

# HARRY RHFD RADIO SUPPLY formerly <br> RADIO ENGINEERING SUPPLY 

## Springfield, Mo.

## 1124 Boonville



In presenting our List Price Catalog, we aim to fill a long-felt need for a new selling medium which may be exhibited to the consumer without the risk of disclosing confidential trade prices.

## Contents

In the pages of this book you will find listed a complete line of nationally advertised Radio merchandise, representing the "best" in the field of RADIO. Every part is manufactured in accordance with R.M.A. and N.E.M.A. Standards, rated at safety factors in excess of those required for normal operation.

## Why a List Price Catalog?

You are entitled to make a fair and reasonable profit on the merchandise you sell. Our co-operation is signified by the issuance of a List Price Catalog. The distribution of this catalog is confined to those actively and commercially engaged in "RADIO"; it is intended to promote our mutual interests. Solicit your consumer business through this book and you are assured of increasing your sales and profits.

## Important Notice -Trade Discounts!

You will find imprinted at the bottom-center of each page a small figure representing the confidential trade discount applying to all items listed on that page. Several pages, as well as some individual items, are quoted at net prices, in which case the word "Net" appears at the bottom-center of the page or next to the price itself.

## Create Sales With This Catalog

Take full advantage of the wealth of information and technical data contained in this catalog. Use it as your "Silent Salesman" and as a Radio Reference Book and Encyclopedia.

## Guarantee

Our liberal guarantee policy is made possible because of the fact that every item of merchandise has been thoroughly tested and approved before being accepted for listing in our Catalog.

## Special Service

We have endeavored to include all of the standard parts and accessories normally required. Do not hesitate to take advantage of our "Special Service" if you need some article which is not listed. We will obtain it for you if it is at all possible.

# HARRY REED RADIO SUPPLY <br> We are eager to serve you 

Below is a picture of a portion of our store, stoclred full of radic merchandise, awaiting your desires and needs. The picture also shows some members of our organization, who are anxious to serve you to the fullest extent at all tines. All oiders receive prompt attention; since, as a rule, they are filled and delivered to the post office or express company on the same morning they are received.


HARFY REED RADIO SUPPIY STORE
SEVEN YEARS IN THE WHOLESALE SUPPLY BUSINESS THE LARGEST STOCK OF RADIO SUPPLIES IN SOUTHWEST MISSOURI

WE ARE A COMPLETE RADIO STORE
We stock practically everything to be desired by a radio serviceman, amateur, or radio dealer; and we will guarantee that our prices and quality of merchandise will meet all competition. All our merchanaise carries the standard manufacturers' guarrute.


# hanRy Reed ranio supriy WILCOX-GAY RECORDIO 



MODEL A-91• Dual speed recording - automatically equalized for dual speed recording • push-pull output - $12^{\prime \prime}$ heavy dury speaker - 10 tubes including level indicator - wave-trap for interference-free reception. three gang condenser - simultaneous radio-microphone recording - automatic tone control circuit for full-tone recording - The STREAMLINER, a beautiful modern console - Size: $321 / 2^{\prime \prime} \times 341_{8 \prime \prime}^{\prime \prime} \times 151 / 2^{\prime \prime}$. List $\$ 129.95$ Net $\$ 79.95$


MODEL A-87 • Portable model - complete with radio, phonograph and recorder 7 tubes - wave-trap for reduced interference - built-in antenna connection . automatic tone control for recording. recording and play-back arms automatically secured for portability. low reso. nance speaker. MODEL A.88 - deluxe model with genuine leather cover - Size: $22^{\prime \prime} \times 131 / 2^{\prime \prime} \times 12^{\prime \prime}$. List $\$ 84.95$ Net $\$ 52.95$


New Setchell-Carlson RADIO DORAPHONE
Comblies Radio with Inter-Com., for Home, offico, shop!


FEATURES*- MODEL 411RD
Instantly converted from RADIO to DORAFONE.
Simple finger tip control for "Talk-Listen" positions. Switch for optional transmission of radio programs to external speaker.
Engineered for EXTERNAL ST KER - Permanent magnet design -weather-prod stic bronze, bell type boffle. Furnished
with 50 -foot rober covered cable.

$$
16.00 \text { less } 2 \% \quad \$ 15.68
$$

# HARRY REED RADIO SUPPLY 

## 

 "Biq Beauty" 5 TUBE AC-DC SUPERHET DC Luxa$\star$ Euilt-In Antenna $\quad \star$ L Airplane Diat $\star$ Quad. Tuned I.F. Amplifior for Eeloctivity * 2 Watts Output
$*$ Tunes 540 to 1600 KC Don't tet the low price milalead you for here is big handeorre net that in packed with the kind of featuran unually found on eots
 purpose tubes resuit in performance equal to most 7 tube eetm Quadruplo tuned I. F. Amplifier sivem hifg power ootput and Eraily moparatos "close-togethor" Btations. Power Ootput of 2 watis with unumal senaitivity and solectivity, bringe in distant gations with Surs priaine resularity. "Phantom-Scope" Bullt-in aerial la highly efficlent and selectlve No othor aerial or rround raquired for perfect reception. Long distance connection provided on back of loopan
tenna for connectins outaide antenna for extra coverage if deairea. Three Smart, Modern Cabinet Desigits Beautiful Plastlo cabinets available in Ivory or Walnut gize $11 \%^{\prime \prime}$



Operate
OE 110 .
AC or DC

Model 622a-lvory Glonsy Ivory IInish. Emart modern atyling. Complote with tubes.


Model 622-Walnut Beautiful whirled WaInut Complete with tubes.
LIST \$18.95. Your Cowt Finch,


Model 632_Wood Genulne Walnut Wood vederful Tone. With Tubes.

antena, and Full Broadcent Band Tunlong.


$\star$ Built-In Antenna $\star$ Airplane Dial
$\star$ Tunes 540 to 1600 KC $\boldsymbol{*}$ Dynamic Speaker Here In ine little peraonal radio that is ldeal for traveling or made prom becauro THE CABINBL UNBAEAKABLEA R Ivory or Walnut. A Builtoin Antenna of unuaus pick-up and gonslivity Eliminatos Aerial or zround althoush a connection in provided for connecting outside antenna when greater diatance coveraze. In İSQ7. boL GGT, and 35z5GT. Dual purpost uses a 128A7. 128R7, performance. Quadruple tuned I.F. Amplifier Eives Kulio-Rdra Be-



465 K.C.-IF TRANSFORMER


Smart Radio-Phono Combination


Model 302A-Ivory $\mid$ Model 302-Brown With Chrome Trim
 2\%, Niet...

- With Ivory Trin

$$
\begin{aligned}
& \text { Lit } 814.9 s_{\%} \\
& \text { Your Coot En.t } \\
& \text { B11.96 Lene }
\end{aligned}
$$ 2\%. Net...

SPECIAL 8 MFD-450 Volt TOBE
condensers


## HARRY REED RADIO SUPPLY

## "Toastewell" Automatic Pop-Up Toaster

No watchbes-fect pat in the brand OOLD PTEAtol - TWO BLICES OF withla eag rowh. SELEECTIVE AUTOMATIC TOAST LIFT. Makea tonst of any denired brownneas-toasta EVERT sllce exactly allke it dealred. NEW LOW HEAT FRATURE MAKEs WIFILL Mement TOABT! "TOASTXWhem plogred is aratio to "hish" heat when bread if Imerted and watll toat ti "done" $=$ then retura to "Jow" heat to keop tomet warm if desirna. sto watt Nichrome olomente, Bakellte handlen and mar-proot feet; gleaming high. wt. E Jbe. For 110 volt AC only. Lest, 50.95 . Net Each $\$ 6.95$ lest $2 \%$


FLUORESCENT DESK LAMP


New, nifty, streamlined design with handy pencil grooves in base. Super-ef ficient PARABOLA REFLECTOR has white enamel surface-delivers an abundance of NONGLARE, far reaching DAYLIGHT easy on the eyes! Saves current - 15
watts of Fluorescent provides a FLOOD OF LIGHT over the entire deak QUALITY CON STRUCTION THROUGHOUT - approved ballast, newest magnetic on and off push switch in streamlined base; stem and shade of heavy gauge metal, finished in Tobacco Brown crackle en amel. Shade is $18^{\prime \prime}$ long and stands $14^{1 / 2^{\prime \prime}}$ above level of desk. 8-foot approved cord and plug. Wt. 12 lbs. List $\$ 5.95$; less T-8 bulb.

## For 110 volt AC.

YOUR $\$ 3.87$


The new TOASTSWELL Automatic Wafle Baker is fully automatic and produces done-to-the-minute golden brown wafles. Entirely new design, with new features.

This fully Automatic Waffe Baker is thermostatically controlled and enables you to bake wafles perfectly... light or dark as you wish. Pilot light signals when to pour in batter and when wafle is done. Makes large size round waflea.
No. 830 Automatic Waflle Baker................. $\mathbf{\$ 9 . 9 5}$
$\$ 6.98$
leme $2 \%$


This new Bun, Roll and Food Warmer is truly a modern convenience that has many uses and will be used every day. You can serve many loods "Piping Hot" right at the table and keep them "Hot" throughout an entire meal. Convenient and easy to use. Fumished with-out cord and plug.
No. 625 Food Warmer..................
Net ..................32.98
$\$ 1.95$

## NO INSTALLATION COST-COMPLETELY WIRED READY TO USE



# D E P E N D A B LE 

| Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price | Type No. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 00A | \$2.25 | 4A6G | \$1.85 | 6K7 | \$1.00 | 7C6 | \$1.20 | 32 | \$1.20 |
| 01 A | . 80 | 5 T 4 | 1.85 | 6K7G | 1.00 | 7 7 7 | 1.20 | 32L7GT | 85 |
| OA4G | 1.85 | 5U4G | . 90 | 6K7GT | . 90 | $7 E 6$ | 1.20 | 33 | 1.20 |
| 024 | 1.50 | 5V4G | 1.50 | $6 \mathrm{K8}$ | 1.20 | $7 E 7$ | 1.50 | 34 /51 | 0 |
| 0Z4G | 1.50 | 5W4 | 1.00 | 6 KgG | 1.20 | $7 F 7$ | 1.50 | 35/51 | . 90 |
| 1A4P | 1.50 | [5W4G1 | . 80 | 6K8GT | 1.20 | 7H7 | 1.85 | 35A5 | 1.20 |
| 1A4T | 1.50 | '5W4GT) | . 80 | 6L5G | 1.00 | $7 \mathrm{J7}$ | 1.85 | 35L6GT | . 90 |
| \{1A5G \} | 1.00 | $5 \times 4 \mathrm{G}$ $5 Y 3 \mathrm{G}$ | 1.00 .60 | 6L6 | 1.85 1.85 | 7N7 | 1.85 1.85 | 3523 3524 GT | 1.20 .70 |
|  | 1.20 | 5Y3G | . 65 | ${ }_{6}^{6 L 7}$ | 1.85 1.50 | 707 | 1.20 | \|3525G | | . 75 |
| $1 \mathrm{~A}{ }^{1} \mathrm{~A} / \mathrm{G}$ | 1.20 1.50 | $5 \mathrm{S3}$ | 1.00 | 6L7G | 1.50 | 7 Y 4 | 1.20 | (3525GT) | . 75 |
| $1 \mathrm{~A} \mathrm{C}^{\text {G }}$ | 1.20 | 524 | 1.20 | 6N6G | 2.25 | 10 | 2.75 | 35Z6G | 1.20 |
| 1B4/951 | 1.20 | 5Z4MG | 1.20 | 6N6MG | 2.25 | WD-11 | 2.25 | 36 | . 90 |
| 1B5/25S | 1.20 | 6 A3 | 1.85 | 6N7 | 1.50 | WX-12 | 2.25 | 37 | . 75 |
| 1876 | 1.20 | 6A4/LA | 1.50 | 6N7G | 1.50 | 12A | . 90 | 38 | 1.00 |
| 1C5G | 1.50 | 6A5G | 2.75 | 6P5G | . 75 | $12 A 5$ | 2.25 | 39/44 | . 90 |
| $1 \mathrm{C53T}$ | 1.20 | $6 A 6$ | 1.50 | 6P5GT | .70 | 12 A 7 | 1.85 | 40 | 1.50 |
| 1 C 6 | 1.20 | 6 A7 | . 90 | 6P7G | 2.25 | 12A8GT | . 90 | 41 | . 75 |
| 1C7G | 1.20 | 6 68 | 0 | 607 | 1.20 | $12 \mathrm{B7}$ | 1.50 | 42 | 5 |
| 105GP | 1.20 | 6ABG | . 90 | 607G | 80 | 12B8GT | +1.50 | 43 | 1.00 |
| 1D5GT | 1.20 | 6ABGT | . 90 | 607G |  | 8 | - 1.85 | 45 | . 70 |
| 107G | 1.50 | 6AB5/6N | 1.50 | $6 \mathrm{6P7}$ | 1.50 | 12F5GT | - 90 | 45Z5GT | 1.00 |
| 1 CBGT | 1.85 | 6AC5G | 1.20 | 6R7G | 1.00 | 12J5GT | . 90 | 46 | 1.00 |
| 1E4G | 1.20 | 6AC5GT | 1.00 | T | 150 | $12 . J 7 \mathrm{GT}$ | 1.00 | 47 | 1.00 |
| 1E5GP | 1.50 | 6AD6G | 1.50 | 6S7 | 1.50 | 12 K 7 GT | . 90 | 48 | 2.75 |
| 1E7G | 2.25 | 16AE5G | 1.20 | 6S7G | 1.50 | 12K8GT | 1.20 | 49 | 1.20 |
| $1 F 4$ | 1.20 | 16AE5GT |  | 6SA7 | 1 | 12Q7GT | O | 50 | 2.25 |
| 1F5G | 1.20 | 6AE6G | 1.20 | 6SA7GT | 1.00 | $12 \mathrm{SA7}$ | 0 | 50C6G | 1.85 |
| 1F6 | 1.50 | 6AE7GT | 1.20 | $65 C 7$ | 1.20 | 12SA7GT | 1.20 | 50L6GT | 1.00 |
| 1F7GH | 1.50 | 6AF 5G | 150 | 6SD7G | 90 | $12 S C 7$ | ) | [50Y6G \| | 1.00 |
| 11G4G ? | 1.20 | 6AF6G | 1.50 1.85 | 6SF5 5 GT | . 90 | 12SF5 | 1.00 1.00 | $150 Y 6 \mathrm{GT}$ \| | 1.00 |
| (1G4GT) | 1.20 | 6B4 | 1.85 | 6SJ7 | 1.00 | 12SF5GT | 1.00 1.00 | 52 ... | 2.75 |
| 1G5G | 1.20 | 6B5 | 1.85 | 6SJ7GT | 1.00 | 12SJ7 | 1.00 | 53 | 1.50 |
| 11G6G \| | 1.50 | 687 | 1.20 | 6SK7 | . 90 | 12SK7 | . 90 | 55 | 1.00 |
| (1G6GT) |  | 6B8 | 1.85 | 6SK7GT | 1.00 | 12SK7GT | 1.00 | 56 | . 70 |
| $1{ }^{1} 4 \mathrm{G}$ | $\begin{array}{r}.90 \\ \hline 120\end{array}$ | 688G | 1.20 | 6SQ7 | . 90 | $12 \mathrm{S07}$ | . 90 | 57 | 80 |
| 1H5G | 1.20 | 6C5 | 1.00 | 6SQ7GT | 1.00 | $12 S 07 \mathrm{GT}$ | 1.00 |  |  |
| 1H5GT | 1.00 | 6C5G | . 90 | 6SR7 | 1.00 | $12 S 87{ }^{\text {12 }}$ | 1.20 | 58 | . 80 |
| 1H6G | 1.20 | 6C5GT | . 90 | 6T7E/606G | 1.20 | 12 2R7 127 | 1.20 | 59 | 1.50 |
| 1J5G | 1.85 | $6 \mathrm{C6}$ | . 90 | 6U5/6G5 | 1.20 | 15 | 1.85 | 70L7GT | 1.85 |
| 1J6G | 1.20 | ${ }_{6}^{6 C 8 G}$ | 1.50 | 6U6GT | 1.20 | 19 | 1.20 | 71A | . 80 |
| 1LA4 | 2.25 | 606 | . 1.90 | 6U7G | . 90 | 20 | 2.75 | 75 | . 75 |
| 1 LA 6 | 2.25 | 608G | 1.50 | $6 \vee 6$ | 1.85 | 22 | 2.25 |  |  |
| 1LB4 | 2.25 | 6E5 | 1.00 | (6V6G) |  | 22 | 2.25 | 76 | . 80 |
| 1LH4 | 2.25 | 6E6 | 1.00 1.85 | 16V6GT | 1.00 | $24 A$ | 5 | 77 | . 80 |
| 1LN5 | 2.25 | 6F5 | 1.00 | 6V7G) | 1.20 | 25A6 | 5 | 78 | . 80 |
| 1N5G | 1.50 | 6F5G | 1.00 | 6W5G | 1.85 | [25A6G | 1.00 | 79 | 150 |
| 1N5GT | 1.20 | 6F5GT | $\begin{array}{r} 1.00 \\ .90 \end{array}$ | 6W7G | 1.50 | 125A6GT |  | 79 | 1.50 |
| 1N6G | 1.20 | 6F5G | .90 1.00 | 6 W 7 G | 1.50 | \{25A7G \} | 1.50 | 80 | . 60 |
| 1P5GT | 1.50 | 6F66 |  | ${ }_{(6 \times 5}^{6 \times 5 / 600)}$ | 1.50 | 125A7GT ${ }^{\text {d }}$ |  | 81 | 1.85 |
| \{105G ! | 1.50 | 6F69 | 1.50 | $16 \times 5 \mathrm{GT}$ | . 90 | 25AC5G | 1.50 1.85 | 82 | 1.20 |
| (1050T $)$ | 1.50 | 6F8G | 1.20 | 6Y6G | 1.50 | 25B6G | 1.85 | 83 | 1.20 |
| 1 1 5 | 1.50 | 6FG6G | 1.20 1.20 | 6Y7G | 1.50 1.50 | 25B8GT | 1.85 1.85 | 83 V | 1.85 |
| 154 | 1.50 | 6H4GT | 1.20 1.85 | 677 G | 1.85 | 25C6G | 1.85 | $83 V$ | 1.85 |
| 155 | 1.50 | $6{ }^{6} 46$ | 1.00 | 6ZY5G | 1.80 | 25L6 | 1.50 | $84 / 624$ | 1.00 |
| 1 14 | 1.50 |  | 1.00 | $7 \mathrm{7A4} \mathrm{G}$ | 1.20 | 25L6G | 1.20 | 85 | . 80 |
| 1 T5GT | 1.50 | H6GT | 1.00 1.00 | 7A4 | 1.20 | 25L6GT | - 1.00 | 89 | . 90 |
| 1V | . 90 | H6G | . 80 | $7 \mathrm{7A}$ | 1.20 1.20 | 25 Y5 | . 2.25 | V-99 | 2.75 |
| 2 A 3 | 1.85 | 16J5G ) |  | 7 A 7 | 1.20 | 2575 | . 90 | X-99 | 2.75 |
| 2A4G | 2.75 | 16.55GT | . 80 | 7 AB | 1.20 | 2576 | 1.20 |  |  |
| 2 A 5 | . 90 | 6. 6.57 |  |  |  |  |  | 117L7GT | 2.25 |
| $2 A 6$ | . 90 | 6J7 6 | 1.20 | 784 | 1.20 | [25Z6G ? | . 90 | 117M7GT | 2.25 |
| $2 A 7$ | 1.00 | 6.77 G $6 . J$ | 1.00 | 785 | 1.20 | (25Z6GT |  | $117 \mathrm{N7GT}$ | 2.25 |
| 2B7 | 1.20 |  |  | 786 | 1.20 | 26 | . 65 | \{11726G \} |  |
| 2E5 | 1.20 | 6K5G | 1.0 | 787 | 1.20 | 27 | . 60 | \|11726GT| |  |
| 3A8GT | 2.25 | (6K6G) |  | 788 | 1.20 | 30 | . 90 | 950 | 1.85 |
| 3Q5GT | 1.50 | 16 K 6 GT ( | . 90 | $7 \mathrm{C5}$ | 1.20 | 31 | . 90 | 1232 | 1.85 |

## DEPENDABLE <br> RAYTHEON QUALITY

SPECIAL TYPE TUBES

| MAJESTIC TYPES |  |  |  | Type No. SPARTON TYPES List Prioe 182B/482B |
| :---: | :---: | :---: | :---: | :---: |
| Type No. | List Price | Type No. | List Price | 183/483 |
| 2A7S ... | \$2.25 | 24 S . | \$2.25 | SPECIAL RECTIFIERS |
| 2B7S | 2.25 | 27 S | 2.25 |  |
| 2S/4S | 2.25 | 355/515 | 2.25 |  |
| 2Z2/G84 | 2.25 | 555 | 2.25 | BR |
| 6A7S | 2.25 | 56AS | 2.25 | TELEVISION TYPES |
| 6875 | 2.25 | 56S | 2.25 | 2×2/879 \$2.25 |
| $6 \mathrm{C7}$ | 2.25 | 57AS | 2.25 | 6AB7/1853 ..................................... 1.85 |
| 607 | 2.25 | 575 | 2.25 | 6AC7/1852 ................................. 2.25 |
| 6 E 7 | 2.25 | 58AS | 2.25 | 6AG7 |
| 6F7S | 2.25 | 585 | 2.25 | VOLTAGE REGULATOR TYPES |
| 6 Y5 | 2.25 | 755 | -... 2.25 | VR-90 .... |
| 625 | 2.25 | 85AS | 2.25 |  |


| RESISTOR TUBES |  |  |  | SOUND SPECIAL TYPES |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Type No. IAl | List Price $\$ 1.20$ | Type No. L490 | List Price $\$ .80$ | Type No. SS-5U4G | List Price $\$ 1.20$ |
| 1B1. | -...... 1.20 | K55B .. | -. $\quad .80$ | SS-5V4G | -... 1.85 |
| 42A | . 80 | K55C | . 80 | SS-5Y3G | . 90 |
| K42B | . 80 | K55D | . 80 | SS-6C5G | . 1.20 |
| BK42B | . 80 | L55B | . .80 | SS-6C8G | . 1.85 |
| L42B | . 80 | L55C | . . 80 | SS-6F6G | 1.00 |
| L42C | . 80 | L550 | . .80 | SS-6F8G | 1.50 |
| 49A | . 80 | M73B | . .80 | SS-6J6G | .. 1.20 |
| K498 | . 80 | 165R | . 80 | SS-6L6G | ... 2.25 |
| K49C | . 80 | 165R4 | . 80 | SS-6L7G | ... 1.85 |
| K49СВ |  | 185R | . 80 | SS-6N6G | - 2.75 |
| BK49C | . 80 | 185R4 | . 80 | SS-6N7G | ... 1.85 |
| K490 | . 80 | 185R8 | . 80 | SS-6V6G | -. 1.50 |
| L498 | . 80 | NB2 | . 80 | SS-6x5G | 1.20 |
| L49C | . . 80 | NBS | . 80 | SS-1620 | 4.70 |

## RAYTHEON DEPENDABLE MINIATURE LAMPS



Raytheon Dependable Panel Lamps are of the highest quality and are designed especially to meet the requirements of the replacement market.

[^0]Ask your Raytheon Jobber for the new Dealer and Service Helps folder picturing all current Raytheon display material and other selling aids.

Prices Subject To Change Without Notice

## RECORD CHANGERS AND RECORDERS

The W-1 205 is a complete system in one case, containing recorder with crystal head that cuts the grooves as it records, two-ounce pressure crystal pick-up for play-back, recording amplifier with tubes, crystal microphone, loud speaker and all necessary controls including volume level meter. Will record up to $12^{\prime \prime}$ blanks at 78 RPM.

Hecording rate is 98 lines per inch or $51 / 4$ minutes at 78 RPM. Special design clutch allows immediate setting of cutting needle at starting edge or at any point on the record blank. Drive mechanism is of the worm reduction type with clutch, geared direct to cutting arm.

Auxiliary input available for re-recording from original or commercial recordings using external phono reproducer. Twelve inch records may be reproduced on the play-back. Equipped with 8 foot power cord and jack for plugging in external speaker, adapting equipment to use as a 10 watt P.A. system.

W- 1205 PORTABLE RECORDER $\qquad$ List Price $\$ 149.50$
Complete as described above, with tuhes. Size of case $10 \% 2^{\prime \prime}$ high, $16^{\prime \prime}$ wide by $20^{\prime \prime}$ long. Net weight 40 lbs . Shipping weight 50 lbs .

Code: RETRO
The W. 1206 is similar to the W. 1205 except geared to operate at $331 / 3$ RPM. Equipped with $12^{\prime \prime}$ cast aluminum turntable which permits cutting $12^{\prime \prime}$ blanks. Recording rate 98 lines per inch or over 12 minutes recording time.
W- 1206 PORTABLE RECORDER
List Price $\$ 159.50$
Similar to W- 1205 except $331 / 3$ RPM. Size of case 101 !"
high, $16^{\prime \prime}$ wide by $20^{\prime \prime}$ long. Net weight 40 lbs .
Shipping weight 50 lbs .
Code: RIGOR

## AUTOMATIC RECORD CHANGERS



Webster-Chicago record chang. ers embody many advanced and exclusive principles combined with simplicity in construction and a minimum of working parts. Pickup arm is counter-balanced to give a two ounce pressure, minimizing record wear
Records can be played manually and any record rejected during automatic operation by a simple pressing of button at any point during operation.

## STANDARD TYPE

W-1270 AUTOMATIC RECORD CHANGER CHASSIS

List Price $\$ 39.50$ Mounting Plate dimensions $14^{\prime \prime} \times 14^{\prime \prime}$. Mechanism extends $51 / 2$ " above mounting plate and $5^{\prime \prime}$ below. Shipping weight 25 lbs.

Code: PALIS
W-I 1200 PORTABLE AUTOMATIC CHANGER. List Price $\mathbf{\$ 6 7 . 0 0}$
Contains the W. 1270 chassis mounted in portable carrying case, complete with volume control, A.C. switch, $6^{*}$ power cord and $6^{\prime \prime}$ pick-up shielded connecting cable.

Code: PACKE

## DELUXE TYPE

W-1290 DELUXE RECORD CHANGER
CHASSIS............................
List Price $\$ 60.00$ Mounting Plate dimensions $131 /{ }^{\prime \prime} \times 171^{\prime \prime}$. Mechanism extends $53 /$ " $^{\prime \prime}$ above plate and 43 " below. Shipping weight 30 lbs.

Code: PERRY
W- 1280 PORTABLE AUTOMATIC RECORD CHANGER.

List Price $\$ 87.50$
Contains the W-1290 chassis mounted in portable carry. ing case, complete with 6 foot power cord and shielded pick-up connecting cord.

Code: PLAIT

## "The Saund of Tamarrou"



## 

True life-like reproduction of the original at extremely low cost
RECORD-CHANGERS WITH RECORDER

W. 1275

w. 1295

In addition to automatic play-back of commercial records these units afford manual operation for recording up to $10^{\prime \prime}$ blanks at 78 RPM. Also manual play-back of such recordings plus any standard commercial records.

## STANDARD TYPE

W- 1275 AUTOMATIC RECORD CHANGER CHASSIS AND RECORDER................ List Price $\$ 60.00$ Chassis only, less power cord, controls and connecting cable.
Shipping Wt. 30 lks . Code: RELAX
W- 1265 PORTABLE AUTOMATIC CHANGER
AND RECORDER. ............... List Price $\$ 115.00$
Same as W-1275 except mounted in neutral grey
portable carrying case. Complete with VI meter,
matcking transtormer and connecting cables.
Size 11 " high $\times 161 / \Xi^{\prime \prime} \times 1611_{2}^{\prime \prime}$
Shipping Wt. 40 lbs .
Code: REPEL
DELUXE TYPE
W-1295 DELUXE RECORD CHANGER AND RECORDER

List Price $\$ 80.00$
Chassis only less power cord, controls and connecting cable.
Shipping Wt. 35 lbs.
Code: REFIT
W- 1285 PORTABLE DELUXE CHANGER AND
RECORDER
List Price $\$ 135.00$
Same as W-1295 except mounted in neutral grey portable carrying case. Complete with VI meter, matching transformer and connecting cable. Size
$12^{\prime \prime}$ high $\times 14$ !" ${ }^{\prime \prime} \times 171 / 2^{\prime \prime}$.
Shippiaq Wt. 45 lbs .
Code: REPAY
WEBSTER-CHICAGO

## "UNI-VEL" UNIDIRECTIONAL MICROPHONES

The W. 1248 is an entirely new development in microphones, the result of intensive research by Webster-Chicago microphone engineers. Incorporates true cardioid unidirectional characteristics and is the first cardioid type high level, super-fidelity, wide-angle pick-up microphone offered at a price that is practical for general P.A. installations. Full frequency response of 40 to 9,000 eycles; exceptional sensitivity; cardioid pattern allows placement of microphones $30 \%$ closer to speakers, and overcomes sound pick-up problems encountered in practically every type of indoor location. Modern streamlined case, attractively finished in black and polished chrome. Tilts 30 degrees. Complete with "built-in" locking type connector and 25 feet of shielded rubber covered cable. Case dimensions $2^{1}, 2^{\prime \prime} \times 7^{\prime \prime}$.

> W. 1248 "UNI-VEL" HIGH IMPEDANCE
> MICROPHONE.........List Price $\$ 49.50$ List Price $\$ 49.50$ Output level 59 d.b. Net wt. 5 lbs. Shipping weight 8 lbs . Code: MITER

W-1248-L "UNI-VEL" LOW IMPEDANCE MICROPHONE

List Price $\$ 49.50$
For $200 / 250$ ohm inputs. Output level
-63 d.b. Ship. wt. 8 lbs. Code: MISTY

## "DUO-VEL" VELOCITY MICROPHONES

The W- 1247 is a new velocity (ribbon) microphone developed in Webster-Chicago's laboratories for those special applications where bi-directional characteristics and high quality performance is required. Free from cavity resonance, rugged in construction, and with high output level; highly recommended for slage pick-ups and installations where a microphone is operated close to reproducers. Uses corrugated dural ribbon and special Alnico magnet structure. Frequency response 40-9,000 cycles. Housed in same attractive case as the W-1248. Complete with 25 feet of shielded rubber covered cable.

W- 1247 "DUO-VEL" HIGH IMPEDANCE MICROPHONE. . . . . . . . List Price $\$ 39.50$

Output level - 56 d.b. Net wi. 4 lbs .
Shipping wi. 7 lbs. Code: MIRTH

W-1247-L "DUO-VEL'’ LOW IMPEDANCE MICROPHONE. . . . . . . .... List Price $\$ 39.50$ For $200 / 250$ ohm inputs. Output level $-62 \mathrm{~d} . \mathrm{b}$. Shipping wt. 7 lbs. Code: MIGHT


UNI-VEL - Microphone DUO.VEL-Microphone


## "SUPER-DYNE" DYNAMIC MICROPHONES

W. 1246 is a new dynamic microphone designed to give a high level output with high fidelity response of $40-10,000$ cycles. Utilizes a new design of Alnico magnet to give highest tlux density per unit gap. dural diaphragm, and edge wound flat wire voice coil. The W- 1246 is recommended as the ideal out door microphone wherever the highest quality of reproduction combined with rugged construction is required. In addition to its excellent frequency response, this microphone has wide range pick-up and freedom from atmospheric or climatic effects, making it most suitable for general all-around putlic address work. Assembly is in a compact and neat streamlined case, finished in gun-metal with polished chrome bars. Head adjustable through a $90^{\circ}$ angle. Detachable cord assembly with locking type plug and 25 feet shielded rubber covered cable.

W- 1246 'SUPER-DYNE'" HIGH IMPEDANCE
DYNAMIC MICROPHONE ..... List Price $\$ 29.50$ Output level - 55 d.b. Case dimension $2^{\prime \prime} \times 3!\%^{\prime \prime}$. Shipping wt. 3 lbs. Code: MONTE

W-1246-L ''SUPER-DYNE' LOW IMPEDANCE DYNAMIC MICROPHONE ..... List Price $\$ 29.50$ For 200 , 250 ohm inputs. Output level $60 \mathrm{~d} . \mathrm{b}$. Shipping wt. 3 lbs. Code: MULET


## CRYSTAL MICROPHONES

The popular W-1236 crystal microphone includes such modern features as internal screen.protected cartridge, moisture sealed crystal, curvilinear diaphragm for high elficiency, high semi-ditectional and non-directional mouning. wide range reproduction, 50.9 .000 cycles, and shock-proci cartridge sus pension. Case linished in polished chrome, complete with 25 leet ol aingle conductor shielded cable, detachable with locking
type connector.
W-1236 CRYSTAL MICROPHONE....... List price $\$ 23.50$
Complete as described above. Shipping weight 3 lbs .

Code: MACAD
W.1236-H CRYSTAL MICROPHONE. ... List Price $\$ 24.50$ Same as W. 1236 except complete with handle.

Code: MOROC
W-1236-HS CRYSTAL MICROPHONE. . List Price $\$ 27.00$ Same as W. 1236 except complete with handle and "on-off" switch. Code: MOTLE

## FLOOR STANDS

Two models of full bength floor stands are available. Both lypes have full size heavy bases and patented now fype clutch. They ate finushed in a durabla polished chrome W-1121-A FLOOR STAND..List Price $\$ 14.00$ A 4 section stand for portable use. Ad justable from $48^{\prime \prime}$ to $60^{\circ}$ Also can be used as a banquet stand by eliminating 2 sections and is then adjustable from $17^{\prime \prime}$ to $30^{\prime \prime}$
Shipping Wt. 17 lbs. Code: STRIP
W-1122 FLOOR STAND.... List Price $\$ 14.00$ A 2 piece floor stand, adjustable from $35^{\prime \prime}$ to $60^{*}$
Shipping Wt. 19 lbs. Code: STOUP

DYNAMIC MICROPHONES
The W.1245, with its dural diaphragm incorporating a new edge wound flat wire voice coil assembly and improved Alnico magnet assembly. ${ }^{18}$ now available at a surprisingly low hist price. Ideal for portable and mobile systems and wherever hard usage demands rugged microphone frequency response detachable cord and locking type plug, complete with 25 teat of shielded R.C. cable.
W-1245 HIGH IMPEDANCE DYNAMIC. List Price $\$ 22.50$ Output level $60 \mathrm{~d} . \mathrm{b}$. Shipping wi. 6 lbs . Code: MALAR
W-1245-L LOW IMPEDANCE DYNAMIC List Price $\$ 22.50$ For 200,250 ohm inputs. Output level 65 d.b.

Code: MARMO
W-1245-H DYNAMIC MICROPHONE ..... List Price $\$ 23.50$ Same as W. 1245 except with handle. Code: MUSIC
W-I245-HS DYNAMIC MICROPHONE . List Price $\$ 26.00$ Same as W. 1245 except with handle and "on-off" switch. Code: MATAD

## MICROPHONE TRANSFORMER

Impedance matching tiansformets for installations requiring one or more microphones operating at greater disfance from amplilier than 50 fect. Eliminates hum inpuls to low impedence microphones. Five-loot cotd and lock type plug suitable for any Webster.Chicago amplifier and microphone. W-2OI secommended fos high fidelity renponse.

W-200 MICROPHONE TRANSFORMER List Price $\$ 15.00$ Shipping weight 3 lbs.
Code: THORI

W-201 MICROPHONE TRANSFORMER List Price $\$ 10.00$ Shipping weight 2 lbs.

## ECONOMY PORTABLE SYSTEMS

## ALL EQUIPPED WITH TWO 12" SPEAKERS



## ECONOMY—PERFORMANCE—PORTABILITY

This new economy portable line of sound equipment is WebsterChicago's answer to the need for a quality portable sound system priced within the budget of the smaller band, traveling show, carnival, lecturer, etc. Available in 3 power sizes to fit your particular need, 10 watt, 14 watt, and 30 watt. Each system completely contained in one carrying case easily carried by one person. For the first time Webster-Chicago equipment is available to the smaller bands, shows, etc., on an economy basis. For complete satisfaction insist upon Webster-Chicago when you purchase your next sound system. The complete portability of this new line makes these systems ideal for traveling entertainers. Entire system consisting of amplifier, two speakers, microphone and necessary connecting cable is housed in single carrying case.

## DESCRIPTION OF EQUIPMEMT

Each system is complete with two 12" P.M. dynamic speakers equipped with 25 feet of cable and plug; crystal or dynamic microphone (as selected) complete with 25 feet shielded cable and plug. 10 watt, 14 watt, or 30 watt amplifier (as selected) all housed in single portable case finished in Black and Grey airplane cloth. 30 watt system equipped with two heavy duty $12^{\prime \prime}$ P.M. dynamic speakers.

The amplifiers furnished with these "Economy" systems are the standard equipment as listed and described in Webster-Chicago catalog No. 140. This catalog contains a more complete range of sound systems, starting at 10 watts and up to 60 watts of power. Also a complete listing of accessories, including reproducers, portable recorders, record changers, microphones, microphone stands and cable.

## LIST PRICES

PL-811 PORTABLE SYSTEM
$\$ 93.00$
1 - W810 amplifier (less tubes)
2 - PM12GS 12* opeakers
2 - $25^{\prime}$ speaker cables and plugs
1 - W30 crystal microphone with 25 cable
1 - W30 cryetal microphone with 25
PX-811 PORTABLE SYSTEM ..... $\$ 104.00$
Same as PL-811 except with W-1236
crystal microphone in place of $W-30$ crystal microphone
PD-811 PORTABLE SYSTEM. ..... $\$ 103.00$
Same as PL-811 except with W- 1245
dynamic microphone in place of W-30
dynamic microphone
cryatal microphones
W-810 AMPLIFIER ONLY (less tubes) $\$ 39.50$
KIT OF MATCHED TUBES
$\$ 6.50$
PL-815 PORTABLE SYSTEM...... . $\$ 108.00$
1 - W-814 amplifier (less tubes)
2 -PM12GS 12* speakers
2 - 25'speaker cablea and pluga
1 - W. 30 crystal microphone with $25^{\circ}$ cable
1 - W. 5011 three-piece carrying case
PX-815 PORTABLE SYSTEM ...... $\$ 119.50$
Same as PL-815 except with W-1236
crytal microphone in place of W-30 cryatal microphone
PD-815 PORTABLE SYSTEM ..... $\$ 118.50$
Same az PL-815 except with W-1245
dynamic microphone in place of W-30 crystal microphone
W-814 AMPLIFIER ONLY (less tubes) $\$ 54.00$ KIT OF MATCHED TUBES ....... \$11.25
PL-831 PORTABLE SYSTEM
. $\$ 142.00$
1 - W-830 amplitier (less tubes)
2 - W.3912 PM $12^{\text {F }}$ H.D. apeakers
2 - $25^{\prime}$ speaker cables and plugs
1 - W. 30 crystal microphone with $25^{\prime}$ cable
1 - W-5011 three-piece carrying case
PX-831 PORTABLE SYSTEM $\$ 153.00$
Same as PL-831 except with W-1236 crystal microphone in place of W-30 crytal microphone
PD-831 PORTABLE SYSTEM.
$\$ 152.00$
Same as PL-831 except with W-1245 dynamic microphone in place of W-30 cryutal microphone
W-830 AMPLIFIER ONLY (less tubes) $\$ 79.50$
KIT OF MATCHED TUBES ....... $\$ 12.75$

W. 2908


## LIST PRICES

W-810 AMPLIFIER only (less tubes)... \$ 39.50
Shipping Wt. 18 lbs . Code: AUTHE
PX-810 PORTABLE SYSTEM 90.50

1 W-810 Amplifier (less tubes)
1 W-3908 PM 8" Speaker
125 ft. Speaker Cable and Plug
1 W-1236-H Crystal Microphone
125-ft. Shielded Microphone Cable and Plug
1 W-5008 Two piece Carrying Case
FX-810 FIXED SYSTEM.
108.50

1 W. 810 Amplifier (less tubes)
2 W-3908 PM 8" Speakers
2 W- 2908 Baffles
1 W-1236 Crystal Microphone
1 25-ft. Shielded Microphone Cable and Plug
1 W. 1122 Extension Floor Stand
KIT OF MATCHED TUBES for W-810. 6.50
W-920 AMPLIFIER only........ . . . . . . . $\$ 84.50$
(less tubes)
Shipping Weight 35 lbs . Code: AMATE
PX-920 PORTABLE SYSTEM .......... 218.00
Shipping Weight 90 lbe. Code: ALTRU
1 W. 920 Amplifier (lass tubes)
2 W. 3913 PM $12^{\circ}$ Speonkers
2 Speaker Cabler 5 P Plugs
1 W. 1236 Cryntal Microphone
25 .ft, Shielded Microphone Cable at Plug
W. 1121. A Portable Floor Stand
W. 5031 Amplitier Carrying Case Cane

FX-920 FIXED SYSTEM .............
198.00

Shipping. Weight 85 lbs. Code: ARTIS
1 W. 920 Amplitier (less tubes)
2 W-3913 PM $12^{\circ}$ Speakers
2 W. 2923 Spraker Balfles
1 W- 1236 Cryatal Microphone
1 W5.f1, Shielded Microphone Cable of Pluo
KIT OF MATCHED TUBES for W-920.


PX-920

- This powerful small portable or fixed system, with its bass reflex speaker case is suitable for store window demonstrations, small churches, lodge halls, clubs, carnivals and general ballyhoo. The W-810 Amplifier is also recommended for hard of hearing systems in theatres, and churches, either with its own microphone or as a separate earphone amplifier for attaching to existing system. It is also ideal for small paging systems, or as individual booster amplifiers to a general call or communication system.
- The PX. 810 portable system consists of a combination carrying case containing the 10 watt amplifier, hand microphone, speaker, and cable. The amplifier is removable and the back cover replaced on the case to form a complete bass reflex type baffle. The heavy duty $8^{\prime \prime}$ permanent magnet speaker is furnished complete with a 25 foot durable speaker cable and polarized plug. Microphone equipment consists of a W-1236.H crystal microphone with 25 foot rubber covered shielded cable and plug.
The FX-810 fixed system includes the 10 watt amplitier and two $8^{\prime \prime}$ speakers mounted in sloping front walnut baffles. Crystal microphone is of the professional type chrome plated with 25 feet of shielded microphone cable and snap-lock plug. Microphone is furnished with chrome plated adjustable floor stand having patented friction type clutch.


## W-920 AMPLIFIER

- The W-920 amplifier is offered in a variety of portable and permanent systems. Illuminated "No-Glare" glass panel allows convenient operation regardless of lighting conditions. Electronic mixing of the two high-gain microphones and two low-gain auxiliary circuits. Dual tone compensation allows complete control of bass and treble independently for perfect operation under the most adverse acoustical conditions. Snap-lock input plugs prevent cables from being accidently disconnected at a critical moment.

Two position remote mixer control makes it possible to independently control two microphones simultaneously from a point anywhere within the audible range of the loud speakers.
Both portable and fixed systems are furnished complete with bass reflex type speaker baflles. The heavy duty speaker baflles and speakers furnished with these systems are capable of handling the full output of the amplifier. In the portable system the rugged and attractive carrying case for the ampli. fier also houses the microphone and cable, full length floor stand and remote mixer. The speaker carrying case of matched design includes space for the two speaker cables, one $30 \cdot \mathrm{ft}$. and one $50-\mathrm{ft}$.

