudagraph transformer that is ideal for Public address work of all kinds. Has full 20-watt capacity. Ten taps, 500 to 5000 ohms (in 500 ohm steps). Offers a means of operating from one to ten speakers from the same sound system. One transformer required for each speaker. Shipping weight 1 pound. Each. **\$1.41**

# Famous UTAH SPEAKERS



## Permo-Dynamic Speakers

Ideal for Public Address systems. Give full volume, rich tone and good high fidelity. Completely dust-proof! Special construction prevents rattling or vibration. *Mailable.*

**462 RD 2416** — Model E12LP. 12-inch size, 20-oz. magnet. 12 to 18 watts. Has P. A. transformer tapped at 500-2000 ohms. Ship. wt. 8 lbs. Each. **\$8.23**

**462 RD 2417** — Model E12P. 12-inch size, 20-oz. magnet. 12 to 18 watts. 8-ohm Voice Coil. Use on Airline Amplifiers. Without transformer. Shipping weight 7 lbs. Each. **\$7.35**

**462 RD 2418** — Model F12P. 12-inch speaker, 31-oz. magnet. 20 to 30 watts. 8-ohm Voice Coil. Use on Airline Amplifier. Without transformer. Shipping weight 10 lbs. Each. **\$8.23**

## "G12" P.M. Dynamic Speakers

12-in. size. 1 1/4-in. voice coil. Large 46-oz. magnet. As speaker at left, but greater handling power. 18 to 25 watts! Dust-proof!

**462 RD 2436** — Utah Model G12LP P.A. with universal transformer; 500 to 2000 ohms. Shipping weight 13 pounds. *Mailable.* Cash Price. **\$12.03** Time Payment Price: \$2 Down, \$2 a Month. **13.03**

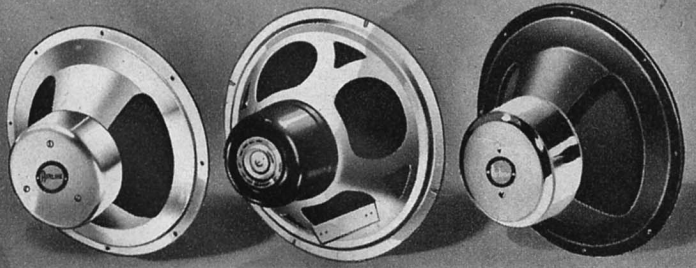
**462 RD 2437** — Model G12P. 8-ohm. voice coil. Fits Airline Amplifiers. Ship. wt. 12 lbs. *Mailable.* Cash Price. **\$10.88** Time Pay. Pr.: \$2 Dn., \$2 Mo. **11.88**

**462 RD 2483** — Heavy Utah 7-lb. Magnet. 1 1/2-inch 8-ohm voice coil. Handles 30 to 42 watts. Shipping weight 16 lbs. *Mailable.* Cash Price. **\$21.81** Time Pay. Pr.: \$3 Dn., \$3 Mo. **23.69**

*All merchandise in this Catalog shipped from Chicago, unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send Order direct to Chicago*

# AIRLINE SPEAKERS

Nationally Advertised Quality at a Savings



## PERMANENT MAGNET DYNAMIC SPEAKERS

**8-Inch Speaker** LOW AS **\$249**  
Easily handles 7 to 10 watts of power. Especially fine as an extra speaker on small Public Address Systems. Gives good overall tone reproduction. 6-8-ohm Voice Coil. May be used with individual volume control (see Page 55). Depth 3 1/2 in. Shipping wt. 3 lbs. **562 RD 2647** — Less transformer. Each. **\$2.49**

**562 RD 2644** — Same as above, but with Universal radio transformer. All tubes. Shipping wt. 4 lbs. Now only. **\$3.25**

**12-inch Speaker** LOW AS **\$980**  
Handles 18 to 25 watts. Large 46-oz. magnet. For use on heavy duty P. A. sound systems. Voice coil is 8 ohms. Fits all Airline Amplifiers without transformer. Shipping weight 13 lbs. **562 RD 2504** — Cash Price. **\$9.80** Include it on your Time Payment order. See Pg. 3.

**562 RD 2507** — Same with Universal P. A. Transformers for any amplifier 500-1000-1500-2000 ohms. Wt. 13 lbs. Cash. **\$10.69** Time Pay. Price: \$2 Down, \$2 a Month. **\$11.69**

**562 RD 2509** — 12-in. size, with 4-lb. magnet. Handles from 30 to 40 watts. The best power handling capacity at this price we know of. Ship. wt. 15 lbs. Cash Price. **\$12.95** Time Payment Price: \$2 Down, \$2 a Month. **\$14.05**

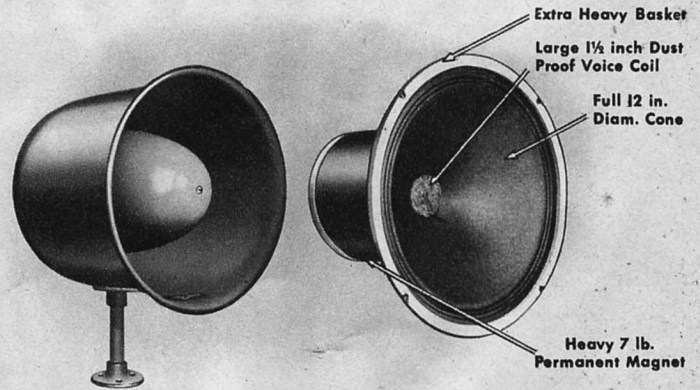
**12-inch Speaker** LOW AS **\$508**  
Easily handles a normal power of 15 watts without distortion. . . peak power of 21 watts. Very efficient when used on Airline Amplifiers or other Public Address Systems. Voice coil 6 to 8 ohms. Connects easily to sound system without transformer. Depth 5 1/2 inches. Attractive chromium finish. Usually sells at \$14.85 when sold under manufacturer's name. Shipping weight 8 lbs. 8 oz. **562 RD 2648** — Less Transformer. Cash. **\$7.95**

**562 RD 2649** — Same as above, but with aluminum finish. Has slightly smaller magnet. Regularly sells at \$12.85. Ship. wt. 8 lbs. Cash. **\$5.08**

**62 RD 2642** — Universal Radio Transformer. For all tubes. Shipping weight 1 lb. Cash. **.66c**

## USE YOUR CREDIT

You can buy all your Equipment for only a few dollars down and small monthly payments. See Wards Time Payment Plan on Pg. 3.



## New! Special Weather-proof Airline Steel-Alloy Projector

Absolutely dependable in any kind of weather. Ideal for permanent installations on sound trucks, police cars, etc. Handles 15 watts audio input. Strong spun steel-alloy horn, 15-in. diam. Length 12 in. Heavy aluminum casting firmly holds speaker. Mounting bracket bolted to inside speaker housing. Outlet on floating horn assures quick disposal of any moisture in shell. Gray crackle finish. Ship. wt. 11 lbs. *Mailable.*

**462 RD 2508** — With 6-inch, 8-ohm P.M. Speaker and 8-ft. cord. Cash. **\$14.69** Time Payments: \$2 Dn., \$2 a Month **15.96**

## Extra Heavy 12-in. Airline P.M. Dynamic Speaker

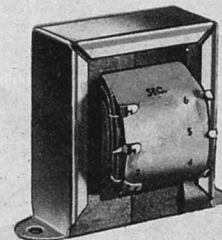
Without a doubt one of the best buys on the market today! A real super-heavy duty speaker that will easily handle 30 watts without a trace of distortion and with true high fidelity and rich tone. Take peaks of 40 watts. Heavy 7 lb. magnet provides an amazingly high efficiency impossible with ordinary speakers. Full 12-inch cone diameter; 1 1/2-inch, 8-ohm voice coil. Completely dust-proof—won't absorb moisture or rattle. Ship. wt. 16 lbs. *Mailable.*

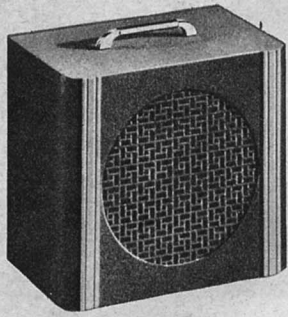
**462 RD 2502** — Cash Price. **\$14.80** Payments: \$2 Dn., \$2 a Mo. **16.08**

## \$295 LONG DISTANCE TRANSFORMER

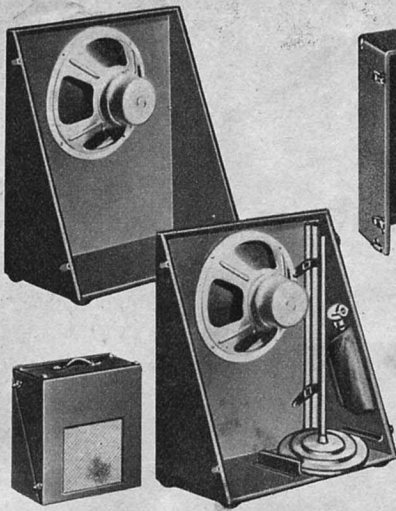
**25-Watt Universal Transformer.** Recommended for use with speakers which are located 100 feet or more from the amplifier without excessive volume losses. Taps at 250-500-1000-1500-2000 ohms. For one to four speakers. As many as four of these long distance transformers can be used on a 500-ohm tap on any amplifier to accommodate a total of four speakers. Other wiring arrangements permit almost any number of speakers to be used on any amplifier. Complete instructions furnished to simplify easy installation. Shipping weight 2 pounds.

**562 RD 2822** — Each. **\$2.95**

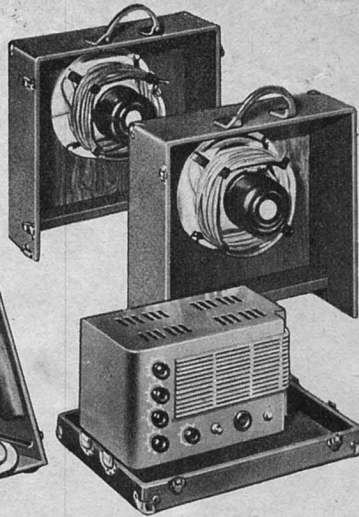




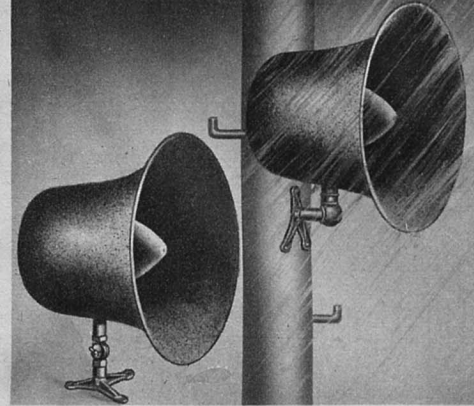
**Single Speaker Carrying Case \$395**



**Convenient Dual Type Speaker Case \$695**



**Compact 3-Division Carrying Case \$795**



**New Compact Trumpet \$2295**  
Completely Rain-proof Cash

Use either as portable or wall type baffle. Made of light durable steel. Pearl gray crackle finish with chrome bars. Removable handle. Protective screen over grille cloth. Speaker not included. Ship. wt. 9, 12, 15 lbs.

**462 RD 4210**—For 8-inch speaker. Size: 12 by 12 by 7 inches. . . . **\$3.95**

**462 RD 4211**—For 10-inch speaker. Size: 14 by 14 by 8 inches. . . . **\$5.68**

**462 RD 4212**—For 12-inch speaker. Size: 16 by 16 by 8 inches. . . . **\$7.20**

**Smart Brown or Grey Luggage Cover (not shown)**. A practical way to use an extra speaker on portable P.A. systems. Improves tonal quality. 12 3/4 by 12 3/4 by 8 1/2 inches, with blank speaker mounting board to accommodate 8, 10 or 12-inch speakers. Leather handle and locks. Protective metal screen behind grille cloth. Ship. wt. 5 lbs. **State covering wanted, and size hole for speaker.**

**462 RD 5295**—Each. . . . **\$3.95**

**462 RD 4706**—Similar to above except larger to accommodate 12 or 13-inch speaker. Also holds Wards "Take-Down" Mike, Stand and Cord (Page 58). Four snap locks. Size 18 by 20 by 11 in. Ship. wt. 7 lbs. Each. . . . **\$4.95**

The finest, most economical means of transporting your Public Address System . . . ready for instant use. Equipment can be set up easily at a moment's notice. Arranged so that two 12-inch speakers of any type may be mounted for safe, convenient transportation.

The attractive case is divided diagonally . . . each side furnishing a sufficient speaker baffle for obtaining good tone quality. Speaker openings are protected by strong screen and grille cloth. There are also provisions for storing microphone, microphone stand and base. Has strong leather handle and spring locks. Supplied in either Brown Leatherette or Tan and Maroon Striped aeroplane luggage. **State choice.** 9 1/2 inches deep by 14 1/2 inches wide by 22 1/2 inches high. Speakers, Microphone and Microphone Stand not included. (See Pages 52, 56 and 58). Shipping weight 12 pounds.

**462 RD 4705**—Each. . . . **\$6.95**

Especially designed and constructed for one Amplifier and two speakers. Eliminates the bother of two carrying cases! Separates into 3 parts. 12-inch speakers may be mounted in each side section which serves as an effective baffle when set up.

Heavy plywood with reinforced corners; covered in Tan with striped Maroon or Brown artificial leather. **State choice.** Trunk clasps. Speaker openings protected by screen and grille cloth.

**462 RD 5290—Case only.** SIZE: 17 1/2 by 13 1/2 by 19 inches. For 12, 15-watt Amp. Bottom is 17 1/2 by 13 1/2 in. Shipping weight 10 pounds. Each. . . . **\$7.95**

**462 RD 5293**—Similar to above, except larger size: 18 by 14 1/2 by 22 in. Bottom is 18 1/2 by 14 1/2 in. For 20, 25 watt Amp. Ship. wt. 12 lbs. Each. . . . **\$8.95**

**Single Carrying Cases** similar to above but for one speaker and amplifier. Less speaker. Shipping weight 10, 12 and 12 pounds. **State covering choice.**

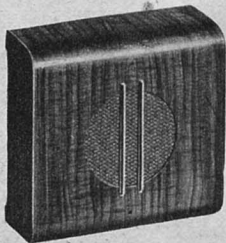
**462 RD 5291**—For 12-watt Amplifier. . . . **\$3.95**

**462 RD 5294**—For 15, 20 and 24-Watt Amplifier, Each. . . . **\$5.50**

**462 RD 5296**—For 25-Watt Amplifier Each. . . . **\$6.95**

**CAMERA FANS**  
Send for Wards Special Catalog of Cameras and Supplies.

## THE CORRECT BAFFLE FOR EVERY INSTALLATION



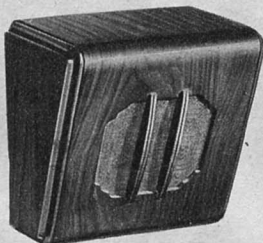
**Walnut Finish Metal Wall Baffle**

Provides an economical means of getting fine, more satisfactory tone quality out of any 8-inch speaker. Constructed of extra strong steel alloy.

Walnut finish with modern chrome bars across the speaker grille. Also ideal for call systems. Holes provided for speaker, not included. Size: 10 1/4 by 10 1/4 by 4 1/4 inches deep. Shipping weight 5 pounds.

**562 RD 2330**—Each. . . . **\$1.95**

**562 RD 2332**—Brown Leatherette Covered Wood Wall Baffle for 8, 10 or 12-in. speakers (not shown). 17 by 13 3/4 by 8 1/4 inches deep; tapers to 5 1/2 inches deep. **State size of speaker hole.** Shipping weight 4 lbs. Each. . . . **\$2.29**

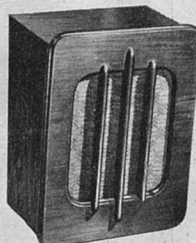


**Handsome Walnut Finish Wall Baffles Choose the One that Suits Your Needs**

Ideal for all high grade installations where fine appearance is important. Very popular for churches, hotels, schools, call systems, etc. Front panel inclined to deflect sound downward. . . . assures more effective coverage! Made of heavy walnut finish plywood in beautiful natural grain. Special acoustic grille cloth. Size: 15 1/2 by 14 1/2 by 11 inches. Speaker not included. Takes any 8, 10 or 12-inch speaker listed in this Catalog. Ship. wt. 10 lbs.

**562 RD 2898**—Ea. **\$4.40**

**562 RD 2893**—Modernistic case in silver finish. Black bar trim. Ideal for clubs etc. Ship. wt. 10 lbs. Each. . . . **\$4.40**



**Special Dynamic Reflex Enclosure**

Where the finest type of furnishings is an important consideration, no finer baffle can be found. Designed especially for school rooms, churches, halls, auditoriums, etc. Gives excellent tone quality. Front panel is an artistically carved grille of fine grain Walnut Veneers with a high gloss finish. Comes with special acoustic grille cloth. Three bars protect cloth from tearing or damage. Speaker not included. Takes any 12-inch speaker listed in this Catalog.

Size, approximately 16 by 16 by 6 inches. Offered with many of our Amplifiers. Shipping weight 12 lbs. **562 RD 2883**—Ea. **\$5.49**

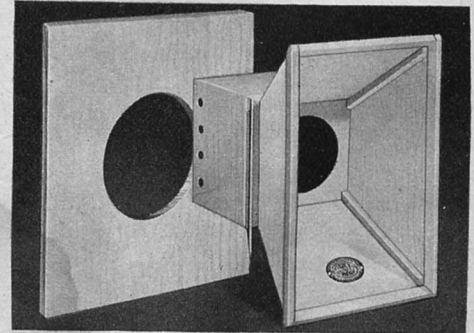
Completely enclosed! Acoustically treated inside cabinet to eliminate all resonance and vibration. Provides a means of getting the utmost in tone quality out of any standard eight, ten or twelve-inch speaker listed in this Catalog. Will also accent the mellow bass notes more than other types of baffles.

Constructed of heavy plywood with 3 coats of grey enamel. Metal carrying handles. Gliders protect table, etc. Shipping weights 12, 13 and 15 lbs. Speaker not included.

**462 RD 3144**—For 8-in. speaker. Size: 19 by 13 by 8 inches. Each. . . . **\$5.95**

**462 RD 3145**—For 10-in. speaker. Size: 21 by 15 by 9 inches. Each. . . . **\$6.65**

**462 RD 3146**—For 12-in. speaker. Size: 25 by 18 by 30 inches. Each. . . . **\$7.95**



**New Flush Mounting Baffle Board**

Recommended for speakers built into walls where a flush mounting is desired. Also suitable in places where regular baffles cannot be used to advantage. Gives the necessary baffle or sounding board effect for utmost fidelity and clarity of tone. Compact, 36 by 36 inches square. Sturdily constructed of 5-ply wood, 3/4-inch thick, with silver finish. May be easily covered with Grille cloth, tapestry or painted to harmonize with your interior. Fits any 8, 10 or 12-inch speaker. Speaker not included. **Be sure to state with which size Speaker Baffle Board is to be used.** Ship. wt. 10 lbs. **562 RD 3150**—Each. . . . **\$1.95**

**Demountable Type Flared Baffle**

Practical, demountable flared Baffle with speaker housing for permanent sound installation behind a screen or in a wall, where a projector with baffle qualities is desired. Gives any speaker a fine, mellow tone. Universal type. Accommodates any 10, 11 or 12-inch speaker. Made of durable, weatherproofed wood with attractive aluminum finish. Measures 14 inches deep. Bell is 30 by 18 inches. Shipped ready to assemble from factory . . . can be quickly and easily put together. Speaker not included. Ship. wt. 12 lbs. **Mailable.** **M262 RD 3151**—Each. . . . **\$6.79**

*All merchandise in this Catalog is shipped from Chicago unless otherwise specified, but you pay transportation Charges only from Wards nearest Mail Order House. Send your order to Chicago.*

**ANY ORDER OF \$10 OR MORE CAN BE PURCHASED ON TIME PAYMENTS—See Page 3.**



# the Crowd with a Beam of Sound!



## For Complete Coverage Use **\$639** Wards Steel Alloy Projector

Brown baked enamel finish. 20 in. long, 17 in. bell diam. Rear breather screened. Fits any 12-in. P.M. or dynamic speaker. Most rugged projector ever built... Yet light in weight. Speaker and shell bolted to welded fixture. Tapped for 1/2-inch pipe thread. Speaker not included.

**462 RD 3083**—Projector with Mounting threaded, less bracket or crossfoot. Ship. wt. 7 lbs. .... **\$6.95**  
**462 RD 3082**—With adjustable bracket and removable crossfoot. Ship. wt. 10 lbs. .... **\$8.19**  
**462 RD 3086**—Less mounting; with two rings for ceiling suspension. Ship. wt. 5 lbs. .... **\$6.39**

**Airline Projector for 6 or 8-inch Speakers.** Similar to above. With adjustable mounting bracket for wall or ceiling mounting 12 and 14-inch bell diam.

**62 RD 3085**—For 6-in. Speaker. Ship. wt. 4 lbs. **\$4.89**  
**62 RD 3092**—For 8-in. Speaker. Ship. wt. 5 lbs. **6.93**

## New Chandelier Baffle **\$1764** For Uniform Coverage Cash

The latest development in speaker baffles... spreads sound in all directions with uniform intensity! Ideally suited for use in clubs, restaurants, cabarets, dance halls, etc. where the necessity of projecting sound in close proximity to performers on the floor is important. Eliminates the necessity of a number of scattered wall baffles and speakers—prevents areas where extreme loudness is noticeable; recommended only for ceiling heights above 12-feet.

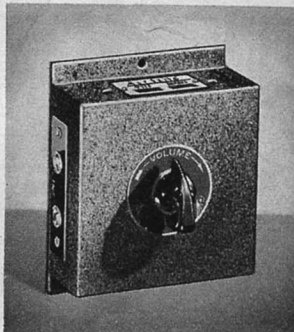
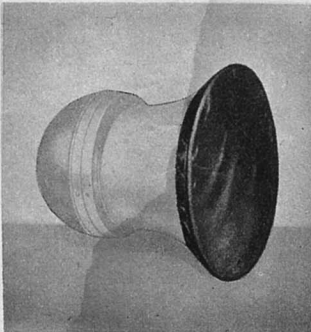
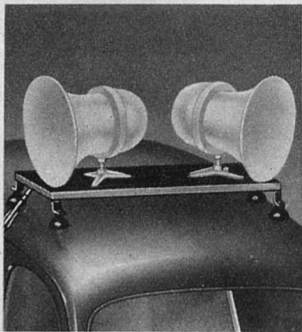
Made of special spun-steel alloy, light in weight, yet made to withstand the hardest wear. Can be suspended by link chain or sash cord. Finished in handsome Grey Crackle baked-on enamel. Size: 32-inch diameter, 12 inches deep. Accommodates any 12-in. heavy duty P.M. Speaker listed in this Catalogue. We recommend Jensen A12 or Cinandigraph FY12-12. *Mailable.*

**462 RD 3176**—Ship. wt. 45 lbs. Cash Price..... **\$17.64**  
 Time Payment Plan: \$2.50 Down, \$3.00 a Month... **19.15**

## Use Airline Trumpets When **\$2495** Power—Direction Are Important Cash

Ideal for athletic fields, carnivals, large auditoriums, or high powered sound trucks. Has a 24-inch diam. exponential bell. 36-inch length assures perfect sound delivery. Made of same fine alloy as Airline spun steel projector at left. Withstands 300 pounds pressure, yet is unusually light in weight. Completely weather-proof, and rust-resistant. Heavy Grey crackle enamel finish. With special Heavy Duty Airline 8-inch P.M. unit. Malleable iron mounting, welded to trumpet. Threaded for 1/2-inch pipe. Bracket may be made with 1/2-in. pipe or order bracket below. Ship. wts. 18, 23 and 5 lbs.