## 14


W. 2923


PX-814 Portable Syatem

## W-814 AMPLIFIER

The W814 portable systems are complete public address units built basically around a skilliully designed 14 watt amplifier. The complete system is housed in one rugged attractive 3 piece carrying case including two $10^{\prime \prime}$ speakers, microphone, full length floor stand, and two speaker cables, one 30 ft . and one 50 ft . long.

Amplifier is conveniently mounted on a removable base which acts as a cover for the microphone stand compartment. Weight is distributed evenly for convenience in carrying. Case tinished in attractive airplane cloth which blends with the most modern room finishes.

Fixed systems, complete in every detail, consists of 14 watt amplifier, micro. phone and floor stand, two $10^{\prime \prime}$ permanent magnet speakers with modernistic walnut baffles. Bass reflex type baffles insure higher output at a lower feedback point.

All components used in these systems are matched to insure the highest degree of quality tone reproduction.

## W-830 AMPLIFIER

The W-830 amplifier is used as a base for several systems designed for both portable and permanent installation. Indirectly illuminated "No-Glare" glass control panel assures perfect control of equipment without dependence on outside lighting conditions. Electronic mixing circuit allows the use of two high impedance microphones, combining their output within the amplifier to insure perfect blending and full quality.

Such safety features as self-contained fuse, snap-lock input plugs, heavy duly speaker cables and plugs, give these systems the ability to withstand an unusual amount of usage and rough handling. Heavy duty permanent magnet speakers are contained in bass reflex type baffles, resulting in a full rich tone quality.

## W-860 AMPLIFIER

The W-860 is a high powered amplifier designed to operate in areas subjected to high prevailing noise levels. The unit, housed in a modern wrinkle finish case, incorporates such features as multi-stage inverse feed-back, voice coil and line impedance outputs, no glare illuminated glass panel, and locking type input plugs.

Electronic mixing circuit allows the use of two high impedance microphones combining their output within the amplifier to insure perfect blending and full quality.

## LIST PRICES

W-814 AMPLIFIER only (less tubes)... $\$ 54.00$ Shipping Weight 20 tbs. Code: ATTEN
PX-814 PORTABLE SYSTEM........... 135.00
Shipping Weight 60 lbs . Code: ATTEX
1 W-814 Amplifier (lase tubes)
2 W-3910 PM $10^{\circ}$ Spmakers
2 Speaker Cables and Plugs
1 W. 1236 Crystal Microphone
1 25-ft. Shielded Mictophone Cable \& Plug
1 W. 1121 .A Portable Fioor Stand
1 W-5014 Three piece Carryina Case
FX-814 FIXED SYSTEM................. 149.50
Shipping Weight 51 lbs. Code: AURIS
1 W-814 Amplifier (lens Iubes)
2 W-3910 PM $10{ }^{\circ}$ Speakers
2 W-2923 Bafleat
1 W.l236 Crytal Microphone
1 25-tt. Shielded Microphone Cable \& Plug
1 W. 1122 Extension Floor Sland
W-830 AMPLIIIER only (less tubes) ... \$ 79.50 Shipping Weighl 35 lbs. Code: ACOUS
PX-830 PORTABLE SYSTEM........... 213.00
Shipping Werght 93 lbs. Code: ADIEU
IW-830 Amplifier (less tubes)
2 W-3913 PM $12^{\circ}$ Speskers
2 Speaker C;bles \& Plugs
1 W- 1236 Crystal Microphone
25 -ft. Shielded Microphoner Cab
W-1121-A Portable Floor Stand
${ }_{1}^{1}$ W-5030 Duplex Spesker Carrying Caso
FX-830 FIXED SYSTEM.
193.00

Shipping Weight 87 lbs . Code: AGRIN
1 W-830 Amplalier (less fubes)
2 W-3913 PM 12" Speakera
2 W. 2923 Batiles
W-1236 Cryatal Microphone
$125 \cdot \mathrm{fl}$. Shielded Microphone Cable \& Ping
1 W. 1122 Extention Floor Sland
W-860 AMPLIFIER only (less tubes). . $\$ 109.50$ Shipping Weight 45 lb . Code: ABACK
FX-860 FIXED SYSTEM.....................
Shipping Weight 110 lb
1 W-860 (lese lubes) ${ }_{4}$ W-3913 PM $12^{\prime}$ Speakers (lose bafflea)
1 W- 1236 Shielded Microphone Cable es Plug
1 W. 1122 Extension Fioor Stand

## MOBILE SYSTEMS

## -6 Volt DC or 117 Volt AC

- "No-Glare" Illuminated Glass Panel
- Noiseless Gear Drive Phono Motor
- Economical Power Requirements
- Tone Compensation


PX-618 System
W. 820 Phono-Amplifier and Accessories

W. 929 (open)

## W-929 PHONO.AMPLIFIĖR COMBINATION

EQUIPMENT - W. 929 mobile system is built around a phono-amplifier combination carefully designed for extra hard usage. Housed in an attractive steel cabinet finished in grey crystalline. A new Webster feature is the streamlined removable hinged cover, protecting the phono mechanism. The "No-Glare" illuminated control panel is indispensable where little or no light is available. New gear drive phonograph motor combines noiseless correct speed operation in all temperatures with the constant speed synchronous type advantages of previous models. Dual tone controls are another new feature. A new innovation in mobile units is the provision for a two position remote mixer operating anywhere within hearing distance of the speakers, or for control at remote microphone locations.

Two high power W-3913 dynamic speaker chassis only, or completely assembled in W-2618 directional baffles, complete with 15 foot cords, are part of the system. Where speakers are to be operated over 50 feet from the amplifier, two W.3913-A speakers (with line transformer) should be used, which will allow the use of long speaker lines of several hundred feet. The systems are complete with 5 foot battery cable with clips and 7 foot AC power cord.

## W-820 PHONO-AMPLIFIER COMBINA゚TION

EQUIPMENT - The $W$ - 820 is a 20 watt phono-amplifier combination very compact in size and particularly adapted for mobile application. It includes the new noiseless gear drive phonograph motor that will maintain correct speed under all conditions of operation or weather. The "No-Glare" illuminated control panel, contains microphone, phono, and tone controls.

The two W-3912 speakers supplied with the system are heavy duty 12 watt speakers specially designed to be used under the difficult operation required with a 20 watt mobile type of system. Complete with 15 foot cords, they are available with or without the W. 2618 metal baffles. Two W.3912.A speakers (with line transformer) are recommended where speaker lines are apt to run over 50 feet each.

A hand type crystal or dynamic microphone with 25 foot shielded cable, complete with "On-Off" switch, is furnished. 5 foot battery cable with clips and 7 foot AC power cord, equipped with polarized plugs included.

## 18 WATT 6V. DC. - 117 V. A. C. MODEL Less Phono-Assembly

The W. 618 is a combination 6 V DC and 117 V AC amplifier less phonoassembly. Available for car installations and for picnics, rural dances, lectures, etc., where AC supply is either not available or too difficult to obtain Similar in facilities to the W-820 except for the phonograph, it is supplied both in a portable and fixed system. Tubes used: 1.6I7, 2.6N7, 2-6L6G, 1-6W5G. Current consumption (DC) 13 amps , (AC) 100 watts.

## LIST PRICES

W-929 PHONO-AMPLIFIER COMBINATION (less tubes). . . . . . . . . $\$ 179.50$ Shipping Weight 6 S tbs. Code: MALAC
MX-929 MOBILE SYSTEM
252.00

Shipping Weight 8 Slbs. Code: MALIG 1 W. 929 Phono.Amplifier combination (lens tubes)
2 W. 3913 PM $12^{\prime}$ Speakers (less baflles) 2 1S-6t. Speaker Cables 6 Plugs
12 S-ft. 2 Conductor Shielded Microphone Cable and Plug
MD-929 MOBILE SYSTEM
251.00

Shipping Weight 87 lbs. Code: MALNU Same as MX-929 except with W-124S-HR Dynamic Microphone and 3 Conductor Cryital Microphone
KIT OF MATCHED TUBES for W-929... 14.25
W-820 PHONO-AMPLIFIER COM-
BINATION only (less tubes) $\$ 115.00$
Shipping Weight 3S lba Code: MANIF
MX-820 MOBILE SYSTEM
174.50

Shipping Weight SS lbs. Coda: MANTE
W-820 Phono-A mplifier (less tubes)
$2 \mathrm{lS}-\mathrm{ft}$. Speaker Cables \& Pipgs
1 W.1236-HS Crystal Microphone
125 -ft. Shielded Microphone Cable of Plug
MD-820 MOBILE SYSTEMM. .... MAُBOU
Shipping Weight S7 lbs. Code: MARQU Same as MX-820 excepl with W-124S.HS W.1236-HS Crystal Microphone

KIT OF MATCHED TUBES for W-820.
10.85

W-618 AMPLIFIER (less tubes)......... . $\$ 75.00$
Shipping Weight 20 lbs. Code: AUTUM
PX-618 PORTABLE SYSTEM.
Shipping Weight 60 lbs. Code: AUTOT W. $3910 \mathrm{PM} 10^{-1}$ Speakers

2 Speaker Cables \& Plugs
W. 1236 Crystal Microphone

25-11. Shielded Microphone Cable \& Plu
1 W-1121-A Portable Floor Stand
1 W.S014 Three plece Carrying Case
KIT OF MATCHED TUBES for W-618.
Shipping Waight 2 be. Code: THETA

## "MASTER" SYSTEMS

## Teaturing Separate Mixer and Power Units

## EQUIPMENT and APPLICATION

This "Master" series represents a new departure in sound equipment design. The objective of Webster-Chicago engineers was to obtain the ultimate in low hum level, maximum power output, complete control of tone quality, practical visual and manual controls, flexibility of application, plus all-around maximum efficiency and stability. As a result of this engineering elfort Webster-Chicago presents a "Master" series of amplitiers that is far ahead of anything heretofore available to the trade. The unique and pleasing appearance of these units forcefully tells the story of the quality and advanced design incorporated in the housings.

Its flexibility is virtually unlimited. One or more 25, 45 or 75 watt power stages can be operated adjacent to or remotely from one or more mixers. Thus one mixer and three power stages of 75 watts each would afford a total power output of 225 watts. This arrangement can be varied as to number of mixers and power stages to obtain practically any required capacity of power or number of microphones. For example, two W. 1004 mixers and two $\mathrm{W}-1075$ power stages will mix 6 microphones and two phonos supplying 150 watts of power to the speaker load.

Ideal for handling varied sound jobs from the largest needs such as Fairs, Expositions, Auditoriums and Athletic Fields down to the smaller installations for orchestras, restaurants, churches and clubs. Its outstanding virtue of low hum leve makes it particularly adaptable for all installations demanding absolutely quiet operation.


| MIXER SPECIFICATIONS <br> W-1004 <br> W-1C02 |  |
| :---: | :---: |
| GAIN <br> High impod. microphone -76 DB, Low imped. $200 \cdot 250$ ohms - 70 DB Phono-65 DB. | GAIN <br> High imped microphone $-76 \mathrm{DB}_{\mathrm{y}}$ Low imped. 200.250 abms -70 DB Phono-65 DB. |
| FREOUENCY RESPONSE <br> $\pm 11$, DB 50.10,000 Cycles | FREOUENCY RESPONGE $\pm 11:$ DB 50.10,000 Cycloz |
| $\begin{aligned} & \text { TUBES } \\ & \substack{4.6555, 1.6 \mathrm{H} 6} \end{aligned}$ | TUBES (5) |
| CONTROLS (7) <br> 3 - Microphnnes 1 - Phono Micriphnur 1 - Bans with power swith 1 - Treble 1 - Expannion | CONTROLS (5) $\begin{aligned} & 2 \text { - Micsophone-phono } \\ & 1 \text { - Bars } \\ & 1 \text { - Treble } \\ & 1 \text { - "on-ol" Power 5witch } \end{aligned}$ |
| INPUTS (4) <br> 3 -Microphones, 2 megohms or 250 ohms 1 -Phono-Microphone, 20,000 ohms in ! megohm | INPUTS (2) <br> 2-Microphones, 2 megohms 250 ohms or 2 - Phono 20,000 ohmp |
| OUTPUT IMPEDANCE 500 ohm: | OUTPUT IMPEDANCE <br> 500 ohens | COMMUNICATION DELUXE



2 STATION SYSTEM
The W-102 system comprises a W-101 master and a W-Ifol-S remote station. When the master calls the remote station, the latter can answer without operating any control. Master station "Talk-Listen" switch has

## Amplicall

three positions; horizontal position for listening, push down to talk (switch automatically returns to listen position), and raised to a third locking position called the "Silent" position, which eliminates reproduction of any sound from the remote station.

LIST PRICE
W-102 TWO-STATION SYSTEM. $\qquad$ List Price $\$ 44.50$
Made up of a W-101 master and W-100-S remote with rubes. less any connecting cable.
Shipping weight 19 lbs.
Code SEVER

## MASTER and REMOTE STATIONS SYSTEMS




W-400.S

The $W-100$ systems are amoñ the most popular types of communicating equipment and fit the needs of the greatest number of installations. Starting with a 6 -station model to handle the popular demand for six or less remote stations; there are also twelve and eighteen station models available to take care of the more expanded needs of larger installations.

## LIST PRICES

W-106 MASTER STATION
List Price $\$ 45.00$
6 -position push-butron switch, 6 ft . connector
cable and tubes.
Shipping weight 10 lbs Code: SYNOP
W-112 MASTER STATION.
List Price \$52.50
Similar to $W$-106 except with 12 selector
buttons. Code: SYNTA
W-118 MASTER STATION
List Price $\$ \mathbf{5 0 . 0 0}$
Similar to $W$-106 except with is selerror
buttons. Code: SYPEN
For carphone models add letter " $Q$ " - additional cost $\$ 6.50$ list.
W-400-S REMOTE STATION.
. List Price $\$ 13.50$
Complete with originating switch and volume
control.
Shipping weight 7 lbs.
Code: SYRUP

## SYSTEMS CONSISTING OF ALL MASTER STATIONS

## W-200 "SERIES" - 2 Models, for 12 and 24 Stations

7HE new W-200 series systems offer many new and desirable features such as - silent humless stations when not in use; both incoming and outgoing volume controls; multiple private conversations; AC-DC application; individual locking finger-tip push button selectors; three-position talk-listen switch including new combined dictating and " $Q$ " operation position; new balanced lines; new efficiency in tubes and modernistic streamlined walnut wood two-tone case.
Webster-Chicago also manufactures other communication systems including the W-300 series of higher powered paging systems ( 10 and 25 watts) with return speech and a deluxe W-400 series combining multiple master stations and remote stations on the same system. Write for complete catalog No. 240 giving full details including high powered industrial paging systems ( 200 watts and over) with both group and selective paging.

## LIST PRICES

W-912 MASTER STATION. . . . . . . . . . List Price $\$ 52.50$
12-position push-button switch, 6 connector cable and tubes.
Shipping weight 10 lbs. Code: SENAR
W-224 MASTER STATION. . . . . . . . . . List Price $\$ 65.00$
24 position push-button switch, $6^{\prime}$ connector cable and tubes.
Shipping weight 11 lbs. Code: SERAI
For " $Q$ " models add 85.00 list.
JB-109 JUNCTION BOX.............. . List Price $\$ \mathbf{2 . 7 5}$
For use with $W-212$ and $W-106$ master.
Shipping weight 1 lb . Code: JALAP
JB-110 JUNCTION BOX. . . . . . . . . . . . List Price \$ 4.25
For use with $W$ - 224 and $W-112$ master.
Shipping weight 2 lbs Code: JODEL

# HARRY REED RADIO SUPPLY Setchell Carlson SOUND SYSTEMS 



Model PA 1225

A $\mathbf{2 5}$-Watt Amplifier With Two
12" P. M. Dynamic Power Speakers

## List Price

Complete with Tubes Speakers and Microphone

Lin ivie \$89.45

## HALIS-PAVILIONS-RACE ANI DRILL TRACKS - STADIUMS - ROLLER RINKS-SCHOOLS-CARNIVALS-CHURCHES, ETC.

Perfectly matched assembly-25 watts undistorted beam power-3 separately controlled ligh gain input chaincls (2 microphone. 1 phono)-line input, 135 watts, 110


Two Wright-Decostor. 12-inch. Nokoil. 15 Walt Power Speakers with $11 / 2$-inch bakelite voice coils, designed to handle the full output of the amplifier.

Model 65B-65 Watts. List Price complete with tubes . . . $\$ 99.00$ specifications

Undistorted
Power
Output
$\qquad$
65 WVatts

$\frac{\text { Invut }}{\text { Impedance }}$
$\begin{array}{r}103-125 \text { V. } 60 \mathrm{C} \\ \text { Ine Input. at } \\ \frac{\text { Max. Pr. Output }}{} \\ \hline 300 \text { Watta }\end{array}$
Tubes Lized: 4-6Fs
$1-5 C 5$
$2-6 L 6$
$2-3 Z 3$
Cote:-A combination of 10 and $12 S$ pheakers can be used.

Shipplag weirht. 40 lbs


MODEL 12D

A lass reflex deluxe wall mounting speaker. Esporcially desirable where appearathee is of importtance. Hand rubled walnut finish with overlaid elony grille bars.

## MODEL 101)

$71 / 2$ watt 10" P. M. Dynamie Speatker. impedance 1,000$), 1.500$, 2,000 ohms. Size, $13 \frac{1}{2} \times 18 \times 7$ 西. Shipping weight, 15 lis. $\mathbf{L i s t}$ price-Complete... $\$ 24.50$
5 Watt 12" P. M. 1pyamic Speaker, impedance 500, 1,0010. 1,501 ohms. Size, $17^{1 / 4} \times 21 \frac{1}{4} \times 10^{1 / 2}$. Shipping Weight, 25 Ils.
$\$ 39.60$

## MODEL S-C CRYSTAL MICROPHONE

A low cost erystal microphone for amateurs, sound truck and concession stand operators. lifts any standard stand and is lightweight for hand use. Range, 40 to 7,000 cycles. Output level, 52 DB. Shipping weight. 2 Ils. list Price with 15 ft , removabic cable and plug. $\$ 14.95$

Model 7B-i Watts. LIST PRICE—Complete with tubes . . . . . $\mathbf{\$ 2 9 . 0 0}$ specifications




Model 25 $13-25$ Watts. List Price complete with tubers \$9.60 SI'ECIFICATIONS

| Undistorted Power Output | SI'ECIFICATIONS |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Gain | Number of Channels | Input <br> Impedance |
| 25 Watta |  | 135 DB | $\begin{gathered} \text { 2 Mike } \\ { }^{2} \text { Phono } \end{gathered}$ | 15 Meg. Ohms Phono. lis Megs |
| Output Impedance | Output Stage | Number of Tubes | Tone Control | 105-125 V. 60 C . Line Input, at Max. Pr. Output |
| 250 Ohms | Class A | 7 | Full Ranc | 135 W*atts |

Number of Speakers Recommended-2 to 3 Sets 10 S (4 to 6 Spkrs.) Tubes Used: 3-6F5
1-8C5



Model $61313-13$ Watts, 6 volt 1). C., 110 Volt, 25 to (iu Cycle A. C.
List Price, complete. . . . . . . . . . . . . . . . . $\$ 55.00$
SPECIFICATIONS
Undiatorted

$$
\frac{\begin{array}{c}
\text { Power } \\
\text { Output }
\end{array}}{13 \text { Watts }}
$$

$$
\frac{\text { Gain }}{130 \mathrm{DB}}
$$

$$
\frac{\begin{array}{c}
\text { Number of } \\
\text { Channels }
\end{array}}{\frac{1 \text { Mike }}{1 \text { Phono }}}
$$

$\frac{\begin{array}{c}\text { Output } \\ \text { lopedance }\end{array}}{500 \text { Ohms }}$


Number of Speakers Recommended-n Sets 9S (Four Spkrs.) Tubes Lised: -
Size. $134 \times 94 \times 8 \%$. 1 Set. 10 S (Two Sinkrg.)
Size. If $4 \times 91 / 88 \% / 23 \mathrm{lbs}$.
Shipping Welght. 23
1 to $2-128$
2 to $4-10 \mathrm{D}$
Model 1313-13 Watts. LIST PRICE- Complete with tubes . . . . . . . .............. $\$ 39.00$


I'ECIFICATIONS

$$
\frac{\begin{array}{c}
\text { Input } \\
\text { Impedance }
\end{array}}{\begin{array}{c}
\text { 15 Meg Ohms } \\
\text { Phono. Ino Mezs }
\end{array}}
$$



Number
of Tubes $\quad \begin{gathered}\text { Tone } \\ \text { Contro }\end{gathered}$


## Model 10S

Two $10^{\prime \prime}$ P. M. Dynamic Speakers in leatherette carrying case.

Power handling ability, each speaker, $71 / 2$ watts.

Transformer impedance, $1,000,1,500$ and 2,000 ohms (ca. spkr.)

Size $141 / 4 \times 151 / 4 \times 5^{1 / 4}$, each half.
Shipping weight... 23 lbs.
List Price,
with 2-35' cords and plugs . . $\$ 34.50$


## Oriqinal Circuits! Madern Designs! Easy to Canstruct!

## 20 Watt CW Beqinners Transmitter

Deaigned primarily for the beginner, the crystal-controlled 20 watt code tranamitter operates on all bands from 160 to 10 meters. If higher power is desired at some later date, this unit may also be used as the crystal oscillator of a larger multi-atage transmitter. A low impedance link is provided to couple the tranamitter to a doublet antenna or to an antenna matching network. A pilot lamp in the negative high voltage lead is used as an inexpengive yet effective tuning indicator. Simplicity of construction and ease of operation make this an ideal unit for the new amateur, enabling him to get on the air with andill initial investment. Chassis dimensions, $812^{\prime \prime} \times 6^{\prime \prime} \times 212^{\prime \prime}$.
T-22K03 20 Watt CW Unit, Kit of Parts.
Includes all parts exerpt coils, phom oluc, crystal and tubes.


## 35 Watt Phone-CW Transmitter

Mounted in a modern, sttractive cabinet, thia compact transmitter is capable of 35 watts input on either CW or phone. The power supply and audio section are mounted on the same chasais with the r.f. section. The plug-in coil feature adds to the desirability of this transmitter for the amateur who wants low power on the five amateur bands. All controls are on the front panel for ease of operation. R.F. tubes used include 6 V $6-G$ barmonic oscillator and $6 \mathrm{~L} 6-\mathrm{G}$ final amplifier. The carbon microphone which is required derives its exciting current from the power supply bleeder and is used to drive a 6A6 apeech amplifier, which in turn excites a Clase $\mathbf{B}$ modulator. A variable link is used to couple the transmitter to the antenna. Overall cabinet dimensions $913^{\circ} \times 7^{\circ} \times 2^{\circ}$. T-22K37 35 Watt Phone-CW, Kit of Parts.

Includes all parts except coils, mrier, srystal and iubes.

## $\star$

## 12 Watt Unicersal Transmitter

## For Portable and Emergency Service

This 115 volt A.C. or 6 volt D.C. transmitter is one of the most popular of the entire group because of ts extreme flexibility. Merely inserting the proper power plus changes the circuit from A.C. to D.C. Maximum power input is 12 watts on battery operation and sightly more when operated on an A.C. ine. Thia transmitter can be operated on all amateur bands from 160 to 10 meters, and doubling may be accomplished in the crystal stage when using 160,80 and 40 meter crystals. A $6 \mathrm{~V} 6-\mathrm{G}$ oacillator tube is used in a regenerative type circuig an 807 tube. The modulator tube is a 6 V6-G operating Class A and the audio amplifier section cronone.


Includes all parts exceps pibrator, meter, coils, crystal and subes.


## $\star$



## 55 Watt Phane, 80 Watt CW Transmitter

This Thordanon transmitter, expertly engineered and designed for either 55 watt phone or 80 watt CW operation on 160 to 10 meters, is built with independent audio and r.f. sections. Each saction has ita own power supply and may be used separately. The r.f. plate supply uses a $5 Z 3$ and two 866JR tubee. The power supply on the modulator chassia uses a 523 . A guin of 122 db permits operation of the transmitter with any of the popular types of high impedance microphones. The 6 L 6 -G modulator tubes, operating Class AB1, fully modulate the 55 watt Class C input. Speech amplifier tubes: 6 J 7 , $6 \mathrm{~J} 7,6 \mathrm{C} 5,2-6 \mathrm{~L} 6-\mathrm{G}$ 'a. R.F. tubes; 6F6-G oscillator, $6 \mathrm{~L} 6-\mathrm{G}$ bufer or doubler, and 809 final amplifier stage. Individual kits for rif. and modulator sections. R.F. chasais dimensions $17^{\circ} \times 12^{\prime} \times 4^{\prime \prime}$. Modulator chassis dimensions $17^{\circ} \times 10^{\prime \prime} \times 2^{\prime \prime}$. Complete cabinet dimenaions $191 / 4^{\circ} \times 21^{\prime \prime} \times 131 / 2^{\prime \prime}$. T-22K71 R.F. Section, Kit of Parts.. Includes all parts exxept coil forms, cabinat, melers, plug-in condenser, jack base, cryseal and tubes
\$93.00 List T-22K73 Modulator Section, Kit of Parts..................................................58.50 Lat Includes all parts except iubes and cabinot.

## 12 Watt Mabile Transmitter

Many extra hours of operating enjoyment on the 5 and 10 meter bands can be bad with this new Portable Mobile transmitter. It is carefully designed to withatand the vibration to which a mobile unit ia often subjected. It operates from a 6 volt storage battery and uses a vibrator power aupply that can be remotely controlled quite a distance from the tranemitter. All modern improvementa are included for simpllifed operation under all conditions. R.F. tubes used include: 6 V6-G tri-tet crystal oscillator or simplified operation under ail conditGoperates as a Clas A amplifier to modulate the T-21 tube and T-21 final amplifier. A single ${ }^{\text {Provision is made for remotely connecting a carbon microphone to the primary of the microphone }}$ Provision is made for remotely connect of the chassis. Chassis dimension $11^{\circ} \times 8^{\circ} \times 3^{\prime \prime}$. T-22K11 12 Watt Mobile Unit, Kit of Parta,

Insludes all parts exceps vibrator, crystal and inbers."


## 50 Watt 5 \& 10 Meter Phone Transmitter

Unusually compact, this 5 and 10 meter phone transmitter contains in a single unit a 50 watt r.f. and 25 watt modulator section, together with their respective power supplies. R.F. tubes used include 6L6-G tri-tet oscillator, HK-24 doubler, and HK-24 final amplifier, The speech amplifier in designed to permit the une of either a high impedance dynamic or crystal microphone. The modulator conaiats of a pair of 6L6-G tubes operating in Class AB1. Panel fits a standard $19^{\circ}$ relay rack, When used with the modern atreamilined grey cabinet, it presenta a most attractive and efficient-looking job. A
 T-22K51 50 Watt 5 \& 10 Motor Unit, Kit of Parts.
$\$ 126.00$ Liet
Includes all paris except caoint, meter, crystal and iubes.
6344 Transmitter Guide-15e postpeid-full descriptions and instruotions on building Amateur Radio equipment. including transmitters from a 20 watt CW to a kilowatt.
Copyright Thordarson Elect. M(t. Cu.
40
C-5S


7-30W04 Pre-Amplifier . . . . . . . . $\$ 125.00$ List With Selected Tubes, Without Cabinet
This fine pre-amplifier is the basic unit for low or high power sound installations. It is designed to operale into a 500 ohm line at 0 db or 6 milliwatts with less than $1 \%$ distortion. Has three low level inputs for high impedance microphone with provision for low Impedance input tranaformers. In addition two medium level inputs are incorporated for high impedance cryatal or magnetic phono pickup. Two frequency equalizers provide independent boost or attenuation for either buss or treble. Exceptional low hum level ( 70 db below +32 db normal output rating). Dimensions, $19^{*}$ long, $8 \%$ high, $71 / 2^{\circ}$ behind back of panel including tubes. Shipping weight $271 / 2 \mathrm{lbs}$.


7-30W10 Tru-Gidality, Studia Amp. S261.50 List (For relay rack installation, with selected tubes, less cabinet) T-30W10 With cabinet and selected tubes. . $\$ 282.50$ List Highest quality amplification of speech or music is the prime feature of this fine studio amplifier. Parta and circuits are carefully chosen to
 irequency equalizers provide independent boost or attenuation of the conservative 10 watt rating. Input circuits include one 70 db . below the conservative 10 watt rating. Input circuits include one microphone input for low or high impedance microphones and two medium level inputs for low or high impedance phonograph pickup or line. Dimensions, $19^{\prime \prime}$ long, $132 / 4{ }^{\circ}$ deep, $101 / 2^{*}$ high. Shipping weight, 62 ibs.


## 7-30W25 Boastar Amplifier, 25 Watts 585.00 . List 7-30W50 Baostor Amplifien, 50 Watts $\$ 110.00$ List With Selected Tubes, Without Cabinet

These boosters may be used to meet any power requirement from 25 Watts up and may be used singly or in multiple. A bridging input transtormer is provided to couple to the output of the preamplifier. Used with T-30W04 us many as 18 bouster units may be connected without upsetting line characteristics. An individual gain control provides proper distribution where the installation is both indour and outdoor. Chassis is mounted with hotiom parallel to front panel which may be removed for inspection without removal from cabinet or rack. Frequency response $\pm 12 \mathrm{dh}$. frum 20 c.p.s. $2015000 \mathrm{c}, \mathrm{p} . \mathrm{s}$. and hum and noise level is 80 "th. below output rating. Dimensions: $19^{\circ}$ lonk.
 r-30W50-401/2ibs. $\qquad$


## 7-25W30 Amplifies, 30 Watts. . . . $\$ 177.50$ List With Selected Tubes

This 30 watt amplifier features a matched burl walnut cabinet and edge glow illuminated panel. Three high impedance input circuits provide for two mirrophones and one phono pickup. Amplifier is designed to supply power to one to four speaker fields or equivalent of 26 watts. Has special four stage circuit using inverse feedback principle.
 T-20K27 Portable Arnplifier Case for this 30 watt amplifier $\$ 13.00$ Lisi Space provided for mike and cables.

## CARRYING CASES

## 7-20K 23 Regular Twins Partable Speaker Cade (Less dpeakerd) . . . $\$ 21.00$ List

Regular twin portable speaker case for two 12 electro-dynamic or permanent magnet speakers. Speakers mount in sides of case which opens diagonally for greatest efficiency. Dimensions (assembled): $16^{\circ}$ wide, $20^{\circ}$ high, $12^{\prime}$ deep. Weight: net, 10 pounds, shipping, $173 / 4$ pounds

## 7-20K24 Bass Reflex Tuin Portable Spacher Case (less dpeahers) . . . $\$ 27.00$ List

Bass refiex twin speaker portable case for two 12 electro-dynamic or permanent magnet speakers. The basa reflex principle insures good bass reproduction with a comparatively small speaker baffle. The low frequency ports near speaker openings may be used to store speaker cable when assembled. Dimensions (assembled): $18^{\circ}$ wide, $22^{\circ}$ high, $16^{\circ}$ deep. Weight: net, $22 \frac{1}{2}$ pounds; shipping, 30 pounds.

## 7-25K.29 Combination Amplifiar Spacher Cade (less speckers) . . . $\$ 17.00$ _ist

Three section case designed to carry the 14 or 20 watt amplifier and two $10^{\circ}$ speakers. Racks provided for cables. Finished in krey luggage covering. Dimensions $18^{\circ}$ wide, $21^{\prime \prime}$ high, $12^{\prime} 2^{\circ}$ deep. Weight: net, 14 pounds; shipping. 20 pounds.

## 7-20K 26 Portable Speaber \& Amp. Case $\$ 14.50$. Lust

The portable combination amplifier and speaker case is finished in base for grey luggage covering and is fitted with a removable subase for mounting a. $1-30$ W08 amplifier. The bass reflex principle is maintained by the port located below the speaker opening in the front quired. An 8 electro-dynamic or permanent magnet speaker is required. Hooks and a strup provide for mounting speaker cable und hand microphone. Dimensions: $12^{\prime \prime}$ wide, $16 \frac{1 / g^{\prime}}{}$ high, $8^{\prime \prime}$ deep. Weight:
net, 7 pounds; shipping, $131 / /^{\circ}$ pounds.


## 7-25W14 Amplifier, 14 Watts . . . $\$ 62.50$ List

Although this 14 watt is the smallest of the "Jewel-in-Steel" amplifiers, the same high standard of Thordarson quality and workmanship is incorporated in its manufacture. The brushed steel panel contains controls ick onp in uddition to the tone control and switch. Frequencies phono pick-up in addition to the tone control and switch. Frequencies below 100 c.p.s. are accentuated to compensate for loss of 10 w rones coil or line impedances. Dimensions, $1318^{\circ}$ long, $71^{\prime}$ deep, $71 / 6^{\circ} \mathrm{high}$ Shipping weight, 22 pounds.


## 7-25W20 Amplifier, 20 Watts . . . . $\$ 82.50$ List With Selected Tubes

This "Jewel-in-Steel" amplifier has set a new pace in style and quality. Full 20 watts output is delivered with less than $5^{\circ} 0^{\circ}$ distortion. Input circuits accommodate two high imperdance microphones and one phono pick-up. A multi-stage inverse feedhack circuit reduces distortion and pick-up. A multi-stage inverse feedhack circuit reduces distortion and or bass frequencies. Frequency response is within $\pm 1 \mathrm{db}$ from 30 to 15 ,000 c.p.s. with deliberate bass boost of 3 db below 100 c.p.s. A 15,000 c.p.s. with deliberate bass boost of 3 db below 100 c.p.s.
 25 pounds.


7-30W30 Amplifies, 30 Watts. . . . $\$ 122.50$ Rist With Selected Tubes
This 30 watt amplifier is ideal for installations requiring slighty more power and better than average quality. It is provided with three high impedance microphone circuits adaptable to low impedance at $\$ 14.50$ additional per circuit. Two phong pick-up circuits operate into the dual fader control. Bass or treble frequencies can be attenuated with the two tone controls. A selector switch provides impedances of 3,4 , $6,8,16,125,250$ and 500 ohms for matching speakers and lines. (Output connections are mude by means of two connectors and screw terminals. Dimensions, $17^{\circ}$ long, $9!^{\prime \prime}$ deep, $8^{1} 2^{\prime \prime}$ high. Shipping weight, 36 pounds.


## 7-30W55 Amplifier, 55 Watts . . . . \$175.00 List

 With Selected TubesUnusual flexibility is provided in this 55 watt amplifier by a multiple mixer rircuit accommodating four microphones and two phono pickups. Microphone circuits available with low impedance input transformers at slight additional cost ( $30-50,200-250$ or 500 ohms ). New dual tone control makes possible increase or decrease of the bass and treble frequenciea independently of one another. Four beam power tubes operate in push-pull-paratlel to deliver 55 watts output. Long tube life has been made possible by operating the output tubes conservatively. Dimensions. $17^{\circ}$ long, $12^{\prime}$ deep, 8 , $2^{\prime \prime}$ high. Shipping weight, 48 pounds.


## 7-30W08 Amplifier, 8 Watts . . . . . $\$ 43.50$ List Less Cover, With Selected Tubes

This 8 watt amplifier is the smallest Thordarson amplifier engineered and manufactured to Thordarson quality standards. Power output is 8 watts with less thin $5 \%$ distortion. Two high impedance input channels, one for microphone and one for phono pickup. Speaker field supply is sufficient for one 5000 ohm field and a permanent magnet speaker may be substituted or used in addition. Output impedances speaker may be substituted ond 500 ohms available at 7 contact speaker pluk receptarle. are 4, 6, 8 and 500 ohms ayailable at 7 contact speaker pluk receptacle. Frequency response is within $\pm 1 \mathrm{db}$. from 45 to 1500 cop.s. and hum and noise level is 62.5 db . below 8 watts. A conventional lype chassis is furnished in grey wrinkle. Grey meta cover is wile as an $6^{\prime}$ deep. Shipping weight 16 lbs .


## Microphone Calle Transformers. . $\$ 14.50$ List eack

Two types are available - the 30 to 50 ohm unit is for voice coil connection of dynamic microphones and the 200 to 250 ohm unit for dynamie or volocity microphones which have self-contained line output transformers. Magnetic shielding is employed to reduce hum pick-up to a minimum. Dimensions, $1^{\circ}$ diameter, 2 "乡' long, shipping weight $3 / \sqrt{\mathbf{l b}}$.

TECHNICALDATA

T-14A75 $50,0000 \mathrm{hms}$
1 to 31.6
113.6
$+11, \mathrm{db}$
$\pm 1.1 \mathrm{db}+114.14$


## 7-30W18 Mabile Amplifien, 18 Watts . \$125.00 List With Selected Tubes

This universal amplifier is also recommended where efficient battery operation is imperative. All controls, connectora etc. are located on front of amplifier for convenience of operation and installation. Especially suited to be located in front seat of car or track. Supplied with phono pick-up, turntable and cables for 6 volt battery or 115 yolt 60 cycle operation ut 18 watts output. Will accommodate one high impedance microphone that can be mixed with the phono pick-up. Selector switch will match $2,4,6,8,250$ or 500 ohm speakers or line. Dimenaions $14 \% /^{\prime \prime}$ long, $1012^{\prime}$ deep, $102 / 4^{\prime \prime}$ high. Shipping weight, 36 pounds.


7-25W28 Mabile Amplifies, 28 Watts $\$ 185.00$ List With Selected Tubes
A fine 28 watt universal amplifier operating at full efficiency from both 115 volt 60 cycle current and a 6 volt storage battery. Supplied with phono pick-up and electric turn-table which operates at constant speed ( 78 R.P.M.) from either battery or line. Accommodates two high impedance microphones in addition to the self-contained phono pick-up. Panel contains tone control and individual microphone and phono controls for complete mixing. Equipped with standby switch to conserve power when operated from battery supply. Dimensions, $1712^{\circ}$ long, $14 \frac{1}{2}{ }^{\prime \prime}$ deep, $11 /^{*}$ high. Shipping weight, 54 pounds.


7-31W18 Mabile Amplifien, 18 Watts. $\$ 114.00$ List With Selected Tubes
The characteristics and technical data shown for T-30W18 are fully descriptive of T-31W18 except that T-31 W 18 is supplied without phono motor and pick-up. An input jack is provided for connecting an external pick-up.


## THORDARSON AMPLIFIERS (Factory Wired and Tested)

The finest amplifiers are built by Thordarson - pioneers in producing quality audio components. A bsolute fidelity is assured by accurate laboratory design and rigid inspection during production. New models from 8 to 900 watts satisfy practically every sound requirement. Pre-amplifiers and boosters round out a truly complete line of equipment for sound technicians. Fully deacribed in Catalog 600 E including complete technical data and all characteristics and applications. Ask for your free copy today.

No. 346 - Amplifier Guide 15c Postpaid
P. A. men and experimenters interested in building high quality amplifiers find the Thordarson Amplifier Guide No. 346 a worthwhile source of information. It contains laboratory deaigned and teated circuits of amplifiers from 8 to 120 watts output. Complete parts list, mechanical chassis drawings, and comprehensive illustrations enable the constructor to obtain superior results with matched transformer and choke components. Data are included for preamplifiers, dual tone controls, speaker impedance matching and testing.



## STANDARD SPEAKERS

# FOUR, FIVE, SIX, EIGHT, TEN AND TWELVE INCH SPEAKERS Field Coil and Permanent Magnet Designs 



H4S and PM4FS


H5S and PM5FS


 oas, atlathmout of the tratusformen list oul to right. Moumting


H6S and PM6ES

limonsinn FRRS and PMBDS




## FOUR AND FIVE INCH SPEAKERS

SPEAKERS WITH FIELD COILS

|  | Stock | Imped. | Field | List | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Model | No. | ance | Coil | Price | Price |
| H4S | ST537 | 4 ohms | 450 | \$2.30 | \$1.38 |
| H4S | ST538 | 40 hms | 1000 | 2.30 | 1.38 |
| H4S | ST539 | 40 hms | 3000 | 2.30 | 1.38 |
| H5S | ST426 | 4500 olims | 30001 | 3.10 | 1.86 |
| H5S | ST427 | 4 ohms | 2751 | 2.40 | 1.44 |
| H5S | ST558 | 4 ohms | 1800* | 2.411 | 1.44 |
| H5S | ST449 | 4 ohms | 1000 | $2.41)$ | 1.44 |
| H5S | ST450 | 4 ohms | 450 | 2.41) | 1.44 |
| H5S | ST428 | 40 hms | 6 volt | 2.41 | 1.44 |
| PERMANENT MAGNET SPEAKERS |  |  |  |  |  |
| PM4FS | ST540 | 4 ohms |  | 2.65 | 1.59 |
| PM5FS | ST443 | 4 olims |  | 2.70 | 1.62 |
| PM5DS | ST522 | 4 ohms |  | 4.00 | 2.40 |
| SIX INCH SPEAKERS EAKERS WITH FIELD COILS |  |  |  |  |  |
|  |  |  |  |  |  |
| H6S | ST429 | 4 ohms | 2750 | 2.80 | 1.68 |
| H6S | ST430 | 4 ohms | 1800* | 2.80 | 1.68 |
| H6S | ST431 | 4 ohms | 1000 | 2.80 | 1.68 |
| H6S | ST432 | 40 hms | 6 volt | 2.80 | 1.68 |
| E6RS | ST565 | 4 ohms | 2500 | 4.95 | 2.55 |
| E6RS | ST566 | $t$ ohms | 1800* | 4.25 | 2.55 |
| E6RS | ST567 | 4 ohms | 1000 | 4.25 | 2.55 |
| E6RS | ST568 | 40 mms | 6 volt | 4.25 | 2.55 |
| PERMANENT MAGNET SPEAKERS |  |  |  |  |  |
| PM6ES | ST445 | tohms |  | 3.40 | 2.04 |
| PM6DS | ST455 | 4 ohms |  | 4.25 | 2.55 |
|  | EIC | HT INCH | EAKERS |  |  |
| SPEAKERS WI |  | FIELD C | ILS |  |  |
| F8RS | ST433 | tohms | 2500 | 4.00 | 2.40 |
| F8RS | ST434 | $t$ ohms | 1800* | 4.00 | 2.40 |
| F8RS | ST435 | 4 ohins | 1000 | 1.00 | 2.40 |
| F8RS | ST436 | 4 ohms | 6 volt | 4.00 | 2.40 |
| D8RS | ST437 | 4 ohms | 2500 | 4.80 | 2.88 |
| D8RS | ST438 | 4 ohms | 1800* | 4.80 | 2.88 |
| D8RS | ST439 | 4 ohms | 1000 | 4.80 | 2.88 |
| PERMANENT MAGNET SPEAKERS |  |  |  |  |  |
| PM8FS | ST569 | 4 olims |  | 3.80 | 2.28 |
| PM8DS | ST461 | 4 ohms |  | 4.65 | 2.79 |
| PM8GS | ST523 | 6 ohms |  | 6.50 | 3.90 |

## TEN AND TWELVE INCH SPEAKERS

SPEAKERS WITH FIELD COILS

| G10RS | ST 440 | 6 olhms | 2500 | 7.00 | 4.20 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| G10RS | ST441 | 6 olmms | 1250 | 7.00 | 4.20 |
| G12RS | ST469 | 6 ohms | 2500 | 8.00 | 4.80 |
| G12RS | ST470 | 6 ohms | 1250 | 8.00 | 4.80 |
| PERMANENT MAGNET SPEAKERS |  |  |  |  |  |
| PM10GS | ST466 | 6 ohms |  | 7.50 | 4.50 |
| PM12GS | ST475 | 6 ohms |  | 8.75 | 5.25 |

*Tapped at 300 ohms.