**462 RD 2895**—Horn with 15-watt, 8-ohm Speaker. Cash Price..... **\$24.95**  
 Time Payment Price: \$3 Down, \$4 a Month..... **27.15**  
**462 RD 2896**—With 20-watt, Jensen 8-ohm P.M. unit. Cash Price..... **\$27.95**  
 Time Payment Price: \$3 Down, \$4 a Month..... **30.45**  
**62 RD 3192**—Adjustable iron Crossfoot mounting bracket. Adjustable swivel. Drilled for mounting bolts..... **\$1.98**



### Automobile Top Platform **\$429** Will Not Mar Car Finish

The ideal car-top platform for mounting Projectors or trumpets on your auto top without drilling holes or damaging either your car or the finish in any way. Fully weather-proof... made of varnished maple wood with steel supports. Vacuum cups and adjustable hold-down straps. Can be quickly and easily attached or removed from your car. Absolutely will not mar the finish in any way! Shipping weight 8 lbs. *Mailable.*  
**462 RD 3087**—Each..... **\$4.29**

### Waterproof Covers Protect **95c** Your Horns When Not in Use

An inexpensive protection against rain, snow, dust and grime, they are sure to lengthen the life of any speaker. Slips easily over horn. Comes with draw string. Made of water-resisting cloth. Ship. wt. each 1 lb. *Mailable.*  
**62 RD 4900**—Cover for 12 to 16-inch bell. Each..... **95c**  
**62 RD 4901**—Cover for 16 to 18-inch bell. Each..... **\$1.00**  
**62 RD 4902**—Cover for 20 to 24-inch bell. Fits trumpets. (See Airline trumpets above.) Each..... **\$1.50**

### Airline Speaker Selector **\$995** Assures Efficient Coverage

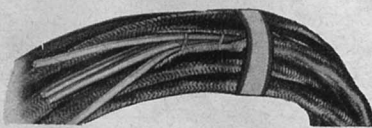
Permits use of as many as six, 8 ohm speakers at one time. Use up to several thousand feet from Amplifier. Tapped from 500 to 2000 ohms. As many as four selectors may be used, permitting the use of up to 24 speakers on one amplifier... a great advantage in large Public Address programs. Simply plug in speakers and turn dial to number being used. (Patent applied for). 6 by 6 by 4 inches. Shipping weight 9 pounds.  
**562 RD 3200**—*Mailable*... **\$9.95**

### Individual Speaker **\$345** Volume Control

A 12-watt, heavy duty 8-ohm "L" pad mounted in a Brown crackle finished steel case. Screw terminals. Permits complete volume control on individual speakers. Suited for monitor speakers, or wherever volume on one speaker must be louder or softer than others. Connects to any 8-ohm speaker. Shipping weight 1 lb.  
**62 RD 3201**—Each **\$3.45**

### Easily Portable Airline **\$1395** Projector Combination Cash

With collapsible stand, adjusts 46 to 78 in. 1 1/4-inch Black stand. 17-in. aluminum projector with air vent. For any 12-in. speaker (not included).  
**162 RD 2886**—Ship. wt. 20 lbs. *Not Mailable.* Cash **\$13.95**  
 Pay'ts: \$2 Dn., \$2 Mo. **15.15**  
**462 RD 2887**—Projector only. Ship. wt. 5 lbs. *Mailable.* **\$4.29**  
**462 RD 2916**—Projector with bracket and base. Shipping weight 10 lbs. *Mailable.* **\$5.69**



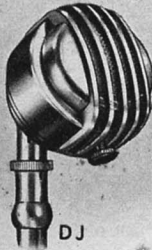
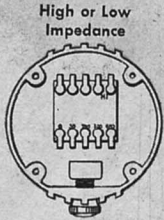
**Insulated Rubber Covered Speaker Cable**  
 For All Types of Installations. Ship. wt. per ft. 3 oz.  
**662 RD 3759**—For A.C. or P.M. Speakers, 2-conductor rubber covered. Per foot..... **2c**  
**662 RD 3755**—For Portable Use, 4-conductor. Color code, rubber insulated. Cloth cover. Per foot..... **4 1/2c**  
**662 RD 3756**—For Permanent Installations, 4-conductor, color code. Rubber vulcanized. Weather-proof. Per ft..... **4c**  
**662 RD 3757**—Outdoor Portable or Permanent Use, 4-conductor, color code. Copper shielded. Rubber cover. Per foot..... **6c**  
**662 RD 3758**—For amplifiers having output transformer at speaker. 5-conductor, color code. Rubber insulated. Cloth cover. Per foot..... **6c**

**All Purpose Rubber Cable**  
 Cable has Brown flexible solid rubber vulcanized cover. Kink-proof as well as completely waterproof. Parallel 2-conductor copper wire. Copper conductor cotton wrapped.  
 Ideal for all Permanent Magnet speaker cable, radios, amplifiers, or A.C. extension cords... any use which requires a durable 110-volt 2-conductor cord. Shipping weight per foot, 3 ounces; per 100 feet, 3 pounds. *Mailable.*  
**662 RD 3761**—Per Foot..... **1 1/2c**  
 100-foot Coil..... **\$1.39**

**Durable Twisted Telephone Wire**  
 Use indoors or outdoors! For use in operating Permanent Speakers from 500-ohm taps at any distance from amplifier with speaker selector or transformers. Ideal wire in permanent installations. 2-conductor. No. 19. Ship. wt. 100 ft., 3 lbs.  
**62 RD 9088**—For Indoor Use. *Mailable.* 100-ft. roll..... **\$1.49**  
**84 RD 9089**—For Outdoor Use. Specially treated waterproof insulation... assures trouble-free service. Can be permanently mounted. Ideal for doublet-type aerial lead-ins. *Mailable.*  
 100-foot roll..... **\$1.49**

**Fine Speaker Extension Cords**  
 Rubber cables with plugs attached—soldered.  
**62 RD 3531**—25-foot Speaker Extension. 2-conductor cable with 4-prong male, and female plugs attached. Fits Wards amplifiers. Shipping weight 2 lbs. Each..... **\$1.50**  
**62 RD 3532**—Same except 50-foot length. Shipping weight 4 lbs. Each..... **2.69**  
**62 RD 6257**—4-prong male replacement speaker plug. Shipping weight 5 ounces. Each..... **12c**  
**62 RD 6253**—4-prong female replacement speaker plug. Shipping weight 5 ounces. Each..... **12c**

# Famous Airline Mikes



Convenient  
Tone Control



## New Airline Brush Crystal Diaphragm AP

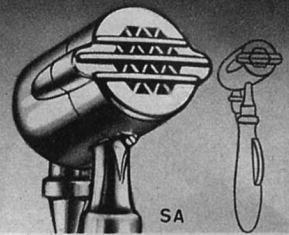
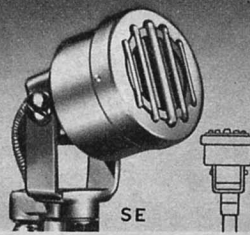
It's the finest, most revolutionary microphone development today! Ideally suited for sound men. New *All-purpose* type that absolutely fits any type of installation... either high or low impedance. It can be used as far as 1000 feet from Amplifier and still produce the same good tone and volume (with transformer 62 RD 3112, Page 46). With *Special Continuously Variable Tone Control* and on and off switch. Control has 3 positions: Bass, for dance music; treble for speech and normal for either. May be either directional or moderately non-directional—the new, easy turning swivel allows mike to be placed in any position desired. Variable impedance built-in Transformer has taps at 50, 200 or 500 ohms and High Impedance. With off-on switch.

Fidelity from 30 to 5000 cycles within 2 db. in normal tone position. Sensitivity: -48 db. Finished in beautiful Satin Chrome. Complete with 25-foot shielded cable. Standard  $\frac{1}{8}$ -27 thread to fit almost any mike stand. Ship. wt. 5 lbs.

62 RD 3208—Cash Price.....\$17.35  
Time Payment Price: \$2.50 Down, \$2 a Month..... 18.84

All merchandise shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

**\$1735**  
Cash



### New Electro-Voice Dynamic

Model 610: May be made either directional or non-directional by swinging mike to horizontal or upright position. Fidelity 50 to 8500 cycles within 6 db. Sensitivity -58 db. Gunmetal finish. Separate screw-on connector. With 25-foot cable. Standard  $\frac{1}{8}$ -27 thread to fit most microphone stands. Offered with many Airline Amplifiers. Ship. wt. 3 lbs.  
62RD3127—Cash Price\$13.23  
Terms: \$2 Dn., \$2 a Mo. 14.35

**\$1323**  
Cash

### New Astatic Dynamic

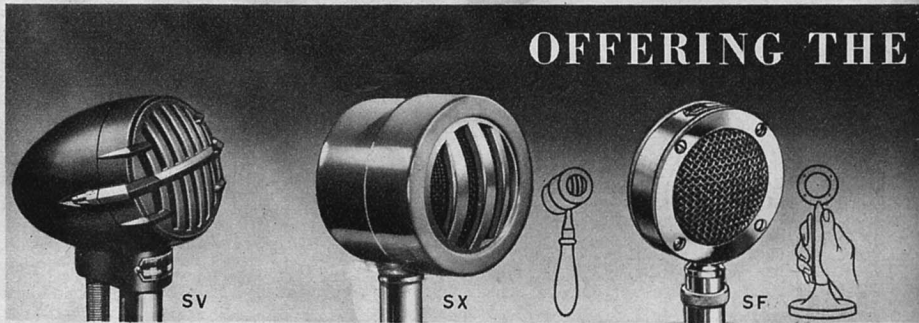
Model DN-HZ Either directional or non-directional depending on its position. Fidelity Range: 50 to 7000 cycles within 5 db. Sensitivity -55 db. Beautifully finished in two-tone opalescent Grey and modern Chrome. Comes complete with 25-foot rubber covered shielded cable—spring cable protector where cord leaves mike. Fits any Airline Amplifier. Ship. wt. 2 lbs. 10 oz.  
62 RD 3234—Cash.....\$13.23  
Terms: \$2 Dn., \$2 a Mo. 14.35

**\$1323**  
Cash

### American Clipper Dynamic

Model D7T: Directional type. Fidelity 50 to 11,000 cycles within 10 db. Sensitivity -56 db. Attractive chrome finish. Screw-on connector. 25-ft. shielded cable detaches quickly. Standard  $\frac{1}{8}$ -27 thread. Offered with many Airline Amplifiers. Ship. wt. 3 lbs.  
62 RD 3104—Cash Price.\$13.23  
Time Pay.: \$2 Dn., \$2 Mo. 14.35  
62 RD 3101—Same as above but with handle and switch, 25-ft. cable. Wt. 3 lbs. 8 oz. Cash.\$15.43  
Terms: \$2.50 Dn., \$2 Mo. 16.72

**\$1323**  
Cash



## OFFERING THE

### New Astatic Crystal

Diaphragm Model JT-30-TT: Fixed position, directional type. Protected corrosion proof diaphragm. Fidelity 30 to 6000 cycles within 5 db. Sensitivity -52 db. Free floating cartridge prevents "vibroponics." Finished in attractive opalescent Grey enamel and Chrome. 7-foot shielded rubber covered cable equipped with spring cable protector. Standard  $\frac{1}{8}$ -27 thread. Fits all Airline Amplifiers. Ship. wt. 3 lbs.  
62 RD 3231—Cash... \$9.70

**\$970**  
Cash

### New Brush Crystal

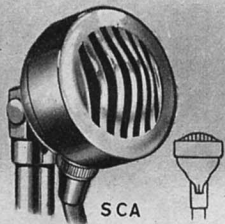
Diaphragm Model U.S.: Moderately directional. Fidelity 60 to 5000 cycles within 6 db. Extremely high sensitivity of -44 db. Housed in popular Grey shock-proof Plastic Case. Complete with 7 foot of shielded rubber covered cable. Fits any standard  $\frac{1}{8}$ -27 thread. Ideal for any Airline Mobile Amplifier listed in this Catalog. (See Pages 49 through 52.) Ship. wt. 3 lbs.  
62 RD 3226—Cash.....\$10.29  
Time Payment Price: \$2 Down, \$2 a Month.....\$11.29

**\$1029**  
Cash

### Astatic Close Talking Crystal

Model D-104: Broadly directional diaphragm type with sensitivity -48 db. Fidelity 30 to 8000 cycles within 11 db. Chrome finish. With 8-ft. cable. Standard  $\frac{1}{8}$ -27 thread fits most stands. Ship. wt. 2 lbs.  
62 RD 3093—Cash Price.\$13.23  
Time Pay.: \$2 Dn., \$2 Mo. 14.35  
D-2—Similar to above but with better fidelity 30 to 10,000 cycles within 3 db. Sensitivity -60 db. Ship. wt. 3 lbs.  
62 RD 3211—Cash Price.\$14.70  
Time Pay.: \$2 Dn., \$2 Mo. 15.97

**\$1323**  
Cash



### New Airline Crystal

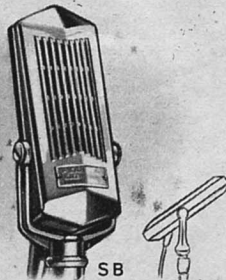
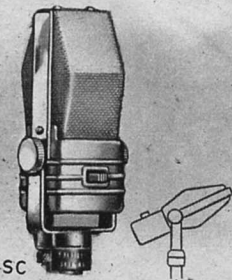
American Model C 6: Either directional or non-directional depending on position of head. Fidelity 40 to 9000 cycles within 5 db. Exceptionally high sensitivity of -43 db. Polished Chrome finish. Complete with 7-foot shielded cable. Standard  $\frac{1}{8}$ -27 thread. Matches any Airline Amplifier. Ship. wt. 3 lbs.  
62 RD 3589—Cash.....\$9.70  
See Page 3 for Time Payments.

**\$970**  
Cash

### Airline Bullet Crystal

Tilt the head to make it either directional or non-directional. Fidelity: 30 to 10,000 cycles within 7 db. Sensitivity -47 db. Chrome finish. Has removable head and 25-foot shielded cable with connector. Standard  $\frac{1}{8}$ -27 thread. Connects to any Airline Amplifier. Ship. wt. 3 lbs.  
62 RD 3207—Cash... \$14.70  
Time Pay.: \$2 Dn., \$2 Mo. 15.97

**\$1470**  
Cash



### Airline Velocity Microphone

Bi-directional type; with some non-directional properties. Fidelity 40 to 10,000 cycles within 2 db. Sensitivity -65 db. Entire microphone finished in attractive chrome plating. Off-on switch built in. Standard  $\frac{1}{8}$ -27 thread. Guaranteed for one full year. Offered as mike choice with many Airline Amplifiers. 25-ft. shielded cable. Screw-on connector allows easy removal and storage. Ship. wt. 4 lbs.  
62 RD 3129—Cash Price\$15.00  
Time Payment Price: \$2 Down, \$2 Month..... 16.30

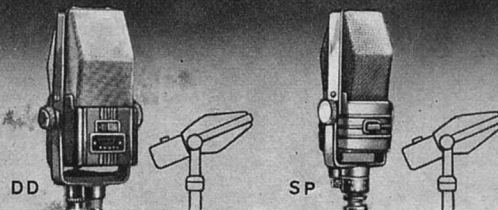
**\$1500**  
Cash

### Airline Velotron Mike

Bi-directional or partly non-directional. Cradle mounting permits swinging from vertical to almost horizontal position. Fidelity 30 to 8000 cycles within 7 db. Sensitivity -50 db. With 25-ft. cable. For indoor or outdoor use. Use up to 1000 feet from amplifier without extra transformer. Needs no voltage for operation. Entire mike bright chrome finish. Ship. wt. 3 lbs.  
62 RD 3126—Cash Price\$15.95  
Time Payment Price: \$2.50 Down, \$2 a Month.....\$17.30

**\$1595**  
Cash

## VELOCITY MIKES



### Finest Quality Electro-Voice Velocity Microphone

62 RD 3062—Model V-2—Bi-directional or partly non-directional. The entire ribbon assembly is suspended in para-rubber. Fidelity 35 to 11,000 cycles within 2 db. Sensitivity -64 db. Separate cable connector. With 25 ft. rubber covered cable. Standard  $\frac{1}{8}$ -27 thread. Finish is chrome with gunmetal. A DeLuxe choice with many of our Amplifiers. For long distance types, see below. Ship. wt. 4 lbs. Time Pay. Price: \$3 Down, \$3 a Month.....\$22.34  
62 RD 3111—Model V-1 (above at right). Similar to above but one third smaller. Fidelity 40 to 10,000 cycles within 2 db. Sensitivity -65 db. Ship. wt. 4 lbs. Each.....\$14.70  
Time Pay. Price: \$2 Down, \$2 a Month.....\$15.97  
62 RD 3064—Model V-3—Same as microphone V-2, but with greater fidelity 30 to 12,000 cycles within 2 db. Has selector switch with taps at 50, 200, 500 and Hi impedance. Use with transformer 62 RD 3112 Pg. 46 as long distance mike. Sensitivity—64 db. Ship. wt. 8 lbs.....\$29.40  
Time Pay. Price: \$3 Down, \$4 a Month..... 32.04

**\$1470**  
Cash

Model V-1  
**\$20.58**

**\$22.34**

**\$14.70**

**\$15.97**

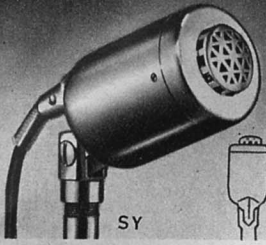
**\$29.40**

**\$32.04**

## Complete

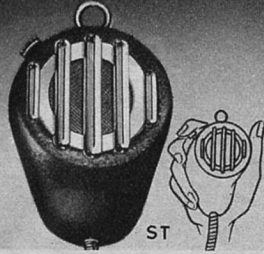


# SELECTION OF DYNAMIC MICROPHONES



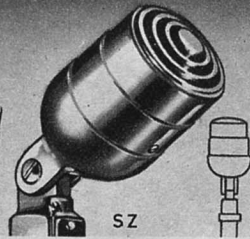
**New American Dynamic**

**Model DBT:** May be set for either directional or non-directional use. Fidelity from 40 to 9000 cycles within 2 db. Sensitivity-55 db. Beautiful Platinum Chrome finish. Separate cable connector permits easy removal. Complete with 25-foot rubber covered shielded cable and plug. Fits standard  $\frac{1}{8}$ -27 thread. Matches any Airline Amplifier. Ship. wt. 4 lbs.  
**62 RD 3592**—Cash... \$15.43  
 Terms: \$2.50 Dn., \$2 Mo. 16.72



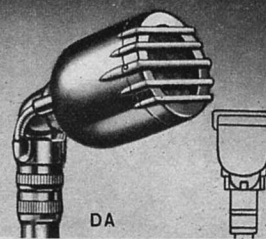
**Electro-Voice Hand Dynamic**

**Model 600:** Highly directional, close talking mike. Fidelity: 50 to 10,000 cycles within 7 db. Sensitivity: -58 db. Grey and chrome finish. Finger operated off-on switch and 25-ft. shielded cable. Connects to any Airline Amplifier. Recommended for sport or portable use. Not intended for mounting on mike stands. Ship. wt. 3 lbs. 8 oz.  
**62 RD 3060**—Cash Price \$14.70  
 Time Payment Price: \$2 Down, \$2 Month... 15.97



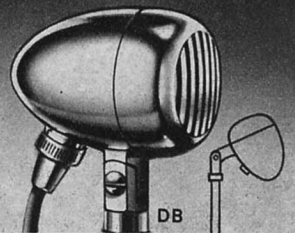
**New Electro-Voice Dynamic**

**Model 630:** Improved swivel mounting permits either directional or non-directional use. Good fidelity range from 40 to 10,000 cycles within 2 db. Sensitivity -56 db. Finished in gun-metal. Has convenient separate cable connector and off-on switch built-in. Complete with 25-foot cable. Standard  $\frac{1}{8}$ -27 thread. Matches Airline Amplifiers. Ship. wt. 5 lbs.  
**62 RD 3162**—Cash Price \$14.70  
 Terms: \$2 Dn., \$2 Mo... 15.97



**Electro-Voice Dynamic**

**Model 620:** Directional or non-directional. Fidelity from 40 to 10,000 cycles within 5 db. Sensitivity -55 db. Gunmetal finish. Removable head and cable. Small in size—does not hide artist's face. With 25-ft. shielded rubber cable. Standard  $\frac{1}{8}$ -27 thread. Ship. wt. 4 lbs.  
**62 RD 3055**—Cash Price \$16.17  
 Terms: \$2.50 Dn., \$2 Mo. 17.54  
**62 RD 3061**—With gleaming Chrome finish. Cash... \$17.64  
 Terms: \$2.50 Dn., \$3 Mo. 19.15



**American Bullet Dynamic**

**Model D5T:** Highly directional or non-directional. Exceptionally fine fidelity from 40 to 10,000 cycles within 6 db. Sensitivity -50 db. Bright chrome finish. Removable head and cable. Separate connector for easy removal of 25-ft. cable. Offered as DeLuxe mike with many Airline Amplifiers.  $\frac{1}{8}$ -27 thread. Fits almost any mike stand. Shipping weight 3 pounds.  
**62 RD 3108**—Cash Price \$19.10  
 Terms: \$2.50 Dn., \$3 Mo. 20.76

# BEST CRYSTAL MICROPHONES KNOWN



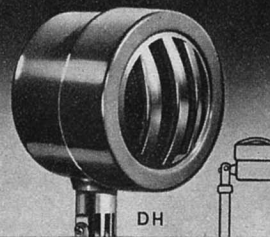
**Astatic Acorn-Type Crystal**

**Model T-3:** Tilt the head to make it either directional or non-directional. Fidelity range from 30 to 10,000 cycles within 7 db. Sensitivity rating is -52 db. Attractive chrome finish. Has removable head and 25-foot rubber covered shielded cable. With standard  $\frac{1}{8}$ -27 thread. Microphone connects to any Airline Amplifier. Shipping weight 3 pounds.  
**62 RD 3209**—Cash Price \$14.70  
 Time Payment Price: \$2 Down, \$2 a Month... \$15.97



**Astatic Lapel Crystal**

**Model L-1:** Newest wearable type mike. Permits wide freedom of movement. Fidelity from 30 to 10,000 cycles within 5 db. Sensitivity -62 db. Finished in attractive telephone Black with convenient clips that clamp securely to coat lapel.  $1\frac{1}{2}$ -inch diameter.  $\frac{3}{4}$ -inch thick. Complete with 25-foot rubber covered cable. Fits any Airline Amplifier. Shipping weight 1 lb. 1 oz.  
**62 RD 3230**—Cash... \$14.70  
 Time Payment Price: \$2 Down, \$2 a Month... \$15.97



**Brush Diaphragm Crystal**

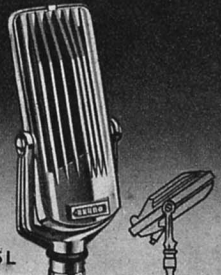
**Model QOM:** Improved swivel mounting makes it either directional or non-directional (see insert above). Fidelity range from 30 to 9000 cycles within 5 db. Sensitivity -54 db. Housed in attractive telephone Black shock-proof Plastic Case. With 25-foot shielded rubber covered cable. Fits any standard  $\frac{1}{8}$ -27 thread. Matches any Airline Amplifier. Ship. wt. 3 lbs.  
**62 RD 3225**—Cash Price \$16.18  
 Time Payment Price: \$2.50 Down, \$2 a Month \$17.55



**Brush Spherical**

**Model BR25:** Best known crystal sound cell. Non-directional. Fine fidelity from 60 to 10,000 cycles within 7 db. Sensitivity rating of -66 db. Chrome finish wire mesh enclosure allows pickup from any angle. Removable head. Complete with 25-foot shielded rubber covered cable. Fits any Standard  $\frac{1}{8}$ -27 thread mike stand. Shipping weight 3 lbs.  
**62 RD 3047**—Cash Price \$17.34  
 Time Payment Price: \$2.50 Down, \$2 a Month \$18.82

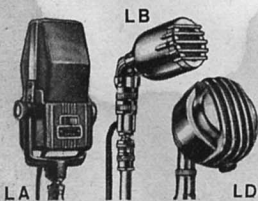
## VELOTRON



**New Bruno Velotron**

Bi-directional or partly non-directional. Fidelity 50 to 8000 cycles within 7 db. Sensitivity -50 db. Use up to 1,000 ft. from amplifier without extra transformer. No voltage needed. Chrome finish.  $\frac{1}{8}$ -27 thread. Matches any Airline Amplifier. Less cable. Ship. wt. 2 lbs.  
**62 RD 3147**—Cash Price \$16.17  
 Terms: \$2.50 Dn., \$2 Mo. 17.54  
**62 RD 4875**—Special 25-ft. cable and connector for above. Ship. wt. 2 lbs. Each... \$1.47

## Long Distance Mikes



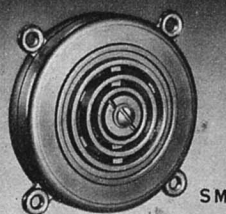
**462 RD 2990—Long Distance Mike Assembly.** Consists of one Mike (State Choice of LA, LB or LD); 100-ft. cable with plug; plug-in transformer. Ready to plug into any Amplifier. Mailable. Ship. wt. 8 lbs. Cash Price... \$23.95  
 Time Payment Price: \$3 Down, \$4 a Month... \$26.05

ENJOY the convenience of Long Distance Mikes on any Airline Amplifier.

Anyone sitting behind the audience can set both volume and tone for best results. No guess work... no need to ask if everyone can hear. All listeners hear the same good tone and volume whether in the first row or near the exits. Once controls are set no further attention is necessary. Use as many long distance mikes as there are mike sockets in your amplifier. Place them as far as 1000 feet from amplifier. Otherwise same as DD, DA, DB on these pages. For extension cords and plugs see Page 32. All Mikes at left are furnished with 100-foot cable and "Plug in" transformer. As easily connected to Amplifier as any other mike.

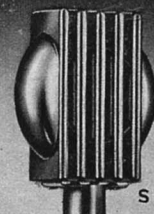
All merchandise in this Catalog is shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

## DEPENDABLE CARBON MIKES



**Electro-Voice Carbon**

**Model 50:** Broadly directional, double button carbon type. Has efficient floating diaphragm that assures better fidelity. Fidelity rating from 45 to 6000 cycles within 6 db. Sensitivity -42 db. Finished in attractive light gray and gunmetal with modernistic molding that protects the diaphragm opening. Has four convenient rings for spring suspension in mike stand. An ideal replacement microphone. No cable furnished. Shipping weight 1 lb.  
**62 RD 3000**—Each... \$2.94  
 Build Your Order Up to \$10, and Use Wards Time Payment Plan. See Page 3.