SEPARATE TRANSFORMERS FOR STANDARD SPEAKERS For H4S, PM4FS, H5S. PM5FS, H6S. PM6ES, F8RS, PM8FS (4 ohm V.C.)

| Stock | Primary |  | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| Number | Impedance | Size | pricor | Price |
| 22359 | 500 | 16x ${ }^{1 / 2}$ | \$0.71 | \$0.42 |
| Z2360 | 1500 | $1 / 2 \times 16$ | 70 | . 42 |
| Z2253 | 2500 | 120 ${ }^{1 \%}$ | . 70 | . 42 |
| Z2361 | 4500 c.t. |  | . 71 | . 42 |
| Z2255 | 7000 | 1/2×15 | . 70 | . 42 |
| Z2362 | $10000 \mathrm{ct}$. . | 1/2 $\times 14$ | . 71 | . 42 |
| Z2363 | 25000 | $14 \times 14$ | . 70 | . 42 |
| ZP1020 | Plate Adjustable | 12x | . 90 | . 54 |
| ZL2020 | Line Adjustable | \% 4 | . 90 | . 54 |

For E6RS, PM5DS, PM6DS, D8RS, PM8DS
( 4 ohm V.C.)

| Z2364 | 500 | $5 / 8 \times 3 / 4$ | . 95 | . 57 |
| :---: | :---: | :---: | :---: | :---: |
| Z2365 | 1500 | 5/6x 3/4 | . 95 | . 57 |
| Z2366 | $\because 500$ | 5/8. $\times$ \% | . 95 | . 57 |
| 22368 | 4500 c.t. | $5 / 8 \times 3 / 4$ | . 95 | . 57 |
| 22369 | 7000 | 5/8. $\times 1 / 4$ | . 95 | . 57 |
| 22371 | 10000 c.t. | $58 \times 3$ | . 95 | . 57 |
| 22372 | 25000 | $5 / 8 \times 3 / 4$ | . 95 | . 57 |
| ZP1021 | Plate Adjustable | $5 \times 8 \times 3 / 4$ | 1.25 | . 75 |
| ZY2007 | Line Adjustable | $5 / 8 \times 3 / 1$ | 1.50 | . 90 |
| FOR MODELS PM8GS, PM10GS AND G10RS |  |  |  |  |
| 22373 | 500 | $5 / 8 \times 3 / 4$ | . 95 | . 57 |
| 22375 | 2500 | $38 \times 3 /$ | . 95 | . 57 |
| 22377 | 4500 c.t. | $5 / 8 \times 3 / 4$ | . 95 | . 57 |
| 22378 | 7000 | $5 / 8 \times 3 / 4$ | .95, | . 57 |
| 22380 | 1001110 c.t. | 5\% $\times 3 / 4$ | . 95 | . 57 |
| ZP1022 | Plate Adjustable | $5 / 8 \times 3 / 4$ | 1.25 | . 75 |
| ZY2008 | Line Adjusatble |  | 1.50 | . 90 |
| FOR MODELS PM12GS AND G12RS |  |  |  |  |
| Z1520 | 500 | $3.4 \times 3 / 4$ | 1.25 | . 75 |
| Z1643 | 4500 c.t. | $3 / 4 \times 3 / 4$ | 1.25 | . 75 |
| Z1642 | 7000 | $3 / 4 \times 3 / 4$ | 1.25 | . 75 |
| 21680 | 10000 c.t. | $3 / 4 \times 3 / 4$ | 1.25 | . 75 |
| 21582 | 14000 c.t. | $3 / 4 \times 3 / 4$ | 1.25 | . 75 |
| 2X1004 | Plate Adjustable | $3 / 4 \times 3$ | 2.25 | 1.35 |
| ZY2001 | Line Adjustable | $3 / 4 \times 3 / 4$ | 2.25 | 1.35 |

- Model " $X$ " Transformers ... Motel " $X$ " Adjustable Impedanct Transformens are devigned to mateh conventional "platr" Impedanes Yalues and the following valuer have been selected: 4500 ohms rided at all these values for use with tubes connected in pushumb.
- Model "Y"' Tronsformers . . Input Transformers designed to match conventional "Line" Impedaner Values, the values selectel being 500 ohms. 1000 ohms, 1500 ohms and enull olmes, with in center tap.
Model ZP and ZL transformers are gimilar to types ZX and ZY respectively lut are supplied with solder terminals only



## CONCERT SPEAKERS

## SIX，EIGHT，TEN，TWELVE AND FIFTEEN INCH SPEAKERS Field Coil and Permanent Magnet Designs



Models A－15 and A．15PM

These are heavy duty highly efficient speakers and are widely used for Public Address and high quality Radio and Phonographapplications．All speakers in the concert series，except Model PM6－C，are designed so that they may be used in the Jensen Type BR，BASS REFLEX Enclosures．All Held coil models have bucking coils．Covers for the Magnetic structures are standard equipment on all models except PM6－C，PM8－C，PM12－B，and PM15－B．All PM Speakers，ats well at Model A． 12 and A－15 are dust－proofed．
Facilities are provided for easily attaching any of the transtormers listed．but Speakers are supplied without transformers attached unless specifically ordered in which case increase list price by $\$ 1.00$ ，plas list price of transormer．
Twelve inch and all fifteen inch speakers are available with conts having a fre－ quency response that extends to 7500 cps ．Speakers having this type response are somewhat less sensitive and have slightly less power handling capacity ats a result．and are only recommended where the input is known to be free from distortion particularly in the extended high freguency range．

| Model | SPEAKERS WITH FIELD COIL |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Stock No． |  | Volc | E COIL Watts | FIELD <br> Resistance | List Price | Net Price |
| C8－RS | ST． |  | ＊ | ＊ | 25\％n | \＄s．ti．\％ | \＄5．19 |
| C8－RS | N\％－ |  | s | 8 | 1006 | 8．6．5 | 5.19 |
| ClJ－RS | NT－4 |  | ， | － | 2．ill | ！ 4 ＋11 | 5.64 |
| Cl0－RS | く＂\％ |  | 8 | 1 | 12：010 | ： 14 | 5.64 |
| Cl2．R | NT． |  | ＊ | 10 | 3 \％00 | 10．2．5 | 6.15 |
| C12．R | ST． |  | s | 111 | 1254 | 110.2. | 6.15 |
|  | Std． <br> Fidelity | ＊High Fidelity |  |  |  |  |  |
| A－12 | ＊1－3：31 | \％ 0 － | ＊ | 15 | still | 17．25 | 10.35 |
| A． 12 | 510：30： | ST－3：3： | － | $1 \%$ | 2500 | 17．2\％ | 10.35 |
| A． 12 | －19－33： | －T－3：31 | － | 15 | 5400 | 17．05 | 10.35 |
| B15－X |  | N1－：314 | $\cdots$ | 15 | －5060 | 18．25 | 10.95 |
| B15－X | ＊10：31： | ST－31： | ＊ | 15 | 1051 | 18.25 | 10.95 |
| A． 15 | ベ「－311 | －1\％310 | $\cdots$ | 17 | －－ | $\bigcirc 3.00$ | 13.80 |
| A－15 | ST－307 | ST－306 | $*$ | $1 \%$ | 25000 | $\because 3.100$ | 13.80 |
| A－15 | －T－4n $\%$ | ST．4＊s | $\cdots$ | 17 | $\therefore 1011$ | $\because 3.001$ | 13.80 |

## SPEAKERS WITH PERMANENT MAGNET

| Madel | Stock No． | VOICE COIL |  | tGap <br> Eneroy | List Price | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Imp． | Watts |  |  |  |
| PM6－C | \＄T－33： | ${ }^{4}$ | $\because$ | 1.14 | ＊＊．010 | \＄4．80 |
| PM8－C | ST－\＃311 | ¢ | － | 1．315 | 5．3．0 | 5.10 |
| PM10－C | ＊10．210 | 1 | $!$ | $1.31 ;$ | 111.611 | 6.30 |
| PM10－H | ST－46\％ | 8 | 10 | 2.54 | 17.010 | 10.20 |


|  | Std． <br> Fidelity | －High <br> Fidelity |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM12－C | NT－－3才 |  | 1 i | 111 | 1.36 | 19.50 | 7.50 |
| PM12．H | ST．476 | Sr－529 | ＊ | 12 | 2.51 | 10.50 | 11.70 |
| PM12－B | NT－3\％ | ST－3x | － | 14 | 80.07 | 25.06 | 15.00 |
| A12PM | ST－05\％ | ST－060 | $\cdots$ | $1 \%$ | 7．5\％ | 34.85 | 20.85 |
| PM15－B | \＄「－304 | NT－30？ | － | 15 | 8．17： | 30.06 | 18.00 |
| Al5．PM | ST－300 | \＄1－298 | $\cdots$ | 17 | 7．5\％ | 38．75 | 23.25 |

[^1]

# ATLAS SOUND CORPORATIOD 

ATLAS "MORNING GLORY" Type Exponential Projectors Double Re-entrant Air Columns . . Permanent Magnet Compression Units
 $\star 100 \%$ Storm-proof . . . Non-resonant . . . Compact $\star$ High Fidelity . . . Efficient . . . Directional
Transfer Efficiency . . . When figuring in terms of acoustical transfer efficiency, it is generally idmitted that a compression type speaker unit with an air column trumpet possesses the highest ratio of electrical watts input to sound pressure output. The many years of experience that Atlas Sound technicians have had in designing and mamufacturing this type of reprombeer
has now resulted in speaker efficiency that has never, heretofore, been obtained.
Coverage . . Adverse or cross wind conditions . . . which normally disperse low intensity somnd projection... have little effect on the sound weam enitted hy these high-velocity output projectors. The sound beam. upon being directed to the area refuiring coverage. will produce a "Splash Eifect" and therelsy coser large areas with unform-intensity sound.
Microphone Feedback . . . The directional characteristics and total alosence of rear sound generation minimizes feelback or acoustic "howl." The flat frequency response is also of great importance in eliminating feedrack at

Universal Application . . . These projectors have a universal application . indoors . . . ontdoors . . . and sound truck. The reflexed construction results in a considerable reduction in overall length.

Bell Openings: Model DR-72, 29"—Model DR-42, $21^{\prime \prime}$.
At left . . Madel DR. 72 shosen :cith malliable surpliced at no ecperacost, and J'C. 1 protectiz'e cover.
At right . . Model DR. 4 ? "cilh bracket surplied.

Heavy Duty Construction . . All integral projector sections are held together with solid malleahke irmen castings. The fared projector parts are of heavy-gange aluminum linished in a fasterning the lirackets to the trmmpets is such that continnous vibration cannot cause damage.

| Model | Overall <br> Length | Air Column <br> Length | Frequency <br> Cut-Off | Projection <br> Angle | List <br> Price |
| :--- | :---: | :---: | :---: | :---: | :---: |


| DR-42 Projector and Bracket $171 / 2^{\prime \prime}$ | $31 / 2$ Feel 140 Cycles $80^{\circ} \quad \$ 20.00$ |
| :--- | :--- | :--- | :--- | :--- | :--- |

DR-72 Proiector and Bracket $25^{\prime \prime} \quad 6$ Feet 90 Cycles $100^{\circ} \quad \$ \mathbf{\$ 7 . 5 0}$

Model PC-I Unit Cover . . . protects binding posts . . . double-seal protection...... LIST $\$ 2.50$


## "DYNA-FLUX" P. M. COMPRESSION UNITS



| Model |  | Normal <br> Power* | V.C. <br> Impedance | List <br> Price |
| :--- | :--- | :---: | :---: | :---: |
| PM-23 | Compression Unit | 18 watts | 15 ohms | $\mathbf{\$ 3 0 . 0 0}$ |
| PM-25 | Compression Unit | 20 watts | 15 ohms | $\mathbf{\$ 4 5 . 0 0}$ |
| PM-26 | "Hi-Fi" Model | 20 watts | 15 ohms | $\mathbf{\$ 5 0 . 0 0}$ |

ALNICO" Magnets . $\because$ The magnetic material used is a nickel, aluminum, cobalt alloy ( $A$ dil( $)$ ). It is the best gratle available, and possesses the greatest magnetic retentivity of all magnet allows. All
 high permeability irun.
Non-Corrosive Diaphragms . . . The oncopiece. all-alumintm dian phagm has concealed in its design many moters advances in constrac tim. The aluminum is treated electro-chemically, making the meta "mpurvious to corrosion. A later heat treatment pronluces in the metal a "1oughness" that is highly fatigue resistant. preventing crystallization or shattering of the diaphragm. The Atas precision-built diaphragm : the only $P^{\prime}$. M. compression type made that is "topoloading" and which can be easily replaced without special tools or fixtures.
Weatherproof Protection ... All machinel surfaces at the gap.are cadminm plated to prevent the formation of rast or corrosion. An iron oxide hakelite sealer is used to prevent the penetration of any monsture int the magnetic structurc. All units are finished in heavy enamels.

Model PM-23 Compression Unit . . . This low-priced unit has incor porated in its design many sew constructional features. These exclasive features result in lower mamufacturing costs, which are reflected in the low list price. No compromise, however, is made on guality.

Model PM-25 Compression Unit . . . Standard Atlas model with ring type magnet. Excellent for general p. a. application.
Model PM-26 "Hi-Fi" Model . . Incorporates a special high fidelity sound compression chamber. The higher frequency response of this unit makes it desirable when maximum high freguencies are reguired.

* Extreme power ratings are in most cases misleading. High power setings do not necessarily indicate a superior function of a reproducer. The transfer efficiency of electrical watts input to sound pressure output is a function of prime importance. Little engineering skill is required to make a diaphragm of heavy construction that will dissipate CENTAMOUnts of audio imput - BUT TRANSFER

ATLAS SOUND HORN ADAPTORS Model U-2H whit. (wor hornis with standard $1388^{\prime \prime}=18$ threads. List $\$ 10.00$
Model U-3H tuit. three horns. stan dard threads List $\$ 13.50$ Model H.2U horn, two units, standard threads... List $\$ 10.00$ Model WEB ... Wic standard thread horn


Electric unit to

## 6 Ft. and $31 / 2$ Ft. Straight Aluminum Trumpets

True Exponential Design . . . Guaranteed Stormproof . . . Non-Resonant Heavy Gauge Metal Spin-
nings . . . Solid Cast Aluminum Tone Arms . . . Tunc
arubs supplied with convenient loose brass conplings
for attaching units with standard $13 / 8{ }^{*} \cdot 18$ threarls.
Model RA-42... $3 \mathrm{z} / 2$ Foot Model. . . has a single cast tone arm which is 17 " long, llell opening $23^{\prime \prime}$ " Shipping W'eight 1111 w............... List $\$ 27.50^{\circ}$ Model RA-72 . . 6 Foot Model . . . has two cast throat sections which total $43^{\prime \prime}$ in length. Bell opening 32". Shipping Weight $21 \mathrm{lhs} . . . . .$. List $\$ 55.00$
 ATLAS SOUND CORPORATION

\author{

* $100 \%$ Protection Against Weather, Mechanical Damage
}

flontam zirat shotes internal construction of 11 X. 8 Horn and WX.B Firture ould Bose. Cone speaker is proterted against secather and me chanical danate by bullefostoped, acoustic felt-liacd housing.
"WX" Marine Horns will withstand a direct driving rain without damage to the cone speaker.. Physical ramake is also imponsible les anse the come spacer is monnted in an inversed position. facing inside
the horn. The lmolleteshaned housing is acoustically treated with heave felt to absorl, lack pressure and to prevent resomance comditions. All spmongs are heary gatge alumimm, non-resomant. and finished in a weatherproof lattleship gray enamed. All speaker and mounting hard
ware supplicd is carlminmblated tor resist corrosiom,
Two Sizes . . For $8^{\prime \prime}$ and $12^{\prime \prime}$ Speakers . . The Model 11 Y̌ 8 for $8^{\prime \prime}$ speakers has a belf opening of $18^{\prime \prime}$ and a depth of $12^{\prime \prime}$. The Model Mounting Fixture sers lats a bell opening of ath a depth of ione ritek. indoor walls, outdoor locations. and portable use. The heavy cast ata plate. gonse-tleck. and base are fmished in amable black crackle. Speaker Units... The speaker units supplied are especially designed to periorm with the highest efficiency in eonnection with the Marine
IInrns. Vonice coil imp. 6 ohms on all speakers.

| Model |  | Speaker Size | Shipping Weight | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| WX-8 | Horn Only | 8" | 9 lbs . | 15.50 |
| WX-8HL | Horn and Speaker | $8^{\prime \prime}$ (16 watt) | 15 lbs . | 27.00 |
| WX-8LL | Horn and Speaker | $8^{\prime \prime}$ ( 8 watt) | 14 lbs. | 20.25 |
| WX-12 | Horn Only | 12" | 18 lbs . | 30.00 |
| WX-12SL | Horn and Speaker | 12" (14 watt) | 24 lbs. | 39.50 |
| WX.B | Fixture and Base (for | , WX-8 Horn) | 12 lbs . | 6.00 |
| WX-C | Fixture and Base (for | WX-12 Horn) | 17 lbs . | 7.00 |

Universal Line Matching Transformers can be supplied upon order. Primary tapped at $500,1000,1500,2000$ ohms. Add $\$ 2.00$ to the list price of WX-12SL and WX-8HL (heavy duty $7 / 8^{\circ}$ core). Add $\$ 1.25$ to list of WX-8LI ( $5 / \mathrm{l}^{\circ}$ core).

## Original Stormproof 'MARINE MIDGET' <br> P. M. SPEAKER

The inverted reflex design of the WX.5SP offers an air column length of $15^{\prime \prime}$. This feature aids the normally efficient conc unit to perform with a maximum ratio of
 the speaker is wille in range. perthe speaker is wide ur range, perathl speech. The WN.5SP is ideal hor use as at mi
hack ${ }^{\text {bystems }}$

## Complete

Complete weather and mechanical protection . . Dependalle operaoung expeted with atriving rain beating directy into the bell openimg. The speaker is also protected from mechanical damage.
Construction. . The entirc horn is constructel of heavy gange alumimun finished in a durable batuleship gray chamel. An adjustable steel monnting hracket is supplied at no extra cost.
P. M. Speaker Unit... A P'ermanent Maknet type speaker unit with a conservative power rating of 5 watts is included with the horn. Voice cail 3.5 chms. Overall size of horn: Bell 10", Overall Depth $8^{\prime \prime}$. Model WX-5SP Horn, Speaker, and Bracket. List Price $\$ 10.50$

## "CHANDELIER" Speaker Baffles

## + New Acoustic Design Eliminates Feedback

 $\star$ Distinctive Styling $\star$ Easy InstallationUniform $360^{\circ}$ Sound Coverage . . Minimum Feedback. . The radial sound dispersion is smooth and uniform over a complete $360^{\circ}$ circular area. The microphone can be placed directly under the baffe, ceping the acoustic feedback to a minimunn
Pleasing Sound Effect. The effect created by the "Chandelier" speaker baffle is most desirable inasmuch as the sound originates from a source in close proximity to the microphone.


Construction . . . Dimensions . . . The Atlas "Chandelier" baffe is Imilt on aceummodate a $12^{\prime \prime}$ cone speaker. The suinnings are of heaty gange stex l. finished in a distinctive pearl gray enanmel. larke size munnting lonp, supplied on top of baffle nakes installation simple. allowing suspension irom a simgle ceriling point in the satme mathare as a lighting fixture. Size: Overall biame"ter 31". Hefight 14", Shijping fikit 21 llis.
12"' Speaker Unit . . . The l'ermanent Nagnet Speraker supmlien is apecially designed to periorm with the highest exficiones in commectan with the $1,-360$. Voice cuil imp). 6 bhms. (Shipping Weight with

Model L. 360 "Chandelier" Baffle
List Price $\$ 25.00$
Model L-360SL (Balfle with Speaker).
List Price $\$ 34.50$
Universal Line Matching Transformer (primary 500, 1000, 1500, 2000 ohms) can be supplied by adding $\$ 2.00$ to list price of L-360SL

## $360^{\circ}$ "CHANDELIER, JR." P. M. SPEAKER

Ideal Speaker For Inter-Communication Systems. . The Junior is paricularly suitable for paging and call systems, and will also reprobluce mosic satuge aluminum finished in parl rriy enamel. Overall lhanmeter $1 \frac{1}{4}$, , IIe.isht "Speakping Uneight 6 lhs. comes completc with $5^{\prime \prime}$ Permancont Magnet typucone unit. (Conservative rating 5 watts. Voice coil 3.5 ohns.
Model S-360SP Baffle with Speaker.
List Price $\$ 12.50$

## 'Super-Power" Cone Projector For 8" Heavy Duty Speakers

[^2]
# ATLAS SOUDD CORPORATIOD 

## atlas parabolic deflector baffles

$\star$ For $6^{\prime \prime}-8^{\prime \prime}-10^{\prime \prime}-12^{\prime \prime}$ Cone Speakers


AM－6
Most Complete Line of Parabolic Defiectors
B－810
．．Athas Sound mann－ mery a complete bine of paraholic baftes for all size speakers．．for an．aphication．Al models arc constructed of steel and alumi－

Inter－locking Flange Construction xelusive Atlas desigh that increases ih The inter－locking flange is an achasive Atats design that increases the strength and climinates rain

AM－10
解 where the sections of the baffle are joined． No Drilling Necessary ．．The cone spoaker is seentely hello in posi tion with the same lualts that hold bell and honoing sections topether


| Model | Speaker Size | Bell Opening | Bell Length | Total <br> Length | Construction | Finish | Shipping Weight | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AM－6 | $6 "$ | 15＂ | $10^{\prime \prime}$ | 15＂ | All－Aluminum | Aluminum | 4 libs． | 7.50 |
| B－810 | 8 or $10^{\prime \prime}$ | 15＂ | 10＂ | $16^{\prime \prime}$ | All－Aluminum | Aluminum | 4 lbs ． | 7.75 |
| AM－10 | 12＂ | 17＂ | 101／2＂ | $20^{\prime \prime}$ | Steel Housing | Aluminum | 6 lbs ． | 8.00 |
| P． 16 | 12＂ | $22^{\prime \prime}$ | $16^{\prime \prime}$ | $26^{\prime \prime}$ | Steel Housing | Aluminum | 8 lbs ． | 13.00 |

## Armor－Plate De Luxe Baffles



INDESTRUCTIBLE ．．Atlas allosteel． non－resunant Armor－plate Raffes will re－ we he wersst of of theld sersice．Fxeli－ to eliminate raing leakave at point where the wo bafe seciuns are joinel Winith is a ＊年ecial haked hue－gray crackle that adequate－ 1y protects the steel parts from rust and urrosion．
MB－12 De Luxe Model ．．．includes metal． lhth（M！＇）sereen for protecting the cone． ＂Stap－on＂watherproof cover（ $11{ }^{( }$＇）is sup－ plied for covering hell edge during extreme． stormy cumbitions．Rear housing lined with ahsorbent acoustic felt（AF）．
SB－12（less accessories）
－Identical to the NR－12．hat does not inchile MI＇．W＇${ }^{\circ}$ ． and $A F$ accesories．Bell Diameter（hoth moulels）：1\％＂．Total Teength 20＂．These two models available for $12^{\prime \prime \prime}$ speakers only．ill speaker mounting hardware and hanging lorpos supplied．Shipring Weights：MB－12 9 lbs．． －
Model MB－12 De Luxe Baffle．．．．．．List $\$ 14.00$ Model SB－12（less accessories）．Lis1 $\$ 11.50$


ST－8


$$
\text { MF. } 10
$$



## BAFFLE FIXTURES and FLOOR STANDS

Atlas Baffle Fixtures offer easy convenient mounting for horns and baffles on sound truck，wall，and other surfaces．．．Mrackets built for rugged use and include large wing nut to se－ cure haffle in atyy position．Finish is durathe black crackle
SA－10 Saddle Fixture Only cludes saddle hracket．rate heet． wing mut arramgencent．Find of the
 threarl，making it addaptable to stane lard pige fittings．Shay wi． 4 llos．
Model SA－10 Saddle．．．．．．．．Lis！\＄2．50 ST－ 8 Complete Fixture and Base pipe stemstrathed smaty a hease casting． Ideal for soumet truck and wall mount－ ing．Height Overall
Model ST－8 Fixlure．
List $\$ 4.00$
MF－10 Heavy Base Floor Stand I 35 Ih．Alwir slathd with a tripod
 of 1 \％＂．Finish is at clurable hilack with loeking－whecl adjustment permit－ ting fermanent mountimg．
Model MF－10 Sland．．．．．．．．List $\$ 12.50$
AS－10 Portable Lightweight Stand distinctive 10 lh ．tand．Telesconimg seamless stecl tubes permit height ad－ justment to \＆ft．Ruhber．tipped fohl－ ing legs offer extreme stablility rit．
tinge finished in silver．Stand finish is＂tull gloss hlack enamel．Shipping Weisht 11 llm ．
Model AS－10 Stand．．．．．．．．List \＄12．50 The MF－10 and AS－10 are suitable Ior use with AM－10．P．16．SB－12． AS． 10 MB－12 Parabolic Baffles，＂WX＂Ma－

## ＂MUSIC BOX＂



Walnut Acoustic Enclosures
Modern Musical Motif
The Allas Shund＂Mnsic box＂sets al hew style note in walnut atematic emblasures．The Alistinctive design makes the cabinet ex． tremely sultalle lor the richest ronala in－ grain walnut sused in the sele eted natural－ grain walmut isted int the＂Music Rox＂is expertly findshed with lustrons lacemers tu
retain and whatme the natural wond grains．
Sturdy Construction ．．The＂＂Music Ru＂is firmly assembled with inmer ghore－ bleck constraction．Attrative Acensti－ （＇loth grille sets．日fif the masical design oi the cathinet．（＇implete monting hard． sutplied．
Model AE－8 ．．．For $8^{\prime \prime}$ Speakers

．List Price $\$ 5.75$
Model AE－12 ．．．For $12^{\prime \prime}$ Speakers
 10 Deep at top end．Shipping Weight $81,1 \mathrm{~s}$ ．List Price $\$ 7.50$

ATLAS BAFFLE FITTINGS，AND ACCESSORIES RUBBER＂SNAP－ON＂RIM DAMPENER derener Slotted rubber－rim dampener can be supplied in any specined length to encircle the Model SO Rubber Rim

Model WC ．．．Snap－on weatherprool rain cover for bell of AM－10， or SB－12 MC．．．Metal－cloth screen with gaskets for AM－10．SB－12．
Model MC or P． 16 List Price 5.75
Model AF ．．．Pre－formed acoustic felt lining lor housings of AM－10． SB－12，or P． 16 List Price $\$ .75$

## ATLAS SOUDD CORPORATIOD

 "VELVET ACTION*" MICROPHONE STANDS *No Slipping . . . No Scratching . . . No Rattle . . . No Noise . . .

## MS-8

"Velvet Action" Clutch Mechanism hese superbly created and atcenately .... the exclusive feature of stands. Single-hand conerol is possible after the clutch has been adjusted (1) the weight of the microphone. "Velvet Action" Protection Feature
offers positive assurame akainst sudden dromping of the telescoping abe. The new improved pump-iction seal alsu eliminates highly objectionable rattle hetween tulues.

## MS-18

 Heavy-Wall Brass Tubing . . . Triple Chrome Finish ... The telco sonping sections are of heavy wall brass tubing erliminating rust and corrosion, and assuring "liie ethue" wear on threaded parts. All models have a $7 \mathbf{s e n}^{\prime \prime}$ diameter onter tube, and a $\$ / 8{ }^{\circ \prime}$ inner thbe. The..stands are expertly finished in the patented triple-plate "Super- "hrmme" which in. sures ant everlasting, lastrons shriace. Microphone thread size is standard $558 \mathbf{s}^{\prime \prime}-27$ male. All bases are furnished with rubber jauls.| Model | Base Finish | Tube Finish | Base Diameter | Height Adjustment | Weight | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MS-8 | Black Crackle | "Super-Chrome" | $10^{\prime \prime}$ | $36^{\prime \prime}$ to 67" | 8 lbs. | \$6.00 |
| MS-9 | Gray Crackle, Red Circles | ", " | $10^{\prime \prime}$ | $37^{\prime \prime}$ to 68"' | 9 lbs. | 7.50 |
| MS-11 | "Super-Chrome" |  | 101/4" | $38^{\prime \prime}$ to 69" | 11 lbs . | 8.50 |
| MS-18 | "Super-Chrome" | , | 101/4" | $38^{\prime \prime}$ to 69" | 18 lbs . | 11.00 |
| MS-10 | Gun-Metal Crackle |  | 161/2" | $38^{\prime \prime}$ to 69" | 10 lbs. | 8.00 |
| MS-31 | Gray Crackle, Red Circles | " | 10" | $19^{\prime \prime}$ to $67^{\prime \prime}$ | 9 lbs . | 9.00 |

## ATLAS $\star$ Five $\star$ Adjus

Model DS-3 Adjustable Desk Stand

Atlas Desk Stands . . . The tulbes ant all elesk atads are finished in the patented triple-plate "Super-Chrume". Bases are available is chrumium or black crackle finish, un both the ad justable and fixed type stanels. The adjnstable Nodels 1DS. 3 and DS. + use the exclusive "Vel ret Action" friction clutch. All desk stands
have at $6^{\prime \prime}$ diameter hase mounted ontishuel have a $6^{\prime \prime}$ diameter hase monnted on anti-shuck, scratch-prosof ielt humpers. Standard s/8"- 27 male microphone thread on all models.

Banquet Stand Model TS-5 . . The Tanquet stand uses the same larme $7 / \mathbf{g}^{\prime \prime}$ brass tubing antl "Delvet Aetion" elutch is ised on the Atliss Floner Stands. The $8^{\prime \prime}$ eliameter hase is finished with wun metal crackle and contrasting red circles, and erfuipped with sheck-proof. seratehanowi rubber bampers.

Model TS-S

| MODEL | TYPE | HEIGHT | BASE FINISH | LIST PRICE |
| :--- | :--- | :---: | :--- | :---: |
| DS-I | Fixed | $8^{\prime \prime}$ | Black Crackle | $\mathbf{1 . 7 5}$ |
| DS-2 | Fixed | $8^{\prime \prime}$ | "Super-Chrome" | $\mathbf{2 . 7 5}$ |
| DS-3 | Adjustable | $10^{\circ}{ }^{\circ}$ to $15^{\prime \prime}$ | "Super-Chrome" | $\mathbf{3 . 7 5}$ |
| DS-4 | Adjustable | $10^{\prime \prime}$ to $15^{\prime \prime}$ | Black Crackle | $\mathbf{2 . 7 5}$ |
| TS-5 | Adjustable | $18^{\circ}$ to $32^{\prime \prime}$ | Gun-Metal Crackle | $\mathbf{5 . 5 0}$ |

## "DE-LUXE" Studio Stand

Distinctive Stand . . . For a Mod ern Setting . . Atlas meets the demand for a high fuality staml for all micruphone applications. iversize constrisction and improved chatch of the MS-2t makes the stamd easily adjustable adul alosolutely fret from jamming. The clutch mechanism is wear-pronf liecanse of its inner bakelife construction. The clutch is $4^{\prime \prime}$ in length offerisg a full, firm grip for the entire hand.
Semi-Tripod Base . . . $17^{\prime \prime}$ Spread

- The hast ( tutal weight 24 lbs.) has a mudernistic tripunl devign, permitting the user tos stand close (1) the microphone. Kubler cushoms are fastemed to the base legs to athsurb shock. The base is finished in : combination chromium and upalescent gun-metal crackle. The inbing. base lrgs, :nnd shell are finished in triple-plate "*iuper-Chronme".

Expert Construction : Diameter of the muter tube is $1 / 5 / 8$. and the inner telescoying tube $78^{\prime \prime}$. Theser tulbes permit height adjustnient from $42^{\prime \prime}$ to $72^{\prime \prime}$. Two adapturs are supplied for micruphumes having either phed for miscruphones having either
$5 \times 3.27$ on $1 / 2$ " threals.
 $5 /{ }^{" 1} \cdot 27$ (14 $1 / 2 "$ thread.
MS-24 Stand................ $\$ 16.50$ List

# IXFFRID 


＂JUNIOR SERIES＂
Electro－Dynamic
and
Permag
SPEAKERS
IT IS MORE ECONOMICAL TO REPLACE A DEFECTIVE SPEAKER THAN TO REPAIR IT！
OXFORD＂Junior Series＂comprises the most widely used types of speakers up to $S$＂．All have standard mountings for easy installation．Model 2ZMP may be used as MICROPHONE with transformer \＃ 1290 ．


## 3＂and 4＂ELECTRO－DYNAMIC

| Model | Size | Field Res．V．C．Imp．Ship Wt． <br> Ohms | List <br> Ohms | Oz． | Less Trans． | Net |
| :--- | :---: | ---: | :---: | :---: | :---: | :---: |
| 3W1 | $3^{\prime \prime}$ | 450 | 4.5 | 10 | $\$ 1.75$ | $\$ 1.05$ |
| 3W2 | $3^{\prime \prime}$ | 2750 | 4.5 | 10 | 1.75 | 1.05 |
| 4W1 | $4^{\prime \prime}$ | 450 | 4.5 | 10 | 1.85 | 1.11 |
| 4W2 | $4^{\prime \prime}$ | 2750 | 4.5 | 10 | 1.85 | 1.11 |

## 6＂－8＂ELECTRO－DYNAMIC

Monlel 6．I and 8．I supplied with universal transformers．6．J has elom－
 Sturdily eourt macted these spoakers may be umed for small l＇A installa－ tions whore a lermaty is not desired．or for rephacement speakers in small console sets．

| Model | Size | Field Ohms | V．C．Ohms | List | Net |
| :---: | :---: | :---: | :---: | :---: | :---: |
| J－61 | （i）．${ }^{\prime \prime}$ | 2750 | 5 | \＄3．40 | \＄2．04 |
| J－62 |  | $1800 \mathrm{T3} 00$ | 5 | 3.40 | 2.04 |
| J．63 | $\mathrm{fl}_{1} \mathrm{Z}$ ，＂ | 10010 | 5 | 3.40 | 2.04 |
| J．64 | （1） $1 / 2{ }^{\prime \prime}$ | （i）volt | 5 | 3.40 | 2.04 |
| J．81 | $8^{\prime \prime}$ | 3.500 | 5 | 4.40 | 2.64 |
| J． 82 | $8{ }^{\prime \prime}$ | $1800 T 300$ | 5 | 4.40 | 2.64 |
| J． 83 | $8{ }^{\prime \prime}$ | 1000 | 5 | 4.40 | 2.64 |
| J． 84 | $8 * *$ | 6 volt | 5 | 4.40 | 2.64 |

 6 J series，$\$ 1.00$ on SJ gerics．Special fields 75 c additional list．

3＂4＇5＇PERMAG

| Model | Size | V．C．Imp． Ohms | Power Cap． Watts | Ship． Wt．Oz． | List Less Trans． | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3ZMP | 31／2＂ | 3.4 | 11. | ＊ | \＄1．8．5 | \＄1．11 |
| 4ZMP | $41 /{ }^{\prime \prime}$ | 3.4 | $\underline{2}$ | 10 | 1．9\％ | 1.17 |
| 5ZMP |  | 3.4 | 21. | 12 | 2.1010 | 1.20 |

## 5＇＂ELECTRO－DYNAMIC

Suceifications on speakers listed below：－V．C．imp．it ohms．Outside diameter 5 ＂ 1 ＇ower cap． $21 / 2$ watts．Shipping wt．with tranghormer $1 \% \mathrm{lis}$. ，less transformer $11 / 4$ liss．Speaker furnished with romovable mounting bracket．$\$ 50 \mathrm{olim}$ speakers furnished with lucking coil．

| Model | Field Res． Ohms | Trans． | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| V－51 | 2750 | S－43 | \＄2．60 | \＄1．56 |
| V－52 | 1s00T300 | N－4． | 2.60 | 1.56 |
| V． 53 | 1000 | S－4\％ | 2.60 | 1.56 |
| V－54 | 450 |  | 2.60 | 1.56 |
| V－55 | 6 rolt | － Cl 1 | 2.60 | 1.56 |
| V．51－L | 27.50 | lues Trans． | 2.00 | 1.20 |
| V－52－L | 1800 T 3001 | less Trans． | 2.00 | 1.20 |
| V－53－L | 1000 | l．ess Trans． | 2.00 | 1.20 |
| V54－L | 450 | lues Trans． | 2.10 | 1.20 |
| V．55－L | fi volt | L．ess Trans． | 2.00 | 1.20 |

## TRANSFORMERS




| Trans． No． | Type | Output Tube | $\begin{aligned} & \text { Core } \\ & \text { Size } \end{aligned}$ | For Speakers | $\begin{aligned} & \text { Load } \\ & \text { Imp. Ohms } \end{aligned}$ | List Price | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 21H25 | Singre | 2.514 |  |  | \％10\％ | \＄ 0.6 .5 | \＄0．39 |
| 21F55 | Silumb | $\underline{20.17}$ | 1．．＂${ }^{1}$ | ．．＂．${ }^{\text {a }}$ | 4500 | ． $6 \%$ | ． 39 |
| 21.175 | Singla | 12 | $1 / 2{ }^{\prime \prime} \times 1 /{ }^{\text {／}}$ | ＂．$\quad$＂ | 7010） | 13： | ． 39 |
| 1290 | V．C．to grid |  | 1／2＂x ${ }^{1 / 2}$ | ＂＂＂ |  | 1.111 | ． 60 |
| U21 | Triversal |  | 1\％＂x＂\％ | ＂．${ }^{\text {a }}$＂ | Iniversal | 1.00 | ． 60 |
| L？ 1 | 500 olim | line | $1 / 4 \times 1 /{ }^{\prime \prime}$ | ＂．${ }^{\text {a }}$ ．${ }^{\text {a }}$ |  | ． 100 | ． 39 |
| UL21 | T－niversal | Line | 1／4＂x ${ }^{1 / 2}$ | （沙 ${ }^{\prime \prime}$＂） | 500.1000 .15060000 | 1.010 | ． 75 |
| U85 | luiversal |  | \％＂x喿＂ | （ $0^{\prime \prime \prime}$－x＂） | liniversal | 1，25 | ． 75 |
| $L 85$ | 500 whm | l，ine | 5／8＂x ${ }^{5 / 8}$ | （6＂）－×＇） | $\xrightarrow{5000}$ | 1.00 | ． 60 |
| UL85 | Pniverkal | line | 5／＂x ${ }^{\text {\％\％}}$ |  | $5010 \cdot 1000 \cdot 1500000000$ | 1.25 1.50 | .75 .90 |
| $U 43$ <br> 43 | Coniversal 500 olim | Line | \％／＂${ }^{3 / 4}$ |  | Tniversal | 1.50 | ． 90 |
| UL43 | ＇＇niversal | Line | 3／400 ${ }^{\text {a }}$ | （ $8^{\prime \prime}$－14＂） | 5001006.1500 .2000 | 1.50 | ． 90 |
| U87 | Inivirsal | ＊ | \％／87\％ | （ 12 ＂－14＂） | I＇niversal | $\because 00$ | 1.20 |
| L87 | ano ohm | line | \％／＂x ${ }^{\text {\％}}$＂ | （12＂－14＂） | 500 | 1.75 | 1.05 |
| UL87 | l＇uiveral | l，ine | 7／8x ${ }^{7 / 8}$ | （12＂－14＇） | $5016 \cdot 1000 \cdot 1500 \cdot 2000$ | －2\％ | 1.35 |

[^3]

PUBLIC ADDRESS SPEAKERS ELECTRO－DYNAMIC AND PERMAG


For the exacting requirements of public address installations，OXFORD offers geveral Permag and Electro－dynamic models ringing in size from $3^{\prime \prime}$ to $14^{\prime \prime}$ ．Among these monels are those suitable for use with electromusical instruments，as ploctrical ghitars，or for orribestral work．Other models mas fe used with coinooperatex phonographs．or in inter－uffice communicating esstems or extomsion speakers．Wherever a high quality efficient speaker is desired，an Oxford Permag speaker can be relided upen to do the work successfully

Models $19 D M 9$ and 14 DM9 are two now Delaxe Permag heary－duty pulslic iddruss speakers of superior tome quality and power－handling capacity．They are recommended for the finest installations．

The Electrn－Dynamic speakers are furnished with listed fields as Etandarl．Sperial firlds are available at $\$ 1.00$ malitional list price （fone net）．A（＇molels are supplien for tuse on 110 volts， 60 cycles． Special AC transformers for other voltages and fremuencies are avail－
 able at additional cost．（I＇rices piven an remuest．）

PERMAG

| Model | Diameter | $\begin{aligned} & \text { Vaice Coil } \\ & \text { Size - Imp. } \end{aligned}$ |  | Power Cap． Watts | Ship．Wt． Lbs． | List Price Less Trans． | Net Price Less Trans． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30MP | $31 / 2$ | \％＂ | 5 | 2 | $11 / 4$ | 2.60 | \＄ 1.56 |
| 50 MP | $5^{1 / 2}$ | \％＂ | ； | $91 / 2$ | $1 \%$ | 2.60 | 1.56 |
| 60 MP | $61 / 2{ }^{\prime \prime}$ | \％＂ | 5 | $31 / 1 / 2$ | 13／4 | 3.00 | 1.80 |
| GEMP | （1\％＂ | \％＂ | 1－20 | 4 | $21 / 2$ | 3.90 | 2.34 |
| 8EMP |  | $3{ }^{3}$ | （i－k | － | $31 / 4$ | 4.50 | 2.70 |
| 8SMP | s＂ |  | がら | 7 | $41 / 2$ | 7.50 | 4.50 |
| 10AMP | 10 |  | $6 \cdot \mathrm{~N}$ | 7 | 5 | 7.50 | 4.50 |
| 10SMP | 11 |  | （i．） | 8 | $51 / 2$ | 8.50 | 5.10 |
| 11 SMP | 11 | $1 "$ | fi－8 | 8 | 5 $3 / 4$ | 8.50 | 5.10 |
| 12AMP | 12＂ |  | $6 \cdot 8$ | 8 | $51 / 2$ | 8.50 | 5.10 |
| 12SMP | 12 ＂ |  | 6－8 | 9 | $711 /$ | 9.50 | 5.70 |
| 12DM2 | 12 ＂ | $1 \% "$ | 8 | 20 | 11 | 15.00 | 9.00 |
| 14DM2 | 14 ＂ | $11 / 4$ | 8 | 20 | 12 | 18.00 | 10.80 |

 number atter Speaker model number．（See chart on reverse side for proper transformer．）

ELECTRO－DYNAMIC


## MAGNETIC SPEAKERS

 G＂-8 ＂．All are rugredly constructed and use highly efficient magnets．

| Model | Size | Ship．Wt． | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| M30 | $31 / 2{ }^{\prime \prime}$ | 3／6 lb． | \＄1．75 | \＄1．05 |
| M50 |  | $3 / 4 \mathrm{hb}$ ． | 1.85 | 1.11 |
| M60 | $61 / 2$ | 1 ll ． | 2.25 | 1.35 |
| M80 | 8 \％ | 11 110． | 2.90 | 1.74 |

# GNIVERSAL mistantures 



## 5mm' SERIES

## Velocity Type

 Outstanding for all around use; P. A. syme tems, orchestras, stage and drama pick up. So small and compact does not hide fure of performer. Will greatly reduce ferdback in anyinstallation. Sensitive 5 installation. Sensitive 5
mm ribbon element. Frequency response; $40-$ 10,000 Cl's, Output level; 58 db . below one volt per bar. Highly polished Chrome finish. De Luxe equipment included in handsome parkare ; 25 ft . rubler covered cable, with lock ring connector at housing; suspension loop; Duvello cover and "Flex-tulne" (allows tilting of microphone and stuys-put"). 5/8 inch-27 thread stand "oupling. Microphone size; $11 / 4$ inches square is $11 / 2$ inches high. Weight 16 oz , packed Model


Impedance
lligh
500 ohms
33 ohnus
"CINEMA" SERIES
CINEMA" SERIES fessional applications. Beautifully chrome plated case with swivel yoke. need for movie trye microphone. Fumisherl with popular 15 mm eloments. (Siee 15 mm models). Diameter: $21 / 4$ inclies, depth, $31 / 2$ inches. 25 foot calle furnisherd. 5/8 mouling. Lock ring cont. nector at housing. Weight, 14 ozs., packed, $21 / 2 \mathrm{lbs}$
OYNAMIC TYPE:-

| Model | Impedance | Price |
| :--- | :--- | ---: |
| 723 | lligh | $\$ 24.50$ |
| 722 | 500 ohms | 24.50 |
| 721 | 200 ohms | 24.50 |
| 720 | 33 ohms | 22.50 |
| CRYSTAL | TYPE : |  |
| Model | Impedance | Price |
| 716 | Iligh | $\$ 22.50$ |
| 719 | 500 ohms | 24.50 |
| 718 | 200 olms | 24.50 |
| 717 | 33 olims | 24.50 |

New AIRCRAFT MODEL
FOR PRIVATE CRAFT


For aircraft and marine installations; mobile transmitters, etc. Natural voice roproduction. Single button carhon. Sturdy black Rakelite case. Moisture prowf cord $31 / 2 \mathrm{ft}$. Reinforced six inches from each end. Motor noises damped out by Anti-noise construction. Button im. predance 200 ohms, output approximately 30 volts RMS across microphone transformer secondary. Double pole, single throw, press-to-talk switch connects microphone and relay circuit rimultaneously. Complete with heavy duty "push-in" mounting bracket. Dia. $21 / 8$ " thickness, $11 / 2 "$. Net wt. $61 / 2$ oz., packed 3/411.
Model CU-1 with 3 way pluc.... Price, $\$ 16.25$ Model CU-2 with 109-A plug....Price, 18.25

'15mm" SERIES
Ideal for all general 1 . A Appllcations: recording. broadcustilng and any place
where a ruliahle is riere a refiable ins' rument
regured. Sensitive 15 nilllineter actuated nuents. Modernistic. chrome plated boils. De luxe squipment included in hanusome package. 25 ft. rubber covered cable with lock ring connertor at housing, Susand "Fiex-tube" (allows tiling of microphone and "stays put ${ }^{\circ}$ ). \% \% inch ${ }^{\text {and }}$ thread stand coupling. 1 il ameter $21 / 4$ inches. DYNAM
DYNAMIC TYPE:-
A rugsed, prliable unit, Not affected by temperature or humility. F'requency response: $50-8000$ Cl'S. Output level; sis dib. below one voll per bar
308
307
308
308
305
308
305
CRYSTAL TYPE:
Clear, brilliant reproluction, rurti-linear dlaphragm. Filement protected against molisture and mechanira shork. Marome Cl's 0utput lisated. Fre ouency respanse: $30 \cdot 8000$ Cl'S. Output lesel: 48 db . Model

| Model | Impedance | Price |
| :--- | :--- | ---: |
| 312 | $11 / 1 / \mathrm{lh}$ | $\mathbf{y}$ |
| 311 | 500 ohms | 27.50 |
| 310 | 200 | 27.50 |
| 309 | 33 ohms | 27.50 |

"M4" SERIES


## VELOCITY TYPE

Selentifically developed, fourmagnet Velocity untt. For general public address and semiprofesslonal use Non-resonant,
$\boldsymbol{A}$ best seller, Will gruatly reduce feed-back in any in${ }^{3}$ stillatlon. Frequency range. 58 db below one rolt per bar: Hum-bucking transformers. Available in four Impetances. 25 foot cable tand lork ring connector Mt housing. Mlack
"crackle" Anlsh with high polish chrome trim. Size:
 stand toupling. lacked weight. $31 / 2 \mathrm{lbs}$.

## Model Model 108 107 106

107
106
105 Imped
llich
500 !.06 ohnns
201
ohnus $\begin{array}{r}\text { Price } \\ \$ 22.50 \\ 22.50 \\ 22.50 \\ 22.50 \\ \hline\end{array}$

## "AV" SERIES

 Constant air-relocity. Sunpr mirrophone. Tlita-refined unit. Wide range plek-up. Fidelity of tone rensurpasseti. lifigh flux magurts. Non-rezonant. Will greatly redure ferd back in any installation. For all professional application: recordink, broadesastIng stullow etc. Sutput leeri; sif do below une volt
 covered ("able: ing inch-27 threat stand rouphng.
 $21 \%$ Inches $x \quad 3 \%$ inches $x 5 / 2$ inches high. lpacked weight $31 / 2$ pouncls.


Impedance
1 HILh h
500 ohms
200 ohms
Price
$\$ 44.50$
44.50
44.50

## Model "W'"

Single lutton Carion. high sensitivity, light weight compact design Ideal detectaphone, used on small transmitters, communirating systems; experimenters' favorite Clear-cut response to all voice frequencies. (Output level, -38 db) Screw terminals. Impedance, 200 ohms. Black Bakelite Case. Diameter inch. Weight 1 1/2 07s. packed $21 / 2$ ounces.

New Model 'KO' CRYSTAL and 'KD' DYNAMIC
 - RECORDING AMATEURS - ORCHESTRAS - CALL SYSTEMS

- New high output crystal and dynamic unlts with sllghtly rising frequency chmracteristics.
with wrilliant tone quality with well rounded bess re: sponse. Luxurious satin rase contrasted with pol. ished chrome face and grilie. - 10 foot low rapacity. cluded. Furnished in color to maved rable inmelt in the microphone. Output Irrel: 48 dh below one volt per bar.
Frequeney range: $50-8000$ Cl's. E\% inch-27 thread atand couplling. Diameter $2 \mathbb{K}$ inches. depth 23 inches. "Weight parked: $11 / 2$, pounds. including 10 foot cable as shown (less stand) $\$ 16.25$

New Aircraft Type Hand Set
 For afrcraft, amaleurs, motwo way phone systems, May be used anywhere. ticugsed. light weight constructions. low priced dependable in:
strument. Furnished in black atrument. Furnished in black Bakelite with six foot rord.
Microphone and receiver terminated separately. kecelvcrs avallable in two resist ances: 75 ohms for matrhIng line impeciances. 2000 ohms for matthing plate
clrcuit of output
tube. swleh not avallable. (See Heary Duty Type.) lieplaces
older "M1MFX" FiMFIt" and


## AR-I SERIES

 Aircraft MierophonesApproved by U. S. Govern ment Clvil Aeronautics Authority Approval Nos. 185 \& 18 B Single button cartion, antlnoise construction for prisate and commercis! air raft. Operates In any position, any rlimate and any place a lightweight rugged unit is required. Itsing Istic. Button impedance $\because 00$ latic. Sution impeciance 0 ohone transformer seconilary. Heary duty, press to talk. double pole single throw switch: connects meopho and May circuit simuitancousiy, Mols ture proof. four foot cord; reinforced six sches ness $11 / 4$ Inches. With wositive grid roller bracket All metal Dural body finlsheif in lvory Black Dislectric. Complete with 109.A plug. Microbhone woighs 4 ozea packed 1 th.
Model AR.IS. For closed cabin craft Maximun Benslitity. Anti-Noise. C.A.A. Approval No. 18.7 ,
Model AR-IM. For moderately guiet cabin craft Medlum sensitivity, Anti-Noise. C.A.A. Approral No. Model AR.ID. For open cockpit and rombat aircial application Mea. A…...... Price. $\$ 3500$

## '1941 AMATEUR'S CHEST MIKE

## For amateurs, moblle

 transmitiers. sound trucks. Mas be usedany place where operany place where oper-
ator must have
moth ator must have moth
hands free. Mxcellent volce cheracteristles. "Communiratlons" type crystal microphone. Moisture and shock proor element. Ten foot rubber covered cable. welone puged construction. Frequency re-
 sponse: $50-5000$ CPR. Output: 48 db below one rolt per bar. Weight only 7 ce., packed $1 \%$ Modis. $\mathrm{N}-3$

## E NIVERSAL mulisquphulis



Model Unit
200-A B. B. Car.
201-A D. B. Car
202-A Ciystal
203-A Crystal
216.A Crystal

215-A Crystal
214.A Crystal

212-A Dynamic
211.A Dynamic
210.A Dsnamic
204.A Djnamic

## HANDI-MIKES

An unbeatable value in the fleld of portable sound erents. call syatems, small transmitters, sound trucks and all spots where a close. talking clear reproduction unit is required. Ralancedgrip. Pollshed chrone piate.
Orepall length 8 in . Diamoter of head $2 \%$ in. 8 nap switch and "A" circuit standard, as illustrated. With 6 ft flexible co
welght $11 / \mathrm{lbs}$. Impedance Dutput Price* 200 ohms $\quad-38 \mathrm{db} \quad \$ 10.00$ $200 / 13$ ohms- $50 \mathrm{db} \quad 15.00$ HIgh $\quad 53 \mathrm{db}^{*} \quad 18.50$ High $\quad 48 \mathrm{db} * 22.50$ 200 ohms $\quad .59 \mathrm{db} \quad 24.50$ 33 ohms High 500 ohnis $\quad 58 \mathrm{db}$ 33 ohms $\quad .61 \mathrm{db} \quad 22.50$

## POLICE TYPE HANDI-MIKE

## MODEL PCT

Spectal single button carbon unit. Designed parguenctes dor pod out. Ventilated rubber mouthplece for close lalking "1'ress-to-talk" switch for relay operation, 6 foot weather-proof cabie. Shield used
as common ground. ......................Price $\$ 18.50^{\circ}$


## Universal Professional Recorder

A Rellable "Rock Solld" Recording Machine Bullt for Long and Continued Service
Adjustable mounting feet. Chassis of cast iron. 16 -inch turntable weighing 110 lbs. - Endlesa, non-elastic, gum-dipped linen belt insures smooth running without wavers" or "wowa." - Self-starting motor, guaranteed 100 per cent bynchronous. - Lead Screw has clutch mechanism which enables operator to "start" lead screw riding shoe, or release it instantly for moving slide to any new position. Safety grooves at each end prevent "jamming" or damage to mechanism. Slide bar rolls on frictionless, hardened ball-bearing grooves, in renewable rails.
Dimensions over all: $\mathbf{8 6 ^ { \prime \prime }} \times 19^{\prime \prime} \times 14^{\prime \prime}$. Net Wt. 225 lbs . Boxed for shipping (two hoxes) $3 / 3$ and $5 / 4 \mathrm{cu}$. ft., gross wt. 300 lbs . Complete with 15 ohm full frequency cutting head and standard high quality crystal pick. up, ready to connect to amplifier and associate equipment. Price.......... $\$ 585.00$ (Packing and Boxing $\$ 5.00$ Net additional)


GRASP-TO.TALK DESK MODELS
For all communicstion systems, police departments, Ship-to-shore, and portable sound equipment. Feveral types of microphone units arailable. Grasp-to-talk switch
 Height overall
nacked
$4 \% / 3$
lbs.


## PRESS-TO.TALK DESK MODELS

samo as Grasp-to-talk model except non-locking, press-to-talk switch turns micro phone on. Other circuits available. Write for bulletin.

| Model | Unit <br> 8. B. Carbon | Impedance 200 Ohms | Output $-38 \mathrm{Dr}$ | Price*** $\$ 17.50$ |
| :---: | :---: | :---: | :---: | :---: |
| $601 . A$ | D. B. Carbon | $200 / \mathrm{B}$ Ohms | -55 Di3 | 22.50 |
| 602-A | Crystal | Iligh | $48 \mathrm{DH}{ }^{*}$ | 26.50 |
| 605.A | Crystal | :00 Ohms | . 59 DIF | 26.50 |
| 604-A | Crystal | 200 Ohms | -59 DH | 26.50 |
| 603.A | Cryatal | 33 Ohms | -.39 D13 | 26.50 |
| 609.A | 1) jnamic | High | 58 DB | 26.50 |
| ${ }^{608}$ - $A$ | 1)snamic | 500 Ohms | ${ }_{-64}{ }^{\text {D }}$ | 26.50 |
| 607-A | Dynamic | 200 Ohms | ${ }_{-61} 1{ }^{\text {DH3 }}$ | 26.50 |
| 608.A | Dsnamic | 33 (\%hms | -64 DB | 24.50 |

Press-fo-Talk Heavy Dufy Hand Set
Double pole press-to-talk
 Use on sachite pack tranceivers, two-way talk back sjitemas; any commercisal ap-
plication. Thlek wallod plakelite construction. Pol. shed metal rings make for niodernistic appearance and turdy construction. "Communications" type . micronhone characteristic. "Superphone unit, uslng new magnetic principle. Arailable in wo resittances; 75 ohms for matching line impedances. 2000 ohms for matching plate ctrcuit of output tube Rugged construction, Tropic ic bealed. Separate pires to 1 swilch.

| packed. <br> Model | lbs. Mierophone | Recelver | Price* |
| :---: | :---: | :---: | :---: |
| 175-E | N. B. Carbon | 3 Magnetic | \$14.50 |
| $120 . \mathrm{E}$ | 200 ohms -38db | Misennetio |  |
| 120.E | 200 ohms 388 db | 2000 ohm | 14.50 |
| 275.E | Crystal | Magnetio |  |
|  | Hi-Imp. $48 \mathrm{db}{ }^{*}$ | 75 ohm | 8.50 |
| 220-E | Herytal | Magnetio 2000 ohm | 8.50 |
| 375-E | ${ }^{\text {a }}$ Dynamic | Magnetic |  |
|  | uhms -64 db | 75 ohm | 28.50 |
| 320-E |  | Magnetle 2000 chm | 8.50 |

## PRECISION CUTTING HEAD

Sctentific design. Capable of cutting any type of reegenerated by Hil-Flux AL. NTCO permanent magnet. Designed for tong and do. pendableservico with maximum sensititity Withit $\begin{array}{ll}\text { audio frequentys range. Fre } \\ \text { quoncy } \\ \text { response } \\ 70 & \text { to } \\ 6200\end{array}$ cycles per second. Furnished in 15 ohm imp. only. Will operate where average loudspeaker
cotl hat been sttached. Finish black "crackled" baked
 enamel. size $14 /^{\prime \prime} \mathrm{hlgh} 1^{\prime \prime}$ wide. \%" thlct. Net wt. 4 oz. Complete with set of instructions.
Price
$\$ 22.50$

## New Universal Full Frequency

## Cupping Head

 Perfoct electricel balancel Marnetic balancei Mechanlcal balance! Gives crisp. cleatiant HIOHS and full rounded BASBI Records frequenctes from 30 to 10,000 cycles and over. Electrical circuit desiened to be fed direct from $15-$ ohm power source. Operates in any cllmate. unafiected by heat. sealedi All precision metal construction. All adjust. ments locked and sesled. Glves uniform performance every day for years! Price, $\$ 90.00$
 Carbon Mierophones Model "XX" DOUBLE BUTTON Small heary duty. double but Ion carbon mirrophone. World's For use in sports erents concebions, amateur stations. Lov hise granules. Stretched Duralumin diaphragm. Frequeney range: $40-6000 \mathrm{CPS}$. Imped shes: 200 ohms per button. Output lerel: -50 dh all thickness $14 / 4$ inches. Weight 8 oas. packed 1 lb . 14 Inches. Weight PRICE $\$ 10.00^{\circ}$

Model X-1
single button
Same characteristice and size as XX Xexcept single
hutton construction. hutton construction


## RECORDING TURNTABLES

Ideal assemblies for the radio amateur, recording experimenter. public sddress man. schools and classes who wish to build or assemble their own system. Small and compart. but ultra-officient Reup to any ampinier of radio permitting at minimum Cuting cear ant elean full volume recoraings. netic Unit of 15 ohms. Requlros 2 watts to handle. impodance for cutting heads match apeaker rolco roil circuits, eliminating necessity of purchasing special transformers, etc. Lead screw cuts out to in- 118 lines cuts up to $10^{\circ 0}$ bianks. Conutant Speed Induction Type Motor (not synchronous) of moro to atandard speed of 78 R.P.3. - Self-girting quitet. powerful. Welght at center collects threads at same time holding blank in position and oper. ates as Stod and lifter for cutting head at end of cut. This fenture alone worth many dollars to any owner.
Mounted on leatherette-corered veneered top-board. $11^{\prime \prime}{ }^{14 \prime \prime}$ wide. Net wt. $121 /$ lbs. Packed wt. 18 lbs. $\begin{array}{cc}\text { Model PB-60-For } 60 \text { cy.. } & 11 \\ \text { Model PB-50-For } 50 \\ \text { cy }\end{array}$ Model PB.25-For $25 \mathrm{cy}$. ., 110 volt.....Pries 39.50
SYNCHRONOUS PLAYBACK AND

## TURNTABLE ASSEMBLY

$100 \%$ symehronous condenser start and run motor operates turnable at both 78 and $331 / 3$ R.P.M. The ball planetary change speed device 18 shifted by lever for transcripition spood and for phonograph speed. Reproduces music in true pith wh fidelly.
absolutely whithout wows. 12 absolutely without "wows" of "Waver". Turntablo mounting plate $51 / s^{\prime \prime} \times 10^{\prime \prime \prime}$. Total wetgh $121 / 3 \mathrm{lbs}$.
 Model No. 91-For $50 \mathrm{cs}$.110 roll..... Prles 91.00 Model No. 95-For $25 \mathrm{cy}$. ., 110 volt.....PPrice 95.00 Model No. 95-For 25




## "UNIPLEX' CARDIOID CRYSTAL

True Uni-Directional Performance-at Low Cost!










 Shioldand catble. C'oude: Rupel.
\$3230

## "UNIDYNE" CARDIOID DYNAMIC

## Today's Most Popular True Uni-Directional Microphone






 (leal). Shippling weight $+^{1}+1$ Iss


Coule: Rudar
\$4230

 lor lol lar signal. Conde: Rudat.
$\$ 45.00$
1 ist I'rice
or or other
 toms single conductor shiched cable. (Output level: 55.5 db below 1 wolt incr har.
(ulc: Rudas.
$\$ 45.00$
Model A86A. High Quality Cable-Typr Transformer to match 35-50 and 200-250 ohm mietophones to high ituperlance amplin.r if put. Corle: Rudeb.
dist l'rice
.$\$ 10.00$

## 555'' BROADCAST CARDIOID DYNAMIC

Solves Tough Pick-up Problems in Broadcasting and Recording

 studio and ronete applientions. Exelusive share "["niphase" principle provides true
 (1) (H) Ceycles at from, dead it rear (down 12-15 db). ("uts down retlection and acever)eration
 sustended double-wind serented moving coil syst 'm. Buitt-intransiserse vibration isolation

 cable, timunad on free end for attachume of commector phug. Stat, maty easily be replaced
 Shipping weight al $^{1}$ ! lbs. (Call Letter llate not included).
Model 555A. Broadcast "Y'nidyne" Dymanic, in $\mathbf{3 5 - 5 0}$ ohm circuits. Output level into 50 ohans: 62.8 db bejow 6 milliwatts for lob har sisnal. Conde: Rudid.
ohant Price
\$60
Model 55513. Hroadcast "V'vidync" Dynamic, for 200-250 ohm circuits. Includes internal transtuther. Output level into 250 olms: 6.3 .8 ofb below obiliwatts for 10 har skinal. Cinte: Rudif. $\qquad$
nle: Rudif
Model 555C. Broadcast "Inidy mo" Dynamic. Hish impedance. Includes internal transGormer. Output hevel: 55.5 db below 1 volt in-r batr. Cixle: Rudiv List Price
(broadeast Calf lemter Plate, as illustrated, Suspension Wlapher, Vibration Isolation I'nit also available for Model 55.5. Write for bulletian 165C)
(Viture brateble Ihnared on ath Mirrophones ahoter).


#  shlut WIDE-RANGE MICROPHONES 



## NEW "STRATOLINER" DYNAMIC

## Smoother Response for Voice and Music

A new dynamic leader in beanty and feriormance for general-purpose P.A., remote broad casting, recording, call systems, and other applications indones and outdoors. Moving conductor type. Smosth widerange frequency respmse'. .'o annobing peaks or distortions.
 Permissible cable lenght maticatly walimited with low jumedather mondels. Die cast case finished in rich Satin Chrome, Swivel heal easily atmed at source of sound. Semi-directional


Model 508c: Hixh Lmindatue Dynamic. May be us d with crystal microplone ampliter
 bar. Complede will 2.5 ft . single-comathor shelded cable. Code: Rudob. List Price
$\$ 2750$
 Mats bor 10 har sigmat. Complete with 25 th. $\mathbf{t w o - c o n d u c t u r ~ s h i c l d e d ~ c a b l e . ~ C o d e : ~ R u d o c e ~}$
 milliwatts for 10 bar sigmat. Complete with 25 ft . tw -combluctor shielded cable. (inle: Rudod. List Price.
.$\$ 27.50$

## NEW SHURE " 500 " DYNAMIC

## Streamlined for Low-Cost Public Address!



Excellemt frequency responsin assures faithful reproduction of voice and music. Movingconductor tyife. Internal matching trangformer. Sturdy die cast case finished in lridescent Gray with highly polished plating ongrille. Standard $3^{3} \mathbf{s}^{-27}$ haread. Spring cable protector Output: Low Impedimee modela, 71.8 db below 6 milliwaths for 10 bar signal; Hiph im pedance models, 6.3 dh telow 1 volt jer bar. Low lmpedance matels jermit practically un limited cable honuth. Hish impedance motels may le used with any amplifier with input of

Model 5006 - 7 Ft . Hixh Impediance Dymatic. I it. single-combuctor shielded cable Code: Rudix.
$\$ 1750$
 Rudie.
List Price $\quad \mathbf{\$ 1 9 . 0 0}$
Model 500 A. 1 .ow Imicdance Dymanic. For $35-50$ ohm lines. 25 ft . 2 wo-conductor shielded cable Corle: Rudir.
List Price:
Model 500B. Low Imintance Djanmic. Fin 200 -250 ohm lines. 25 fi . wo-conductor shindleded cable. Conle: Rudik.
$\$ 19.00$
List IPrice
-250 olrm
 list l’rice

## Shure "Ulitra" 700D Crystal Highest Performance

Famous for its thelelity of reproduction and deprondable perfortnance. "t"ltra" wide-range response from 30 to 10,060 cycles. Ditpur level: 58 ab lielow 1 volt per bar. Triple - moisture - sealed Grafoil Bimorph Crystal. Complete barometric commensation. Internal screen-protected cartridge. Simall. compact swisel head. Satin Chrome tinish. Built-in cable connector. Standarel $8 / 80-27$ thread. Dianneter 2 年". Shpg. wt. 21/4 lbs.

Model 7001). "Ultra" (rystal Mierophone. Complete with 25 ft . sinkle-conductor. Shiekled cable. Code. Rupaj.
s25
Model A90A. Directional Bafle for Madel 700D Crystal Microphone. Quickly altached or removed. Satin Chrone finish. Code: Rubaf. List Price ... ..........\$2.5



## Shure "Rocket" 705A Crystal <br> "Ultra" Performance!

An outstanding choice for keneral-purpuse P.in! Pro ides both modern beally and faithful reprenfuction Smooth " Vlera" wide-talls response from 30 to $10,0 \times k$ ycles. Output bevel 58 dt clow 1 vole are succial moisture-saraled Crafoil Bi morph Crystal atad other xclusive rystal atd other catures swivp luma saily imed s. med at sumrce of somini or begt response semi directional or non-direction al operation. Built-in cable connector. Rich Satio Chrome finish. Standard s/3"-2; thread. Diameter $236^{\circ}$. Lengeh $37^{\circ} 6^{\circ}$. Shps. wt. $25 / 2 \mathrm{lbs}$ Model 705A. "Rocket" Crystal Microphone Complete with 25 ft . shielded single-cmandor cable. Code: Ruperk.
$\$ 25$
Model A91A. Directional kaftle for Model 705A "Rocket" Crystal Microphone" Snatus into place. Easily dutached. Satin Chrome finish.
'ode' Rubab
List Price....
$\$ 2.50$


## Cull

 CRYSTAL MICROPHONES Remarkable Quality at Low Cost
## NEW "'STRATOLINER" CRYSTAL

Modern as Tomorrow-Low in Cost!






 Jisu J'tice \$1730

$\$ 19.00$

## 70H "SUPER-LEVEL" CRYSTAL

## Famous for Performance the World Over

lor ywars. Whe "standby" athong soumd men tor demodable high cuality werformance Exee lle ont wide-range response. Highest out put level available today in cryst al microphones 47.5 dt below 1 voll fur bar ( 27.5 db below I woll for 10 bar signal). Rexutires less amplifier
 Bimon ght © ystat, Sturdy cast case ; Sitin Chrome finisla, Built-in table comector. Standard


l.ist lotice
$\$ 2250$
Model 70H-25 Ft. Same, with 25 it . cable, (ionte: Rupee


## New 707A Crystal

Nombing like it at this low cost! . Vtratisu sumfera die cast case in Iridescent Gray fanish with highly palistad platimg on
 () 1,at ot emd on $\overline{7}$ !t. eable. |simorph Crystal, the thetticatly isalated. i $1 t$. single-cons. ductor shiskes! cable with wiring pres tator. Standaral $5_{n}=27$ thread. Diath. $23^{3}$ ". Slajok. Wl. 11, 1b.
Model 707. ( rostal Micruparme
(cule: Ruduf.
list l'ile
\$995
Model 707A- 25 Ft. Same, witl is 81 . coble. Shase wi. 2t, lhs. (iente: Kudus.

## New Hand Microphone

$\therefore$ nex lightweisht hand mictorphome de
 'lentite rewiliont flastic catse and hathelle.

 cable (ivnuine Bimorphergestal, mechanitally isolated. I.xectlent, smouth re swise. 7 ft. single-conductor. shiclehol calle. Diam. 2!2", height overall $6^{*}$ wepth $11 .{ }^{\circ}$. Slipg. wt. ${ }_{4}{ }_{4}$ lb.
Model 717A. Crystal Hand Mierofhome (inde: Kuduk.
\$995


## Shure 76B Lapel Microphone



Small. light. crystal microphone with high output level. Gives high guatity re problation of speaker's voice. Incon. spicuobs. Only 1 dis" diameter; weight only 1', ozz. Ifislescern Ciray timish. Handy al $\mathrm{sk}^{-1}$ clip. Complete with 25 ft . shiolded simgle-cobadactor cahle. Shpg. wa. I 112. Model 7bl3. Latm-1 \$ierophosm (Code: Rulop). List Price..

## Special Microphone Cable

Arailable in standad trimmed 7 ft . amd 25 it . Jenghtis. Othet lengths in bulk untrimmed
 bisorphomes. Low capaefity and high insthation resistancer, Singheentelactor tyene with elosic shis-h. Ovarall rabber jucket.


 thislel atud oserall rublur jacket. ('inde: Rubel.
isist Price, jer fl.
Model CitA. "sumer-Shichdra!" (able. Hun-free even in intensu magnetic and static fields. Single-conductor with double shield. Reeonmendad ior Share "[ "niplex" miceroplone. C"ode: Kubem. Reeommentad bor Share "[ Hiphex mieroplante. Code: Rubem.

For Shure Dicroghone lekeking-llug
attached to cable, add S1.50 list.
Cordsets complete with Shure microphome plag and amplititer inpht fhag. completely wirnd, are avaliable to gl most anmpliticrs. State amplifier make and model number.

Churt (rystal Dericis are Licansed ander Patents of the [Bush Develofmint (ompunv. Nhuri Pateut Proding.

# AाIII <br> COMMUNICATIONS MICROPHONES <br> Best for Amateur, Police and Commercial Use 



## CARDIOID CRYSTAL COMMUNICATIONS

Cleans Up Voice Transmission! Makes Break-in 'Phone Easy! liamong "(Tniplex" melel with special Shute speech characteristic! Dead at rear. (Rear response down 12-15 (b). Cives st todio frerformance. Cuts down rom-noise pick-up, climinates echors, assures charer, more intelligible spend. ("leans up voice transmission. Makes brak-in "uhone easy. Whal for police.

 protects asainst burnous. Ruilt-in cathle connector. Rich Satin Chome finish. Dianeter $31^{\circ}{ }^{\circ}$. Depth

Model 730SII. Cardioid Crystal Microphone withont dest monnt. Code: Rupod

Model 7.3ns.
Code: Rupof

New Shure 708SH Crystal


The beaniint new "STR.A' OL, NER" whth special Shursyerech chatater rist ic for commercial amel athaterur "phanc. Issure: char. crisp singhats. High ouththt level: 29.7 dh bulow 1 wolt hor 10 hat spereh signat. Buik-in R.Fか. riluer protects anotinst burnouts. Kimorph (rystal. Dic cast came; sithin (lirome haish. Swivelhead. Gable connector. Standard sa"-27 liread. if shicelderl cable. Diam. $22^{2}$
 Model 7u8shf. (ryatal Mi crople: Rapoh withe $\mathbf{\$ 7 7 5 0}$ (alt Rupon
$\$ 1750$
Model 708S. Same, complete with Mondel $\mathbf{S 3 6} .1$ Iridemiont Gras Disk Montht. Shas. wh. 4 lis, Corte: Rupor Jist l'rice-
. $\$ 20.50$

## "Super-Level" 70STH Crystal



Here's the worle-famons Share Sugкer-level" Conmmanientions Mierophome bats the highest output :availatble in at erystal inicrophone. ( 26 d ) below 1 volt for 10 bar sifereh signal). Shure high-etheirney sfeed characteristic assures clear. crixp signals. cuts thrmugh moisand static. R. F. filler protects usainst burmouts. Sita in Chrome die cast case. Ibuill-incable cont nector with 7 fort shiclded!
 shipg. wt. 2 lbs.
Model 70ST11. Crystal Microplanne without disk mount. Code: Rupic. List price..
$\$ 2250$
Model 70St. Satac, completo with Mondel S.36. 1 Iridescent Gray

$\$ 25.50$

## Rings and Springs-Fit All Shure Stands

Moded K200: " stamdard ring ior carbon mictorphones. "Quickway" mombing hooks. Satin Chtme \% rust prorf sptings. Shbs. wt. 1 lb. Corle Ruket. ist Price
 Model RIoss. Lisha $5^{\circ}$ ring bur saball carbon mictor whnes. Satin Chrome finish. \& rust proof sprimes. hapk. Wt. 3 1is. Combe: Rujes.
list l'rice.
Microphone Repair Service
All microphones require nccasional repairs. Carbon micropirones nemb reconditioning at least oner a $\left\{\begin{array}{l}\text { year to maintain sensitivity and quality. "Mierophome Healquarters" maintains as simedal depmat } \\ \text { ment for repaiting and reconditioning miany }\end{array}\right.$ mernt for repaiting and reconditioning many types and makes of mierophone- Write for questations

# AाIIIT <br> STANDS and ACCESSORIES 

 Improve Microphone Operation and Performance
## "Stabilized" Friction-Lock Floor Stands

Beautiful, sturdy Slure Floor Stands improw appearance and oreration
 shack and vibration. Molded soft rubber cable suide. 60"-27 Uircard

 Conle Rusaf.
\$10
Model S51R. Fimer Stand. Satin ("hrome finish. Whatithal Tenite phastic

 List Price
$\$ 12.50$

 Iridescent Gray finish, Cinde: Rusat.
List I'rice
$\$ 15.50$

## 3-Section Utility Stand

Model S54C. 3 -smetion Flomr Stand. Especially suitable for fortable use shure Friction-lack. Monlera round hass. (Diam. $9^{112}$ ", "t. 8 lbs.). Ir

 Ciont Rusap.
${ }^{\$ 10}$

## Cable-Type Transformer



Take-Apart Stand
Model S.34A. Newe lundy Joweenst stand for desk or hand uso. One twist of hamdle locks it socurely in base for use as a de-sk or tiable stand, or releas's hathdlefor use inhathel. Metin! hatse. wornd hatinlle. Nietal top) threaded ${ }^{5}$ " ${ }^{2}$ ? Hoight ower all $6^{13}$ ko.
 of hamalle $5 \frac{2}{6}$. Shing. wt. 1 lb .
Code: Rukab
List I'rice …..... \$1.85
Model A41A. Microphone Handle. Solid wond
 code: Kujad. List Price

## Modern Desk Stands

Model S36A. Keantiful, streambined Desh Mount, with stable support at eorrect heisht Fits Shure conmector-tyt mictorbones. concualing plus in base. .idaterp pata and tubins prosided ior ohar thre microphomes. Ormat mental button ot front may be removed for itustallation of $\%$ " standard bushing switch or volume control. Iridescent Craty fimish. Basio
 Code: Rusef.
$\$ 350$
Model S32D. Highly attractive modern desk situd, finisthed in lridescent Gray and Sutin " hrome. Shure "Friction-Lave" brovides e"isy insitive heright adjustment from 10 . 10 Code: Rused
\$650 Code: Rused

## Stand Adapter

Model A20A. Mounts microphones with 16" Pipe Thread on $3 / 8^{8}-27$ thread stand Code: Rudap.
List Price
$\$ 1.00$



## New "Broadcast" Stand

Model S510才. Designed for both beatuty and utilits. Heavyweight, stabilized 3-les base huss thoor, provides firm footing. Quick. bositive friction lock. Munnts all types of microphones. Sindard 3 **-27 thread. Inner thbing hats to" pife thread out side and $3 /$ hen $^{2}-2$ thresd inside. Height adjustable from
 of tubing assembly 61, Ibs. Net wt. of hase 22 L . lhs. Shom. wt. 32 lbs . Code: Kusop. List Iriee
\$4250

## Microphone "On-Off" Switches

Rotary and push.button types. " 27 thread


Model AB3A.
Quickls Attiwhed to any cable-comector tspe Slure microphone. No wiring mitermal plug establishes connections. Bakelite arrow kilob. Code Runlm.
List Price.. $\$ 4.00$ Model A80B.

 inicromhons. Bakelite arrow knob.
Colle: Runth.
List Price-
Model A84A. Monentary "On-Off" Switch Press-to-talk Bakelite disc. Code: Kunid. List Irice................... \$4.50 Model A85A. Momentary Relay-Type swith. Xormally open switch closes circuit comprising othe conductor and stield of outsoing cable for operation of relay or other device kemaining conductor and shield of cable catrs microphane output! Makelite disc.
Code: Runif.
L,ist I'rice..-
$\$ 4.50$

## Aulln <br> CRYSTAL PICKUPS and MAGNETIC RECORDING HEAD



Zephyr "Balanced-Tracking" Crystal Pickup lizh quality reproduct ion of voice and music. Brautifully st ream-








 C'olle: Ruzaw. List D'ric.
$\$ 7.50$
 mounting tyme. Code: Ruzub.
${ }^{5} 650$
Model 98AW. Sinue, but Winlunt Rakelite . Iran.

## Shure 94A "Economy" Crystal Pickup

Dosigned for compact re-
 minimbm8pace. Plays $10^{\circ}$ und 1 "records. 1 ins shure "neredle-tile" MatamedTrackithg. Iriple Himstarphe seithed Cirafoil Rithorph (rsstal! F゙いll
 OHtplle, 2 \& volts. A)w heryle pressitre, loatiths rabieer - cushanied [ivet bearitu itssombly for single-hole mounting. At ractivereast armb. Sumoth
 brown finish lennth "1s Complete with $20^{*}$ shiolded cord, atm rast and muntortmadrat drilling template. $\mathrm{Sl}_{1} \mathrm{pg}$. wt. $3 / 4 \mathrm{ll}$.
Model 94A. Cirsstal l'ickup. (inte: Ruzec'. list l'rice

## Crystal Pickup Replacement Cartridges

Model W 20C: Metal type cartridge that fits Shuce 90, 9-t atm 910 pirkillos. Hats buik-ia "'iste: Ruzim. Ifist l'rice (rule: Ruzim. I.ist l'rice ............... $\$ 4.00$ Model W27(:. Bakelite tyme cartridge for universal rophacement. Three-in-the all-puronse unit. Wias lug terminals. but is also sujpoliod with screws and pins for guick, easy Comsersion tos serew or "plan-in" pinterminal ! fife ats used in many record platers int "com machines." Straight needle tracking. Conde: Ruzor
list l'rice
$\$ 5.00$


## Shure 44A Magnetic Recording Head <br> Offers New, Distinct Advantages!

The Share ft.l Magnetic kecording hand is a higheetuatity widerabse record cutte with new aldance features. Ideal for use with home recording equipment D-signed to worate directly from the voice-coil winding of the output transformer. Stiff moving element permits recording on prate ically all recording materials. Kecotds can be phased back on any rewod plaser. The 4.1 is execotionally ruged and stable-will give lons, sithisfactory survice under all climatio conditions. High Sconsitivity. May be oferatied from the out pat state
 cycles), suitable for ont put circuits having impordance of 4 to 8 ohms Other impedance values are awaikable of spectal order. The +4 . Magnetic Cuter fits difectly into the (ieneral ludustries recording
 of monntings. Sied, alloy-tippel, or sitphite recording styms may
 Shipg. wt. soz.

Model 4t. A ohmi Mannelic kecording Head. Withrnt cutring :ylus. (inde: Ruzad

## Transcription-Type Crystal Pickups



Ment the batest requiremonts ior hish quatity reproduction of lateral rocords at broukeasting. recording and publice address work. Sumath hizh irefurncy re-
 amjustable with simple met works in the mpit circit. Durput :4proximatery 20 "olls. Cratoml Rillorph Crystal Whghe - mosisture m:ated. Mass mexdle-chaummak. Hend lexks in place when tilted batek. . Irm loneks in mater whon swang

 and motorlanard drilling temphate.
Model 910B. For $10^{\circ}$ and $12{ }^{2}$ records. Strajght-arm desimn, with Shure "needle-til!" Halanewd Trackime. (Overath hong th 10.4 Shpp wi. 2 liss. Code: Ruzil List l'rice-
\$1550


Model 914A. For $16^{\circ}, 12{ }^{\circ}$ and $10^{\circ}$ reconds. Boone arm tracking cortection. Werall (012 (t), 127,


Shure (rossal Herices are lisensed anter patents of the Brash Detelopment Com-


# GENERAL INDUSTRIES 

## Phonagraph Mators

Model "A" 78 R.P.M.—Model " $B$ " 33 \%/3 R.P.M.


## GREEN FLYER

## Governor Controlled Electric Motor

rumished complete monnted on phate reatle fur instaliation. Open construction,
 of voltage and recond Irag. Long oweresize silf-íubricatins haring, silont spiralCut Gears made from laminated bakelite. Will mot owerlowt in clowed easors and cabinots. riniched lator. Automutic stop is optional.


Model A-79 R.I'.M., 110 Volts A.C., 60 ('veles List Price $\$ 13.20$ \$7.92
Model B—331/3 1R.1'.3., 110 Volts A.C., 60 ('ycles. List Price $\$ 14.20 \quad 8.52$

## BLUE FLYER MOTORS

Virey jowerful, single speed, gevernor controlled A.C., induction type motors with extrat rugged comstruction for haral usiger, lixerellent spered requlation, will not orerheat, ersar, ruming ity a bath of wit in the scated housing. Wemsize lubricator provided for gowemor lirake. Supplied for all A.(. roltages and cyeles (Not availahllo for ll.(:).
Furnished with mounting plate; 10 " or $12^{\prime \prime}$ turntahle; dial and pointer specd remplator; metal and rublier turntahle drive washers:
 $43^{\prime \prime}$ " from mounting plate to lottom.
Model E-is IR.'.M. with $10^{\prime \prime}$ turntahle. 110 wolt: A.C Model F-Same as above excent $331 /$ RPM

List Price $\$ 17.00 \quad 10.20$

## GREEN FLYER ELECTRIC MOTOR

Two-speed Governor Controlled

Simecially dosignen for wating reoords recorled at $331 / 3$ R.P.M. and 7s R.P.M. The shift from one spend to the wher is accomplished by simply. moving a lever. Alt grars are complotely encloned and run in oil. Silent spinalocout pears made from laminated Hakalite. Lond over-
size self-lubricating leariugs. Furnished complete with $10^{\prime \prime}$ 'Iurntable, Dial and Pointer Speed Fregulator, sumed Change lever and Fisentcheon lelate.
 to bottom.

Net
Madel D-110 Volts A.C., 60 Cycles....List Price $\$ 17.60$ \$ 10.56
Model H—110 Volts A.C., 60 Cycles; same as Model "D",
"xcepl F"ield $1 / 2$ "kenger-rerummended for 16 " 16 List Price $\$ 19.15$ 11.49
recurds

## ELECTRIC PHONOGRAPH MOTOR With Fixed Governing Arrangement

 excent Fiedd th"tonger-remommended for $16^{\circ}$An excellent Motor for portable and table model instruments. Very compart. Ample power for playing $10^{\prime \prime}$ and $12^{\prime \prime}$ recorils. Gowermor controlled. ('over molosed gears. Absolute uniformity of speen. Silent Spiral Cut Goars made from Laminaterd Bakelite. Will not overhent in closed cases or cabinets. Lurludes $10 "$ turntable aud screw type speed regulator.

Model V—78 1R.P.M., 110 Volts A.C., 60 Cyeles.......................List Price $\$ 11.50$ \$6.90
Model 0-331/3 R.1'.M., 110 Volts A.C., 60 Cycles.
List Price $\$ 12.50 \quad \mathbf{7 . 5 0}$


## SIX VOLT D.C. MOTORS



List Price $\$ 20.95$

turntable, dial and montor speed regulator. speend change lever and 'scutcheon plate.............. List Price $\$ 24.85$ 14.9] The 6 volt 1). (". moturs will also operate on $91 / 2$ Volts A.C.

| AUTOMATIC STOP | SWITCHES | Net |
| :---: | :---: | :---: |
| No. 3988-loor use with $\begin{aligned} & 8^{\prime \prime}, 9^{\prime \prime}, 10^{\prime \prime} \\ & \text { tables } \ldots . . . . . . . . . . . . . . . . . . . ~\end{aligned}$ | and 12" turn. <br> List Price $\$ 1.50$ | \$0.90 |
| No. 12670-For use with $8^{\prime \prime}$. $9^{\prime \prime}$ anll | 10" turutables. <br> List Prite $\$ 1.00$ | . 60 |
| $\qquad$ | ors <br> List Price $\$ 3.00$ <br> List Price . 50 | 1.80 .30 |

## UNIVERSAL PHONOGRAPH MOTORS

Model G-78 R.P.M., Single-Speed l'niversall Motor. 110 Net dial and pointer speed regulator ........ List Price $\$ 19.95 \$ 11.97$ Model J—331/3 R.1'.M., Sinule.Spreel T"niversal Motor. 1111
 dial nud pointer speed regulatur .... List Price $\$ 20.95 \quad 12.57$ Model N-Two-Spern, is and $331 / 3$ R.I.M. Lhiversal Motor, 110 Volts A.c. and 1).C.. sin-60 Čyeles, with $10^{\prime \prime}$ turntahlo, dial and pointor speed reghtator, shered alianme lever and escutcheon plate.....................List Price $\$ 22.80 \quad 13.68$
WHEN ORDERING MODELS $A, B, E, F, D$ and $H$ for
110 Volts A.C., 25 cycles add.................................. each $\$ 1.50$ list 110 Volts A.C. 42 cycles add....................................each 1.50 list 220 lolts A.C., 50 cycles auld ..................................each .75 list (Models V and () not furnished for 25 and 42 cycles)

See Reverse Side for New Self-Storting, Constant Speed Motors and Heavy Duty Recording Motors

# GENERAI INDUSTRIES 

 Record Changers \& Recording Assemblies
## A pronuct of general inaustaies ce.