**Electro-Voice Carbon**

**Model 75:** An attractive, modern design. Double button carbon type microphone. Has broadly directional qualities. With a special internal shock-proof mounting that eliminates external suspension springs. Fidelity range from 45 to 6500 cycles within 5 db. High sensitivity rating of -42 db. Complete with 6-foot shielded rubber covered cable. Standard  $\frac{1}{8}$ -27 thread. Has sturdy die-cast case construction that helps prevent annoying hum and vibration; attractive modern light gunmetal finish. Shipping weight 2 pounds.  
**62 RD 3057**—Each... \$4.41



**Airline 20th Century Carbon**

Broadly Directional 2-Button Carbon Mike. Fidelity 45 to 6000 cycles within 6 db. Sensitivity -42 db. Good-looking Brown crackle finish case with Modern chrome finish grill. Unit suspended in rubber mounting—reduces foreign noises. Stretched dural diaphragm for good fidelity. Standard  $\frac{1}{8}$ -27 thread. Complete with 25-foot shielded rubber covered cord. Used with Wards 12-watt A.C. and Convertible Amplifiers. Shipping weight 3 pounds.  
**62 RD 3056**—Each... \$3.95  
 Build Your Order Up To \$10, and Use Wards Time Payment Plan. See Page 3.

# Record Players

WITH BUILT-IN SPEAKER

PLAYS THROUGH RADIO



## New RCA Wireless Record Player

No Connecting Wires Needed

A convenient way of playing records through your radio without any bothersome connections. Actually a miniature broadcasting station! Plugs into any nearby light socket; tune it in on your radio dial. Tone is as perfect as your radio. Plays regular 10 and 12-inch, 78 R.P.M. records. Has true-tracking crystal pickup and constant speed motor for marvelous tone and minimum record wear. Comes complete in an attractive dark Brown Plastic Case with pilot light, combines volume control and off-on switch. Operates on 105 to 125 volt, 60 cycle, A.C. only. Measures 3 3/4 inches high, 12 1/2 inches wide and 8 1/4 inches deep overall. Has 7-inch turntable. Ship. wt. 13 lbs.

**\$11.44**  
Cash  
\$2 DOWN  
\$2 a Month

462 RD 2075—Cash Price.....\$11.44  
Time Payments: \$2 Down, \$2 a Month | 2.44

**RCA Record Player**—Latest model R-93F. Attaches easily to any radio. In attractive Walnut finished Bakelite cabinet with volume control. Plays 10 and 12-inch records. 78 R.P.M. speed. 11 3/4 by 9 3/4 by 3 inches high. Comes complete with latest pickup and motor; attachment cord and plug. Operates on 105 to 125 volt, 60 cycle, A.C. line. Shipping weight 10 pounds.

462 RD 3383.....\$5.65

## The Amazing New "Jitterbug"

No Radio Connection Needed

Here it is! The amazingly compact "Jitterbug" Record Player that is sure to add many hours to your musical enjoyment! This new, portable, self-contained unit, was especially designed to meet the wide demand for a quality, self-powered phonograph. Complete with 4-inch dynamic speaker and built-in Amplifier... no radio connection required. 7-inch turntable holds 10 or 12-inch records. Two-tone Brown and Pearl Gray crackle finished cabinet with chrome trim. *Genuine Astatic Crystal Offset Pickup* gives unusually good tone with minimum record wear. New constant speed, self-starting, rim drive motor. Speed, 78 R.P.M. Has convenient off-on switch combined with volume control. Equipped with rubber feet to prevent scratching table top. Measures only 13 3/4 by 7 3/4 by 5 inches high. Comes complete with 5-foot A.C. cord and plug for operating from any 105-125 volt, 60 cycle, A.C. line. Ship. wt. 13 lbs.

**\$12.95**  
Cash  
\$2 DOWN  
\$2 a Month

162 RD 2072—Cash Price.....\$12.95  
Time Pay. Price: \$2 Down, \$2 a Mo. 14.05

162 RD 2074—Same as above but less amplifier and speaker. For connection to your present radio set. Astatic Pickup. Operates on any 105 to 125-volt, 60 cycle, A.C. line. Ship. wt. 10 lbs. Cash.....\$7.95



(A)

(B)

## DeLuxe Take-Down Floor Stand

(A) Without question it's the finest Mike Stand made... and the only one with all these marvelous features. Exclusive with Wards! Not only portable but extremely good-looking and durable. Here is a Floor Stand that folds and fits into most any carrying case. *Four 12-inch sections* plus a silent telescoping top section. Adjustable from 16 to 60 inches. Each leg is 9 inches long. Base when folded is 13 inches long. Greatest diameter, 4 1/2 inches. Fits all mikes with standard 3/4-27 thread except 62 RD 3101. Chrome plated steel sections with pearl Gray crackle finish tripod base. Furnished complete with gray suede cloth bag to hold collapsed stand. Mike not included.

**\$9.95**  
Cash  
(Patent Applied For)

462 RD 3187—Complete. Ship. wt. 9 lbs. 8 oz.....\$9.95

## (B) Take Down Adjustable Floor Stand

A most practical stand. Chrome plated. *Three 12-inch sections* with a fourth adjustable; any section fits 10-inch circular base. Adjustable from approximately 16 to 52 in. Silent clutch. Fits all mikes except 62RD3101.

462 RD 3081—Ship. wt. 15 lbs. Mike not included.....\$6.95

(C)

(D)

## Popular 4-way Microphone Stand

**\$2.65**

(D) For any type of microphone with standard 3/4-27 thread... the most versatile stand available today! Use it anywhere or in any way the occasion demands. Comes complete with Brown crackle finish die cast base. 6-inch chrome tubular section, handle and suspension yoke. May be used with handle, as a desk stand, as a banquet stand or suspended from ceiling. Yoke often eliminates the need for a floor stand. By suspending it on a pulley it can be taken out of the way in an instant from the other activities. Base diameter is 4 3/4 inches. Offered with many Airline Sound Systems listed in this Catalog. Mike not included. Fits any Microphone on Page 56 and 57, except type DA, LB, 62RD3101, Pages 56 and 57.

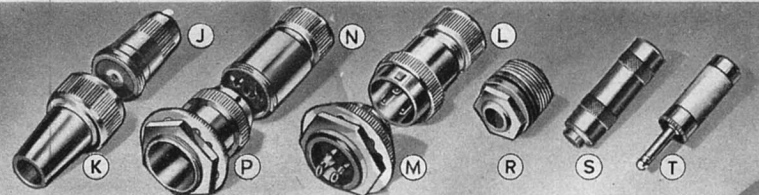
562 RD 2884—Shipping weight 4 lbs. Complete.....\$2.65

## Airline Adjustable Floor Stand

**\$4.59**

(C) Fits any mike in this Catalog except Microphone 62 RD 3101, Page 56. Standard 3/4-27 thread; adjustable from 36 to 57 inches. Has silent friction chuck. 10-inch cast iron base with attractive Brown crackle finish. Seamless tubing attractively chrome plated. Furnished with some Airline Amplifier Sound Systems. Microphone is not included.

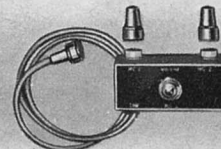
462 RD 3075—Shipping weight 10 lbs. Each.....\$4.59



## Fine Quality Mike Cable Connectors in Cable and Chassis Styles

Use with cables on Page 59 to make mike extensions up to 50 feet. Permit secure connections with threaded coupling ring lock feature (except types S and T); plug it in; turning the ring locks it tight. Removes all the strain from conductor. Accommodates cables up to 3/4-in. diameter. Also prevents hum. Type K is the same as furnished with mikes (Pages 56 and 57). Chromium plated. Shipping weight each 3 ounces.

(K)—62 RD 6979—Single-contact Female Cable; use with (J) or (R). Each.....29c  
(J)—62 RD 6980—Single-contact Male Cable; use with (K) above. Each.....24c  
(P)—62 RD 6975—Three-contact Male Chassis; use with (N). Each.....59c  
(N)—62 RD 6978—Three-contact Female Cable; use with chassis (P). Each.....59c  
(M)—62 RD 6976—Three-contact Female Chassis; use with cable (L). Each.....59c  
(L)—62 RD 6977—Three-contact Male Cable; use with chassis (M). Each.....59c  
(R)—62 RD 6981—Single contact Male Chassis; use with cable (K) above. Each.....18c  
(S)—62 RD 4637—Shielded cable mike jack. Plated. Use with (T). Each.....67c  
(T)—62 RD 4625—Shielded mike plug. Use with cable (S) above. Each.....49c



### Dual Mike Connector

Permits the use of additional mike on any amplifier. Plugs into present mike socket on amplifier. Recommended for Velotron and Dynamic Mikes. Use male cable connector style (J) above. Shipping wt. 8 oz.

62 RD 3091—Each **\$1.18**

### Mike Mixer and Fader

Use two mikes on one channel. Volume control for one microphone. (Not shown.) With 3-ft. cable; plug.

62 RD 3079—**\$3.95**

Ship. wt. 1 lb.....

Same as above but with 2 controls; 1 for each of 2 mikes. Wt. 1 lb.

62 RD 3080—Ea. **\$4.95**

### Astatic Var. Scratch Filter

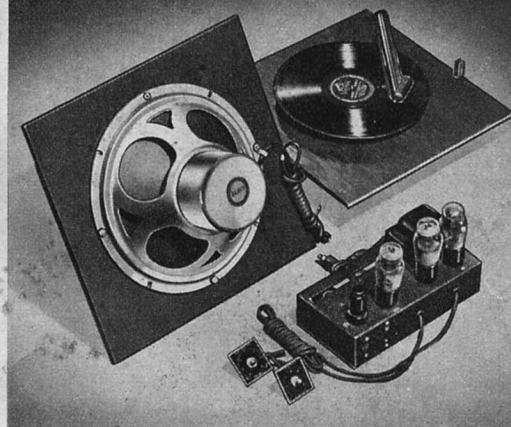
Gives control of the pitch of phonograph records. Varies the tone from Bass to Medium to High Fidelity position in three steps; also an off position. Helps reduce needle scratch. Fits either crystal or magnetic styles. Ship. wt. 1/2 lb. Made by Astatic Microphone Co.

62 RD 2069—Each.....**\$1.91**

# For Every Purpose

COMPLETE WITH SPEAKER

FOR SOUND SYSTEMS



## COMPLETE PHONO-AMPLIFIER KIT

### Portable Electric Phonograph

In Modern Airplane Cabinet

Complete with Speaker. Carry it with you—anywhere—and get the same rich tone quality as model listed at left. Ready to plug into any 105 to 125 volt, 60 cycle, A.C. lighting socket or wall plug. No longer any need to be without your favorite music when and where you want it.

Has powerful 3-tube amplifier and 6-inch dynamic speaker. The 9-inch turntable revolves with turn of switch—no troublesome hand starting as in most models near this price. Personal volume control permits you to make the music as loud or as soft as you like. Full range tone control accents bass or high notes to suit your exact tastes. Built-in filter eliminates bothersome needle scratch.

Finished in a highly glazed airplane canvas that resists water and all normal wear and tear. Easily cleaned when soiled. Measures only 15 inches by 18 inches by 8 1/2 inches. Full grip leather handle is both comfortable and durable. Rounded corners add to appearance and prevent scuffing. Speaker grille is backed by heavy screen mesh for added protection. All controls are mounted inside cabinet; record compartment stores about 12 records. Ship. wt. 26 lbs.

462 RD 3386—Cash Price. . . . \$29.95  
Time Payment Price: \$3 Dn., \$4 a Mo. \$32.65

### Cabinet Electric Phonograph

In Walnut Finished Cabinet

Complete with Speaker. Ideal for school, institution or home. Tone quality is superior to many radios. Excellent for use in speech classes or other work that requires a compact yet beautiful cabinet model phonograph. Dignified walnut finished wood cabinet. Hinged cover has switch which keeps it raised while changing records. Plays regular 10 and 12-inch, 78 R.P.M. records. Has the famous crystal pickup, also built-in amplifier and scratch filter to give you marvelous tone quality. The six-inch Super-Dynamic speaker handles the full tonal range of all modern records.

Has self-starting motor and 9-inch turntable—a singular feature in a phonograph at this price. Equipped with handy needle cup and pickup rest. Individual volume and tone controls permit correct adjustment to meet every need. Cabinet measures 15 inches wide, by 14 inches deep by 11 1/2 inches high. Has rubber feet to prevent scratching table. Tubes supplied in amplifier are the 6C5 metal tube, powerful 6F6 pentode output, and one 3W4 rectifier. Complete with 6-ft. cord and on-off switch. Ready to operate. For use on 105 to 125 volt, 60 cycle, A.C. only. Ship. wt. 26 lbs.