## AUTOMATIC RECORD CHANGER

Plays twelve $10^{\prime \prime}$ or ten $18^{\prime \prime}$ reoromas antomalically. One lever to move when changing from one size reend la another or to set for manual oneration. With lever in extreme position all sizes of records manual operation. With lever in cxtreme position and siges of records position, tripping meclanism is imoperative. Son-jamming recural position, tripping mechanism is inoperative. Son-jamming record handling thagers whicon do not extend piast licond lad-in spuce
Prassing rejort buiton drops the first reend onto the turntable and Pressing rojoct buiton drops the first remord onto the turntable and
automatically positions the pickup on the recoril. Ricords may be
 trib krowers, Menns provided for guiding pickul wedile into the plaving growes on rempls withont leanl-in promsas. Jickup arm supherted at all times when mot resting on rocond. sturdy base plate with fonmorl down edmes ("langiar muchanism is jositive amb quict in operation.
Kondonl ebangar assembly includeg high quality true taneront tracking crrstal plekup: evrling switch wal un allul off swilch. Buse plate $14^{\prime \prime} \times 14^{\prime \prime} \times 3 / 8 "$, hatight abow lowar edge of lase plate $5_{i}{ }^{7} 0^{\prime \prime}$, Jopth holow lower eable of base plat" $31 / 2$



Model GI-R70

## HOME RECORDING AND PHONOGRAPH ASSEMBLY

Cuts records up to $10^{\prime \prime}$ in diameter. Plays records up to $19^{\prime \prime}$ in diameter. Simple cutter ferd mechanism requites merely lowering the eulter arm over the recond dise to start the reconding oneration the culte arm over the recom dise to start the recording opecation
feed screw automatically engages when cutter is placed on reeord Feed ecrew automaticaliy enguges when cutter is baced on record
and disengages whon couting urm is ralsod or pacen on rost. Jrive

 servew mechanism is mounted underneath the lase plate, (onsenient thith of cut adjustment on top of cutimg arm. letractable roword
driving pin in turntable permits the zhaying of standand reconds Iriving lin in turn
withut uljustment.
Fiplapmed with a powerful indurtion motor of special design with interal rin drive to turntalle. All eloments of drive are positively aligned in one plane. Motor is maber insulated from both base plate and thrmtane for quat operation.
Assumbly includes motor; 10" weighted turntabler; cuttimg merohanism; hirh imperlance crystal plabhack pickup; cuttor arm rest: pickup rest; base plate with formid down mires_1 " wide $10^{\prime \prime}$ front to lack. NOTV: Sujplied for 60 or 50 cyclens. Model RPM Current List Net $\begin{array}{llll}\text { GI-1 } 70 & 78 & 110 \mathrm{~V} A C 60 c & \$ 45.00\end{array}$ $\$ 27.00$

## HEAVY DUTY RECORDING MOTORS



Dirant Irive, govermor controlled intuction motors with serew type speed regulator. Huve refractable reord drive pin in turatable permitting the playing of standard records without adjustment
 NOTF: Supplied for GO inr ion cbeles omly
Model


## "X" SERIES, SELF STARTING, CONSTANT SPEED ELECTRIC PHONOGRAPH MOTORS LOW IN COST, LIGHT IN WEIGHT, COMPACT IN DESIGN



All " $x$ " geries motors are even in speed and have ample power to play 10 " and 12 " records. Fan cooled and designivl to comply with "nderwriters" lailmontorids' refuimments, these motors can be installed in mall cases without overheating. Careful deemg and precise manufacturiug insure quietness of operation.

## MODEL "CX" AND "KX" GEAR DRIVE MOTORS

Fulty enclosed with silent helical cut gears running in a bath of oit in the sealed housing. latented metal and rublere turntable Irive. Model "C.." has a combination rubluer turntable drive slecve and record centering ip which insures both meehanical anm electrical insulation hetwent tumtable and motor.
Furnished complete with rumbl mounting plato; $8^{\prime \prime}, 9^{\prime \prime}, 10^{\prime \prime}$ or 12" turntable; metal and rulber turitable drive; mounting screws, muts and washers. Depth from mounting plate to botton $31 / \mathbf{s}^{\prime \prime}$.

NOTE: Supplied for all AC voltages and cyeles.

| Model | RPM | Current | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| KX | 78 | 110V AC 60c | \$7.35 | 4.4 |
| KX-3 | 331/3 | 1100 AC 60c | 8.35 | 5.01 |
| C. | 78 | 110V .1C moc | 8.80 | 5.28 |
| ('x-3 | $331 / 3$ | $110 V^{\prime} \mathrm{AC}$ boc | 9.80 | 5.88 |

The above prices inclute $8^{\prime \prime}$ turntuble. For $9^{\prime \prime \prime}$ T.T. add 15 c list ca., $10^{\prime \prime}$ T.T. add 25 c list ca., $12^{\prime \prime \prime}$ T.T. add 75 c list ea.

## MODEL "RX" AND "LX" RIM DRIVE MOTORS

Ralher insulated from lootl mounting plate and turntalale for quiet preration. I'urntable shaft revolves with the zurntable. Infiving pulles. idler wheed and turntable aligued in one plane. Dotor securely attisched to mountinge plate, simplifying slijubing and installation. Willess brimze lwarings throughout. Momel "dex" is :

Furnished conplate with mounting plate and turntable. (IRX
 from mountinc, plate to luttom: ikX -2 27 "; I.X-2". 50 cycles.

| Model | RPM | Current | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| RX | 78 | $110 \mathrm{VAC60c}$ | $\$ 6.10$ | $\mathbf{\$ 3 . 6 6}$ | $110 \mathrm{VAC60c} \quad 4.50 \quad 2.70$ The above primes inelude $8^{\prime \prime}$ T.T. For $9^{\prime \prime}$ T.T. add 15 c list en. $10^{\prime \prime}$ T.T. (RX only) add 25 c list en. Turntable holding clip is optional.

## Measuring RIPLET Instruments



TRIPLETT D．C．INSTRUMENTS are the D＇Arsonval type with extra light－ weight moving coil，magnets of chrome．cobalt or ainico with uniform pole doeces and seales witn maximum lincarity，A．C．©irs light weight moving parts Dynamameter type also available is a most efficient standard design．
all with two of the best sapphire jewel bearings，metal bar bridge．finest workmanship and processed in most modern equipped factory．White of any in case of accidental damage．Front and rear illumination also avail． able．Write for information．


| D．C．VOLTMETERS－125 OHMS PER VOLT |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range | Code |  | Meds．221－223－227－A | Mods．321－324－327－4 | Mods．326－326－A | Meds．421－426－529 | Mods．521－524 | Mod． 726 |
| （1－5） | HW！ |  | 5.50 | ．．．．． 55.75 |  |  |  |  |
| 11－11 | 1HいW1 |  | 4.50 | 5.75 | 55.75 |  | 8.25 | \＄15．25 |
| 11－1． | Tdyver |  | 4.50 | 5.75 |  |  |  | 15.25 |
| $12-2.8$ | Tkror |  | 4.50 | 5.75 5.75 |  | 1.50 | ． 25 | 15.25 |
| （1－2） |  |  | 4.50 4.50 | 5.75 |  | 7.50 | d． 25 | 15.25 |
| 1－1：0 | T121R1 |  | － 4.50 | 5.75 | 5.75 | 1.50 | 8． 25 | ． 15.25 |
| （1－314 ${ }^{\text {a }}$ | TR1a） |  | － 6.50 | 8.25 | 8.25 | 11.75 | 12.00 | 19.00 |
| （1）．51 ${ }^{\text {a }}$ | TRM ${ }^{\text {T }}$ |  | 7.75 | 9.25 |  | 11.00. |  |  |
| D．C．VOLTMETERS－ 1000 OHMS PER VOLT |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { Range } \\ & \text { (1-111) } \end{aligned}$ | Code rill iA |  | Meds．221－223－227－A S6． 50 | Mods．322－324－327－A | $\text { Mods. } 326-326-4$ | Mods．421－426－529 59.15. 10.00 | $\begin{aligned} & \text { Mods. } 521-524 \\ & \$ 11.75 \end{aligned}$ | $\text { Mod. } 126$ |
| は150 | TA〕V |  | 7.75 | 8． 75 | 8.15 | 10.00 | 12.75 | － 13.75 |
| （1－31M） | Tk！1． |  | 8.15 | 10.00 | 10.00 | 11.50 | 14.25 | 21.25 |
| （－30） | TU13AL |  | 10.00 | 11.00. |  | 12．75． |  |  |
| ｜－1．${ }_{\text {com }}$ | ＇1＇r1S． |  | 23．54＊ | 25.25 ＊ |  | $27.75 *$ |  |  |
| ＊Price includes recommended external resistance boxes． |  |  |  |  |  |  |  |  |
| Range | Approx．Res． | Code | Mods．${ }_{\text {S }}$ 21－223－221－A | Mods．321－324－327－A | Mods．325－326－A | Mods．421－426－529 $\$ 9.00$ | $\begin{gathered} \text { Mods. 521-524 } \\ \$ 10.00 \end{gathered}$ | $\begin{aligned} & \text { Mod. } 726 \\ & \$ 17.00 \end{aligned}$ |
|  |  | TRAAN． | 4.50 | 5.75 |  |  |  |  |
| $\begin{aligned} & 1-10 \\ & 11-20 \end{aligned}$ | 1．2 ${ }^{\text {a }}$ | TRG缶 | 4.50 | 5.75 | 5.75 | 7.50 | 8.25 | 15.25 |
| （1－51） | ， $\mathrm{ti}^{\text {．}}$ | 1kumet | 4.50 | 5.75 | 5.75 | ． 1.50 | 8.25 | 15．25 |
| （1－1（ CN ） | ． 4 | T1＜JJW： | 4.50 | 5.75 | 5.75 | 7.50 | － 8.25 | 15.25 |
| （1－150 | 183 | rHKKX | 4.50 | 5.75 | 5.75 | 7.50 | － 8.25 | $\cdots 15.25$ |
| 1－2（x） | ．15．． | TRISN | 4.50 | 5.75 | 5.75 5.75 | 7.50 7.50 | －8．25 | ． $\begin{array}{r}15.25 \\ 15.25\end{array}$ |
| （1－25） | 12 | TRNM\％ | 4.50 | 5.75 | 5.75 |  |  |  |
| （1）－3（3）． | ． 1 | TRNNA | 4.50 |  |  | 7.50 | 8.25 |  |
| D．C．MICROAMMETERS |  |  |  |  |  |  |  |  |
| Range | Approx，Res | Code | Mods．221－223－221－A | Mods．321－324－327－A | Mods 326－326－A | Modss 421－426－529 | Mods．521－524 | Mod． 726 |
| （1－5，5） | Applisl | TAlAH： |  | \＄15．09 |  |  |  |  |
| （1－1（k） | （ 10 | TRABA． |  | 13.00 | 13.00 |  |  | \＄22．50 |
| 1 L | －3141 | TAK1） |  | 12.00 9.25 | 12.05 | 14.00 | 11.25 | 18．75 |
|  | D．C．AMMETERS |  |  |  |  |  |  |  |
| Range | Approz，Res． | Code | Mods．221－223－227－A | Mods．321－324－321－A | Mods．326－326－A | Meds．421－426－529 | Mods．521－524 | Mod． 126 |
| （1－1 ．．． | ． 115. | TALUS： | 54.50 |  |  |  |  |  |
| 1110． | .1015 | TROCK． | 4.50 | 5.75 | $\$ 5.75$ 5.75 | 7.50 | 8.25 | 15.25 15.25 |
| （125）． | ，109\％ | TANGS． | 4.50 | 5.75 |  |  |  |  |
| 30－1）－30 | Appro. | TAPIR． | $4.50$ |  |  |  |  |  |
| A．C．VOLTMETERS |  |  |  |  |  |  |  |  |
| Range | Appros． <br> Ohms per V． <br> 10． 7 | Code | Mods．231－233－237－A | Mods．331－334－337－A | Mods．${ }^{\text {35 }}$ ．75－336－A | Mods．${ }^{\text {57．50．436－539 }}$ | Mods．531－534 | $\mathrm{Med.}_{\mathbf{S 1 5} .25}$ |
| （1－\％ | $\ldots 10.7 \ldots$ | TERSF． | $\cdots . . .$ | $\$ 5.75$ |  |  |  |  |
| （1）10． | － 16 | TRUMP． | 4.50 |  |  | 7.50 |  | 15．25 |
| 12－13． | －Iti 110 | TURCO． |  |  |  | 9.00 | 10.00 | 17.00 |
| （2－150） | ． 110. | TWEAE． |  |  | 8.25 |  | 15.75 | 22.75 |
| A．C．AMMETERS |  |  |  |  |  |  |  |  |
| Range | Approx．Res． | Code | Mods．231－233－237－A | Mods．331－334－337－A | Mods．336－336－A | Meds．431－436－539 | Mods．531－534 | Mod． 736 |
| 0－3．．．． | ．．．．02 ${ }^{\text {a }}$ ．${ }^{\text {a }}$ | TULIP． | ．．．．．．．54．50．．．．．． |  |  | $\begin{array}{r} 57.50 \\ 7.50 \end{array}$ | \＄1．25．．．．．． |  |
| O－5， | － 110 | TECCR |  |  | 5.75 | 7.50 | 8.25 | 15．25 |
| （1－19． 12 | －（0） 010 | TEIfEE． | 5.75 |  |  | 9.00 | ． 10.00 | 17.60 |
| A．C．MILLIAMMETERS |  |  |  |  |  |  |  |  |
| Range （1）－10） | Approx：Res． 1950 | Code TEETH | Meds．231－233－237－A |  | Mods．336－336－A | $\begin{gathered} \text { Mods, } 431-436-539 \\ . . . \$ 10.00 . . . . . \end{gathered}$ | $\begin{gathered} \text { Mods. } 531-534 \\ \ldots \end{gathered}$ | $\text { Mod. } 736$ |
| （1）15．． | ． 1125. | TuUsY． | 4.50 | 5.75 |  |  |  |  |
| （）－50 | － $85 .$. | PENPT | 4.50 | 5.75 |  | 7.50 | 8.25 |  |
| 12100. | － 23 | IIIARM | 4.50 | 5.75 5.75 | \＄5．75 | 7.50 | 8.25 | $\$ 15.25$ 15.25 |
| 9－250． | $\cdots$ | MIIEFK |  |  |  | －7．50 | 8.25 | 15.25 |
| 3314 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

## 25,000 OHMS PER YOLT KITS



Model 726

Foundation instruments with 25,000 ohins per volt setisitivity D.C. available in four styles. Have diuls for reading: D.C.-0.10. $50-250-1000$ volts at 25,000 ohms per oll; $0-50-250$ microamperes: $1-10.50$. 250 milliamperes: $\vdots 500$ olrms, backup circuit; 20,000. 200,000 ohms and 2
 at 1000 ohms per wolt.

## INSTRUMENTS ONLY

Model 321-Code-TEJFM. $3^{\prime \prime}$ Hound. Wisire dial. Nhipping waikht ${ }_{3}{ }^{3} 15.00$ Model 426 -Code-TiGRA. \& Equarr. White diai. shipping weight 4 lhs.




KITS (Less Instruments)
A.C.-D.C. Control Box. All neressary parts for above readings. Completely
 A.C.-D.C. KIt less Box -Asxembled for mounting 10 nanet. Code-T00F.


## TWIN INSTRUMENTS

THE TWIN Is furnishert in any moniblnationt of A.r or or 1.C. Instruments. Both are included in a minimumi of andare. Decrmits simultan"ous rewilinks on both instrimuent when sonnerteol It the sabis
 by side making mim. Whle ivo distinct readings at a
 modulation current: determine filament and plat" solfakes unit similar applications

To determine List Price of Twin Instruments take the sum total
MODEL 1200-A KIT
 Triplett Twin instrument with aralu readthg: J.C. $10-50-250-i n n-1000$ volts
 incluted in the kit are mounted realstora, hnd shunis for the thove readings No. 121 8pecis1 Triplett Selector sulteh; No. IIt is MFD iondenser for mutput measuremenis: No. 125 ltherstat. Assembly ; rionulete gef of diastums and instructions: Hook-up ware: Comblett set of hardware; Durked pabsel plate: Teat leads.
Wodel $1200-$ Kit-Complefe. ('oile-TR1I's. List Price
No. 120 Twin Instument only-(for ehore k!t) List Price
$\$ 27.50$
$\$ 15.50$

## WATTMETERS—DYNAMOMETER TYPE

Outstanding new developments ssare extreme ruggedness and accurary within 2 per cent. The instruments can be used on single phase A.C. or D.C., as as vollimitirs or anmmeters. Instruments are selfrontmined to 300 Volts- 10 Amperes. Over that ex. ternal conntection can be made. F'or use on frequenrles up to 133 ascles per second. Dymamometers are arailable In cases to match curreut Triplett threeliuch models: Models 381 (331) and 367-A (377-A). "ask dimensions are the same exrept for depth, the
 dynanometer rase being $g^{\prime \prime}$ " bark of the flange.
$\left(2-15 / 18^{\prime \prime}\right.$ orer the studs.) W'attmeters can be (2-15/16 with the atuds.) Wattmeters can be combined in the Triphet standard with coltmeter or ammeter. Available later in larger mondels. Sindard rangea as folows: Code Range Volt Amp. Sc. List
 $\begin{array}{cc}\text { TFPEG } & 750 \\ \text { THEAN } 1500 \\ \text { DOUBLE }\end{array}$ TAABOUBLE R TACAB TACABO TAHOL TALDO

|  |  |  | Prit |
| :---: | :---: | :---: | :---: |
| 150 | 3 | \% 7 | $\$ 15$. |
| 150 | 1 | 7.5 | 15.75 |
| 1.50 | 4 | 610 | 15.75 |
| 150 | 3 | ii) | 15.7 |
| 1.0 | 10 | 75 | 17.5 |
| AN | E | wA | M |

ETERS
Model 321 - (Srale reads $30-300+600$ volis: $30-300$ millimmperes: 1010 (ofin whans.)
 low ohms. ${ }^{2}$ to 500 ; high ohms 100 to 100.000 .) Code-TAbolt. Nhinping
 low ohins. $10.000:$ high ohing 100 to 100.000 .) Cule-TiskNN. Shiphin Welght ${ }^{3}$ Ib, List Price.





## SHUNTS AND RESISTORS FOR ABOVE INSTRUMENTS





 Shunte for $1-10-50-3.50$ milisunperes: rurrent Hmiting resistora for lowr and high ohms (.2 to 500: 100 to 100.000); and whant for low ohma : wll mounted

 List Price

## THERMO AMMETERS $\ddagger$ High Frequency. Accuracy $\mathbf{2} \%$






## OUTPUT METER

 volts. Coupur-oxide rect ifter tyine. Contains -ondenser for block ind the D. ${ }^{\text {cos componett. Four nurked hind- }}$ tuntial molded huse. Test leads with cilipe anil wreak-in adupter furnished. Shlpping weleht 31 lip With Tio Jacks-
List Priee

 List Price

## SENSITIVE RELAYS

Highly senaltive Triplett relays are of the D'Arsonval Moving Coll type acts of inasimed to give dependahle, zatisfartory performance. Fixed conment of upper and lower limits of contact. Coniacts furnished wide adjuatmetal: also platinum, silrer, and platinum-Ifldium are supplied according oo applied current and voltages. These relays are generally used in conner. ion with polarized relays when rurrent iraw. expeeds $50 \mathrm{MA.A}$. Magnetic Clutch type with manual release can zlso be had.
nrder, no standsrd models are field und mort of them are made to special nomer, no standsrd models are insted. Fach application should be accomcolfages which will past through relay coll and contact points currents and

## POWER LEVEL INDICATORS

## [ised in meaxitro sound or nolise levels in ambil

 thers for loublir Address. Theatres. Broudeasting Studiox. Hromdrasting Ntation Equipment. etc. The Deribel Neter bermits the operstor to make ln stant adjustments to prevent sound hasping or dis. our highly dampeil. Standard range firnighed readi at 6 and down ill deedhels, zero dealhel at $1, i$ volts, 500 ohm lines. 6 milliwwits. Ntandard damp fog furnished. unless highls damped is spectifedWodel 421-L'p 6 down 10 Decibel Meler. Code-TikOOl'
List Price $\$ 19.75$ List Price 11.75

## DECIBEL METERS AND KITS

Kits are now arallable to Increase range of Fown level Indicators. Heardings adrance in ateps of f decibels up 10 oㅛ derlbets.
 Model 150 Deelbel input line.




Modal 321-L'p 6 down 10 Deelbel Meter. Code-TAINT

[^4]
## (12C(6) THST FOUTPMANT

## THE RIDER CHANAEYT

FIRST test instrument ever offered to servicemen that checks radio receivers by dynamic and functional methods. Works with the signal without interfering with the performance of the receiver. Eliminates guesswork because it can pick up the signal at any point between antenna and loudspeaker. Will lead you directly to any source of trouble and correctly establish its character. Four channels metered at option of operator. FIVE SIMULTANEOUS CHANNELS AND FIVE ELECTRONIC EYES FOR MONITORING THOSE DIFFICULT FADERS.

## SPECIFICATIONS

- $R-F$ and I-F CHANNEL: frequency Range. Calibration Accuracy

95 kc .101700 kc Sensitivity (ro elose electronic eye) 50 microvolis (opprox.)

- OSCILLATOR CHANNEL: Frequency Range..... 600 kc . to $15,000 \mathrm{kc}$ Calibration Accuracy. 600 kc . to $\begin{array}{r}15,000 \mathrm{kc} \\ +2 \%\end{array}$
$\pm 2 \%$
- AUDIO-FREQUENCY CHANNEL:

Frequency Range
150 cycles to 150,000 cycles Sensitivity (to close electronic eye)

- ELECTRONIC VOLTMETER CHANNEL:

Voltage Ronge. -5 to $+5,-25$ to $+25,-100$ to $+100,-500$ to +500 Input Impedance ......................... 11,000,000 Ohms

- WATYAGE INDICATOR CHANNEL: Output Indicotor Mogic Eye Tube Input Range 25 watts to 250 walts
- POWER SUPPLY:

105 volts to 125 volts, $50 / 60$ cycles; power consumption 60 wofts

- TUBE COMPLEMENT

3 RCA-6K7's, 1 RCA-6H6, 4 RCA-6ES's - SIZE
$103 / 4^{\prime \prime} \times 16^{\prime \prime} \times 9^{\prime \prime}$

## RCA SIGNALYST

A modern signal generator that provides accurate FUNDA. MENTAL frequencies from 100 Kc to 120 Mc in 10 bands. Precision laboratory design - not just another test oscillator. Tops for all radio receiver alignment jobs. Circuit consists of an oscillator stage, a buffer-modulator stage, and an output metering circuit. Handles olignment of any broadcast or special-purpose receiver. Eliminates oll need for relying on unstable harmonics. Use of meter in conjunction with ladder-type attenuotor, provides direct reading of output in microvolts. Designed to meet present service requirements os well os the future demands of Television, Facsimile, etc.

## SPECIFICATIONS

- Total dial calibrotion accurocy befter than $1 \%$. Circuits oligned of each end of each bond to within $0.05 \%$ occuracy.
- 3-color dial easy to read. Scole approx. $90^{\prime \prime \prime}$ long.
- Coaxial cable ouppr; minimizes stray leakoge.
- Internol 400-cycle modulotion; 400 -cyele output.
- Provides broad-band modulation up to 5 Mc.
- Regulated plote- ond screen-volfoge supplies.
- Uses four pubes: RCA-6J5 as oscillator, RCA.6SA7 as buffer modulotor, RCA-6F7 as o combination modulator ond heterodyne detector, and RCA. 6 H 6 as rectifier.



## - SHIPPING WEIGHT

28 ibs
Net Price $\$ 107.50$
No. 162
No. 162.A
$105-125$ volts, 50 cycles, 60 walts
112.50

No. 9897


Power supply $105-125$ volts, $50 / 60$ cycles; power consumption 35 wotis. - Highly oftractive in appeorance. Beautiful brush chrome metal case with convenient leother carrying handle. Panal in brush and bright chrome. - Size $93 / 4^{\prime \prime} \mathrm{H}, \times 8^{\prime \prime} \mathrm{D}, \times 14^{\prime \prime} \mathrm{L}$.

- Corrying weight 21 lbs.

No. 161-Net Price

## THE RIDER VOLTOHMYST

A rodically new combinotion electronic type d-c valtmeter-ohmeter. Designed for testing rodio receivers, Television equipment, loboratory circuits, facsimile, etc. Meosures d-c voltages from 0.05 to 5000 valts in nine ronges. Measures resistances from 0.1 ohm to 1000 megohms in seven decode ranges. One meter reads all voltage and resistance values. Meter has but one zeroodjustment. Voltage readings occurate to $2 \%$ of full meter scaie; resistance readings $103 \%$ ot center of scale.

## SPECIFICATIONS

- Voltage Ranges . . . . . 0 po 5, 10, 25, 100, 250, 500, 1000, 2500 and 5000 volits. Input resistonce is 16 megolmms on ranges up to 500 volts; 1150 megohms on ranges up to 5000 volts.
- Resisfance Ranges . . . . . Seven decade ranges from 0.1 ohm to 1000 megohms. 10 ohms is center of scale on lowest range; 10 megohms on highest range. Logarithmic spread over $80 \%$ of scale.
- Meter . . . . . . . . . . . . Rugged, high torque movement ; heavy alnico magnet providing high flux density; silver-etched diol; 4" scule.
- Cabinat . . . . . . . . . . . Welded steel case, slose front, erystalline gray finish. Overall dimensionss
$71 / 2^{\prime \prime} \mathrm{W}_{\times} \times 81 / 4^{\prime \prime} \mathrm{D}_{0} \times 11^{\prime \prime} \mathrm{H}$
- Wuight . . . . . . . . . . . 14 lbs.
- Tube Complement . . . . . 2 RCA.6K6-G's and I RCA-6X5-G.
- Power Supply . . . . . . . $105-130$ volts, 2560 cycles; power consumption 12 waths.

No. 163-Net Price

## RCA Victor

## MASTER ANTENNA

The latest in noise-reducing antenna design. Gives the owner the ultimate in interference.free reception. Particularly useful where local noise cannot be eliminated by ordinary noise-reducing antennas. Minimizes "man-made" noise as well as static. - Frequency Ronge, 540 to 23000 kc .

- Unique noise-bolancing circuil con be individually adjusted for eoth installation.
- Noise-reducing qualities of anfenno independent of antenno locotion.
- Porticularly effective where noise is caused by local electricol device.

No. 9852 Complate, less Receiver-coupling Transformer
Nor Price
No. 9846 Receiver-coupling Transformer


## SPIDER WEB ANTENNA

A Transoceanic Communications Type Antenna for the home. RCA's finest antenna. Recommended especially for use in amateur and shorf-wave reception. The Spider Web consists of a series of doubiet antennas and an improved tronsmission line.

- Excellent signal pick-up from 140 to 23000 kc.
- Ulmost in noise reduction.
- $70000 \cdot \mathrm{kc}$ range may be obrained through the use of the RCA No. 9689 High-Fre. quency Kit.
- Requires only a 38 -foot span and vertical clearance of 12 feet.
- Factory assembled and soldered to insure simple and rapid installation.

Nop Price
No. 9685 Spider-Web Antenno . . $\$ \mathbf{5 . 3 7}$ No. 9689 High-Freavency Kit (Increases Range po 70000 kc .


## 395 ANTENNA SYSTEM

Here is a scientifically designed double $f$ antenna system at a price anyone can afford to pay. It assures excellent signal pick-up at a minimum cost. The only additional requirement-iwo supports 40 feet aport.

- Operotes perfectly with receivers of ony type or monufocture hoving antenno. ground terminols.
- Ports ossembled and soldered for convenience.
- Minimizes "mon-mode" interference.
- Very simple to instoll.


## CONTENTS OF KIT

2 Antenno Wire Coils- ooch 20 feet long, 1 Junction Box, 2 Strain Insulators, 1 Tronsmission Line-60 feet, 2 Coupling Unit Links, 1 Set. Coupling Unit, 2 Nail-on-Knob Insulators, 1 Ground Clamp, 1 Instruction Sheef.

Net Price
No. 395 . . . . . . . . . . . . . . . \$2,37
No, 12855 Set-Coupling Unit for 395 and RK-40 Antennos . . . 45


## IMPROVED MAGIC WRVE ANTENNA

A new, highly efficient noise-reducing antenne for every type of radio instollation
This antenno hos "everything" a radio requires. Noise reduction, installation fexibility and high signol pick-up. It is the one ontenno that has all the following feotures:

- Noise reduction on all broodcosting bands (530-23000 kc).
- Suilt-in lightning orrester in ontenno coupling unit.
- Operates up to 16 outlets from 1 antenno with odditional coupting and distribution transformers. (Only slight reduction in signal.)
Easily installed.
- Antenno moy be from 20 to 120 feet long. Transmission line may be up to 500 feet in length.
30 foot pipe moy be used for vertical antenno with underground transmission line.
- Uses mognetite-core tronsformers.
- Con be easily attached to existing ontennos.

Net Price
Srock No. 9812 Complete for single installation .... . .... 37 Stock No. $9813^{\circ}$ Set-Coupling Trans. former (1 required for each odditional receiver) $\ldots .$. Stock No. 9814 Distribution Trans: former (1 required for each 4 additionol receivers) . . . . . . . . . . . Stock No. 9849 Antenno-Coupling Transformer with 8uilt- in Lightning Arrester (for ossembling your own kil) 1.20

## MAGIC WAVE RNTENNA TRANSFORMER



This unit, when used with No. 9813 SelCoupling Transformer, a vertical or horizontal antenna and a transmission line, gives all the features of the RCA Magic Wave Antenna, Provides optimum signal transfer from antenna to transmission line. Minimizes background noise.

## (With Built-in Lightning Arrester)

- Up to 16 receivers moy be operated from one antenno by use of additional coupling and distribution transformers.
- Antenno moy be from 20 to 120 feet long.
- Transmission line moy be up to 500 feet long.
- Iron pipe, 20 to 30 feet inlength, moy be used as o vertical antenna. - Easily instolled. Connects to end of single-wire antenno. May be adapted to present installation.
No. 9849
Nep Price $\$ 1.20$


# N E W <br> -MILION 

## TESTEQUIPMENT


distortinn. Osctliator performunee is read Lily determined. Juput impedance of the instrument is 6 miesolins.

CHECKS RF-IF-AF-DC VOLTAGES
There are 4 channels avallathe for sinultaneous nonitorllag of 1 he $1 t h^{\circ}$, If AF, and DC power supply clrcults, Each channel lus an amnlitier stage for aclequate sensitivity, Deflection of the "eyes" can the controlled. Thred
 are $30^{\prime \prime}$ long and have alligator elips. The benutifully finched bronke pane
 MODEL SY-Dealer's Net ''ush Irrice

## NEW MODEL SY SIGNAL TRACER

This instrument enables you quickly in irace the signal in any recelver from antenna to volee coll. Absence of the signal is immedicourial cable probe permita diecks at Jish frequencles without disturbing circult under test. The signalyzer is particularly usdul in locating trouble in intermittent oi "dead" recelvers. Two phone jacks permit listening to the signal to detect bum or

## VACUUM TUBE VOLTMETER



Measures values of DC, ItF, or AF potential will out disturbing the rercuit under test. Input 1 m . push-hutons selpet these 18 rantes: $0.3 \cdot 15 \cdot 30 \cdot 1: 10$ $300 \cdot 400-900 \cdot 1, .700$ and 3.000 volts A.C, and J. 1. Tenth hution is used for zero adjustment. Iaw-loss rnaxial rable transfers vollage to dilider. Size, $\mathbf{g}^{\prime \prime}$, $13^{\prime \prime} \mathrm{xh}^{\prime \prime}$. In walnut openfaced casc. For
cyrles. ivt. 12 lhs. MODEL XM—Drmier's Net 'ash I'rice


## MODEL A POCKET MULTIMETER

 wiurdy construetion, and features unexcelfed ucenticy. The following rangen

 to +12 1). B3. The zory aljuster is comanem for hoth olun srales. Space is
 Nhing. wit. $z$ Jbs.
MODEL A-bealer's xin "ash I'rime

OD SIGNAL GENERATOR


Corers 100 K.C. to 2 j M. $\mathrm{C}^{\circ}$, in f bands. The direet reading dial has a scale over fo" in lingtli. Indi rinually trimmed colls assure accinac's and end
nate dead spots.
HF cycles. A separate aulio oulput, variahle from 0 to 1 volt is avalatho lin chetklng annplifiers. Dual atlenuator for coarse and fine adjustment. Line Hilers and thorough shiclding reduce leakage to a minimum. Size, $10^{" x} x^{\circ " * 0^{\prime \prime}}$. Has attrartive bronze" Mage. wt. 10 jbg .
MODEL OD-Imealers Net (ash
' 1995

## MODEL DF TUBE AND CONDENSER TESTER

The Morlel Iff tests alf tubes including the latest lortal. "'s." Buntam Jr.. anl "hearing-aid"* neanut types. Thie thanment switeh covers from 1.4 to 110 cots with spare nostitions for future ubes. The exact rondition of the tube under fest is rreariy indicaters on the English-reading "Good-1smi scale of loulb Is clecks shorts and leakages up) to ${ }^{2}$ megohms. Tests emission and shorts. CHECKS CONDENSER


Complete instructions supplied for testing bypmss and electrolytic condensers for shorts and Jeakake. Also prosites for continuity checks, All teat circuits are efectirely separate switelis used for the inne roliage adjustments. The Moilel iDF is buit to precigion xtandards wni frutures a ruggednews in design and assembly that insures accurury uniler haril usage. The atirmctive case rith removable coter measurex " (t) $x$. . Ifas rarrying handie and an 8 foot rord and whe for 105-12.i vi. tiv) cyctes. shpg. wt.. 12 lbs.
${ }^{5} 1695$
bg deluxe tube tester


Designed as a precision instrunients of outstambing arcurary for testing all types of recelvitng fubes. Irorides an approved emission teat whth reurlinges on a "Cood-Bad" meter seale. A neon lamp shows all shorts and leaks between any elements up to 2 megolims while tuhe is lot. Fivery nreraution has heen taken to protect inatrument from obsolestence. The shament return sclection circult requires only 7 workets for all present tubes. 3 extra sockets are provided for future tuhe releases. The flament supply is tapped from $1 . t$ to 110 volts in 13 steps with 10 spare positions. An extra space switrh is also nrorided. The atiractively finiblied rase has metal feet and a renorable cover. Slze. $10^{\prime \prime} \times 121 / 3^{\prime \prime} \mathrm{s}$ $\therefore "$. Ilas large, convenient compartnient for tools, meressories, etc. The panel is bronze with black and white markina. For of to 132 V., 60 cjclen. Sling. wt. $1: \mathrm{Ibs}$.
MODEL BG-Dewler's Net ('ash
'2495
 has has the sume setting for hoth olm scales.

- Sensitivity-1,000 Ohnis l'er Volt.
- Voler IV.C.-0-.5-50-500-1000.
- M.A. D.C. -0.1 .
- Low Ohnis-0.1000. Iligh Ohms-0-500,000.
 MODEL 8-Dealer's Net vash Irice.


## LABORATORY MULTIMETERS

Three nonular models. The style VY with Its atiractlue art panel. large finch meter. built in test leads and sefy arate swhtch for shunts. gires it first ware In the lal
oratory. l'ge fo for all noint to point rallo recelver analysis
 at 1000 ohms per volt sensitluity. J. 1 . Milumperes, $0-1$.
 $0.01 / 2$ mpgohnas with self contained batteries. Deethels minu. 10 to plus 12 . Jarse if inch meter whit one millamper D'Arsonral moiement. Fiaky 10 real seales Kinife edge noluter. thotary type range selector switht, Circult connections brought out to single putr of kinkles heary duty iest leats marked pancl. Gires urinkte finish inetal rase fitted with rub.


MODEL VDA- $\mathbf{3}, 000$ ohms per volt. Name seales as Morle IV but reads to 10 Megohms and has 200 misroampere meter.
Dealer's Cash Prite.
..........................

MODEL OM—Nupersensitive meter with $\mathbf{2 0 , 0 0 0}$ ohms per iolt, 50 niftoumpere and 10 megohn scales.
Nize ranges and appearance similur to Model VV. Dealer's Cash Price


MODEL GM MULTIMETER


Dealers net cash prices (Less batteries and test leads), net..........
$\$ 19.95$
Batferies: 2 Burgess 4156; 1 Burgess 432, net $\$ 1.70$ High Voltoge Test Leads, net..
$\$ 1.25$

## A Laboratory Meter

- GIANT 85\%" METER

0-5 MEGOHMS

- 1000 OMS PER VOLT - 0-I-3-30-300-600 MILLIAMPERES
- 0-12 AMPERES
- 0-12 AMPERES
-     - $10+10$ DECIBELS
- 0-6-120-300-1200-3000 VOLTS, A.C.
- 0-6-120-300-1200-3000 VOLTS, D.C.
- 500-500,000 OHMS

THE Model GM has been designed to provide the Serviceman or Amateur a large, accurate meter for shop or shack. Special Alnico meter movement provides extra damping and lifelong ruggedness and accuracy.

Five D.C. voltage ranges, 0 - $6-120-300-1200-3000$, cover all requirements. Five A.C. voltage ranges cover 0-6-120-1200-3000.

Decibel scale is provided for riding gain or measurement use. Three ohms scales cover I to 500 ohms, 500 to 500,000 ohms and 5,000 to 5 megohms with internal batteries. Zero adjusters and two batteries are provided so that it is not necessary to change zero adjustment when changing scales.
The Model GM is mounted for bench use so that it can be easily read from any angle. It measures $9^{\prime \prime}$ wide by $13^{\prime \prime}$ high. Shipping weight, 12 lbs .

## MODEL SG SIGNAL GENERATOR AC



## SEPARATE AUDIO

The audio output is ovailable thru the regular attenuator and multiplier for testing any public address system or the audio portion of a receiver.
The RF output is contralled by a completely resistive attenuator. This attenuator is of the double ronge type, one control from $0-100$ and a multiplier hoving steps I, 10, 100, 1000 . Units are approximately in microvalts.

## RIGID CONSTRUCTION

The model SG is a sturdy, well-built unit made to "take it" under all conditions. Heavy chassis construction plus welded joints make this generator especially desirable from the mechanical stondpoint.

## TUBES USED

The RF oscillator is a 6 V 6 , the audio generator is a 6.55 rectification by a 5 W 4 .

## MODEL SG

Dealers Net Cash Price
Shipping wt. 20 lbs.

## Complete Attenuation On All Bands

THE model $S G$ is a modern, precisely engineered device capable of producing an artificial signal that can be varied in amplitude from a few microvolts to approximately 100,000 microvolts. Attractive hammered finish panel with ivory knobs.

## Individual Coils for HIGHER ACCURACY

The model SG uses separate coils individually trimmed, eliminating the possibility of "dead-spots" on any range. This feature is usually found only in laboratory-type generators.

The common fault usually found prevalent in the average oscillator, frequency modulation, has been eliminated in the SG. The attenuation system does not load oscillator circuit but reduces the signal at the output to zero on all bands.

Provision is made for external modulation, internal modulation of $40 \%$ at 400 cycles, or no modulation.

## Attenuation On Megacycle Bands

The Model SG has six bands covering 50 k.c. to 30 megacycles on fundamentals and to 90 megacycles on harmonics. Over 40" of full vision scales make easy reading. The size is $161 / 2 \times 91 / 2 \times 83 / 4$. Operates on 115 volts A.C. 50-60 cycles. Other voltages and frequencies on request. Complete with shielded line cord, special low capacity output cable and complete instructions.

## SERIES 920 <br> Combination Dynamic Mutual Conducłance Type Tube Tester and 33 Range Rotary Selective A.C.-D.C. Multi-Range Set Tester



## * 920P

Hardwood portable type carrying case with removable cover and tool compartment. Walnut finish. Size $12 \times 13 \times 6$ Complete with battery and test leads. Code: Drive.

NET PRICE
\$53.95

## SET ANALYZING FEATURES

* SIX A.C. AND SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: $0-12 ; 0-60 ; 0-300 ; 0-600 ; 0-1200 ; 0-3000$ volts. * FIVE D.C. CURRENT RANGES: $0-1.2 ; \quad 0-12 ; 0-120 ; 0-600 \mathrm{MA}$; and $0-12$ AMPERES. $*$ FOUR RESISTANCE RANGES: 0 to 400 Ohms; 0 to 100,000 Ohms; 0 to 1 Meg.; 0 to 10 Megs. All ohmmeter ranges powered by sell-contained supply. * SIX DECIBEL RANGES FROM - 10 to + -64DB. * SIX OUTPUT RANGES: Same as A.C. Voltage Ranges. * MASTER RANGE SELECTOR SYSTEM: Permits simplified speedy measurements. * LARGE 43/4 MODERN "PRECISION" SQUARE TYPE METER: D'Arsonval type: 400 microamperes full scale sensitivity. $*$ EASY READ. ING SCALES AND NUMERALS. * CONDENSER LEAKAGE TESTS. $*$ SHUNTS WIRE WOUND to $1 \%$ accuracy. Multipliers matched to $1 \%$ accuracy. * ACCURACY of all ranges closely maintained to A.C. ACCURACY $3 \%$; D.C. ACCURACY $2 \%$.


## TUBE ANALYZING FEATURES

* A DYNAMIC MUTUAL CONDUCTANCE TYPE TUBE TESTER employing an exclusive "PRECISION" engineered circuit, which in one operation eflectively tests all radio receiving fubes for both MUTUAL CONDUCTANCE and CATHODE STRUCTURE. * TESTS ALL TUBE TYPES: ALL FILAMENT VOLTAGES from 1.4 to 120 volts. TESTS LOKTALS, BANTAM JUNIOR AND THE NEW BUTTON 7 PIN PORTABLE RADIO AND HEARING-AID BATTERY TYPES, SINGLE ENDED, TELEVISION AND F. M. AMPLIFIERS REGULAR OCTALS (MG, G, GT and METALS), SPRAY-SHIELD AND GLASS TYPES. * AUTOMATIC PUSHBUTTON SYSTEM: Flexibility for non-obsolescent free point tube analysis and accommodation of future tube releases. * DUAL FREE POINT FILAMENT TERMINAL SELECTION. * VISIBLE FILAMENT CONTINUITY TESTS. * SPECIFIC INDIVIDUAL LOADS AND VOLTAGES: APPLIED TO ELEMENTS OF TUBE UNDER TEST. * VARYING A.C. SIGNAL applied to control grids. * METER READS IN PLATE CIRCUIT: Indications are entirely dependent upon control action (transconductance) of each of the intervening elements. Meter indication shows up lubes having open elements. * TESTS diodes, triodes, rectiliers, tetrodes, pentodes, multi-purpose tubes, gaseous types OZ3-OZ4 and remote control gaseous types OA4 and 2A4. Individual tests for each section of multi-section tubes including visible tests of the fluorescent screen and winking effect on cathode ray indicator fubes. * HOT CATHODE LEAKAGE TEST. * HOT INTER-ELEMENT SHORT TESTS. * NOISE TEST pin jacks incorporated for earphone or amplifier connection. * BALLAST TESTS: The regular tube test sockets accommodate all ballast units. * PILOT LIGHT TESTS. * BUILT-IN DOUBLE all ballast units. * PILOT LIGHT TESTS. * BUNET-IN DUSTMENT read directly on meter. No arbitrarily tapped transformer employed. * PILOT LIGHT (ON-OFF) INDICATOR: FUSED LINE PLUG. * TELEPHONE CABLED WIRING EMPLOYED THROUGH. OUT. * ACCURACY of the tube test circuit is closely maintained by the use of individual calibrating controls.

* 920C (at right) - Counter type, black ripple finish on type, black ripple finish on $12 \times 8$. Slopes to 3 inches at front. Complete with instrucfront. Complete with instructions, battery
Code: Drake.

NET PRICE $\$ 53.95$


* 920MCP (at leit) - Open type metal case portable: black type metal case portable; $1 /$ lack ripple finish. Size $12 \times 101 / 2 \times 6$. tery and test leads. Code: tery
Dicer.

NET PRICE $\$ 49.95$


* 920PM (ai leit) - Combination of 920MCP inserted in black ripple tinish steel pane ( $121 / 4 \times 19$ ) with back dus cover 6 inches deep. Unit re movable from front for port able use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Dream

NET PRICE $\$ 53.95$

## SERIES 910 and 912 <br> Dynamic Mutual Conductance Type Tube Testers

The Series 910 incorporates a modern 3 inch square type meter with D'Arsonval movement of $2 \%$ accuracy. The 912 Series incorporates an impressive $45 / 8^{\circ}$ square type meter of $2 \%$ accuracy. The physical appearance of these instruments is otherwise the same as shown for the 920 Series. Circuit features of both Series 910 and 912 are exactly the same as described for the 920 Series under heading "Tube Analyzing Features.'

* 910P-Hardwood portable type carrying case with removable cover and tool compartment. Walnut linish. Size $12 \times 13 \times 6$. Code: Front
\$33.95
* 910MCP-Open type metal case portable; black ripple finish. Size $12 \times 101 / 2 \times 6$. Code: Frail

NET PRICE $\$ 29.95$

* 910C-Counter type, black ripple finish on heavy gauge steel. Size $16 \times 12 \times 8$. Slopes to 3 inches at front. Code: Frisk.
net price $\$ 33.95$
* 910PM-Combination of 910MCP inserted in black ripple linish steel panel ( $121 / 4 \times 19$ ) with back dust cover 6 inches deep. Unit removable from front for portable use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Fried.

NET PRICE $\$ 33.95$

* 912P-Hardwood portable type carrying case with removable cover and tool compartment. Walnut finish. Size $12 \times 13 \times 6$. Code: Fence .......................................... PRICE
$\$ 35.95$
* 912MCP-Open type metal case portable: black ripple finish. Size $12 \times 101 / 2 \times 6$. Coda: Felon $-\quad$ NET PRICE $\$ 31.95$
* 912C-Counter type, black ripple finish on heavy gauge steel. Size $16 \times 12 \times 8$. Slopes to 3 inches at front. Code: Frame.

NET PRICE $\$ 35.95$

* 912PM-Combination of 912MCP inserted in black ripple finish steel panel ( $121 / 4 \times 19$ ) with back dust cover 6 inches deep. Unit removable irom Iront for portable use. Suitable for standard relay rack or Precision Rack Cabinet. Code: Fetid.

NET PRICE $\$ 35.95$ TエSTEQUIPMENT

## PRECISION DeLUXE DYNAMIC ELECTRONOMETERS

 Dynamic Mutual Conductance Type Tube Testers with Large 9" Square Meters

## SERIES 915 <br> TUBE MERCHANDISER

Attractively finished in black ripple with chromium trim and chromium meter lamp rellector. Case of heavy gauge steel. Size 23 inches high, 16 inches wide. Bottora depth 10 inches and tapers to 4 inches at top. Code: Grace.

NET PRICE $\$ 51.95$

* Inspire Customer Confidence.
* Increase Tube Sales with this new modern impressive Precision Tube Merchandiser.
* Large 9'" SQUARE TYPE METER.
* EASY READING 3 colored Replace-Weak-Good scale.

Full Vision Roller Tube Chart.

* Instrument Panel illuminated by large Chromium Rellector.
* Precision Dynamic Mutual Conductance test circuit insures accurate and reliable tube testing results.
- Electrical features exactly the same as Tube Analyzing features described for Series 920.

915PM PANEL MOUNT TUBE MERCHANDISER
Designed for panel mount use. The $\mathrm{g}^{\prime \prime}$ meter is mounted on one panel and the instrument on another. Panels are identical in size $19 \times 121 / 4$. Also suitable for standard rack panel use or with Precision Rack Cabinet. Code: Grail.

NET PRICE $\$ 49.95$

## SERIES 914 <br> Modern Counter Type Tube Merchandiser employing a large 7" chrome trimmed SWIVEL MOUNTED METER



An economically priced, but nevertheless elaborate, attractively designed instrument, occupying a minimum of counter space. The $7^{\prime \prime}$ swivel mounted meter provides both customer and operator with a FULL VIEW of test results, regardless of cabinet position.

* A modern, streamlined, customer appealing tube merchandiser.
* Large, easy reading, $7^{\prime \prime}$ chrome trimmed bakelite cased meter.
* 3 colored-REPLACE-WEAK-GOOD SCALE with 0-100 tube matching reference arc.
* Full vision double-window roller tube chart.
* Dynamic Mutual Conductance Tube testing features, same as described for Series 920.
* 914 TUBE MERCHANDISER-Attractive, modern streamlined design with chrome trimming on tine dull black wrinkle-finished, heavy gauge cabinet. Separately encased meter, swival mounted. Cabinet size $16^{\prime \prime} \times 1312^{\prime \prime} \times 7^{\prime \prime}$, slopes to $3^{\prime \prime}$ at Iront. Code: Handy.


## SERIES 922 <br> COMBINATION TUBE MERCHANDISER AND MULTI-RANGE TESTER

Attractively finished in black ripple with chromium trim and chromium meter lamp reflector. Case of heavy gauge steel. Size 23 inches high, 16 inches wide. Bottom depth 10 inches and tapers to 4 inches at top. Codo: Grade NET PRICE \$67.95

The Series 922 Deluxe Laboratory


Dynamic Electronometer has been
designed primarily for the discriminating radio service organization, desirous of increasing customer conlidence in tube testing, sales and service facilities.
The over-slze components as described for the Series 915, combined with the addition of 33 multi-range meter functions, makes this instrument indispensable for the foundation of a speedy and efficient service system. Tube test and multi-range meter specifications are exactly the same as those listed for the Series 920.

## 922PM PANEL MOUNT TUBE MERCHANDISER

 WITH MULTI-RANGE TESTERDesigned for ponel mount use. The $9^{\prime \prime}$ meter is mounted on one panel and the instrument on another. Panels are identical in size $19 \times 121 / 4$. Also suitable for standard rack panel use or with Precision Rack Cabinet. Code: Grain.
net paice $\$ 65.95$

## SERIES 954 <br> Combination Dynamic Mułual Conducłance Type Tube Tester and 37 Range Super-Sensitive AC-DC Multi-range Set Tester $\mathbf{2 0 , 0 0 0}$ OHMS PER VOLT DC

A complete service laboratory: one compact unit, provides every facility for accurate, reliable solutions of all tube test and measurement problems of Radio (A.M. and F.M.), and Television.

## TUBE ANALYZING FEATURES

* Same as Dynamic Mutual Conductance tube test circuit described for the Series 920.


SET ANALYZING FEATURES

* SEVEN AC and SEVEN DC VOLTAGE RANGES; 0-3 to 0-6000 volts. 20,000 ohms/volt DC-1000 ohms/volt AC. * SEVEN DC CURRENT RANGES. $0-60$ microamps to 0-12 AMPS. * SELF POWERED RESISTANCE RANGES to 60 MEGOHMS. *SIX DECIBEL RANGES: - 12 to +70 DB . * SEVEN OUTPUT RANGES to 6000 volts. * $45 / 8^{\circ "}-50$ microamp bakelite cased meter. * 954P-(illustrated) In hardwood portable walnut finish case: removable cover and tool compartment. Size $12^{\circ \prime} \times 13^{\prime \prime} \times 6^{\prime \prime}$ Complete with batteries and exira-high voltage
Code: Happy.
The Series 954 is also available in the same additional types of housings described for the Series 920 .
* 954MCP-Open type portable-complete with batteries and high voltage test leads. Code: Horse. ...NET PRICE \$61.95 * 954C-Counter type-complete with batteries and high voltage test leads. Code: Human. NET PHICE \$65.95
* 954PM-Standard Pane! Mount-complete with batteries and high voltage test leads. Code: Hermit. NET PAICE \$65.95


## SERIES 844 <br> 34 Range A.C.-D.C. Volt-Ohm-Decibel-Milliammeter 6000 volts A.C. and D.C., 10 megohms, and 12 amps.

## THE SERIES 844 PROVIDES COMPLETE FACILITIES FOR OBTAINING ALL MEASUREMENT REQUIREMENTS FOR SERVICE, AMATEUR, LABORATORY, TELEVISION AND INDUSTRIAL USE.

* 844L-Housed in walnut finished hardwood open type case with carrying handle. Compact in size $7 \times 8^{\prime \prime} \times 4^{\prime \prime}$. Code: Manse. NET PRICE (Less Batteries and \$22.95



## SPECIFICATIONS

- SIX A.C. and SIX D.C. VOLTAGE RANGES at 1000 ohms per volt: $0-12 ; 0-60 ; 0-300 ; 0-600 ; 0-1200 ; 0-6000$ volts.
* SIX D.C. CURRENT RANGES: 0-1.2 MA to 0-12 AMPERES
* FOUR RESISTANCE RANGES: Batteries mount inside of case 0-400; 0-100,000 ohms; 0-1 meq.; and 0-10 megs.
* SIX DECIBEL RANGES from -12 to +70DB
* SIX OUTPUT RANGES: 0-12 to $0-6000$ volts
* Large 45/8" 400 microampere bakelite cased meter.
* All instruments individually calibrated and sealed against laboratory standards assuring $2 \%$ D.C. and $3 \%$ A.C. overall accuracy. Complete telephone cabling employed
* 844P—In closed type portable case. Code: Malad. NET PRICE (Less batteries and test leads)
\$24.95
- 844PM-In standard panel mount. $19^{\circ \prime} \times 1214^{\prime \prime}$. Code: Maize. NET PRICE (Less batteries and test leads)
\$25.95


## INDUSTRIAL CIRCUIT TESTERS

* 844J-All purpose industrial Circuit tester. Consists of 844 and Series J A.C. Ammeter in closed type poriable case. Code: Miser. NET PRICE (Complete with batteries and extrahigh voltage test leads)
$\$ 44.95$
*844J-PM-Same as 844J but in standard panel mount. $19^{\circ \prime} x$ exira-high voltage test leads)
\$45.95


## SERIES "J" <br> MULTI-RANGE A.C.-AMMETER 300 Milliamperes Full Scale to 60 Amperes

* 8 Ranges: 0-300-600-1200 Milli. amperes - 0-3-6-12-30-60 AMPERES.
- For use on all line frequencies 25-60 cycles.
* RED correction scale for Direct Reading on 25 cycles.
* Large. easy reading $45 / 8^{\prime \prime}$ bakelite cased meter-2\% accuracy.
* Heavy duty bakelite insulated binding posts.
* Accurate, Reliable, Rugged! Ideal for radio service, electrical appliance and motor repairs, reirigeration, air-conditioning, transmitting, etc.

* Series "J" L-In open lace hardwood walnut finished carrying case. Code: Atone.

NET PRICE \$17.95

* Series "J" PM-In standard Panel Mount. Code: Aprap. NET PRICE \$20.95

Series "J" P-(illustrated) In hardwood walnut finished carrying case, with hinged removable cover and foal campari ment, size $9^{\prime \prime} \times 10^{\prime \prime} \times 6^{\prime \prime}$. Code: Apple. NET PRICE $\$ 19.95$

## SERIES 854 <br> 37 RANGE A.C.-D.C. Super-Sensitive Tester 6000 Volts A.C. and D.C., 60 MICROAMPS., 12 AMPS., AND 60 MEGS.



20,000 OHMS PER VOLT D.C. sensitivity makes this instrument ideal for reliable measurements in modern radio (A.M. and F.M.) and television circuits where only minute current drain of the measuring instrument can be tolerated.

## SPECIFICATIONS

SEVEN D.C. VOLTAGE RANGES 20,000 ohms/volt: $2 \% \mathrm{ac}$ curacy: $0-6 ; 0-12 ; 0-60 ; 0-300 ; 0-600 ; 0-1200 ; 0-6000$ volis.

- SEVEN A.C. VOLTAGE RANGES 1.000 ohms/voli: $3 \%$ accuracy: $0-3 ; 0-12 ; 0-60 ; 0-300 ; 0-600 ; 0-1200 ; 0-6000$ volts.
* SEVEN D.C. CURRENT RANGES: $2 \%$ accuracy: 0-60. 0-300 microamps: 0-3, 30, 120, 600 MA ; 0-12 AMPS.
* THREE RESISTANCE RANGES: Sell-contained batteries: 0-6000, 0-600,000 ohms, 0-60 megohms.
- SIX DECIBEL RANGES FROM - 12 to +70DB.
* SEVEN OUTPUT RANGES: 0-3-12-60-300-600-1200-6000 volts.
* Large 50 microcmpere $45 /$ " $^{\text {" bakelite-cased meler. }}$
* WIRE-WOUND SHUNTS, METALLIZED MULTIPLIERS-1\% AC CURACY
* 854P-(illustrated) In attractive walnut finished hardwood portable case with removable cover and tool compartment. Size $9^{\prime \prime} \times 10^{\prime \prime} \times 6^{\prime \prime}$. Code: Churn. NET PRICE (Complete with batteries and high voltage test leads)
$\$ 39.95$
The Series 854 is also available in the same type of mountings and combinations described for Series 844.
* 854L-Open portable: complete with batteries and high volt \$37.95
* 854PM-Panel mounted: complete with batieries and high net phice $\$ 40.95$


## INDUSTRIAL CIRCUIT TESTERS

* 854J-Poriable industrial circuit tester. Complete with batteries and test leads. Code: Close. NET PRICE \$S9.95 - 854J-PM-Panel industrial circuit tester. Complete with batteries and test leads. Code: Clerk. NET PRICE \$60.95


## SERIES 832 <br> 31 Range A.C.-D.C. Multi-Range Tester



* 832-in hardwood walnut finished case ( $7^{\circ \prime} \times 41 / 2^{\prime \prime} \times$ $\left.3^{\prime \prime}\right)$ with leather handle, complete with batteries (less test leads). Code: Anvil.
net phice $\$ 14.95$

Incorporates the LARGEST METER ( $3 \mathrm{~s} / \mathrm{g}^{\prime \prime}$ wide) ever provided in such a compact instrumentSCALE LENGTH. VISIBILITY. EASE OF READING never before obtainable in small lowpriced multi-range testers.

* 6 D.C. voltage ranges- 1000 ohms / volt 0-6-30-150-300-600 1200 volis.
* 6 A.C. voltage ranges-500 ohms/volt 0-12-60-300-600-1200 2400 volts.
* 4 D.C. current ranges-0-1.2 to $0-600$ Milliamps.
* 3 Resistance ranges to 5 MEGS. Up to 500,000 ohms on internal battery
* 6 Decibel ranges ( -10 to $+62 \mathrm{DB})$.
* 6 Output ranges to 2400 volts * Wire-wound shunts, metal lized multipliers - $1 \%$ metal ance
* A PRECISION instrument designed to withstand the abuse and punishment of rough service.


## SERIES 862 <br> A.C.-D.C. VOLT - OHM - DECIBEL - MILLIAMMETER A Laboratory Multi-Range Tester Incorporating a Large 9" Meter and Remote Contral Selector Unit



* 862-In standard pariel mount tinished in black ripple. Size $19 \times 121 / 4$ with dust cover 6 inches deep Code: Baker
NET PRICE (Complete with batteries and high voltage test leads)
\$39.95
The Series 862 DeLuxe Mult1-Range Tester is housed in standard panel mount, designed for the Prectsion Laboratory Cabinet Rack or any cther standard relay rack. The Selector Unit is easily sha out from its panel compartment for remote bench operation.
The $\mathrm{g}^{\prime \prime}$ Precision Rectangular Meter with large easy reading scales and numerals, allows highly accurate readings with minimum eye strain.
This instrument is an indispensable adjunct to the radio, industrial, and television laboratory where operator efficiency is at a premium.
All electrical specifications are the same as described for the Series 844.


## ALL PURPOSE CIRCUIT TESTER

* 8621-PM-Consisis of the 862 meter on one panel and remote an cna Precision Rack Cabinet. Code: Bench.
NET PRICE (Complete with batteries and high eads)


## TYPE 212 CABINET RACK

The Series 212 Cabinet Rack ascommodates ANY combination of two Panel Mount (PM) type units described on the 3 pre vious pages of this catalog.
The exclusive Precision "Two in One" slide-in and slide-out feature permits the separately encased Precision instrument, housed in its Panel Mount compartment, to be INSTANTLY "SLID-OUT" from the front for either remote or completely independent portable use. A "Snap-on" carrying handle, as supplied, is quickly attached to the portable metal cabinet for field use and is just as readily detached to allow the instrument to be "SLID-IN" (returned) to its panel mount compartment. There is no need to remove any screws, bolts or nuts to "slidein" or "slide-out" any instrument.
The illustration on this page shows only one of the many possible Cabinet Rack combinations which can be built up with The Precision Panel Mount (PM) type units, incorporating the SLIDE-IN" "SLIDE-OUT" portable leature.

## CABINET RACK SPECIFICATIONS

* 212 - Cabinet Raci only: Black Ripple linished, heavy gauge steel; complete with modern chrome lamp rellector, 40 watt tubular lamp. 5 feet extra wire for panel interwiting, two A.C. convenience outleis, all wired to external line cord. Size. base depth and tapers to $6^{\prime \prime}$ top depth.

NET PRICE
$\$ 16.95$

* TYPE 212 RACK
with 862 and E-200PM


## SERIES E-200 SIGNAL GENERATOR <br> For All A.M., F.M. and Television Receivers, <br> featuring "Servicing by Signal Substitution"

- Six Bands: 90 KC 1088 MC. Accuracy-Congtaney of calibration: MAXIMUM of $1 \%$ DEVIA. TION on all bands, inSured by use of the "PRECISION". developed 'UNIT OSCILLATOR" consiruction ENTIRE "UNIT OSCILLATOR"' SINGLE-POINT-MOUNTED, providing positive Ireedom from eltects of mechanical shock, eliminating the need of costly, useiess, single frequency - LARGE FULL VISION $61 / 9$ INCH NO-GLARE DIAL: approx. 6 leet direct reading deeply etched scales. Ball bear
 - 0-100 Point Vernier Scale and Twin Hair-Line Indicators: provide direct reading to one part in 1000 for critical laboratory usage. The Circuit-uses the new 6SJ7 in a highly slable E.C.O. cit ave Modulated in the butter amplitier by a $6 C 5400$ cycle sine a hum-free D.C. supply. 400 Cycle Sine-Wave Audio Oscilla a hum-Iree D.C. supply. 400 Cycle Sne-wave Audio Oscilla tor-Independently Conirol.ed-provides both modulation and exR.F Ace R.F. Attenuators - Separately shielded-provides direct R.F O LOW LEAKAGE. Iacintes and smoan stepless contro - cou addition to a heavy gauge etched Aluminum panel and steel line, choke-condenser filtered. SELF-SHIELDING COAXIAL OUTPI CABLE and dual (LOW-HiGH) coaxid connectors with separate screw cap lor elimination of leakage from unused terminal. Four Types of Signals-'Unmodulated R.F:" "400 cycle Modulated R.F " ${ }^{\text {quency or amplitude) }}$ A00 cycle Audio Outrut "ed V.FARIABIE quency or amplitude) an mifles siqna. against obsolete fixed modulation of only 30 or $40 \%$ A.V.C. SUBSTITUTION SYSTEM-The Series E-200 Iully overcomes serious alignment troubles arising irom receiver A V.C. by supplying ITS OWN A.V.C. VOLTAGE. Controllable at the front of the panel from 0-50 volts. HAND CALIBRATION-Each instrument INDIVIDUALLY hand calibrated on all six bands. Fully licensed under patents of American Telephone \& Telegraph Co. Net only an unsurpassed, eflicient Signal Generator for purposes of alignment but SPECIFICALLY DESIGNED for "Servicing by Signal Substitution", the new modern Dynamic speed approach to receiver alignment and adjustment problems, described in a new 120 page illustraled text book
* E-200-In black ripple heavy gauge steel case. Size $12^{\circ \prime} x$ SIGNAL SUBSTITUTION." Code: Trade. NET PRICE $\$ 35.95$
* E-200PM-In standard panel mount. Codes Trace. $\begin{aligned} & \text { NET PRICE } \\ & \$ 39.95\end{aligned}$


## SERIES 872 <br> Automatic Push Button AC-DC Multi-Range Tester



* 6 D.C. VOLTAGE RANGES a 1000 ohms per volt 0 to $6 / 30$ $300 / 600 / 1200$ and 3000 volts.
- 5 A.C. VOLTAGE RANGES at 500 ohms fer volt: $0.12 ; 60 / 600 / 120 \mathrm{C}$ and 3000 volts
* 5D.C. CURRENT RANGES. 0-1.2/ 3 RESISTANCE RANGES: $0-5000$ ohms ( 20 ohms at center of scale) 0.500 .000 ohms (powered by self-contained 3 volt battery) 0-5 megohms (powered
* FyVE DECIBEL RANGES: - 10
* OUTPUT METER INDICATIONS
* Extra large $35 / 8^{\circ} 800$ micro ampere meter.
* 872-In hardwood walnut finished case ( $7^{\prime \prime} \times 41 / 2^{\prime \prime} \times 3^{\prime \prime}$ ) with eather handle, complete with batteries (less test eads) Code Armor.


No serviceman can anticipate the ycar, make and model of the next set that will come to his bench. It may be anywhere up to ten years old. For this reason you must have the volume of Rider Manuals that contains the servicing information on that particular set, OR ELSE risk a haphazard job-wasted time-a broken delivery promise and a disgruntled customer. Get your full money's worth out of every Rider Manual-buy it the day that only Rider Manuals con the complete servicing information four Data
peaks, operating voltages, parts lists and parts values, voltage ratings of condensers, wattage ratings of resistors, coil resistancz data, and all the other information that is vital it you are to know exaetly what the manufacturer put in that receiver. Nowhere else can you make an investment so certain to increase your profits.

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tured before 1931 that were unavilable when Volume I was published, will be found in Volume If. be found in this volume and, as you know, a fairly large percentage of these old sets are still in use todar.

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RIDER'S MANUALS HAVE more schemotics . . . more I.F. peaks more alignment dato . . . more circuit descriptions. . . . MORE EVERYTHING THAN ANY OTHER MANUALS.


## FREQUENCY MODULATION

The latest development in radio -FREQUENCY MODULA-TION-is on the air. More and more stations all over the country are making provision for "staticless" broadcasting and the number of $\mathrm{F}-\mathrm{M}$ receivers on the market is increasing. chance to get in at the startRider's newest book explains the transmission and reception of fre-quency-modulated signals with especial attention given to the different types of $\mathrm{f}-\mathrm{m}$ receivers now available-their adjustments and maintenance. . . . This is a "must" for every serviceman who has an eye on the future. . . . It is an investment that will pay real dividends!

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Chapter I. Frequency Modulation.An introduction to the subject with comparisons drawn between the frepuencymodulation and amplitude-modulation forms of transmission and reception. Chapter II. What Happens at the Trans-mitter.-A non-mathematical explanation of how frequency-modulated signals are broadcast, including a discusision of phase modulation. Chapter III. What Happens in the Receiver.- How the $f-m$ signal progresses through the receiver and how it is affected by the limiter discriminate tul)es. Chapter IV. Wave Propagation and Service Areas.- How the ultra-high frequeney waves are used for f-m transmission and the area covered. Chapter V. F-M Receiving Antennas.-Explanations and data concerning the best types of antennas for the reception of $\mathrm{f}-\mathrm{m}$ signals. Chapter VI. Servicing F-M Receivers.-V':alnable instructions for the adjusting and maintenance of the receiver including numerous oscillograms that will guide you in your servicing problems.

136 PAGES . . . . TYPE SET . . . . FLEXIBLE CLOTH

# THE OSCILLATOR AT WORK 

by John F. Rider

Do you get your money's worth out of your present-day oscillator? Do you derive the maximum utility from that unit? Do you know how to test your oscillator and establish if it is working properly? Would you know how to repair it if it went bad? Do you know how many different types of oscillators can be used in the servicing field?

Here is your opportunity to get the true facts about oscillators! Rider's book "Oscillators at Work" is worth many times the price asked because it helps protect the investment you have made in oscillator equipment. The serviceman cannot afford to be without this book. Not only does it tell you, as a serviceman, how you can get the most for your money already spent on equipment, but it will serve admirably as a guide in telling you how to choose between the different types of oscillators and decide upon the oscillators you will buy in the future.

If you really want to know the "ins and outs," the "whys and wherefores" of oscillators of all kindsthose which you now use and those which you will have to use in the servicing industry, "Oscillators at Work" is a MUST book in your servicing library.
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a combination of inductance and capacitance conirols
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sweep circuits and millivibrators. $1 \times-$ Superhetero. dyne Oscillators. Discussion of liarmonics and beais and their use in X-R.F Sional and aligument of oscillators in sugerheterodyne circuits. X-R-F Signal Generators. The requirements of radio-frequency siknal -Audio-Frequency Ophlication to fhe servicing of radio receivers. X1 oscillator roquency, Oscillators. Necessity for a good aunio-frequency and beat frequency types of a discussion of the frequency oscillators. XII-Modulation of Oselllators. Ilescription of various schemes of modulation em ploying iriodes or multielement tuhes. Discussion of the princitles of ploying iriodes or multelement ruhes. Decord players and methods of servicing them. XiII-Wobbu. lators. Theory and application of frequency-modulated $R$ - $F$ oscillators used with oscillosraplis to align radio receivers and a discussion of A-F frequency modulators. XIV-Adjustment of Transmitters, Methods of employing a cathocie-ray oscillograpli to check the opreration of os: reterences on various ispes of oscillators.
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# HALLICRAFTERS COMMUNICATIONS EQUIPMENT 

The New 1941 SUPER SKYRIDER! The Communications receiver that sets new standards for receiver performance! Frequency range 540 KC to 13 MC in 6 bands.
Two stages of preselection-high fidel. ity, push pull audio-band pass audio filter - Calibrated band spread-mi. cronteter scale on main dial knob. Heavy gauge steel cadmium plated chassis-standard size relay rack panel $1 / 8$ inch thick-machine tool gray wrinkle finished cabinet well venti. lated and attractively designed.
See the 1941 SUPER SKYRIDER and you will know why the HALLI. CRAFTERS lead in communications equipment valıe.

The Model SX-28 1941 SUPER SKYRIDER PRICES $\$ 1$ \& +50
start at.......NET


## The New SKYRIDER 28

## GENERAL SPECIFICATIONS

FREQUENCY RANGE:
Band 1-540 to 1650 KC
Band 2- 1.5 to 3.2 MC
Band 3- 3.0 to 6.2 MC
Band 4-5.5 to 12.0 MC
Band 5-11.0 to 23.0 MC
Band 6-21.0 to 43.0 MC
TUBE LINEUP:

| 1-6SK7 | lst RF Amplifier |
| :--- | :--- |
| 1-6SK7 | 2nd RF Amplifier |
| 1-6SA7 | Mixer |
| 1-6SA7 | H.F. Oscillator |
| 1-6L7 | Ist IF Amplifier- |
| noise limiter |  |
| 1-6SK7 | 2nd IF Amplifier |
| 1-6B8 | 2nd Detector and meter |
| 1-6B8 | AVC Amplifier |
| 1-6SK7 | Noise Amplifier |
| 1-6H6 | Noise Rectifier |
| 1-6J5 | B.F.O. |
| 1-6SC7 | Ist Audio Amplifier |
| 2-6V6GT | Push.Pull output |
|  | Amplifier |
| 1-5Z3 | Rectifier |

## CONTROLS:

Micrometer scale main tuning inertia controlled
Calibrated band spread inertia controlled
Tone and AC ON.OFF
Beat Frequency Oscillator
A.F. Gain
R.F. Gain

6 Position band switch
Antenna Trimmer
6 Position selectivity control
Crystal phasing
Adjustable noise limiter
Send-Receive Switch
A.V.C.-B.F.O. Switch

Bass boost switch
Phone jack

## PIIYSICAL CONSTRUCTION:

Chassis sulbstantially constructed of 14 gauge steel with flanged edges and flame welded vorners. Condenser cover and coil shield comparmentassembled to chassis in box girder type of construction. Brished cadmium plating protects the chassis and metal components.
A $1 / 8$ inch thick steel panel is used with etched control markings and Morocco finish.
The $83 / 4^{\prime \prime} \times 19^{\prime \prime}$ dimensions of the panel are for standard relay rack mounting.
The Cabinet is made of 16 gauge steel attractively finished in machine tool gray wrinkle. Special consideration in the design of the cabinet was given to provide adequate ventilation.

## MECHANICAL FEATURES:

New type inertia-controlled back-lash free dial mechanism on both main tuning and bandspread dials. This mechanism is preloaded and the main shafts are supported at hoth ends with ball leearings.
The chassis is removed from the front panel and firmly positioned with two brackets which support it without danger of strain or torque.
Both main tuning and band spread condensers are semi-floating and mounted to the chassis at three points.
Components arranged for hest elertrical efficiency with full consideration for convenience of control mountings.

## ELECTRICAI. FEATURES:

1-15 tubes
2-6 bands for most satisfactory L/C ratio
3-2 R.F. Stages
4-Push-pull high fidelity, audio output
5-6 step wide range variable selectivity
6 - Band pass audio filter
7-Wide angle "S" meter
8-Phono jack
9-Adequate headphone output
10-Improved signal to image and noise ratio
11-80/40/20/10 meter amateur bands calibrated
12-Temperature compensated high frequency oscillator

## CABINET DIMENSIONS:

$201 / 2^{\prime \prime}$ long- $141 / 2^{\prime \prime}$ deep- $91 / 2^{\prime \prime}$ high.


## HALLICRAFTERSCOMMUNICATIONSEQUIPMENT

# The New SUPER DEFIANT SX-25 



AVATEURS from coast to coast acclaim this new, de luxe model, amatenr meciver as the finest cuer developed at anywhere near this pricc. It offers even better performance than that of the famed SX-17. Its general circuit is lased on the proved efficiency of America's hest selling receiver, the Skyrider DEFIANT.

Among its outstanding advantages are extreme selectivity and more and better audio. The design of the crystal filter makes pessible critical CW operation under trying conditions of interference, and, in addition, the sensitivity of the receiver is raised from 2.8 to 4 times in the "CW Xtal" position when the receiver is tunied to the exact resonant frequency of the rrystal itself; this means more usable sensitivity.

Both IF stages are expanded in the "Broad IF' ${ }^{\prime \prime}$ position for high fidelity performance. An effective AVC or automatic volume control cirmit keeps most signals at uniform andilijity. The automatic noise limiter reduces interference by as much as $70 \%$. The extremely low noise level of the SUPER DEFIANT makes it sensitive to very weak signals.

Fvery part is placed for best performance without regard for symmetry or beauty. Being self-contained there are no external units except the speaker. Tuning is effortless. Controls are conveniently located.
The SUPER DEFIANT (Model SX-25) -Com-
 Extra for Univ. 110.250 volts, $25-60$ cycles......... $\$ 5.00$

## features

2 Stages of Preselection.
Twelve tubes:


Overall Range 540 kc . to 42 mc . in four hands:

Separate calibrated bandspread dial for the 10,20 , 11 and 80 meter bands provides frequency meter tuning. Oscillator compensation for frequency stability.
Antomatic noise limiter.
Six-step variable selectivity covering wide range from high fidelity to extreme CW crystal.
S meter calibrated in "S" and "DB" units.
Push-pull output stage furnishes 8 watts of audio.
Front panel controls: RF Gain, Selectivity Switch. (Frystal Phasing, Audio Gain, Pitch Control, Main Tuning Control, Bandspread Tuning Control, ANI. Switch, Hillo Tone, Send-Receive Switch and BFO Switch.
External provision for: Send-Receive Terminals, Headphones, 5000 or 500 ohm output, Single Wire or Doublet Antenna.
Lahoratory checked, piezo quartz crystal filter included as standard equipment.
Tensinch heavy duty PM dynamic speaker in match. ing metal cabinet included as standard equipment. Dimensions of receiver cabinet only: $191 / 2^{\prime \prime}$ long. $91 / 2^{\prime \prime}$ high, $111 /{ }^{\prime \prime}$ deep.
110 volt 50.60 cycle AC operation. DC operation socket provided for battery or vihrapack.

## WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT



## The SKY BUDDY

The new SKY BUDDY is an amateur receiver in every respect, covering everything on the air from 44 me. to 545 kc ., including the $10,20,40,80$ and 160 meter amateur bands. It now employs the same electrical handspread system used in higher priced Hallicrafter models. The more important features are: Electrical bandspread, broadeast Band, BFO, AVC switch, phone jack, pitch control, huilt-in speaker. For operation on 110 volts 50-60 cycles AC. For operation on 110 volt AC from 6 volt DC, use No. 301 Electronic Converter. Dimensions $171 / 2^{\prime \prime} \times 81 / 2^{\prime \prime} \times 81 / 2^{\prime \prime}$ high.

## FEATURES

Six tubes. Tunes 10 meter band. Electrical bandspread. Coverage and bandspread from 545 kc . to 44 mc . DC operation socket-battery or vibrapack.
The SKY BUDDY (Model S19R)-Including tubes and speaker. Shipping $\$ 2950$
weight 21 lbs...........(SKYBU) $\$ 290$
Extra for Univ. 110-250 volts, 25-60
cycles. . . . . . . . . . . . . . . . . . . . . . .


SKY CHAMPION

A 9-tube Communications receiver with preselection and built-in speaker, offering a quality of performance never hefore available at this price.

Has all of the essential controls for good amateur reception as follows: RF gain, tone control, phone jack, AVC switch, BFO switch, send-rereive switch, andio gain, pitch control and 4 -position hand switch. Easily adapted to 6 volt operation with a Model No. 301 Elertronic Converter.

FEATURES: 9 tubes. Completè coverage ( 545 kc. to 44 mc .). Inertia tuning. Separate electrical handspread. Beat frequency oscillator. Battery-vibrapack DC operation sorket. Cabinet size- $18 \frac{1}{2}{ }^{\prime \prime}$ long, 81/2" high, $93 /{ }^{\prime \prime}$ deep.
The SK' CHAMPION (Model S-20R)- $\$ 4.40$
Shipping weight 32 lhe.........(SKYCN) Exipping weight 32 Ihs.......... (SNICN) SM-20R carrier level meter.............. \$1000

## "The SKYRIDER 23 Has Everything"



THE SX-23 is a truly finc example of outstanding engineering design, offering for the first time compensated frequency stability, climinating drift. The main feature of the new bandspread system is its reset accuracy. There is no bandset dial to fuss with. The same station always comes in at the same place on the dial. The band indicator harmonizes with the S-DB meter, and is direct reading. Tubes-3-6SK7, 1-6SA7, 2-6SJ7, 1-6SQ7, 1-6B8, 1-6H6, 1-6F6G, 1-80. Controls, RF gain, pitch control, tonc control, selectivity switch, A.N.l. switch, band switch, send-receive switch, andio gain, crystal phasing control, main tuning control and phone jack. Cabinet size-19" long. $91 / 4^{\prime \prime}$ high, $121 / 2^{\prime \prime}$ decp. For operation from 110 volt $50-60$ cycle AC. For 110 volt AC operation from 6 volts DC use No. 301 Electronic Converter.

## FEATURES

8 bandswitch positions. Bands $1.2 \cdot 34$ cover 515 kc . to 44 me. contimously. Bands 5.6.7.8 are pre-set handspread for the amateur 10, 21, 10 and 80 meter bands. © Six. itep variable selectivity. - Inproved noise limiter circuit. © Frequency stalility, both from temperaturehumidity effects and from line voltage variations. "Venetian Blind" dial. Band indicator and S.DB meter. - Completely shielded crystal circuit and phasing con-trol-permeability tuned coil--with separate shicld compartment for crystal.
The SKYRIDER 23 (Model SX23)-Complete with lubes and rystal. Shipping wright $\overline{56}$. $\$ 1 \mathbf{1 5 5 0}$ The SKYRIDER 23 (Model SX23) Com. $\$ 12750$ plete with tubes, crystal, 10" PM 23 Speaker
$\$ 500$


## The SKYRIDER 5-10

Covers the radio spectrum from 27 mc . to 68 mc . in two hands with a degree of sensitivity and selectivity that is unparalleled. Band 1-27 me. to 12 nic. Band 240 mc to 68 mc . Sensitivity of BETTER THAN 1 MICROVOLT. Socket on chassis for 6 volt mobile operation with the addition of a vibrapack or other suitable power supply. IF amplification- 1600 kc . Tuhes used one each 1852, 6I.7, 6J5. 6K7, 619G, 6F6G, 6H6 noise silencer and an 80. Builtint speaker.
Terminals are provided for an SM21 meter. For operal-
tion from 110 volts, 50.60 cycles, AC. Dimensions: $181 / 2^{\prime \prime} \times 91 / 4^{\prime \prime} \times 81 / 2^{\prime \prime}$ high.
The SKYRIDER 5.I0 (Model S.21)-Complete with tubes and speaker. Shipping weight 34 Ih.. $\$ 6950$
SM-21 carrier level meter...................... \$1000
For 110 to 250 volt operation, 25 to 60 cy., $\$ \mathbf{5 0 0}$
additional cost ..............................

# BLILEY CRYSTAL UNITS 

## TYPE HF2 MOUNTED CRYSTAL FOR THE 10 AND 20-METER BANDS

A fully dependable
 crystal unit for the 10 and 20 -meter amateur bands. Engineered by Bliley, this precisionground crystal simplifles the construction of 5,10 and 20 -meter transmitters by reducing the necessary number of frequency multiplications to a minimum. In use, the HF2 Unit for 20 -meters is directly applicable to conventional circuits. With the HF2 10-meter Unit, specifically recommended for 5 -meters, certain circuit considerations are necessary for maximum performance -for details, consult Engineering Bulletin E-6.

*Or choice from dealer's stock.

## TYPE BC3 MOUNTED CRYSTAL FOR THE 40, 80 AND 160 -METER BANDS

Thoroughly reliable in every respect, this economically priced crystal unit has found wide favor with amateurs throughout the world. The accurately cut crystal is an active oscillator and has a drift of only 23 cycles $/ \mathrm{mc} . /^{\circ} \mathrm{C}$. Heat, developed by the crystal during oscillation, is dissipated by the stainless-steel holder cover-plate. This design assures greatest stability by limiting the temperature rise of the crystal.


## TYPE B5 MOUNTED CRYSTAL FOR THE 20 AND 40-METER BANDS

The type B5 lowdrift crystal unit offers high frequency stability at a reasonable cost. This coniplete unit, consisting of the precision-ground crystal and its compact low-loss holder, is thoroughly engineered and has a drift of less than $\pm 4$ cycles $/ \mathrm{mc} . /{ }^{\circ} \mathrm{C}$.

The B5 Unit for 40 meters possesses high activity and a comparatively large power handling capacity. For
 20-meters, it has less than $1 / 5$ the frequency drift of the type HF2 Unit with only a small decrease in relative activity and power output.

Type 85-7.0 to 7.3 MC., within 5KC. of specified frequency* ....................................................................

Frequency to exact Integral specified KC'a......Net 14.0 to 14.4 MC ., within 15 KC . of specified frequency*

Within 5 KC . of specifled frequency......Net 14.4 to 15.0 MC., within 30 KC . of apecifled frequency*
*Or choice from dealer's stock.

## TYPE LD2 MOUNTED CRYSTAL FOR THE 80 and 160-METER BANDS

The type LD2 Unit is a mounted, precision low-drift crystal for the 80 and 160 -meter amateur bands. The crystal is carefully cut from selected Brazilian Quartz, lapped to exacting limits, accurately calibrated and rigidly tested. It possesses high activity and has a frequency drift of less than $\pm 4$ cycles $/ \mathrm{mc} . /{ }^{\circ} \mathrm{C}$. The mounting is low-luss molded Bakelite with the crystal held under constant spring pressure between two stainless-steel electrodes. The unit plugs into any standard 5 -prong tube
 socket and may be mounted in any position.

Type LD2-Within 5 KC . of specified frequency or choice from dealers stock.

NET
54.80

Supplied to exact Integral specified KC's.

## NET

$\$ 5.90$

Engineering Bulletin E-6, FREQUENCY CONTROL WITH QUARTZ CRYSTALS, should be read by every engineer, amateur or experimenter interested in frequency control or the measurement of radio frequencies. Price, 10c per copy (Canada 15c).

## BLILEY CRYSTAL UNITS

## VARIABLE FREQUENCY CRYSTAL UNIT TYPE VFI



Pat. No. 2,079,540

Enjoy clear channels with a variable frequency crystal unit. By a mere twist of the control knob, your station frequency is continuously variable up to 6 KC . with the $80-$ meter mint or 12 KC . with the 40-meter unit. When frequency multiplying, the variation is proportionately increased.

The specially ground crystal has a drift of less than $\pm 4$ cycles/ mc. $/{ }^{\circ} \mathrm{C}$. and an activity only slightly less than that of corresponding fixedfrequency crystals. With the average transmitter, no changes in tuning will be required over the entire adjustable range of the VF1 Unit.

$$
\begin{aligned}
& \text { Type VFI-Within } 5 \text { KC. of киесified minimum fre- } \\
& \text { quency in the 80-meter band } \\
& \text { Minimum frefuency at exact integral specified KC"s. } \\
& \text { in the 80-meter band............................................... Net } \\
& \text { Type VFI-Within } 15 \mathrm{KC} \text {. of aprecified minimum fro } \\
& \text { guency in the 40-meter liand .............................. Net } \\
& \text { Within } 5 \mathrm{KC} \text {. of specified minimum frequency in the } \\
& \text { 40-meter bund } \\
& \text { Net } \\
& \$ 6.60 \\
& \$ 8.50 \\
& \$ 6.60 \\
& \$ 8.50
\end{aligned}
$$

## CALIBRATOR CRYSTAL UNIT TYPE SMC100

The type SMC100 Crystal Unit offers a simple neans for constructing a flexible, inexpensive frequency standard. Its dual-frequency feature is advantageous for rapidly checking the calibration of radio receivers, test oscillators, signal generators or amateur monitors. Radio servicemen will find a frequency standard using a type SMC100 Unit to be an invaluable servicing instrument.

Ry shunting a small variable condenser across the crystal, the 100 kc . frequency can be adjusted to exact value at normal room tenperatures. The 1000 kc . frequency is correct within $\pm .05 \%$.