462 RD 3387—Cash Price. . . . \$29.95  
Time Payment Price: \$3 Dn., \$4 a Mo. \$32.65

### Portable Model

Carry it Anywhere.

Get the full benefit of your sound system with the addition of a record player. Strong plywood case covered with durable leather-like fabric. Matches all Airline carrying cases. Measures 14 inches by 13 inches by 8 inches. Nicked hinges and latches. Record holder stores about 12 records. Complete with magnetic or crystal pickup. Operates on 105 to 125 volt, 60 cycle, A.C. line.

462 RD 3351—78 R.P.M. standard speed with either crystal or magnetic pickup. State choice. Shipping weight 14 lbs.

Cash Price. . . . \$13.49  
Time Pay. Pr.: \$2 Dn., \$2 Mo. . . . 14.64  
462 RD 3353—Dual Speed, 78 or 33 1/2 R.P.M. With either crystal or magnetic pickup. State Pickup choice wanted. Shipping weight 20 lbs.

Cash Price. . . . \$26.95  
Time Pay. Pr.: \$3 Dn., \$4 Mo. . . . \$29.35  
462 RD 3388—For 6-volt battery operation. Regular 78 R.P.M. speed. Magnetic or crystal pickup. State choice. Ship. wt. 25 lbs.  
Cash Price. . . . \$27.95  
Time Pay. Pr.: \$3 Dn., \$4 Mo. . . . \$30.45

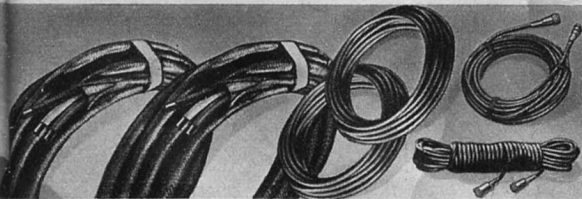
### New Phono Amplifier Kit

Ready For Installation

Here is your opportunity to have a new modern phonograph or phono-radio combination. Just insert in any cabinet or bookcase—no technical knowledge needed. Powerful enough for a hall. Outfit consists of Motor Board Assembly complete with offset Crystal pickup, self-starting phono-motor, on-off switch and volume control, 9-inch turntable, needle cup and 6 foot A.C. line cord. Motor board is 24 by 24 by 1/2 inches. Extends 2 inches above board and 3 1/2 inches below.

Powerful 12-Watt Amplifier has convenient external volume and tone controls connected with 3 foot shielded leads. Mount anywhere in your present cabinet. SIZE: 15 by 9 by 4 in. high. Uses one 6CS6, two 6V6G, and one 5U4G rectifier tube. 12-inch P.M. Dynamic Speaker mounted on heavy baffle board (24 by 24 by 1/2 in.). May be sawed to fit. Speaker extends 5 1/4 in. back of panel. Entire outfit draws only 120 watts from any 105 to 125 volt, 60 cycle, A.C. line. Ship. wt. 22 lbs.

162 RD 4198—Cash Price. . . . \$34.95  
Time Pay. \$4 Down, \$5 a Mo. . . . \$38.05



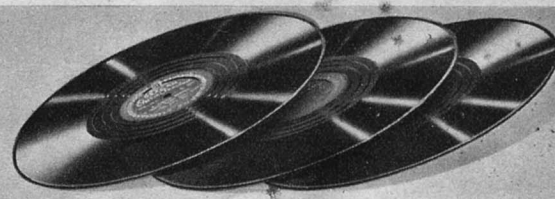
### Microphone Cables that Wear Better

Shipping weight per foot, 2 oz.

- 662 RD 3750—Three-conductor, unshielded, glazed braid covered. Individual leads. Color coded. For carbon mikes. Per ft. . . . 3c
- 662 RD 3751—Three-conductor, shielded, rubber covered. Color coded leads; water resistant. For carbon mikes. Per ft. . . . 5c
- 662 RD 3752—Three-conductor, unshielded, weather-resistant insulation. Color coded. For all outside and permanent installations. For carbon mikes. Per foot. . . . 4c
- 662 RD 3753—Single-conductor, shielded, rubber covered, low-capacity type. For all Crystal, Dynamic and Velocity microphones. Per foot. . . . 4c
- 662 RD 3754—Two-conductor, shielded rubber covered, low capacity type. For use between pre-amplifier or tuner (Page 46) and regular amplifier. Must be used with transformer 62 RD 3112. Per foot. . . . 6c
- 662 RD 3997—Single-conductor, shielded rubber covered with one male, one female shielded screw connector. 25-ft. length. . . . \$1.69
- 662 RD 3998—Microphone Cable. Same as above but in 50-foot length. . . . \$2.69
- 662 RD 3999—Microphone Cable. Same as above but in 100-foot length. . . . \$3.69

### SELECTED CHIME RECORDINGS

By Deagan Artists



### Deagan Chime and Vibra-Harp Records for All Occasions

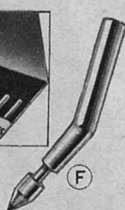
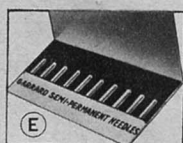
Any phonograph listed on these two pages, connected to a modern sound system, becomes an awe-inspiring chime system when you play these carefully selected phonograph records. . . . Religious, occasional, patriotic selections are all available on these genuine Deagan chime records! There is no longer any need for you to buy expensive tower bells or carillons when Wards now offer these famous, high quality chime and vibra-harp recordings. . . . and you'll find when you play them that it is almost impossible to detect their clear, natural tone from the actual chimes themselves.

Two full selections are offered on most of the records listed below. Recordings are on one side only. Each record is carefully tested before they are shipped to assure you of perfect tonal quality. Each is 12 inches in diameter with 78 R.P.M. single speed. Write us for special prices on quantity orders. Many other selections are available on request—address your letter to Radio Wholesale and Technical Department, Montgomery Ward, Chicago, Illinois for complete lists that are now available. Shipping weight each, 2 pounds.

- 62 RD 3369—Adeste Fideles (Chimes); Silent Night (Chimes, Vibra-Harp) . . . . . \$3.50
- 62 RD 3370—Star Spangled Banner (Chimes); America (Chimes, Vibra-Harp) . . . . . \$3.50
- 62 RD 3371—Traumerel (Chimes, Vibra-Harp) . . . . . \$3.50
- 62 RD 3372—Bells of St. Mary's (Chimes); Evening Star (Vibra-Harp) . . . . . \$3.50
- 62 RD 3373—Chopin's Funeral March (Chimes); Beautiful Isle of Somewhere (Chimes) . . . . . \$3.50
- 62 RD 3374—At Dawning; I Love You Truly (Chimes, Vibra-Harp Interlude) . . . . . \$3.50
- 62 RD 3375—Lead Kindly Light (Chimes); Rock of Ages (Chimes—Vibra-Harp Interlude) . . . . . \$3.50
- 62 RD 3376—My Faith Looks Up to Thee; Jesus, Savior, Pilot Me; Come Thou Almighty King (Played on Deagan Chimes) . . . . . \$3.50
- 62 RD 3377—Auld Lang Syne (Chimes); Love's Old Sweet Song (Chimes, Vibra-Harp) . . . . . \$3.50
- 62 RD 3378—Somewhere a Voice is Calling; End of a Perfect Day (Chimes, Vibra-Harp) . . . . . \$3.50
- 62 RD 3379—Abide with Me; Nearer My God to Thee (Chimes, Vibra-Harp) . . . . . \$3.50

**15 DAY TRIAL** at Wards on all Airline Amplifiers: Prove its Superiority yourself. If you're not convinced it's the best dollar-for-dollar value on the market today, send it back. We'll refund every cent you have paid including all transportation charges both ways.

**ALL MERCHANDISE SHIPPED FROM CHICAGO** unless otherwise specified, but you pay shipping charges only from Wards Nearest Mail Order House. Send Order to Chicago.



- (E) **Garrard Chromic Needles** Each plays 10 records. Made for record changers. Wt. 3 oz. 62 RD 3393—Pack of ten. . . . 9c
- (F) **Sapphire Needle** plays 2000 or more records before a new needle is required. Designed to give the longest record life with the least amount of wear. Shipping weight 2 ounces. 62 RD 3380—Each. . . . 98c

YOUR FAVORITE MUSIC... ONE HALF HOUR OF CONTINUOUS ENTERTAINMENT WITH A

# Record Changer

**\$3528**  
Cash

\$4 Down, \$5 a Month  
See Page 3

## New Webster W-1270 Jam-Proof Model

One of the most efficient, fool-proof Record Changers on the market today! It's jam-proof, even when the records are changing. Be sure to compare this marvelous new feature with other record changers selling at the same or even a higher price. Especially easy to install—just drop it in place and connect it to Amplifier or Radio! No loose hardware to bother with... no complicated wiring to contend with... no technical knowledge required. The Webster changer will handle either twelve, 10-inch or ten, 12-inch records (not simultaneously). Holding pickup arm while records are changing will not harm the sturdy, long life mechanism in any way... durable and sturdy... usual forms of tampering (pressing wrong button, loading with excessive records, etc.) will not hurt this record changer.

**Four Convenient Control Push Buttons** assure smooth easy operation. One button for playing 10-inch records; one for playing 12-inch records; one for changing from automatic to manual operation; and one for rejecting records during operation. Remember, pressing the wrong control button will not harm this machine in any way. Last record on turntable continues to play again and again until it is shut off.

**Crystal Pickup Arm** has exceptionally true tracking. Practical tangent arm always holds needle at the right angle whether at the beginning or the end of a record. Pickup arm is also counterbalanced to assure the proper needle pressure at all times... only 2.5 ounce pressure gives longer life to your records. Entire unit rubber mounted.

**New Simple Construction** assures quiet, smooth operation. Contains only about one half the component parts found in other Changers, yet is equal or more efficient in operation. Records are Gravity Fed from patented holder to the turntable below... creates an air cushioned drop that allows records to fall flat into position without scraping on each other. Absolutely minimizes record wear! Extremely compact. Measures only 14 by 14 inches square. Mechanism extends only 5½ inches above mounting plate and 4½ inches below... permits installation in very limited space. The changer will usually fit in space suitable only for manually operated record players. Uses high fidelity Crystal Pickup.

462 RD 3890—Shipping weight 30 lbs. *Mailable*. Cash Price.....\$35.28  
Time Payment Price: \$4 Down, \$5 a Month..... 38.41

For Model Complete in Portable Carrying Case See Below

**\$2643**  
Cash

\$3 Down, \$4 Month  
See Page 3

## Famous RCA New Record Changer

The finest Record Changer ever offered by RCA. Designed to provide you with the finest quality of tone... plus minimum in surface noise... to assure you of smooth, dependable operation.

**Can be Installed quickly and Easily.** The entire Record Changer comes in one unit. There is no bothersome loose hardware to assemble.

**Plays seven 12-inch or eight 10-inch records** in sequence or mixed if you prefer. Plays any size record if manually operated. Repeats last record until machine is turned off. If records are not chipped or warped, both 10 and 12-inch records may be played in mixed sequence. Rejector lever automatically feeds in next record safely without record damage.

**High Impedance Top-loading Crystal Pickup** with automatic needle rejector and receptacle. To change needle, merely loosen screw and push rejector lever down. Output 1.5 volts. Entire mechanism is of simple, fool-proof design. Shock-absorbing coupling between motor and turntable prevents vibrations to the motor board and insures constant speed.

**Offset Pickup Arm** assures best tracking plus proper needle pressure. Gives minimum wear on all records (3 oz. pressure). Size: 14¾ by 11½ inches; space above and below mounting board requires 4¾ inches. Operates on 110-120 volt, 60 cycle, A.C. line. Housed in attractive brown wrinkle lacquer finish with handsome contrasting chromium trim.

462 RD 2063—Shipping weight 38 pounds. *Mailable*. Cash Price.....\$26.43  
Time Payment Price: \$3 Down, \$4 a Month..... 28.77

For Model Complete in Portable Carrying Case See Below

All Merchandise in this Catalog shipped from Chicago unless otherwise specified, but you pay transportation charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

**\$3822**  
Cash

\$4 Down, \$5 Month  
See Page 3

## Garrard RC-10 Automatic Model

Mechanically perfect operation... entirely automatic... Plays either eight, 10 or 12-inch records of any kind (not mixed) with a minimum of record wear—will not damage the finest records. Made in England.

**Powerful Electric Motor** completely enclosed; mounted ready to place in cabinet. Fitted with patented Governor to insure perfect regularity.

**Changer Automatically Stops** after playing last record. A special convenience feature. Electric current switch off. There are no knobs to turn—no switch to throw!

**Finest Crystal Pickup** turns 180° for easy needle changing. Tangent arm keeps needle at correct angle at all times. Any record not desired is automatically rejected by setting knob to "Rejected" position. Size: 15 by 11¾. Requires clearance of 4½ inches above plate; 4½ inches below plate. For use on 100 to 130 volt, 50 to 60 cycle, A.C. line. *Mailable*.

462 RD 2082—Model RC-10. Shipping weight 30 lbs. Cash Price.....\$38.22  
Time Payment Price: \$4 Down, \$5 a Month..... 41.64

462 RD 2080—Mixer Changer Model RC-50. The finest made! Automatically plays 10 and 12-inch records in any sequence. Features similar to above. With Universal Motor; operates on 110 to 130 volts, or 200 to 250 volts 50 to 60 cycles. 16 by 14 by 5½ inches above plate; 4¾ in. below. Shipping weight 35 pounds. Cash Price.....\$52.90  
Time Payment Price: \$5 Down, \$5 a Month..... 57.70

For Model Complete in Portable Carrying Case See Below

## Attractive Cabinet and Carrying Case Models

Both styles have removable cover, combined "On-Off" power switch, Volume Control, 8-ft. A.C. cord and 6-ft. shielded cable with pin tips. Largest approx. size for any cases below, 18 by 16 by 12¾ inches. (A) Beautiful Walnut finish, (B) Smart airplane luggage style with handle. Both are ideal for attaching to your home radio.

562 RD 3575—Webster changer W-1270 Model in Case similar to (B) at left. **\$46.23**  
Shipping weight 39 lbs. *Mailable*. Cash Price.....  
Time Payment Price: \$5 Down, \$5 a Month..... 50.35

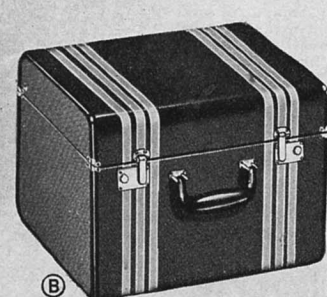
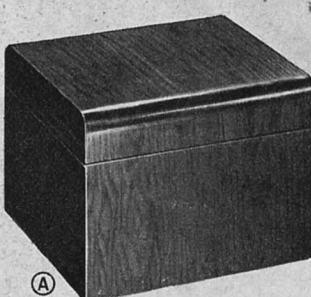
562 RD 3576—RCA Model and Case similar to (B) at left. Shipping weight 47 lbs. **\$33.38**  
*Mailable*. Cash Price.....  
Time Payment Price: \$4 Down, \$5 a Month..... 36.32

562 RD 3577—Garrard Model RC-10 and Case similar to (B) at left. Shipping weight 39 lbs. *Mailable*. Cash Price.....**\$44.97**  
Time Payment Price: \$5 Down, \$5 a Month..... 39.97

562 RD 3578—Garrard Model RC-10 and Case similar to (A) at left. Shipping weight 37 lbs. *Mailable*. Cash Price.....**\$49.87**  
Time Payment Price: \$5 Down, \$5 a Month..... 54.36

562 RD 3579—Garrard Model RC-50 and Case similar to (B) at left. Shipping weight 44 lbs. Cash Price.....**\$60.40**  
Time Payment Price: \$6 Down, \$6 a Month..... 65.84

562 RD 3580—Garrard Model RC-50 in Case, similar to (A) at left. Shipping weight 45 lbs. *Mailable*. Cash Price.....**\$64.55**  
Time Payment Price: \$6 Down, \$6 a Month..... 70.41





# New Airline Recorders .. .. EACH A PROVEN QUALITY WINNER



## New Airline Low Priced Recorder

A complete low priced recorder—so simple in operation that anyone can operate it. Costs no more than a good radio set. **Ready to use anywhere.** Technical knowledge is unnecessary. No need for setting up. Open the lid, plug in microphone or radio and start recording any 6 to 12-inch record. Play back record immediately. Use it to record speeches, business meetings, and favorite radio programs. (See recording needles on opposite page.)

**Uses Bruno Magnetic Cutting Head** (range 50-5000 cycles) and Astatic crystal pickup for surprisingly good tone. Latest Model G. E. recording motor and heavy 12-inch lathe-turned turntable assure constant speed. Phono and Mike input are high impedance. Also arranged for radio input. Record speed is 78 R.P.M. 110 grooves per inch. Records from outside to inside. This allows playing records on record players or record changers. Plays all standard records. **Three big Features:** Automatic release of feed mechanism when arm is lifted. Ten degree needle angle adjustment and depth of cut adjustment for any records from softest acetate to plain aluminum. Depth of cut indicator provided. All adjustments may be made while in operation. All in one grey airplane-luggage carrying case, cover removable; very portable. Measures only 20½ by 18 by 11½ inches. Operates on 105 to 125 volt, 60 cycle, A.C. **Five-watt Amplifier** built in. Uses one 6J7, 6Q7, 6N6G and 5Y4G rect. Genuine Jensen 6-inch Electro-Dynamic Speaker. **Panel Controls:** Volume Control, Record-Playback switch, Tone Control, Mike Input, Amplifier A.C. switch and idler release. Illuminated Volume meter is calibrated; tells exactly the correct control setting to use.

**162 RD 2070**—Airline Recorder complete with latest (SL) Bruno Microphone, 25-foot cord and plug (see Pg. 57), and DeLuxe take down mike stand, 462RD3187 (see Pg. 58). Cash Price..... **\$146.50**  
Time Payment Price: \$12.50 Down, \$10 a Month..... **159.90**

**\$146.50** Cash  
\$12.50 Dn., \$10 a Mo.

## Latest Model Professional Recorder

A custom built recording instrument especially designed for those who want the best. It not only records, but plays back immediately with turn of a switch. Also plays regular records. Consists of 2 units: Recorder and Amplifier with 12-in. P.M. speaker. Amplifier Case 19 by 18 by 11 inches. Recorder Case 17½ by 14 by 17½ in. Easy to set up and use.

**Cuts Groove as it Records**, inside to outside. (Outside to inside model can be supplied on request. Write Chicago for information and prices. Cuts 100 grooves to inch. Has 500-ohm Bruno cutting head. Turn of knob places head on record. 33¼ or 78 R.P.M. speed by a simple adjustment. Uses all types of 6 to 12-inch records (see below).

**Special 20-Watt Amplifier** that is supplied with recorder may also be used as complete Sound System. Uses one or 2 microphones at once, or 1 microphone and 1 phonograph. With socket for one or two eight-ohm speakers and separate 500-ohm output allowing use of any number of additional speakers. Seven Tube Total: Two 6SF5's; one 6Z7; one 6N7G; two 6L6G's and one 5Z3. Bruno Symphonic high impedance Pickup used for playback. (Use only RCA needles). 1½-oz. needle pressure. Recorder will play with or without closing the cover. Convenient Volume Indicator tells exactly the right volume to use. Provisions for headphones allow listening to incoming sound.

**162 RD 2016—Complete Recording Outfit**—includes recorder, amplifier; each in strong Fabrikoid covered carrying case. (Airline Astatic T-3 or Airline Velotron Mike (Page 57); 25-foot cord and plug; DeLuxe Stand shown above and on Page 58. Shipping weight 100 lbs. Operates on 115v. 60 cycle A.C. *Not Mailable.* Cash Price..... **\$195.00**  
Time Payment Price: \$20 Down, \$12 a Month..... **212.50**

**162 RD 2077—Recorder Only.** Complete with Recording Head and Pickup in Fabrikoid covered carrying case. Ship. wt. 40 lbs. *Not Mailable.* Cash Price..... **\$131.93**  
Time Payment Price: \$12.50 Down, \$9 a Month..... **143.87**

**\$195.00** Cash  
\$20 Down, \$12 a Mo.

## New Phonoflex, Acetate or Plastic BLANK RECORDS

Include Them in Your Time Payment Order—See Page 3

### New Flex Records

The latest development in the recording field today. *Non-breakable and flexible!* Always return to their flat shape. *Safe, too,* because their shavings are non-inflammable. *Permanent*—they do not warp, harden or alter their tone quality. Last longer than acetate records. *Light weight* assures low mailing costs. *Uniform thickness* (only ¼ inch). Will not scratch. They record on both sides. Two Flex Records take the space of one ordinary record. Rubbing surface does not harm them. Minimum of 125 playings possible. Not pre-grooved.

- 62 RD 6968— 6-inch size. Ship. wt. 4 oz. Each..... **22c**
- 62 RD 6969— 8-inch size. Ship. wt. 4 oz. Each..... **34c**
- 62 RD 6970—10-inch size. Ship. wt. 8 oz. Each..... **45c**
- 62 RD 6971—12-inch size. Ship. wt. 8 oz. Each..... **56c**

### Special Acetate Records

Scientifically coated—may be cut at any amplitude. They reproduce both high and low tones with equal fidelity. May be used with the two recorders listed and described above, or with almost any other on the market today with fine results. Coating approx. .008 inches thick. Not furnished pre-grooved. Mirror-smooth, uniform surface—low noise level and excellent frequency response. Heavy aluminum sheet core assures perfect recordings. Offered in three standard sizes. Records on both sides of record for added economy. For details on Wards Time Payment Plan, see Page 3.

- 62 RD 6972— 8-inch size. Ship. wt. 8 oz. Each..... **40c**
- 62 RD 6973—10-inch size. Ship. wt. 8 oz. Each..... **58c**
- 62 RD 6974—12-inch size. Ship. wt. 8 oz. Each..... **72c**

### Fine Plastic Records

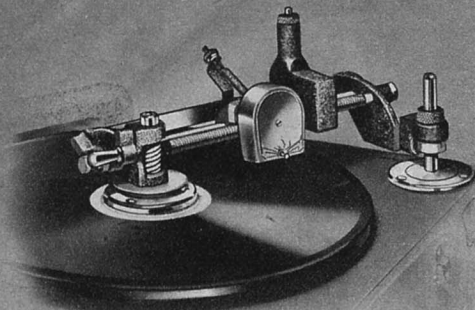
Made of a superior new plastic material. Capable of wide frequency response with little scratch. Tougher than other records—but will not harden. Made of hardened aluminum alloy with Plastic surface... which is polished and uniform. Good for at least 200 playings. No waste chips to brush off during recordings because they lie back in the cut groove. May be removed by a slight brush of your finger after recording is finished. Both sides of records may be cut—a fine economy feature. Offered in three standard sizes for your convenience. Use with Recorders above.

- 62 RD 7017— 8-inch size. Ship. wt. 2 oz. Each.... **41c**
- 62 RD 7018—10-inch size. Ship. wt. 2 oz. Each.... **58c**
- 62 RD 7019—12-inch size. Ship. wt. 2 oz. Each.... **72c**





## REK-O-KUT RECORDING MECHANISM



Make Your Own Recording **\$2896**  
Outfit Economically Cash

The easiest, most inexpensive means of cutting your own records. Has eight-ohm magnetic cutting head which conveniently matches the output of most amplifier speaker output transformers. Just switch amplifier output from the cutting head to any standard eight-ohm speaker. We recommend the use of a good crystal pickup for playback. (See Page 61.) Cuts grooves as it records.

Outfit consists of accurately machined spindle and worm gear driven at the center of the turntable, feed screw, cutting head mounting and High Fidelity magnetic cutting head. Requires less than 2 watts driving power. Mechanism must be attached to a good Recording Motor (see 62RD2073 below). No extensive mechanical changes are involved. Unit records at either 33 1/4 or 78 R.P.M.

Unit records inside to outside on acetate only. The cutter adjustment can be set for records of varying thickness. See cutting needle below. Ship. wt. 10 lbs.

62 RD 2078—Cash Price.....\$28.96  
Time Payment Price: \$3 Down, \$4 a Month..... 31.56

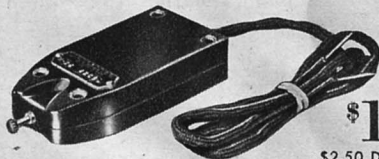
## SPECIAL RECORDING MOTOR With Constant Speed



**\$1605**  
Cash

A motor that gives you the kind of service high quality recordings demand. Made by the manufacturers of the famous Green Flyer phono motors. May be used as recording motor where crystal cutting head is used or as an especially high grade phono motor. Speed is governor controlled. Extends 4 1/4 inches below mounting plate. Extra heavy motor assures constant speed and freedom from flutter or "woows." Heavy 12-inch turntable finished in brown. Provisions for locking blank records while they are recorded. Connections for locking blank records while they are recorded. Connections to 115 volt, 60 cycle. A.C. line are brought out with two 12-inch insulated leads. Shipping weight 12 lbs.