Type SMCT00-100 KC.1,000 KC. mounted erystal. NET

## $\$ 7.75$



## STANDARD FREQUENCY CRYSTAL UNIT TYPE SOC100

A 100 KC . mounted crystal of high precision designed for use in frequency standards. This unit, in a simple circuit, provides reliable accuracy for calibration op frequency meters, test oscillators, radio receivers, or for trequency measurements in general.
The rigidly mounted crystal has a frequen-cy-temperature coefficient of less than $\pm 3$ cycles $/ \mathrm{mc} . /^{\circ} \mathrm{C}$. , which
 value is sufficiently 1 that temperature control is not necessary for general practice. Included in the aluminum shielded mounting is a tank coil of the proper characteristics for use with this crystal. The complete unit plugs into any standard 5 -prong tube socket and may be mounted in any position. Circuit instructions furnished.
Type socioo
vet \$15.50
Type SOC100, calibrated at sprecified oven temprera-
ture .......................................................... Net
$\$ 21.00$


## BLILEY CRYSTAL FILTER TYPE CFI

A high-frequency receiver is not complete unless it incorporates a quartz crystal filter. Only through the use of an effective intermediate-frequency filter is it possible to obtain the high degree of selectivity necessary for modern communications.

The Bliley CFI Crystal Filter Unit, with its high $Q$ and treedon from spurious responses, assures naxinum selectivity and minimum signal loss. Each crystal is carefully ground to frequency and rigidly
 tested in equipment simulating actual receiver conditions. The low-loss Steatite holder plugs into any standard 5 -prong tube socket.
Type CFI - for 456 kc ., 465 KC . or 500 Kc . I. F .

NET
$\$ 5.50$
For 1600 KC . I.F.
NET
$\$ 9.50$

Bliley General Communication Frequency Crystals and Mountings are manufactured for all frequencies from 20 KC . to 30 MC . Quotations or recommendations will gladly be extended upon receipt of detailed information concerning your requirements.

## THE JOHNSON " $Q$ " AND JOHNSON " $Q^{\prime \prime}$ BEAM



The phenomenal results oblained by the thousands of users of the Johnson $Q$ antenna system are due to the extremely high efficiency of this lamous antenna. The tremendous increase in the percentage of radio frequency energy radiated over that of an ordinary antenna results in a great increase in effective power.
Applications include hall - wave Applications include hal - wave doublet, either horizontal or ver". tical, harmonic or long wire radiator, radiator-retlector, radia-tor-diractor, "V" Beam. Johnson Q Beam and others. Write for Antenna Bulletin 105 describing and giving construction data on these many types. In all of these applications the iollowing advantages are realized.
Advantages of the Q System:

1. Greater radiation from the same transmitter powar than can be obtained with ordinary non-matched feeder systems.
2. Matched impedances throughout-no standing waves on trans mission line
3. Permits use of open wire line resulting in exceptionally low transmistion line loss-less than $1 / 10$ that of the best "twisted pair" lines.
4. No exact or critical overall line lengths. Line may be several hundred feet long if desired.
5. Permanent low loss construction. Glazed porcelain insulation-
6. Easily installed and adjusted-complete data supplied.

A special " $Q$ " for 5 meters uses aluminum tubing for the radiating portion as well as for the matching section. It may be used in the conventional manner or mounted directly on the transmitter case being selt-supporting when used in this manner. The 5QM is a special model using mycalex instead of porcelain. Kits are supphed complete, less end insulators and transmission line material. Regular kils contain enough copperweld wire for hall-wave installation. For other applications order the amount of No. 350 copperweld wire needed in excess of $1 / 2$ wave. Wire will be supplied in one piece. $Q$ and $Q S$ units are identical except that the latter are supplied with the quarter wave alumanum sections in straight lengths and are consequently easier installed

The Q Beam is a special application of the $Q$ system. It consists of two hali-wave $Q$ antennas spaced $1 / 3$ wave and $Q$ sections connected in parallel at the botiom. Flat-top connections at the suspension insulators are so connected as to feed the radiators $180^{\circ}$ out of phase. Transmission line used must be 600 ohms.

## Advantages of the Q Beam:

1. Two band operation with matched impedances on both bands.
(Bands must be adjacent and harmonically related.)
2. 4 db gain on fundamental- -db on mecond harmonic.
3. Wide flective radiation pattern- $60^{\circ}$ on fundameatal-45 $5^{\circ}$ on second harmonic.
4. Requires small installation space.
. Requires no adjustment when changing bands.
In ordering, order two QS antennas for the lower trequency os the two bands desired.
Any of the $Q$ applications may be used in television transmission and reception. Transmission lines should be made up using the No. 31 transposition insulators shown below. A $6 \frac{2}{3} Q$ using same construction as the $5 Q$ is supplied for the $40-56 \mathrm{mc}$ frequencies and the 5 meter unit can be cut for those above 60 mc .

## COMPLETE "Q" SYSTEMS


"ST" indicates straight tubing: "CT", coiled tubing.

## ENAMELLED COPPERWELD ANTENNA WIRE

## ENAMELT STEEL CORE— minOHNSON <br> PURE COPPER WELDED TO CORE

Johnson Enameled Copperweld Antenna Wire is the ideal material for transmitting doublets, directional antenna systems. or rany applications where the wire must not stretch nor sag. Combines the desired characteristics of very low R. F. resistance, freedom from corrosion and almost three tumes the strength of ordinary enameled copper wire. Prices are per 100 ft .


## STRAIN INSULATORS



38
The No. 32 Airplane Strain Insulator is useful for light guys and receiving antennas. No. 30 is a new insulator similar to No. 32 bui $2^{\prime \prime}$ long lor heavier service. The No. 38 "Cruciform" Strain Insulator is especially designed for R. F. uses, having low capacity, long leakage path, light weight. All are of white glazed low absorption porcelain.


## FEEDER SPREADERS

## Fermsen

132
yo Jemson - 3
$\frac{50-\frac{\text { janstox }}{136}-3}{}-3$
136
Three lengths, for every amateur transmitter and receiver requirement. No. 132 also has notches for $11 / 2^{\prime \prime}$ line spacing. Crosssection $3 / 9^{\prime \prime} \times 1 / 2^{\prime \prime}$. High grade low absorption glazed porcelain

| Cat. No. Length | Code Word | List Price |  |
| :---: | :---: | :---: | :---: |
| 132 | $2^{\circ \prime}$ | FEINT | $\$ .15$ |
| 134 | $4^{\circ \prime}$ | FELON | .20 |
| 136 | $6^{\circ}$ | FEMUR | .25 |

## TRANSPOSITION INSULATORS

A patented insulator of high grade, non-absorbent white glazed percelain. Easy to install, does not make a twist in the line, promotes highost efficiency for receiving or transmitting. Provides 2" line spacing
No. 31 Transposition Insulator, Code FERRY. List Pric.
"Q" SUSPENSION ASSEMBLY
Includes No. 106 An-tenna-Feeder Insulator and all necessary hardware for connecting " Q " tubing to insulator and transmission line.


106 Insulator may be used with "Zepp" feeders
permitting them to be brought off at any angle with equal tension on both No. 39 Suspenion Assembly, Code OUPUY List Price
No. 100 ........ Code ANNAM. List Price........................ $\$ .60$

## ANTENNA INSULATORS



107-112-120


## 151-152-153

These insulators are of genuine WET PROCESS porcelain, with smooth white glazing The all-porcelain types are $1^{\prime \prime}$ in diameter. Their long leakage path, low capacity, and freedom from moisture absorption result in exceptional elficiency. The Commercial Type is $11 / 2^{\circ}$ in diameter, for uses where much greater strength is necessary. End littings are of non-corrosive aluminum alloy No. 104 is a dry process $4^{\prime \prime}$ antenna insulator, $5 / 8^{\prime \prime}$ square for service where the strength of the $l^{\prime \prime}$ types is not required Cat. No. Length Code Word List Price

| Cat. No. | leagto | Code Word | ANOEC |
| :---: | :---: | :---: | ---: |
| 104 | $4^{\circ \prime}$ | $\$ .20$ |  |
| 107 | $12^{\prime \prime}$ | ANNUL | .70 |
| 112 | $120^{\circ}$ | ANNEX | .90 |
| 120 | $20^{\circ}$ | ANTE | 1.50 |


| Cat. | Length | Code | List |  |
| :--- | :---: | :---: | :---: | ---: |
| No. | Net | Overall | Word | Price |
| 1S1 | $8^{\circ \prime}$ | $151 / 2^{\prime \prime}$ | ANISE | $\$ 9.00$ |
| 152 | $12^{\prime \prime}$ | $1912^{\prime \prime}$ | ANNOY | 10.75 |
| 153 | $20^{\prime \prime}$ | $2512^{\prime \prime}$ | ANON | 15.00 |

## "Q" SPACING BARS

Made of dense, highly vitrified white glazed porcelain, with aluminum fubing clomps. No. 33 Spacing Bar, Code QUIET.
List Price

## 2. F. JOENSON Company ymen

## TUBE SOCKETS

| Cat. No.* | Base | Code Word | $\underset{\text { Price }}{\text { List }}$ | Cat. <br> No.* | Base | Code Word |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 209 | "UX". | SOPED | 50.95 | 214 | "Eimac" | SOSE |
| 209B | "UX" | SOPIG | 1.10 | 215 | " 250 walt" | SOLIF |
| 2095 | "UX'. | SOPOH | 1.85 | 216 | $\because 5$ prong". | SOAR |
| 209SB | "UX". | SOPUI | 2.00 | 2168 | " 5 prong". | SORA |
| 210 | "UX". | SOLUS | . 85 | 2165 | " ${ }^{5}$ prong ${ }^{\text {pro. }}$ | SOREL |
| 2108 | "UX"." | SOPAC | 1.00 | 216SB | "5 prong" | SORIM |
| 210 F | "UX" | SOOT | 2.50 |  |  |  |
| 211 | "50 wall". | SOLE | 1.25 | *Explanation of catalog number letter suffix indicates standard con tion; i.e., porcelain base, phosphor b contacts. Letter B indicates Bery Copper contacts; letter $S$ indicates tite base |  |  |
| 211 B | "50 watt" | SOLIV | 1.60 |  |  |  |
| 2115 | " 50 watt" | SONOW | 2.70 |  |  |  |
| 2115 | "50 watt". | SONUX | 3.00 |  |  |  |
| $211 F$ | "50 watt"" | SORRY | 3.50 |  |  |  |
| 213 | "Eimac" | SOSAQ | 1.50 |  |  |  |
|  |  | WAFER SOCKETS |  |  |  |  |
|  |  | 237-247 |  |  | 235 |  |



209-210-211-216


213-214

217-224-225-226-227-228

The World's Most Famous Tube Sockets," a title earned over years of top quality in matenal, workmanship and design, cover nearly every transmiting lube requiremen. Johnson sockets are specified by exacting users wherever conditions are most severe, as in Government services.
No. 209 is similar to No. 210 but provides greater spacing between contacts and shell, for higher voltages. No. 211, the standard " 50 watt" socket, has double filament contacts for carrying heavy currents. No. 2.16 is for "jumbo 5 prong" tubes such as 803 and RK28. No. 215 is for ""50 watt" tubes such as $204 \mathrm{~A}, 849$, etc., and features a plate terminal "safety cup." 210 F and 211F are for front of panel mounting and are enclosed in lustrous black finished aluminum housings.
EIMAC 152TL and 304TL tubes take the new 213 socket and EIMAC 1500TH etc., take the new 214 (with air jet lor cooling filament seal)
All contacts are heavy, side wiping type, phosphor bronze, with choice of beryllium copper in most cases; shells, where used. are heavy brass, nickel plated; bases of excellent white porcelain, with steatite (Gov't grade G) optional.

Johnson ceramic wafer sockets are insulated with steatite (Gov't grade G, wax mpregnated) making them excellent for use at high and ultra-high frequencies. Conacts are cadmium plated, reintorced with cadmium plated steel springs, recessed in he form to prevent movement. All metal parts are counter-sunk and mounting holes bossed to permit mountina on metal panel without shortina.
No. 235 acorn socket has silver plated beryllium copper contacts mounted on bosses hroviding long leaknae paths. No. 237 is a socket for the HK 257 and RCA 813 mbes and No. 247 lor the RCA 829 and 832 tubes is similar, with an aluminum tube shield.

Cat. No.

| Cat. No. | Base | Code Word | List Price | Cat. No. | Base | Code Word | st |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 224 | 4 rrona | SOMF,C | S . 55 |  | Octal | SONA | \$ .70 |
| 225 | 5 prona | SOMID | . 60 | 235 | Acorn | SONEU | 1.25 |
| 226 | 6 prong | SOMOF | . 60 | 237 | \% proneq | SORON | 1.25 |
| 227 | \% pr. Small | SOMAB | . 65 | 247 | 7 prong | SORUP | 1.75 |

## SHAFT COUPLINGS

Flexible coupling units in sulated with Ultra-steatite are available in two sizes, No. 250, ${ }^{13 / 9} /{ }^{\prime \prime}$ diameter and No. 251, $2.1 / 4^{\circ}$ diameter. Flexibility is obtained by cadmium plated phosphor bronze spring with no baek. lash.

No. 252 is a solid insu. lated coupling of Ulira. steatite for use where high quality insulation is desir able. Takes $1 / 4^{\prime \prime}$ shaft at either end. So designed to have extremely long leakage path in proportion to length.


No. 258 is a cadmium plated brass compression shaft coupling. Will not burr shatt. Much stronger than set screw type.



## Code CULAB CULEC CUNUN CUPAN CUNOL

## FLEXIBLE SHAFTS

Phosphor bronze. non rusting with out-ol-line or up to $90^{\circ}$ angular control.

$\begin{array}{ll}253 & 3^{\circ \circ} \\ 254 & 4^{\prime \prime}\end{array}$ Code List

254 CULUG $\quad$|  |
| :--- | :--- |

## PANEL BEARINGS

Cadmium plated brass.
for $1 / 4^{" \text { " shaft and up to }}$ $3 / 9^{\prime \prime}$
$3^{\prime \prime}$ panels. Also with
$6^{\prime}$ cadmium plated brass shaits.
Cat. No.
255 Panel Bearing
256 Bearing and $3^{\circ}$. sha 257 Bearing and $6^{\prime \prime}$ sha

## INDUCTOR CLIPS

## 

Phosphor bronze cadmium plated, with clamping serew and integral solder loop. The only clip taking wire from No. 20 to No. 10, without danc ing adjacent turns
No. 860-Clip. Code

Code List CUNAH \$0.15
 .40

Lis
Pric
$\$ 2.50$
3.50
2.5
3.00
4.25
4.75
,


Nickel-silver springs, and high-grade nickeled brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs.
$75 C$ is a tapped plug with ${ }^{5}$ " 6-32 ma. chine screw in head. 75D is designed for tiveting of soldering. Spring is of beryllium copper.

75BB has 1" black insulated handle; 75BR same but red. 77BB has $11 / 2^{" \prime}$ black insulated handle: 77 BR same but red.

| Cat. |  |  |
| :--- | :--- | ---: |
| No. |  | B |
| 74 | lack | 5 |
| 75 | Plug | 3 |
| $75 A$ | Plug | $3 /$ |
| 75BB Plug | 3 |  |
| $75 B R$ | Plug | 3 |
| $75 C$ | Plug |  |
| $75 D$ | Plug | 5 |
| 76 | lack | 11 |
| $76 A$ | Jack | 13 |
| 77 | Plua | 11 |
| $77 A$ | Plua | 11 |
| $77 B B$ | Pluq | 11 |
| $77 B R$ | Plug | 1 |


| Body | Thread | Code Word | $\underset{\text { List }}{\text { Price }}$ |
| :---: | :---: | :---: | :---: |
| 5/8"* | $17{ }^{\prime \prime} x^{1 / 4}-28$ | SMOKE | $\$ 0$. |
| $3 / 4$ " | $3 / 8{ }^{\prime \prime} \times 6-32$ | SMALL | . 0 |
| $3 /$ | $3 / 4{ }^{\prime \prime} \times 6-32$ | SMOLT |  |
| $3 / 4$ | $l^{\prime \prime}$ handle | SMUAR |  |
| $3 / 4$ " | 1" handle | SMUES |  |
| 1'* | 6-32 screw | SMOPE |  |
| 5/8 |  | SMOQI |  |
| 1/4 | U1 ${ }^{3 / 8}-24$ | SMEAR |  |
| $13 / 8$ | 1/4-20 screw | SMUG |  |
| $1 / 8$ | $3 / 8 \times 1 / 4-28$ | SMELL |  |
| $11 / 8$ | 10-32 screw | SMILE | 2 |
| 1/8 | $11 / 2^{\prime \prime}$ handl | SMUIT | . 3 |
| $11 / 8{ }^{\prime \prime}$ | 11/2" handlo | SMUOV |  |

*Overall length
*Hollow rivet shank . $135^{*}$ dia.


7071
73A
These jacks have maximum current carry ing capacity. minimum resistance, great mechanical strength, and snua lit. Tension is mainiained by phosphor bronze spring sleeves.

| Cat. |  | Lengths |  | Code | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Body | Thread | Word | Price |
| 70 | Jack | $11 / 2^{\prime \prime}$ | 1/4-20 screw | SMITH | \$0.35 |
| 71 | Plug | 11/8", | $1 / 2^{\prime \prime} \times 1 / 4-28$ | SMART | . 14 |
| 72 | Jack | $11 /{ }^{\prime \prime}$ | 10-32 screw | SMASH | . 25 |
| 73 | Plug | 1虽" | T/4" $\times 10-32$ | SMACK | . 07 |
| 73R | Plug | 教" | 10-32 screw | SMASH | . 07 |



## TUBE CAPS

Tube caps of phosphor bronze cadmium plated for transmit ting use. Provide positive grip and low resistance contact.


Copyright by U. C. P., Ine.

# WIRELESS INSTRUMENTS INSTRUMENTS 



This key is designed for learners who want something that is scientifically correct but moderate in price. Has black enamel metal base and is mounted on a mahogany finished wood base. Key lever is nickel plated. Contact points are platinor

List \$2.50


## PONY RELAY

All the metal parts on this pony relay are brass with lacquer finish, excepting armature which is polished and plated steel. Magnets are non-adjustable. Mounted on a mahogany finished wood sub base and cast iron black enamel bise.

## List

$\begin{array}{ll}\text { M-104-4 Ohm } & \text { O. .............. } \$ \mathbf{6 . 5 0} \\ \text { M-105-20 Ohm } & \text { O. }\end{array}$ M-105-20 Ohm
7.00

M-106-5 Ohm
7.25


R-48 KEY

The beginner in the field of wireless approves this $1 / 4 \mathrm{~K}$. W. Key for its desir. ability and inexpensiveness. It is well trade with polished key lever and lacquered parts. Contact points are platinor.

List \$2.80
R-68 PRACTICE SET


Designed for those who want a well made instrument to learn the code. Set consists of a key and high frequency buzzer mounted on a mahogany finished wood base equipped with binding posts. The code is printed on a plate and fas. tened to the base between the key and buzzer. Buzzer is adjustable.

List $\$ \mathbf{3 . 4 0}$
R-60 BUZZER


The R. 60 high frequency buzzer is the same type used on the R-68 Wireless Practice Set. It is adjustable and has a standard resist. ance of 2 Ohms. Finish is black crystallized lacquer. List \$1.25


## SOUNDER

The tone quality and instant action of this correctly designed sounder are well and widely known. All adjustments are simple and accurate. Bar frame is black enamel and has an aluminum sounding bar, brass bridge and black lacquered steel sounder plate. It is mounted on a mahogany finished wood base equipped with binding posts.

|  |  | Li |
| :---: | :---: | :---: |
| 112-S-4 | Ohm | \$3.50 |
| 113-S-20 | Ohm | 3.75 |



## LEARNER SET

On city, private and short lines learners will find this instrument easy to handle and having a clear, distinct tone. Bar frame and key base are black enamel, the bridge is brass, sounding bar is aluminum with black lacquered steel sounder plate. Key lever is nickel plated. Sounder and key are mounted on a mahogany finished wood base.

List



## STANDARD KEY

This standard wireless key is designed to carry heavy currents. All brass con. struction with lacquer finish. Furnished with $3 / 16$. $1 / 4$ or $3 / 8$-inch coin silver contacts. Navy type key knob.

R-62-3/16" contacts
List
3.50

R-64- $1 / 4$. . contacts contacts
3.85

R-70 TWIN PRACTICE SET


In this practice set is represented value that appeals to the beginner. Set includes two R-69 instruments. 75 feet of wire and instruction manual packed in an attractive, illustrative box.


For rapid transmitting this key is preferred by skilled operators and beginners. The base, equipped with binding posts, is brass with a lacquer finish. Key lever is nickel plated. Furnished with platinor contact points.

List \$3.00

## COMMERCIAL RELAY



The commercial relay is well designed and constructed for long, continuous service on commercial lines. Heel iron and armature are made of Norway iron. Has rubber covered adjustable coils. Mounted on mahogany finished wood sub base and cast iron black enamel base.

List
916-150 Ohm ................ $\$ 12.50$ 917-250 Ohm ................. 12.75


For the amateur who wants an inexpensive, high grade wireless key, here is the proper instrument. It is equipped with a heavy, cast, well insulated base in a black finish, coin silver contacts, composition knob and nickel parts.

List \$1.50

## R-69 PRACTICE SET



The R. 69 Practice Set is for those who want an inexpensive instrument. Consists of a key lever, non-adjustable buzzer and code plate mounted on a metal base equipped with binding posts and rubber feet. Has maroon finished base and gold lacquered key lever and buzzer cover.

List \$1.75

List $\$ 3.75$

## ELECTRIC • SHGNAML•DRILLS



## \$19.50 List

The OB-8 light duty drill is designed for intermittent service. It is a good, high quality product, properly balanced, with an air-cooled handle having a comfortable grip. Light in weight, it is especially adaptable for radio repair work, wood and metal assembly, airplane construction, boat building and kindred applications.


## $\$ 24.50$ List

For general maintenance, construction and building work the OB-4 standard duty drill will give dependable service. It is popular with electricians, carpenters, machinists and repairmen. It has an abundance of power developed by a mooth-running universal motor. It is well balanced, has a comfortable grip and aircooled handle.



## \$47.50 List

This standard duty half-inch drill has everything a good drill should possess-lots of power, proper speed, light weight, durability, high quality construction and correct balance. For general production, garage, machine shop and maintenance work where a drill receives hard use, it is recommended. Contractors, plumbers, electricians, and others will find it can be depended upon to give efficient service at all times. Attractively priced, this drill has established for itself a fine reputation that is recognized by users and distributors alike.

## SPECIFICATIONS

Motor: Univeral for direct or alternating current, 110 . 120 volts. 25.60 cycles.

|  | OB-8 | OB-4 | OB-5 |
| :---: | :---: | :---: | :---: |
| Code Word | SEMED | SEMEB | SEMEC |
| $\begin{aligned} & \text { List Prices (110. } \\ & \quad 120 \text { volts }) \end{aligned}$ | \$19.50 | \$24.50 | \$47.50 |
| Special Voltages | 10 percent | tion list. |  |
| Overall Length | 12" | $123 /{ }^{\prime \prime}$ | 161/2" |
| Benringa | Bronze wo thrust bal ing. | cked with dle bear- | Armature and spindle thrust high |
| Capacity | 1/4" | 1/4" | $1 / 2{ }^{\prime \prime}$ |
| Speed (No loat R.P.M.) | 2950 | 1700 | 400 |
| Amperes (No load) | 1.0 | . 9 | 1.8 |
| Switch | Trigger ty operation. | ith lock | continuoua |
| Cord Length | 5 feet | 8 feet | 15 feet |
| Net Weight | $51 / 2 \mathrm{lbs}$. | $71 / 4 \mathrm{lbs}$. | 14 lbs . |
| Shipping Weight. | 7 lbs. | 8 lbs . | 16 lbs . |
| Pipe Handle |  |  | Detachable |
| Cord | Heavy dut ber cord | bber cove tor. | dith rub. |
| Plug | Rubber. |  |  |
| Brushes | Accessible | outside |  |
| Gears | Special all | eat treat |  |
| Housing | Durable al | um alloy |  |
| Chuck | Almond, 3 | with key |  |

# ALLIED 



## TYPE P.C. RELAY

COILS-Impreanated. Nary type on special order. -
 wide.

CONTACT RATING-5 amperes of non-inductive A.C. at 110V A.C. Not to exceed 10 operations per minute.

PLATE CIRCEIT TYPES-The 2500 ohn P.C. 1 can be set to pull in from 6 to $\$$ mills and to drop out a: 3 to 5 mills. The 5000 ohm, P.C. 2, will pick up at 2 t., 3 mills, and drop out at 2 to $11 / 2$ mills.

STANDARD STOCK TYPES are available in standard roltages, A.C. and D.C., as shown in our Relay Data sheet. Coils for any voltage between 1 and 220 V A.C. and 5 and 125 V D.C. can be had in lots of 100 or more without extra charge. For quantities of less than 100, an additional charge will be made for winding the coils.

DOLBLE POLE-DOUBLE THROW - The D.P.D.T. contacts are insulated from trame. They call be supplied in all the relays listed below. See price list for extra charge.

AlliED P.C. TYPE RELAYS-Are being used in quantities in a wide variety of applications, such as burglar and fire alarm. radio receivers and transmitters, intercommunications equipment. public ad dress systems. test instruments. photo-electric derices, electronic switches. timers, small motor starting. etc.

|  | Operating Volfs <br> Type | A.C. |
| :--- | :---: | :---: | :---: | ---: |

P.C. types in D.P.D.T.-ADD $\$ 0.50$ TO S.P.D.T. PRICES

## TYPE D RELAY

COILS have heary protective wrap and are vacuum impregnated. Navy type coils available.
CONTACT SECTION-New type construction giving cqual distribution of pressure on all contacts. Current is not carried on actuating springs.
MOUNTIN゙G-Special metal brackets of ungrounded construction.
PLATING-Nickel and cadmium.
CONTACT RATING-10 amperes of non-indnctive A.C. at 125 volts. Also special contacts for dynamotor starting with ratings up to 30 amperes continuous on 6 and 12 volt battery D.C.
DIMENSIONS—21/4" long $x ~ 25 / 8 "$ high $x 21 / 4^{\prime \prime}$ wide. T®SES—Police. Aireraft and Marine Radio applicatious such as antennatrausfer. filament control and dynamotor starting. Narm and signal devices. A.C. types for general industrial control applications.

| Type | $\begin{aligned} & \text { Operating Voltage } \\ & \text { A.C. } \quad \text { D.C. } \end{aligned}$ |  |  | Net Price |
| :---: | :---: | :---: | :---: | :---: |
|  |  | $1-1 i$ | 1.19.11.\% | \$2.15 |
| D. 2 |  | $10-12$ | II.P.II.I | 2.15 |
| D. 3 | 46.3 |  | 1.1P.11.T | 2.50 |
| 0. 4 | 110 |  |  | 2.50 |
| D. 5 |  | 1-1i | SIP.19.1 | 2.35 |
| D. 6 |  | 111 | SP.11\% | 2.35 |

## HIGH FREQUENCY RELAYS



## ALLIED

CIRCLE SENSITIVE RELAY


The CIRCLE line of relays are highly sensitive ou A.C. They are exceedingly rugged and develop musually high contact pressure and wipe. Another unique feature is that they can be made in Double Pole Double Throw.
CIRCLE relays are precision made and are assembled on a moulded loakelite base which can easily be utilized for front or back connections on panel board mounting. The magnetic structure is of a special heat treated alloy, and the novel hinge arrangement using a stainless steel pin with brass bearings assures long life under the most severe operating conditions.
Applications - Most suitable for thermal regulators, electrouic devices, ultra sensitive control circuits; in low current supervised circuits such as burglar and fire alarms. voltage control circuits, keying, timing devices, etc.

SPECIFICATIONS

## SENSITIVE <br> Guerating (Haructeristice

(\%i)
('ontact Rating-
( (untact
Irrangement -
Dimetasionto
firneral-
Contacts-
KEYING
D.C.

As low as 1 mill at 110 V 10 cycles with a $50 \%$ drop out value.
1 volt to 220 volts $300 \%$ overload. Vac. umm imprugnated.
1 amp at $481^{\circ}$ D.C. amps at $110 V^{\circ}$ A.C. S.E.D.T. anl D.P.D.T.

As low as . 012 watte with $80 \%$ drop out value.

1 volt to 220 volts $150 \%$ overload. Vuc. uum impregnated.
1 amp ut $4 \times V^{\circ}$ D.C. b ampes at 110 V A.C. S.P.D.T amul D.I'.D.T.
$2 \not \approx "$ wide $\times 2$ " " long $x 1$ " high.
Kclays adjustable throughout. Furnished with Hakclite Buse.
coin silvar on standard models. Special contac'th to sprecitication.
Built to specifications. Will operate up to 1000 egoles per minute. This line is a variation of the above sensitive tyre.

## PRICES

Type No. BD330
BD338
BA324
BA342
CA342
CA344
DD344

Operating Voltage
S.P.D.T
S.P.D.T.
S.I.D.T.

V D.C.
Net Price S.P.D.T. $\quad 90-150$ V A.C S.P.D.T. Plate Circuit 1 nill S.P.D.T. Plate Circuit 0.25 mill S.P.D.T. Hi Speed Keying Relay

## CIRCLE RELAYS



Our "J" relays were designed especially for applications where small space and resistance to vibration are important requirements. They are built primarily for Army, Navy, and Aircraft applications.
Type No. J-1 is designed to offer minimun base noounting area. All lugs are on the panel where they are readily accessible for soldering. This relay is available with contacts from S.P.S.T. to D.P.D.T. Series type contacts can be supplied in S.P.D.T. All contacts are insulated from frame. $1 \frac{17}{32}$ " high, $\frac{11 "}{10}$ wide, and $1 \frac{273}{32}$ length.
Type No. J-2 is available in S.P.S.T. to S.P.D.T. On standard models contacts are not insulated from frame. $5 / 8^{\prime \prime}$ high, $11 / /^{\prime \prime}$ wide, and $15 / /^{\prime \prime}$ length.
Type No. J. 3 is available in S.P.S.T. to S.P.D.T. Contacts are not insulated from frame on standard models. $1^{\prime \prime}$ high, $1^{\prime \prime}$ wide, and $11 / 2^{\prime \prime}$ length.
Coil Voltage: D.C. - 1 to 40 volts; A.C. -6 to 110 volts.
Contact Rating: 5 amperes at 110 volts 60 cycle A.C. non-inductive load.

## PRICES

| J.1 | Net | J-2 | Net | J-3 | Net |
| :--- | ---: | :--- | ---: | :--- | ---: |
| D.P.D.T. | $\$ 3.50$ | S.P.D.T. | $\$ 2.50$ | S.P.D.T., D.C. | $\$ 1.10$ |
| S.P.D.T. | 3.25 | Insulated |  | S.P.D.T., A.C. | 1.35 |
| D.P.S.T. | 3.00 | Armature | 3.00 | Insulated |  |
| S.P.S.T. | 3.00 |  |  |  | Armature |

## BAND SWITCH RELAY-Type RX100

This is a 6
 pole-double throw relay. The contacts aresilver plated and of the type which are self-cleaning. They maintain an extremely low contact resis. tance which is of particular advantage under conditions of high humidity and vibration. Insulation is X2B hard rubber whiclı has excellent characteristics for high frequency circuits. The actuating meclıanism is amply powered to insure positive operation in all positions.

Dimensions - $33 / 4^{\prime \prime}$ long $x \quad 11 / 2^{\prime \prime}$ wide $x 21 / 4^{\prime \prime}$ high.
Coils - Vacuum impregnated for voltages from 5 to 110 volts D.C. and for 5 to 220 volts A.C.

Contact Rating - 80 watts at 110 volts A.C.
Applications - Well suited for higli frequency circuit switching and other multi-contact applications where low contact resistance and good insulation is required.
Prices - A. C. Net............ $\$ 6.00$ D.C. Net........... $\$ 5.50$

## Raprouncts



## MASTER TRANSMITTING CONDENSERS

For greater enfiency．IImavy aluminum rounded plates．Alumi－ oum end plater，rigid frame close fitting cons type brariuge homplar hronze rotor contact Hyoulox insulation．Made in HSGLEF DHAM and L1，TRA HGGI FRRQLiFNCY types．Pane space revilired 3 4／4＂$x$ 3点＂．

| Cat． No． | Max． <br> Cap． | Min． Cap． | No． Piates | Air Gap | Length Behind Panel | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BC－1600 | 40 | 7 | 5 | ． $100^{\prime \prime}$ | $33^{\prime \prime}$ | \＄ 4.05 |
| BC－1601 | ¢， 5 | K | 7 | $.100{ }^{\prime \prime}$ | 4＂ | － 4.44 |
| BC－1602 | 70 | \＄ | 0 | $.100^{\prime \prime}$ | 4 \％＂ | 4.80 |
| BC－1603 | 100 | 18 | 18 | ． $100^{\prime \prime}$ | $4{ }^{4 \prime \prime}$ | 5.01 |
| BC－1604 | 150 | 17 | 17 | $.100^{\prime \prime}$ | $5 \%$ \％ | 5.25 |
| BC－1605 | 2511 | 22 | 39 | ． $100{ }^{\prime \prime}$ | $7 \%$ | 6.00 |
| BC－1606 | 840 | 27 | 39 | $.100^{\prime \prime}$ |  | 7.20 |
| BC－1607 | 4 | 111 | 5 | $.200 "$ | 4\％＂ | 4.50 |
| BC－1608 | 85 | 11 | 7 | ．200＂ | 45 \％ | 4.80 |
| BC－1609 | il | 18 | 11 | －200＂ | 5多＂。 | 5.10 |
| BC－1610 | 75 | 16 | 15 | $.200^{\prime \prime}$ | 6\％＂ | 5.40 |
| BC－1611 | 1010 | 20 | 21 | ． 200 ＂ | 为\％＂ | 5.70 |
| BC－1612 | 115 | 4.5 | 29 | ．200＂ | $1018 \%$ | 6.90 |
| BC－1613 | 85 | 14 | 9 | ． $300{ }^{\prime \prime}$ | 5 ld | 5.10 |
| BC． 1614 | 0 | 18 | 15 | $.800^{\prime \prime}$ | ＊＊ | 6.00 |
| BC－1615 | 7. | $\because 1$ | $\because 1$ | $.300^{\prime \prime}$ | $101 /{ }^{1 / 8}$ | 6.90 |
| BC－1616 | 1111 | 88 | 29 | $.300^{\prime \prime}$ | $12 \%$ \％ | 7.50 |
| BC－1617 | 810 | $1 \%$ | 9 | ． $376^{\prime \prime}$ | 6 \％＂ | 5.40 |
| BC-1618 | 511 | 28 | 15 | $.375^{\prime \prime}$ | 9 16＂ | 6.30 |
| BC－1619 | 75 | 28 | $\because 5$ | $.375{ }^{\prime \prime}$ | 1314 | 7.50 |
| MASTER DUAL CONDENSERS |  |  |  |  |  |  |
| BC－1620 | 80 | 9 | 7 | ．0ヶリ＂ | A 3 \％＂ | \＄6．00 |
| BC－1621 | 100 | 11 | 9 | ．070＂ | $6^{\%} /{ }^{\prime \prime}$ | 6.60 |
| BC－1622 | 150 | $1:$ | 13 | $.11700^{\prime \prime}$ | 7 \％${ }^{\prime \prime}$ | 7.20 |
| BC－1623 | 250 | 15 | 21 | ．070＂ | 9\％＂ | 9.00 |
| BC－1624 | 40 | 10 | b | $.100^{\prime \prime}$ | ＊\％＂ | 6.00 |
| BC－1625 | 55 | 8 | 7 | $.100^{\prime \prime}$ |  | 6.30 |
| BC－1626 | 70 100 | 4 | $1{ }^{9}$ | $.100^{\prime \prime}$ | 73.0 | 6.90 |
| BC－1627 | 100 | 13 | 13 | $.100^{\prime \prime}$ | ＊5\％＂ | 7.50 |
| BC－1628 | 150 200 | 17 90 | 17 | ． $1000^{\prime \prime}$ | $93 / 4$ | 8.40 |
| $\mathrm{BC}-1629$ $\mathrm{BC}-1630$ | 200 | 20 | 23 | $.100^{\prime \prime}$ | $11 \%$ | 9.00 |
| BC－1630 | 35 | 12 | 7 | $.200^{\prime \prime}$ | s7／m＂ | 6.90 |
| BC－1631 | 50 | 13 | 11 | $.200^{\prime \prime}$ | $103 \%$ | 8.10 |
| BC－1632 | 35 | 16 | 15 | ．200＂ | 121／80 | 9.00 |
| BC． 1633 | 100 | 20 | 21 | ．200＂ | 154＊＊ | 9.60 |
| BC． 1634 | 50 | 15 | 13 | .300 ＂ | 13\％＂ | 9.30 |
| MASTER U．H．F．CONDENSERS |  |  |  |  |  |  |
| 1635 | 25 | 7 | 5 | ． 2000 | $7 \%$ \％ | \＄ 9.30 |
| 1630 | \＄5 | 11 | 7 | $.200^{\prime \prime}$ | s ${ }^{\text {7\％}}$ | 10.20 |
| 1637 | 610 | 1： | 11 | ．200＂ | 10 \％ | 11.10 |
| 1638 | 75 | 1 i | 15 | ． $8000^{\prime \prime}$ | 12 l | 12.00 |

## STAT－AIR CONDENSERS

Kereping a propur 1．＇（＇rathe，in all－hand opera－ tinn is now simplified ly usimg a variable air moulenser as a cromiur and phar Fixerd Stat－air erefions in parallel with the tank tuning con－ denser for lower froplewey ophration．Hrase plates with roundied algor arre solder welded to thels shafte for sturly．uniform，low loses cuns atnuction．Ilsimar $19 f_{\text {insulation．Fitted with }}$ rtandurd banana plugs．Cadmium plated tinish．


## JUNIOR TRANSMITTING



## CONDENSERS

A new conception in dewign and construction make thead conderners ideal for use in low and medium power trans mitters Recommended for portables and aireraft portabl where aitrieialt equip weight herall encient，ligh monetruction size and rigid Satin Finishme a ractor and Finished Aluminum brackets for univeral mounting and coil supporta lave two formed luted hard temper brass with their respective whatts for uniformser rourderd and solder welded to Wural tie rods add riridity contacts．Alsimar rigidity to frame．Brass bearinge．Phosphor bronz contacts．Alsimig 196 insulation．Panel space required $27 /{ }^{\prime \prime} \times 3^{\prime \prime}$ ．

| Cat． No． | Max． Cap． | Min． Cap． | No． Plates | $\begin{gathered} \text { Air } \\ \text { Gap } \end{gathered}$ | Length <br> Behind Panel | Price Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1525 | 50 | 4 | 7 | ．051＂ | 21／2＂ | \＄1．65 |
| 1526 | 100 | 6 | 13 | ．051＂ | $2 \%$＂ | \＄1．65 |
| 1527 | 145 | 7 | 19 | ．051＂ |  | 2.13 |
| 1528 | 250 | 11 | 33 | ．051＊ | $4{ }^{140}$ | 2.64 |
| 1529 | 340 | 15 | 43 | ．051＂ | ${ }^{3}{ }^{\circ \prime \prime}$ | 2.64 3.30 |
| 1530 | 25 | 4 | 5 | ．078＂ | 274 | 1.62 |
| 1531 1532 | 35 | 4 | 7 | ．078＂ | 2\％＂ | 1.71 |
| 1532 1533 | 55 80 | 7 | 11 | ．078 ${ }^{\prime \prime}$ |  | 1.89 |
| 1534 | 110 | 9 | 15 | ．078 ${ }^{\prime \prime}$ | $3{ }^{7}{ }^{7010}$ | 1.98 |
| 1535 | 150 | 12 | 29 | ． $078{ }^{\prime \prime}$ | $4 \%{ }^{4}$ | 2.31 |
| 1536 | 190 | 15 | 37 | ． 0780 | $6 \%{ }^{\circ}$ | 2.79 3.45 |
| 1537 | 245 | 17 | 47 | ． $078{ }^{\prime \prime}$ | $6{ }^{6}$ | 4.11 |
| 1538 | 20 | 5 | 7 | ．144＂ | $3{ }^{6 \prime}$ | 4.11 1.80 |
| 1539 | 40 | 7 | 13 | $.144^{\prime \prime}$ | 318 | 1.88 |
| 1540 | 55 | 9 | 17 | $.144^{\prime \prime}$ | $4 \%^{\prime \prime}$ | 1.98 2.31 |
| 1541 | 80 | 12 | 25 | $.144^{\prime \prime}$ | $5{ }^{\circ}$ | 2.31 |
| 1542 | 105 | 15 | 33 | ．144＂ | 7\％＂000000 | 3.06 |
| 1543 | 18 | 5 | 7 | $.178^{\prime \prime}$ | 3 年＂ | 1.06 1.98 |
| 1544 | 40 | 9 | 15 | ．175＂ | $41 / 2^{\prime \prime}$ | 2.64 |
| 1545 | 65 | 10 | 19 | $.175^{\prime \prime}$ | $5{ }^{\prime \prime \prime}$ | 2.97 |
| 1546 | 85 | 16 | 31 | ．175＂ | $8{ }^{\prime \prime}$ | 3.30 |
| 1547 | 100 | 17 | 37 | $.175^{\prime \prime}$ | 91／4 | 3.96 |

JUNIOR DUAL CONDENSERS

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Max． Cap． Per Sec． | Min． <br> Cap． <br> Per Sec． | No． Plates Per Sec． | $\begin{aligned} & \text { Air } \\ & \text { Gap } \end{aligned}$ | Length Behind Panel | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1550 | 20 | 3 | 3 | ．051＂ | $31 / 20$ | \＄2．31 |
| 1551 | 50 | 5 | 7 | ． 051 ＂ | 41\％ | \＄2．31 |
| 1552 | 70 | ${ }^{5}$ | 9 | $.051^{\prime \prime}$ | $4{ }^{4 \prime \prime}$ | 3.30 |
| 1553 | 100 | ${ }_{7}^{6}$ | 13 | ． $051 \%$ | $5{ }^{\circ}$ | 3.60 |
| 1554 | 145 200 | 7 | 19 | ．051＂ | $5 \%$ \％＂ | 4.29 |
| 1556 | 250 | 11 | 36 | ． 0551 ＂ | 6\％＂\％ | 4.80 |
| 1557 | 25 | 4 | 5 | ．058＂ | $7{ }^{\circ}$ | 5.61 |
| 1558 | 3.5 | 4 | 7 | ． 078 ＂ | $1{ }^{1}$ | 2.79 |
| 1559 | 55 | 6 | 11 | ． $078^{\prime \prime}$ | $54 \%$ | 2.97 |
| 1560 | ＊ 0 | 7 | 15 | ． $078{ }^{\prime \prime}$ | ${ }^{64}$ | 3.30 3.81 |
| 1561 | 110 | 9 | 21 | ． $078{ }^{\prime \prime}$ | ${ }^{6 \pi}$ | 3.81 |
| 1562 | 150 | 11 | 29 | ．078＂ | 810 | 4.19 |
| 1563 | 20 | 5 | 7 | ．141＂ | $5{ }^{3}$ | 4.95 |
| 1564 | 40 | ， | 13 | ．144＂ | $71 /{ }^{\prime \prime}$ | 3.30 3.60 |
| 1565 | 55 | 9 | 17 | ．144＂ | 8？ | 3.60 3.87 |
| 1566 | 18 | 5 | 7 | ．175＂ | 5\％＂ | 3.60 |
| 1567 | 40 | ！ | 15 | ．175＂ | 8\％＂ | 4.11 |