62 RD 2073—Cash Price.....\$16.05  
Time Payment Price: \$2.50 Down, \$2 a Month..... 17.41



**\$1764**  
Cash

\$2.50 Down, \$3 a Mo.

## New Astatic Model Crystal Recording Head

**Model X-26.** For replacing older magnetic types in present recording equipment; measures only 1 1/2 by 3/4 by 3/4 inches long; finished in telephone black. Gives your recorder a brilliance of tone never before possible. Because of its exclusive constant amplitude characteristics, louder sounds can be safely recorded without the slightest danger of cutting over the record groove. Results in a much smoother recording process because critical monitoring during recording is greatly reduced. To insure perfect tone quality when used with existing amplifiers, the Astatic 33-C Recording Head Equalizer and Astatic T-26 Transformer (see below) are recommended for best, most satisfactory results. Ship. wts., 1 lb., 1 lb., 7 oz.  
62 RD 3173—Astatic X-26 Recording Head. Cash Price..\$17.64  
Time Payment Price: \$2.50 Down, \$3 a Month..... 19.15  
62 RD 3174—Astatic T-26 Matching Transformer. Each. 4.11  
62 RD 3177—Astatic Recording Equalizer. Each..... 1.47

## Finest Recording Needles

*These needles for cutting records only—not playback!*  
**Sapphire Needles.** For recording on Acetate records at left or any aluminum and semi-plastic records. Highly polished for minimum scratch effect. Not recommended for Phonoflex records. **\$3.45**  
62 RD 3391—Sapphire Needles. Ship. wt. 4 oz. Ea.....

**Steel Alloy Needles.**—An extremely hard metal. Points are ground with diamond dust to a very accurate degree to give a quiet cut. Recommended for use on Phonoflex and all Acetate records. Ship. wt. package of ten, 4 oz.  
62 RD 3392—Steel Needles. Package of ten.....**\$1.35**

## ORDERING INFORMATION

Send all orders from this Catalog to Radio Wholesale and Technical Department, Montgomery Ward, Chicago, Ill. All merchandise in this Catalog is shipped from Chicago, unless otherwise specified, but you pay shipping charges only from the Ward Mail Order House nearest you. (See bottom of page.) In estimating transportation, always figure the charges on the distance from Wards nearest Mail Order House to you.

### CASH ORDERS

List the items wanted on the enclosed order blank or on any plain piece of paper. Give the name and article number of each, and all information, such as size, voltage, cycles, model number, range, rating, etc. This guards against delay and permits prompt delivery of the exact items you want.

### PRICES

It will be our policy to maintain the prices shown in this Catalog until December 1, 1940, but we reserve the right to make such price adjustments as may be required by unusual and extraordinary changes in the market, and the right to refuse any order for excessive quantities. For further information on prices see Wards Guarantee on Page 2.

### TIME PAYMENTS

Everything Wards sell can be bought on Wards Convenient Time Payment Plan. When ordering on Time Payments, also fill in and sign the time payment form on the back of the order blank and include with your order the amount of the down payment as shown in the Table of Terms on Page 3.

### TO SEND MONEY

The safest way to send money is by personal check, Post Office or Express money order, or bank draft. If you send cash, be sure to register your letter. If your order is to be shipped by mail, be sure to include with your order enough extra to cover the postage. (See Postage Table below.) We will promptly return every penny not used.

**NOTICE—If Your Order from This Catalog Totals \$50 or More, You Can Telegraph It COLLECT**

## SHIPPING INFORMATION

### POSTAGE CHARGES

If you want your goods shipped by Parcel Post (the most economical way to ship mailable merchandise up to 50 pounds), be sure to include enough money with your remittance to cover the postage. To determine this amount, add shipping weights of items and see table below. Use the zone showing your distance from Wards nearest House. Don't hesitate about sending too much; we promptly refund every penny not used. A few Mailable items in this catalog are described as being "shipped by express only," due to their fragile nature. They can be shipped by mail if you so specify.

Shipping Weight	Local Zone	Zones 1 and 2 Not over 150 Miles	Zone 3 151 to 300 Miles	Zone 4 301 to 600 Miles	Zone 5 601 to 1000 Miles
To 2 oz.	1 1/2 c	1 1/2 c	1 1/2 c	1 1/2 c	1 1/2 c
3 or 4 oz.	3c	3c	3c	3c	3c
5 or 6 oz.	4 1/2 c	4 1/2 c	4 1/2 c	4 1/2 c	4 1/2 c
7 or 8 oz.	6c	6c	6c	6c	6c
1 lb.	7c	8c	9c	10c	11c
2 lbs.	8c	10c	11c	14c	17c
3 lbs.	8c	11c	13c	17c	22c
4 lbs.	9c	12c	15c	21c	27c
5 lbs.	9c	13c	17c	24c	33c
6 lbs.	10c	14c	19c	28c	38c
7 lbs.	10c	15c	21c	31c	43c
8 lbs.	11c	16c	23c	35c	49c

Shipping Weight	Local Zone	Zones 1 and 2 Not over 150 Miles	Zone 3 151 to 300 Miles	Zone 4 301 to 600 Miles	Zone 5 601 to 1000 Miles
9 lbs.	11c	17c	25c	38c	54c
10 lbs.	12c	18c	27c	42c	59c
12 lbs.	13c	21c	31c	49c	70c
15 lbs.	14c	24c	37c	59c	86c
20 lbs.	17c	29c	47c	77c	\$1.12
25 lbs.	19c	35c	57c	94c	1.39
30 lbs.	22c	40c	67c	\$1.12	1.65
35 lbs.	24c	46c	77c	1.29	1.92
40 lbs.	27c	51c	87c	1.47	2.18
50 lbs.	32c	62c	\$1.07	1.82	2.71
60 lbs.	37c	73c	1.27	2.17	3.24
70 lbs.	42c	84c	1.47	2.52	3.77

Packages weighing not more than 70 lbs. and measuring not more than 100 inches (length plus girth of widest point) may be mailed to all zones

Note: In some cases freight is more economical on orders over 50 pounds or shipments going long distances.

The post office figures any part of a pound as the next full pound on all packages weighing over 8 oz. For example: 9 oz. is counted as 1 lb.; 3 lbs. 2 oz. is counted as 4 lbs.

### FREIGHT RATES

Freight is the most economical way to ship heavy, bulky merchandise and orders weighing over 50 lbs. Do not send us the money for freight charges if there is a freight agent at your station... he will collect the charges when you receive the goods. If there is no agent it is necessary to send enough extra with your order to cover freight from Wards Mail Order House nearest you. Be sure to tell us the freight station nearest you. Rates are based on 100 lb. shipments (i. e., orders for less than 100 lbs. are charged the same as for full 100 lbs.). Approximate freight rates per 100 lbs. to various distances follow:

Miles	100	200	300	500	750	1000
Per 100 Pounds	83c	\$1.11	\$1.34	\$1.96	\$2.42	\$3.00

In mountain territory freight rates are usually about one fourth higher than shown above.

### NEW LOW EXPRESS RATES

Express service is fast and reliable. Do not send money for express charges if there is an express agent at your station. You can pay him when goods are delivered. Be sure to state nearest express station when you order. Estimate distance from Wards nearest Mail Order House.

Miles	100	200	300	500	750	1000
Pkg. not over 5 pounds	25c	30c	30c	35c	35c	45c
10 pounds	30c	40c	40c	50c	50c	65c
15 pounds	34c	43c	51c	58c	63c	78c
20 pounds	42c	54c	64c	73c	81c	\$1.01
25 pounds	50c	65c	78c	89c	98c	1.23
35 pounds	66c	87c	\$1.05	\$1.20	\$1.34	1.68
45 pounds	82c	\$1.09	1.32	1.52	1.69	2.13
55 pounds	98c	1.31	1.59	1.83	2.04	2.59
75 pounds	\$1.30	1.75	2.13	2.46	2.74	3.49
95 pounds	1.60	2.19	2.67	3.09	3.45	4.39
Each 100 lbs.	1.60	2.20	2.70	3.14	3.52	4.51

## MONTGOMERY WARD

CHICAGO • BALTIMORE • ALBANY • KANSAS CITY • ST. PAUL  
DENVER • PORTLAND • OAKLAND • FT. WORTH • JACKSONVILLE

ALL WARDS 26

# Hammarlund HQ120-X Receiver



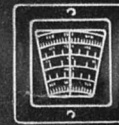
## True Precision Plus Modern Craftsmanship

**Built for grueling 24-hour service.** Both Band-Spread and full coverage dials calibrated; uniform sensitivity from 31 to .54 M.C. (9.7 to 555 meters in 6 bands). **12 Controls:** Selectivity in 5 steps for complete variation from broadcast reception to razor-edge sharpness; crystal phasing; standby switch; R.F. gain, band and main tuning; ant. compensator; band switch; A.F. gain; B.F.O. switch; A.N.L. switch; phone jack. **Automatic Noise Limiter.** Illuminated "S" meter calibrated from 1 to 9. 12 high efficiency tubes: 6S7 1st R.F.; 6K8 1st det.-osc.; 6S7 1st I.F.; 6F6 3rd I.F.; 6Z7G A.N.L.; 6F8G 2nd det. and 1st A.F. 6SF5 "S" meter amp. 6J7 b.f.o.; 6V6G output; 5V4G rectifier and VR-150 regulator. Black steel cabinet; hinged cover. 17 1/2 by 10 by 12 1/2 in. 105 to 125 volts, 50 to 60 cycles. Wt. 68 lbs.

**\$129.00** Cash

162 RD 7500—With crystal, tubes, and unmounted 10 in. P.M. Speaker. Cash: \$129.00  
Time Payment Price: \$12.50 Down, \$9.00 a Month..... 140.65  
162 RD 7501—Black Crackle Steel Baffle Cabinet for above speaker. SIZE: 12 1/2 by 12 1/2 by 7 inches deep. Ship. wt. 11 lbs..... \$3.90

Calibrated  
Band Spread  
Dial



Full Range  
Crystal  
Selectivity



## The Improved 1940 Model!

### HAMMARLUND SUPER PRO

- USED BY NEWS BUREAUS • B.C.L.
- STATIONS • AIRPORTS • SHIPS
- RECORDING COMPANIES

**\$279.00** Cash

\$30 Down—See Page 3

Accepted and used by those who must have the ultimate in receiver performance at all times . . . continuous peak operation over the longest service periods without breakdowns.

All merchandise shipped from Chicago unless otherwise specified, but you pay shipping charges only from Wards nearest Mail Order House. Send your order direct to Chicago.

**TWO R. F. STAGES** for greatest image suppression and sensitivity on all bands. Choice of 2 models with tuning ranges: 7 1/2 to 240, or 15 to 560 Meters Main Dial calibrated in Kcs. to an accuracy of 1/2%. Band spread dial spreads amateur bands over almost entire dial scale for easy tuning.

**COMPLETE VARIABLE SELECTIVITY** from less than 100 cycles (with 5 position variable crystal filter) to 16 Kcs. permits unusually wide range to cope with any receiving conditions. Also acts as a tone control. Has 3 high gain I.F. stages Improved Noise Limiter to minimize interference caused by auto ignition noise, static and other disturbances.

**FRONT PANEL "S" METER** of advanced design registers signal strength and allows silent tuning. Improved Crystal Filter for still greater selectivity without interlocking of controls.

**TOTAL OF 18 TUBES**—6K7 1st R.F.; 6K7 2nd R.F.; 6J7 osc., 6L7 1st det.; 6K7 1st I.F.; 6SK7 2nd I.F.; 6SK7 3rd I.F.; 6H6 2nd det.; 6N7 noise limiter; 6SJ7 B.F.O.; 6SK7 A.V.C. amp. and 6H6 A.V.C. and meter rect.; 6C5 1st A.F.; 6F6 2nd A.F.; two 6F6 output, 5Z3 high voltage rect.; 80 bias rectifier.

**TWELVE CONTROLS**—Band width; Standby Switch; A.V.C. Switch; Main Tuning; Off-On Switch; r.f. gain; Bands with; Band spread tuning; B.F.O. Switch; Phone Speaker Switch; Audio Gain; and Beat Oscillator Tuning.

**SEPARATE POWER SUPPLY** to preserve circuit stability. Measures 13 by 7 1/2 by 8 1/2 in. high. Also contains "C" Bias supply.

**HIGH FIDELITY 10-INCH DYNAMIC SPEAKER** reproduces every single note faithfully. Speaker suitable for mounting in your own baffle. Receiver Cabinet is of heavy gauge steel in black crackle finish. SIZE: 21 by 15 1/2 by 12 1/4 inches high. Ship. wt. 98 lbs.

162 RD 7502—Receiver complete with tubes, crystal, power supply and speaker. State tuning range wanted. (See above.) Cash Price... \$279.00  
Time Payment Price: \$30 Down, \$15 a Month..... 303.90