JUNIOR U．H．F．CONDENSERS Dual Types Only Plates .040 Thick

| $\begin{aligned} & \text { No. } \\ & \text { Cat. } \end{aligned}$ | Cap． <br> Max． <br> Per Sec． | Cap． <br> Min． <br> Per Sec． | Plates No． Per Sec． | Gap | Lenoth Prnel Behind | $\begin{gathered} \text { Net } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1569 | 200 | 9 | 25 | ．051＂ | $6 \%$ |  |
| 1570 | 25 | 4 |  | ．070＂ | 410 | ＋3．00 |
| 1571 | 35 | 4 | 7 | ． $070^{\prime \prime}$ | $4^{1 / 4}$ | 3.60 |
| 1572 | 55 | 6 | 11 | ． $070^{\prime \prime}$ | S14．0 | 3.60 4.20 |
| 1573 | 80 | 7 | 15 | ．070＂ | $6{ }^{\text {1，＂}}$ | 4.80 |
| 1574 | 20 | 5 | 7 | $.136^{\prime \prime}$ | $6^{\circ 10}$ | 4.05 |
| 1575 | 40 | 7 | 13 | $.136^{\prime \prime}$ | 71／＂ | 4.50 |
| 1576 | 65 | 9 | 17 | ．136＂ | 8 12＂ | 5.10 |

SEE EUD CATALOG FOR OTHER CONDENSERS AND ITEMS NOT LISTED ON THESE PAGES


|  |  | CONDENSERS fif ultriatit tuning nuar 196 insulation sqemblies．eadmium pated．Rear shaft ex Three way mounting． <br>  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  | mmid． | mmid． |  |  |
|  |  |  | ．017\％ | ． 63 |
| LC．16 | ， |  | ． $117 \%$ | 72 <br> .84 |
| LC．1644 | 30 |  |  | 0 |
| LC． 1645 | \％ | $\div$ | ． 17 | 989 |
| ${ }_{\text {LC．1646＊}}$ | 140 | 12 | ．017\％， | 1.38 |
|  |  |  |  |  |
| LC．1649 |  |  | ．037＂ | 99 |
| LC．1651． |  |  | ．0137\％ | ${ }_{1}^{1.31}$ |
| LC．1653 |  |  | ．073＂， |  |
|  |  | 5.6 | ．073 | ${ }^{93}$ |
| 165 |  |  |  |  |



The two end pieces are held to． gether firmly with insulater
tie rods． and a sepa－
rate round plate on the plate on the Movided to shield the two stator sections．


NEUTRALIZING

## CONDENSERS

Can be mounted with plater in either horizontal or ver－ tieal position for most eff． ciant layout．Solid frame emptruetion．Two heavy thity Alsimac 196 pillars All metal parts are alumi． num．Plates are rounded and buffed

| Cat． No． | Plate Dia． | Recommended for | Net Price |
| :---: | :---: | :---: | :---: |
| 1000 | 137\％ | T40，36T，HF100 | \＄1．65 |
| 1001 | 211＂ | T200，250T，efc． | 2.40 |
| 1002 | $4 \% "$ | 760 T ，pre． | 3.30 |

## MIDGET CONDENSERS

A simperine huilt con． denner for mid line tuning．Positive wip－ jug contact with ErJew adjustment
aliminates mechanios ral moises on hifli frequancius．
 tite insulation．Sol－
momblies．Haqvy aluminum rod plates with closely fitter bearings for smooth operation． （＇arefilly derigmed amd eomstructed for maxi－ mum eftielency．Extendent khaft from rear for ganging reveral units


| No． | mmfd． | mmid | Pates | Price |
| :---: | :---: | :---: | :---: | :---: |
| 926 | 15 | 3 | 3 | \＄0．75 |
| 900 | 20 | 3 | 3 | ． 78 |
| 902 | 35 | 1 | 5 | ． 84 |
| 903 | 50 | i | 7 | ． 90 |
| 904 | 80 | 6 | 11 | 1.05 |
| 905 | 100 | 6 | 14 | 1.23 |
| 906 | 140 | 7 | 19 | 1.32 |
| 907 | 150 | 7 | 21 | 1.44 |
| 908 | 2011 | 0 | 27 | 1.59 |
| 909 | 250 | 10 | 33 | 1.65 |
| 910 | 325 | 12 | 43 | 1.98 |

## Cat． No． 565 897 898 899 941 965 966 967

| Cat． No． | Max．Cap． minfl． | Min．Cap． mmfd． | Air <br> raj | Net Price |
| :---: | :---: | :---: | :---: | :---: |
| 565 | 15 | 4 | ．060＂ | \＄0．99 |
| 897 | 35 | 6 | ．060＂ | 1.11 |
| 898 | 5.1 | 7 | ．1060＂ | 1.32 |
| 899 | 75 | 8 | ．060＂ | 1.71 |
| 941 | 100 | 10 | ． 1860 | 1.98 |
| 965 | $3 \%$ | 9 | ．095＂ | 1.32 |
| 966 | 50 | 11 | ．095＂ | 1.65 |
| 967 | 75 | 14 | ．095＂ | 1.98 |

DUAL MIDGET CONDENSERS


For short
DOUBLE BEARING－SINGLE SPACING
Cat Max．Ced Min Cad Air

| No. | Mmfd． | Mmfd. | Gap | Price |
| :---: | :---: | :---: | :---: | :---: |
| MC－1850 | 1. | 1 | ．1104＂ | \＄0．78 |
| MC－1852 | $8 \%$ | $\therefore$ | ．104＂ | ． 84 |
| MC－1853 | 30 | 1 | ．1104＂ | ． 90 |
| MC－1855 | 100 | 7 | ．108 ${ }^{\circ \prime}$ | 1.23 |
| MC－1857 | 150 | $!$ | ．024＂ | 1.47 |
| MC－1858 | 2011 | $!$ | ．1104＂ | 1.59 |
| MC－1859 | 250 | 11 | ．0ご＂ | 1.65 |
| MC－1860 | 3211 | 1： | ．11：4＂ | 1.98 |
| MULTI－SPACING |  |  |  |  |
| MC－1861 | 1. | ： | ． $17+60$ | \＄0．99 |
| MC－1862 | 85 | － | ． 11010 | 1.11 |
| MC－1863 | ：11 | $\checkmark$ | ． 11610 | 1.32 |
| MC－1864 | 7.1 | 111 | ． 11860 | 1.71 |
| MC－1865 | 100 | 13 | ． 1 ¢！＂ | 1.98 |
| MC－1866 | 3 B | $!$ | ．110：＂ | 1.32 |
| MC－1867 | （3） | 111 | ． 119.00 | 1.65 |
| MC－1868 | 7\％ | 14 | ．11！$\square^{\prime \prime}$ | 1.98 |
| SINGLE | BEARING－SINGLE SPACING |  |  |  |
| MC－1870 | $1 \%$ | 1 | ，124＂ | \＄0．51 |
| MC－1872 | 3.1 | S | ．11：4＂ | ． 57 |
| MC－1873 | in | 1 | ．1124＂ | ． 63 |
| MC－1875 | 100 | 7 | ．1124＂ | ． 75 |
| MC－1876 | 1411 | 7 | ．1124＂ | ． 81 |
| DOUBLE SPACING |  |  |  |  |
| MC． 1879 | 1： | ： | ． 118190 | \＄0．60 |
| MC－1880 | 3.1 | 7 | ．0¢0＂ | ． 75 |
| MC－1881 | ［11 | 内 | ． 16610 | ． 84 |

## $6 L 6$ NEUTRALIZING CONDENSER

 KKBn．vic．Nmall，compaet and well built．Heary $1^{\prime \prime}$ dia． alumfnum platus with eulire roundod and poltshed，Thumb mut locking device．

Cat．
890
BUD MIDGET CONDENSERS
These condensers are of The si raight lime frequaney tylu．Pbntil or hame mound－ infe Irolantite insulation． Colosely fiffed singele emil leraring for conntant and
 brass plate assembliatr．

| Cat． No． | Max．（＇ap． mmfu． | Min．（ap． mmid． | Plates | Net Price |
| :---: | :---: | :---: | :---: | :---: |
| 324 | 10 | 2 | 2 | \＄0．54 |
| 328 | 15 | 3 | 3 | ． 54 |
| 323 | 30 | 3 | 8 | ． 54 |
| 322 | 35 | 4 | 5 | ． 60 |
| 148 | S11 | 5 | 7 | ． 66 |
| 901 | 80 | 6 | 11 | ． 75 |
| 321 | 100 | 6 | 14 | ． 78 |
| 396 | 141 | 7 | 10 | ． 87 |
| 320 | 1819 | 7 | 21 | ． 96 |

SINGLE BEARING DUAL．SPACED CONDENSERS

Spaciug lutwrent plater ．Wrion

| Cat． | Max．Cap． | Min．Cap． | Net |
| :--- | :---: | :---: | :---: |
| No． | minid． | mmial． | Price |
| 327 | 6 | 2 | $\$ 0.54$ |
| 311 | 15 | 4 | .66 |
| 319 | 35 | 6 | .81 |
| 312 | 80 | 7 | .90 |

MIDGET CONDENSERS

in．Cad． MC－1853 30 $\quad 3 \quad .1124$＂． 90 $\begin{array}{cccc}M C-1855 ~ 100 ~ \\ M C-1857 ~ 150 ~ & 1.23\end{array}$
 $\begin{array}{llll}M C .1860 ~ 321 ~ 13 ~ .1134 " ~ & 1.98\end{array}$

- amationtion

Tubular ermint muetion and them extremely
 and is intenuledf for use． with 1000 wolte or less． Nos．N（ -1029 and Nr－ tion and arr．for une with 2000 and 3000 volts respectively

Cat．No．Cap．Mmfd． NC－1928 ． 2 T to 4
NC－1929
NC－ 1930

Recommended for Nat Price 807．6T．8．ets：
1K－54，T\％－40．rie．．75

## RAByDCTS

SECTIONAL CABINET RELAY RACK


Build a cahinet rack to your re quired height with－ out having waste space．I eomplete rack from 3 ！e＂ progressing in mul－ tiples of $13 / 4$＂to any desired height． Side wall sections are $141 / 2$＂deep． Front and back flanges irilled and tapped for $\mathbf{1 0 . 3 2}$ screw．Fit both W．E．and Amateur type rack panels． Dust covers can be supplied as listed． Made from licary gauge steel，finished in durable black rrackir．Supplied with necessary hardware．

Net Price No 1300－Base Assemhly－



## Side Wall Sections

Consist of two sirde wall sections complete with mounting brackets，holts，nuts，etc．

| Cat．No． | Size | Net Price |
| :---: | :---: | :---: |
| 1302 | 31／2＂$\times 141 /{ }^{\prime \prime}$ | \＄1．35 |
| 1303 | $51 / 4{ }^{1 / 8} \times 141 /{ }^{\prime \prime}$ | 1.50 |
| 1304 | \％＂$\times 141 /{ }^{\prime \prime}$ | 1.65 |
| 1305 | $83 / 4{ }^{\prime \prime} \times 141 / 2^{\prime \prime}$ | 1.98 |
| 1306 | 101／2＂${ }^{\prime \prime}$ x $141 / 2{ }^{\prime \prime}$ | 2.19 |
| 1307 | 121／4＂$\times 141 \frac{18}{}{ }^{\prime \prime}$ | 2.64 |
| 1308 | 14＂$\times 141 /{ }^{\prime \prime}$ | 2.79 |
| 1309 |  | 3.00 |
| 1310 | 171／2＂$\times 141 /{ }^{\prime \prime}$ | 3.30 |
| 1311 | 191／6＂$\times 141 \%$ | 3.45 |
| 1312 | $21^{\prime \prime} \times 14 / 3{ }^{\prime \prime}$ | 3.60 |

## Dust Cover Back Sections

Slotted to fit standard rack drilling．

| Cat．No． | Size | Net Price |
| :---: | :---: | :---: |
| 1313 | $31 / 1^{\prime \prime \prime} \times 10^{\prime \prime}$ | \＄0．51 |
| 1314 | $5^{1 / 9 "} \times 19^{\prime \prime}$ | ． 60 |
| 1315 | $7^{\prime \prime} \times 19^{\prime \prime}$ | ． 66 |
| 1316 | $83 \%^{\prime \prime} \times 19^{\prime \prime}$ | ． 84 |
| 1317 | $101 /{ }^{\prime \prime} \times 19^{\prime \prime}$ | ． 99 |
| 1318 | 121／4 ${ }^{1 / 19}{ }^{\prime \prime}$ | 1.14 |
| 1319 | $14^{\prime \prime} \times 19^{\prime \prime}$ | 1.35 |
| 1320 | $15 \% /^{\prime \prime} \times 19^{\prime \prime}$ | 1.50 |
| 1321 | $17 \frac{1}{1 / 2} \times 19^{\prime \prime}$ | 1.65 |
| 1322 | $19^{1 / 2 "} \times 19^{\prime \prime}$ | 1.80 |
| 1323 | $21^{\prime \prime} \times 19^{\prime \prime}$ | 1.98 |



## MIDGET RELAY RACKS

An ideal unit for that low power transmitter， amplifier or test panel． Made of heary gauge shoet stecl：Black ＂rackle（anamel finish． Wrilled to fit $19^{\prime \prime}$ rack panels．light in woight． sturdily huilt．Shipperd knocked down with nec． essary hardware．Fasy to assemble．
No．1248－－Over－all height $24^{\prime \prime}$ ，width $20^{\prime \prime}$ D＂phth of base 12＂．P＇ancl space＇ $21^{\prime \prime}$ ． Net Price
\＄3．75
No．1249—Over＊ill height $31^{\prime \prime}$ ，width 20＂． Depth of base 12 ＂．P＇anel space $28^{\prime \prime}$ ． Net Price


1 sturdly，stylish rack for Commericial，Amateur and Industrial use，Mide from 16 gauce st eel throlurlout． tBark crackle finish．Drilled and tappet for $10 \cdot \frac{8}{2}$ s．wrow to fit ejther W．F．，or Ama－ teur notelord rack panels． Sides lousred for ample vemilation．llinged rear door has two shay catches． with all screws，nuts and washers．
No． 874 －Meirht $47^{\prime \prime}$ width 21＂，depth $17^{\prime \prime}$ ． Patel space 42＂．
Net Price ．．．．．．．．．．．．．$\$ 21.60$ No． 875 －Height $661 /{ }^{\prime \prime}$＂ width $21^{\prime \prime}$ ，depth $17^{\prime \prime}$ ． Panel space $611 / \mathbf{h}^{\prime \prime}$ ．
Net Price
\＄26．70
No．884－Height 82＂，width 21 ＂，depth $17^{\prime \prime}$ ． l＇anel suace 77
Net Price
$\$ 32.40$

## GENERAL CABINET RACKS


deal for transmitters sulilic Address and ，aboratory equip－ nent．Made from 18 hick，cold rol＇rd
steel．Heautifully sin． steel．Beautifully in． isherl in thack crackle． lll joints weldell． Lonvred for ventila． apped 10.32 for aither IV．E．or Ama t＂ur motched $19^{\prime \prime}$ rack pabels．Hinged cooors have nickel plated smap catch．No． 697 and 698 have solid top construction．
 131．1 C＇atalogue

## STANDARD RELAY RACKS

Made to standard specifica tions． $1 / 8^{\prime \prime} \times 3^{\prime \prime}$ steel chan－ nels braced with $1 /{ }^{\prime \prime}$ steel brackets．Itoles drilled and tapped 10－32．Will fit W．E． or Amateur notched $19^{\prime \prime}$ rack panels．Black crackle finish． Shipped knocked down with necessary hardware．

No．1263－Over－all height $351 / 2^{\prime \prime}$ ，wilth $20^{\prime \prime}$ ． Base Depth 29＂，Pancl space $311 / 2^{\prime \prime}$ ．Shpg． Weht $3^{3}$ ths．
$\$ 9.60$
No． 1264 －Over－all height $80 \frac{1}{\prime \prime \prime}$ ，width $20^{\prime \prime}$ No． $1264-1$ overoall heicht $01 / 261 / 2 "$ ．Shog． Wase Jい口th 2
Net Price
$\$ 11.40$
No． 1265 －Meavy Dity commercial type Hoight 7：3 $1 / 2$ ，willh $20^{\circ \prime}$ ，Ihase depth $15^{\prime \prime}$ l＇afled sibice 60 6 lí＂．Shpig．Wight． 90 lhs Net Price
$\$ 21.60$
ASK FOR A COMPLETE bud CATALOGUE

STREAMLINE CABINET RACKS


Roundeel eorners at the front of therve calsine of adal an ultra modern touch to an alrandy plana ing appearance Constructed from heavy 16 sauge steel．Trimmuel at top and buttom with chrome strip moulding．Drilled abl tafluell 10－8\％ to fit either W．F． and／or Amatur notched rack pans． els．Sides are louvred for ven－ tilation．Full length rear dowr has two shap catches．Overall width is ge＂．In side denth clat． side depth clarar． ance 16 sulp． plied with intor－ bracket for safery． Shipperl kinckiol down with all necessars hard－
ware for casy ase sembly．Finisherl in Crackle enamel，GREI or BL．J（＇h optional as requested．Sides without Jouvres for lases catn be sugphed when so orineren．
Cat．No．Overall Panel Shipping Net CR．No．Height Space Weight Price CR． 1772 4 42 ＂ 100 liv．\＄26．40

STREAMLINE GENERAL CABINET RACKS
A beautiful streamilin effect has buen added to thase cabinets ly putinge a radius on the front vertical edges． These are ideal hous－ ings for transmitters． Amplifiers，etc．l＇anels are recessed to fit flush With iront of cabinet． l）rilled and tapped
 W．E．，or Amateur notched rack panels．Al sizes have recessed hinged cover in top with snap catch．The three larger sizes also have hinged rear door with ssap catch．Chrome trim moulding is attached to top and bottom of cabinet．Overall width $22^{\prime \prime}$ ．depth $14 \%{ }^{\prime \prime}$ GREF or BLACK crackle finish optional Shipped completely assembled with all neces－ Shipped comple
sary hardware．

Cat．No．Panel Space

| Cat．No． | Panel Space |
| :--- | :---: |
| CR－ 1741 | $8 \% / 4 \prime \prime$ |
| CR－ 1742 | $1.21 / 4 " \prime$ |
| CR－ 1743 | $171 / 2^{\prime \prime}$ |
| CR－ 1744 | $261 / 4 " \prime$ |
| CR－1745 | 3. |

Overall
103 ＂Net Price $\begin{array}{ll}103 / " \prime \prime & \$ 7.50 \\ 141 / " \prime\end{array}$ $\begin{array}{r}7.50 \\ 9.00 \\ \hline\end{array}$ 12.00
13.50

## SMALL CABINET RACK

This mall，innexpen．
sive calinet is for emergoney trans－ mittors and has many－ other unes．Mande of sheet siteel，wellent cornerg，himgivi rear Ovoriall size 1 年＂wide $211 /{ }^{\prime \prime}$ high， 10 ＂ deep．Will take chas－ sis $\underset{1}{ } 1 / 2^{\prime \prime}$ deep $x 15^{\prime \prime}$ wide black cruckle
 complete with ono
$101 / y^{\prime \prime} \times 161 / y^{\prime \prime}$ and one $83 / 4$＂$\times 161 / 2^{\prime \prime}$ pancl． $\begin{array}{ccc}\text { Cat．No．} & \text { Shipping Weight } & \text { Net Price } \\ \text { RC－} 1749 & 25 \mathrm{lbs} & \$ 7.50\end{array}$

## OSCILLOSCOPE CABINETS

A size for $1^{\prime \prime}, 2^{\prime \prime}$ and 3" cathode• ray tubes Ideal for housing experimental television equipment. IRounied ront corners. Louvres on sides for ventilation. Black crackle finish. Supplited romplete with chassis and strip.

No. Height Wldth Depth
No. Height Width Depth Chassis Size Price
 C-1755 8 " $81 / y^{\prime \prime} 11$ " $10 \% \times 51 / 4 \times 2$ " 4.20 -1756 01/2" 01/2" 15 "

## SLOPING PANEL CABINETS



Excellent as housings for field strength meters, frequeney meters, laboratory equipment, etco. The rilo tire front panel is remosable so chassis cran he attacherl. Vertical portion of panel is $21 /{ }^{\prime \prime}$ " hish for mounting dial plates, Made of sheet steel, solidey welded and black crackle finished.

Cat. No. Width
C-1584
C. 1585
C. $15861^{\prime \prime}$

METAL CARRYING CASES

ldeal for housing portable tansceivers, ampliffers, ric. Removable front and rear panels. Ruggedly constructed yet light in overall weight. Black crackle finished. All seams and corners reinforced and spot welded. Substantial leather carrying handle.
Cat. No. size


SPEAKER CABINETS
 teel. Fully en closed. IRack Metal grill ouer

Cat. No.

For housing oud speakers in portable and permanent in stallations. Soldly constructd from cold rolled sheet -nver lomver for ventilation. peaker apenine protects opening protects speak er. Black Mas carrying handle.

Net Price $\$ 2.25$
2.76
3.60
4.80


Rounded edges on cover. Grill work in topl allad lourres in sides of covar for ventilation Chromb trim and handles. (ixior attachod ly Chmme thumb screws. "Svarall hrijpht 9" chassis height $3^{\prime \prime}$. BLACK or liRFly romekle finish optional.
Cat. No.
CA- 1750
CA-1751
CA. 1752
CA- 1753

| Chassis | Chassis | Net |
| :--- | :---: | :---: |
| Width | Depth | Price |
| $10^{\prime \prime}$ | $5^{\prime \prime}$ | $\$ 2.40$ |
| $12^{\prime \prime}$ | $7^{\prime \prime}$ | 2.85 |
| $17^{\prime \prime}$ | $7^{\prime \prime}$ | 3.45 |
| $17^{\prime \prime}$ | $10^{\prime \prime}$ | 3.90 |

AMPLIFIER FOUNDATION KIT


An amplifier built on these foundation kits will have real professional apperarabeco Chassis is formond tran heavy-gauge colri-rolierl sterl. Cormers are folded over and welderl. Shield cowor is shoet metal perforated in cime desien. Finishoul in black crackle. Chassis furnisherd tundrillerl. Chassis Net No. Overall Size Height Price


## 1126

1128
Net Price
$\$ 1.99$


## METER CASES

a conwonlent and siffemeans for makius portable instruments out of any $2^{\prime \prime}$ and $3^{\prime \prime}$ round or square panel mounting moters, several sizes for 1, 2 and 3 meturs. Mand of sharit sterl, Black Crackle fin ish. Size 4 " deep, 4 din" hith. In. sulators supplied only on one meter cases

## Cat. No.

CM-1241
CM-1687
CM-1688
CM-1242
CM-1689
CM-1690

## BUD BOX TYPE SHIELDS

These shicols are recom mbilied to shield trans. formers, a ullio chokes tc and igolate them tr.. and isolate them rro sther circuits in the instrument, thereby
eliminatinc magnetir and
 eliminating magnetio and
lectrnitatic interference. Made from cold rolled sheet stenl. All seams and comers spot weldod for rigitlity. Formed flanger on hot tom to attach to charsis. Finished in hlack crackle namel. Size $4^{1 / 2} \times 71 / 2^{\prime \prime} \times 5^{\prime \prime}$ high.
No. 1244 -Net Price

STREAMLINE CABINETS

|  |  | listinctive sty. ing for recoiv. ers, inst ruments etc. Hounded front rertical miges. Hinged top. All enrmen spot . welded. Black crackle finish. Height $8^{\prime \prime}$, depth $8 \frac{1 / 4}{}{ }^{\prime \prime}$ |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | Panel Size | Overall Width | Net Price |
| C. 1746 | $8^{\prime \prime} \times 10^{\prime \prime}$ | 12 \%" | \$2.25 |
| C. 1747 | $88^{\prime \prime} \times 13^{\prime \prime}$ | $141 / 2{ }^{\prime \prime}$ | 2.55 |
| C. 1748 | $8^{\prime \prime} \times 14^{\prime \prime}$ | $161 /{ }^{\prime \prime}$ | 2.85 |

METAL CABINETS
Mada from

heave raus sheet sirel all marmer reinforced and spul wela ed lifured lid loustres ind sidn. lkemos. able front panel. Black crackle fini:h.

| Cat. No. | Size-Inches High Wide Deep | Net Price |
| :---: | :---: | :---: |
| 973 | $7 \times 8 \times 712$ | \$1.65 |
| 993 | $7 \times 111 \times 6$ | 1.65 |
| 994 | $7 \times 12 \times 71 / 2$ | 1.95 |
| 995 | $7 \times 14 \times 71 / 2$ | 2.10 |
| 999 | $7 \times 10 \times 8$ | 1.95 |
| 1190A | $8 \times 16 \times 8$ | 3.54 |
| 975A | $9 \times 15 \times 11$ | 3.87 |

METAL BOX CABINETS


Excellent for housinr Monitors, oscillators receivers, etc. Frout amd lamek panels remov able. Black crackle finish

| Cat. | Size-Inches |  |  |  |  | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | W |  | L |  | H | Price |
| 883 | $2 "$ |  | $4 "$ | x | $4^{\prime \prime}$ | \$0.54 |
| 728 | $3^{\prime \prime}$ | $x$ | $5 "$ | x | $4 "$ | . 60 |
| 1098 | (i) | $x$ | $1{ }^{\prime \prime}$ | x | 6" | . 69 |
| 1099 | $5 "$ | x | $6^{\prime \prime}$ | $x$ | $9{ }^{\prime \prime}$ | 1.05 |
| 879 | $7{ }^{\prime \prime}$ | r | N" | $x$ | $10^{\prime \prime}$ | 1.35 |
| 1124 | $6^{\prime \prime}$ | r | 7" | x | 12" | 1.41 |
| 880 | $8{ }^{\prime \prime}$ |  | $10^{\prime \prime}$ | x | $10^{\prime \prime}$ | 1.65 |
| 881 | s" |  | $11^{\prime \prime}$ | x | 12" | 1.80 |
| 882 | -' |  | $9^{\prime \prime}$ | x | $15^{\prime \prime}$ | 1.95 |

## CHASSIS DECKS

These mounting bases will fit Bud metal box Cabinets. Made of rust proof zinc coaterl steel am! sturdily ronstructed. Can be mounted to panel any fielisht from lintom. Cat. No.

STEEL CHASSIS BASES

| Made of heary |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| finish cold rolled |  |  |  |  |  |
|  |  |  |  |  |  |
| are［oldud dow＇n |  |  |  |  |  |
| and spot welder． <br> Folded ower on |  |  |  |  |  |
|  |  |  |  |  |  |
| bottom to at－ |  |  |  |  |  |
| tach | itom | late．St | liml | ndrill | 1 the |
| followims siz |  |  |  |  |  |
| （Zinc Plated） |  | Ch | Size | （Black | ackle） |
| Cat． | Net |  |  | Cat． | Net |
| No． | Price |  | auge |  |  |
| 645 | \＄0．54 | $5 \times 9$ | 2 $\times 2{ }^{1}$ 年 | 644 | \＄0．54 |
| 776 | ． 45 | \％x ！ | －x14\％ | 788 | .45 |
| 1191 | ． 54 | －x | $\lambda:$ | 789 | ． 54 |
| 1192 | ． 60 | $7 \times 1$ | ＊ | 790 | ． 60 |
| 1193 | ． 66 | 7x11 | A 2 | 791 | ． 66 |
| 1194 | ． 72 | 7x1： | $x \%$ | 646 | ． 72 |
| 1198 | ． 66 | bx1： | 2 入2＇ | 647 | ． 66 |
| 1189 | ． 90 | －vis | S． 6 | 649 | ． 90 |
| 666 | ． 96 | － $2 \times 15$ | x：3 | 665 | ． 96 |
| 1066 | ． 75 | $1 \times 1 \%$ | $\times 3$ | 1068 | ． 75 |
| 1199 | ． 87 | \％x 17 | $x-1 / 2$ | 648 | ． 87 |
| 1195 | ． 96 | 11012 | $\times 3$ | 652 | ． 96 |
| 779 | 1.02 | $10 \times 14$ | $\times 3$ | 653 | 1.02 |
| 774 | ． 96 | －x1\％ | x？ | 650 | ． 96 |
| 775 | 1.02 | 心1\％ | $\times 3$ | 651 | 1.02 |
| 769 | 1.02 | $110 \times 17$ | x 3 | 654 | 1.02 |
| 637 | ． 90 | $10 \times 17$ | $\times 3$ | 636 | ． 90 |
|  |  | 18 | auge |  |  |
| 1196 | 1.08 | 1いざ\％ | $\times 3$ | 655 | 1.08 |
| 1197 | 1.38 | 1118：3 | $\times 3$ | 656 | 1.38 |
| 770 | 1.23 | $11 \times 17$ | x 2 | 657 | 1.23 |
| 771 | 1.35 | 115 | $\times 3$ | 658 | 1.35 |
| 661 | 1.26 | 12x17 | $x 2$ | 663 | 1.26 |
| 662 | 1.38 | 1020\％ | x3 | 664 | 1.38 |
| 772 | 1.50 | 1：317 | x | 659 | 1.50 |
| 773 | 1.65 | 1：3517 | $\times 3$ | 660 | 1.65 |
| 641 | 1.44 | 1101\％ | $\times 4$ | 640 | 1.44 |
| 643 | 1.80 | 1：317 | $\times 4$ | 642 | 1.80 |
| 624 | 2.10 | $10 \times 17$ | $\times 5$ | 623 | 2.10 |
| 626 | 2.40 | $13 \times 17$ | X 5 | 625 | 2.40 |

HEAYY DUTY CHASSIS
Marle of 16 Cias．steel．Supplied complete with loittom phate．

| Black | $\begin{aligned} & \text { Electro- } \\ & \text { Zine } \end{aligned}$ | Size－Inches ${ }^{\text {Sh }}$ |  |  |  | Not Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Crackle | Plated |  |  |  |  |  |
| Cat．No． | Cat．No． | D． | W． | H． | Lbs． |  |
| C8－1757 | CB． 1764 | 8 | 17 | 2 | 14 | \＄1．62 |
| CB－1758 | c8－1765 | 8 | 17 | 3 | 15 | 1.80 |
| CB． 1759 | C8－1766 | 11 | 17 | 2 | 10 | 1.80 |
| C8－1760 | c8－1767 | 11 | 17 | 3 | 20 | 1.95 |
| CB－1761 | C8－1768 | 13 | 17 | 2 | 21 | 2.10 |
| C8－1762 | CB－1769 | 13 | 17 | 3 | 22 | 2.31 |
| C8． 1763 | CB－1770 | 13 | 17 | 4 | 24 | 2.55 |

## CHASSIS BOTTOM PLATES

 Thesp plates make oxrollent dust eow rs and conceal the wir ing anll com． ponent parts in the chassis． Four formed bourses aet as| Zinc | Black | Bottom Pl | lates Listed |  |
| :---: | :---: | :---: | :---: | :---: |
| Coated | Crackle | Fit the | Following | Net |
| Cat． | No． | Size Cha | assis Bases | Price |
| 667 | 680 | ＂＂${ }^{\prime \prime}$ | ＂120＂ | \＄0．27 |
| 668 | 681 | 7＂ x | 7＂ | ． 30 |
| 669 | 682 | 7＂ x | $9 \prime \prime$ | ． 33 |
| 670 | 683 | 7＂＇$\times$ | 11＂ | ． 39 |
| 671 | 684 | －＂$x$ | $13^{\prime \prime}$ | ． 42 |
| 672 | 685 | \％＂$x$ | 1：1\％＂ | .33 |
| 513 | 516 | $7 " x$ | 1\％＂ | ． 45 |
| 1067 | 1069 | $4^{\prime \prime} \times$ | $17 \%$ | ． 36 |
| 673 | 686 | $7^{\prime \prime} \times$ | 17＂ | ． 48 |
| 674 | 687 | $8^{\prime \prime} \mathrm{x}$ | 17＂ | ． 48 |
| 675 | 688 | 10 ＂＊ | 12 ＂ | ． 48 |
| 514 | 517 | $10^{\prime \prime \prime} \mathrm{x}$ | $14^{\prime \prime}$ | ． 51 |
| 676 | 689 | $10^{\prime \prime \prime}$ v | 17＂ | ． 60 |
| 677 | 690 | $11^{\prime \prime} \mathrm{x}$ | 1\％＂ | .66 |
| 678 | 691 | 1\％＂ | $17 \%$ | ． 72 |
| 679 | 692 | 13 ＂ x | 17＂ | $\therefore 75$ |
| 515 | 518 | 110＂ ， | $\underline{23}$ | \％ |

## relay rack panels

|  |  |  | e pa long 32 le fí thi | s are idths ersize Black h． Is are and |
| :---: | :---: | :---: | :---: | :---: |
| notched elther W．E．or |  |  | ， | lard． |
| Specify＂$A$＂¢ P Amateur or |  |  |  |  |
| Electric notching after catalog number． |  |  |  |  |
| MASONITE patels are fol thick，tempered， tough，nom－mathotic and can be worked same |  |  |  |  |
|  |  |  |  |  |
| $\begin{aligned} & \text { as wo } \\ & \text { ST } \end{aligned}$ | EL ${ }^{\text {Suly }}$ | ed in＂A＂no | MAS | NITE |
| No． | Net | Panel Siz | No． | Ne |
| 1250 | \＄0．45 | $13^{\prime \prime} \times 10^{\prime \prime}$ | 1588 | \＄0．33 |
| 1251 | ． 51 | 3 1／2＂$\times 10$＂ | 1588 | ． 42 |
| 1252 | ． 63 | \％14＂$\times 1!\prime$ | 1590 | ． 57 |
| 1253 | ． 66 | $7{ }^{\prime \prime} \times 1!{ }^{\prime \prime}$ | 1591 | ． 63 |
| 1254 | ． 84 | 83／4＂x 1 ！${ }^{\prime \prime}$ | 1592 | 75 |
| 1255 | 1.02 | 1012＂x $0^{\prime \prime \prime}$ | 1593 | ． 87 |
| 1256 | 1.20 | 121＂＂x1！＂ | 1594 | ． 99 |
| 1257 | 1.38 | $14^{\prime \prime} \times 1!^{\prime \prime}$ | 1595 | 1.11 |
| 1258 | 1.56 | 15 $\lambda_{1}{ }^{\prime \prime} \times 1!$＂ | 1596 | 1.26 |
| 1259 | 1.74 | $1712{ }^{\prime \prime} \times 1!{ }^{\prime \prime}$ | 1597 | 1.41 |
| 1260 | 1.86 | 1！1＂\％$\times 1!\%$ | 1598 | 1.56 |
| 1261 | 2.10 | －1＂$\times 11^{\prime \prime}$ | 1599 | 1.71 |

## METER PANELS

## 4．

Made in STFFL and MASONITE，Same speci fications as leack l＇anclk， $51 / 4$ high， $1!"$ long． Black erackle finiwh．Hole diameter 919.0 to fit $3^{\prime \prime}$ metors and ${ }^{3} \mathbf{3}^{\prime \prime}$ to fit $\mathbf{8}^{\prime \prime}$ meters．

| STEEL |  |  | MASONITE |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| No．Holes Net | Size | No．Holes Net |  |  |  |  |
| 440 | 3 | $\$ 0.99$ |  | 509 | 3 | $\$ 0.87$ |
| 441 | - | 1.47 | 3 | 510 | 4 | .99 |
| 442 | 3 | .99 | 3 | 511 | 3 | .87 |
| 443 | 5 | 1.47 | 214 | 512 | 4 | .99 |

## RELAY RACK PANELS（Door Type）



Hath for use in speceli amplifiers Fixeifer units．rfe
Marle from fiec ／8＂thick．Hinzerl lowe is 1030 W catelh．Sufficient marain on pane or meters．dials －to．Pantels listerl
hole for slass window Glas mut－uptiun Fin



Cat．No．Length Width Type Net Price

| 615 | $1!{ }^{\prime \prime}$ | 1111：＂ | Jowr | \＄2．34 |
| :---: | :---: | :---: | :---: | :---: |
| 616 | $19^{\prime \prime}$ | 121；＂ | l boor | 2.70 |
| 617 | $10^{\prime \prime}$ | 101 只＂ | （＇ut－int | 1.95 |
| 618 | 1！＂＂ | 101：＂ | （int－oult | 2.25 |

CHASSIS MOUNTING BRACKETS


Thasio lirachats aro maide of horavictutug shaet stemel，131ark ＂ruckle finish．Fit $7 "$ hish or larerer pathels．Have at 1 man p nl mounting flange which is cul way＂at lonttum an chas．
ois can be mountal flush against paturl．
No．Height Length $\qquad$ Net Price

448 ＂1＂＂， $10^{\prime \prime}$ fur ：＂＂II．＂hassis 75 or
459 ＂1 2＂． $111^{\prime \prime}$ fur 3＂Il，chassis 84 pr．
449 ＂14＂＂ $413^{\prime \prime}$ for $3^{\prime \prime \prime}$ II．chanssils 93 pr．



Solid stecl frammes land Dhach eracklal finish． Batl bearimg swivel a＊aldr hatce composition whotels which do but scrateh bolished floors． Nos．jog ami 500 fit cabisetg laving up to $17^{\prime \prime} \times 21^{\prime \prime}$ lase．Nos．fol and bus fit cabinets



A new dosign and pass in pumel chaskis．Top is romoralile for $6^{2} d=0^{\circ}$ lasont of parts and to work with．Can lev diseariled and new top put on for clange in lavolit．Made of heavy sauge sumb．Weldend mantire．

COMPLETE CHASSIS
Black Elentro－Zinc
Plated
Crackle＿－Inches Cat．Nn．Cat．No．D．W．H．Price $\begin{array}{llllll}C B-196 & C B-193 & 11 & 11 & 3 & \$ 1.20\end{array}$ $\begin{array}{llllll}\mathrm{CB} .197 & \mathrm{CB} .194 & 11 & 17 & 4 & 1.62 \\ \mathrm{CB} .251 & \mathrm{CB}-210 & 18 & 1 \% & 8 & 1.80\end{array}$ $\begin{array}{llllll}\text { CB．251 } & \text { CB－210 } & 13 & 1 \% & 3 & 1.80 \\ \text { CB－252 } & \text { CB－211 } & 13 & 1 \% & 4 & 2.25\end{array}$

> REPLACEMENT CHASSIS TOPS ONLY
RT－198 RT－195 10 1\％$\$ 0.60$ RT－253 RT－212 i：；1\％
$\$ 0.60$
.75

## RACK MOUNTING BRACKETS



For innuntint shelees and chatesis to rack patnels，Ire trio amsular in shape．so that they may for unal ith humeronv ways sfado from heravy Einter vold rollool sicel．Finished in black crackle enamel．

No．1266－i＂Brinkots ．．．．．．．．． $\mathbf{\$ 0 . 4 2}$ per pr
No．1267－7＂13rackets．．．．．．．．．．．．．．． 54 per pr
No．1268－！！＂｜Rraskい＇ts
.66 Der Dr

## INTER－STAGE SHIELDS



These shiclls are ideal for tase an remoiver and trang－ mitter claseis for climinat－ ins interstater coupling and imblating compoment parts． Stallo of 20 qatuge elactron fille coated stecl．Folled on front and hottom for fastenius to pabel or chassis．

No． $1246-51^{\prime \prime \prime}$ hiwh． $7^{\prime \prime}$ long ．．．Net Price No． 1247 －${ }^{1}{ }^{16}$＂high， $10^{\prime \prime}$ long ．$\$ 0.21$ No． 1245 －$\frac{1}{6}$＂high， $10^{\prime \prime}$ long ．．．．．．．．．．．．．．． 30

Rack，Meter and Door Panels，also other metal items listed GREY Crackle finish optional can be so supplied at no addifional cost． Other metal items in Grey are special so add $10 \%$ to net price．


## CODE PRACTICE OSCILLATOR

Fur individual or eroup prace. tice, [ises 117L7(GT tube and works on A Or lube and works onl A.C. or D.C. Ras additional weaker $\ddot{T}$ gelected lar switel wo front selecter Cowes atel on tront buile Comes complete with built in dynamic apeaker and
tula.
Cat. No.
CPO.120-Owillator
CPS-121-AJJ. Sjukr.

## WAVEMETER



A highly usuful device for the proper adjustment and operation of an amateur transmitter. Necessary for detectiug harmonices, standing waves, neutralization, etc. Comes With dial plate culibrated from 10 to 160 meters and luandswitch on front panel. Irdicator bulb supplied.


Not Price $\$ 4.35$

## OPEN END CHASSIS

These light weight steel chassis fit BCD) metal cul)inets ant have many otlier uses. Einds are folded over *" for additiona! strengtlı. Zinc piated finish.

|  | Sizo-lnches |  |  |  | Not |
| :--- | :--- | :--- | :--- | :---: | ---: |
| Cat. No. | D. | W. H. | Fits Cab. No. | Price |  |



STEEL

| Cat. No. | Net | Size | Cat. No. | Net |
| ---: | ---: | ---: | :---: | ---: |
| 1200 | $\$ 0.27$ | $7 \times 8$ |  | .$\ldots$ |
| 1201 | .33 | $7 \times 10$ | 607 | .39 |
| 1202 | .39 | $7 \times 12$ | 608 | .45 |
| 1203 | .45 | $7 \times 14$ | 609 | .51 |
| 239 | .39 | $8 \times 10$ | 606 | .45 |
| 240 | .45 | $8 \times 12$ | 610 | .51 |
| 1204 | .48 | $8 \times 14$ | 611 | .57 |
| 1205 | .54 | $8 \times 16$ | 612 | .66 |
| 1187 | .60 | $8 \times 18$ | $\ldots \ldots$ | $\ldots$ |
| 1188 | .69 | $8 \times 19$ | $\ldots$ | $\ldots$. |
| 700 | .57 | $8 \times 15$ | 613 | .69 |



Unusual features not previously found in the average push-pull radio-frequency Amplifier are incorporated in these kits giving the amateur a really differ. ent "Final" of high efficiency, new type layout and design. Semi-skeleton style of construction. No closed metallic loops to cause losses due to circulating currents, etc. Layout sym metrical for both parts and wiring. Uses standard, medium power triode tubes. Kits come with drilled panel and formed and irilled metal parts. All kits come complete, less Meters, Tubes and Coils. L'se BUD OCL and VCL coils with thrse amplifers.

BPA 500 For 5, 10, 20 and 40 meters Net Price $\mathbf{\$ 2 4 . 0 0}$

BPA 500-LF For $20,40,80$ and 160 meters. Net Price 25.50

BPA 500-S Foundation kit. (Inrilled panel, semi-chassis and brackets) Net Price 3.60


Is ideal for use
with rigid or flexible couplings when mounting Yolume controls colume colst rols, condensers, etc. panel. Shaft is panel. Shaft is lotted and held erurely to learing with horse-shoe washers to keep shaft from shifting. Irass beariur fits up to $\frac{s^{3}}{14}$ thick panel.
No. Net Price
530-Overull length 0"............................. $\$ .24$
531-Overall length $3^{\prime \prime}$
.18 532-Mearing only
.09

## BUD TUNING DIALS



For Use on Transmir ters ond Other Equipment

Marle of heary gauge brass. swun and chmme plated Mlack dip stamberd numpr als. I.ange bakelite knob. brase insert. Insulated from shaft. Supplied with No. 1736 Indicator.

> FLUTED KNOBS-180 DEG.

Cat. No. Dial Div. Diam. NetPrice D. $1732 \quad 0.100 \quad 2 \%^{\prime \prime} \quad \$ 0.87$ D.1733 100-0 $2 \%^{\prime \prime} \quad .87$ $\begin{array}{llll}0.1734 & 0.100 & 4 \prime & 1.35 \\ 0.1735 & 100-0 & 4 \% & 1.35\end{array}$ $\begin{array}{llll}\mathrm{D} .1735 & 100-0 & 4^{\prime \prime} & \end{array}$ TAPERED KNOBS- 180 DEG.

| 0.713 | 0.100 | $24^{\prime \prime}$ | .75 |
| :--- | :--- | :--- | ---: |
| 0.714 | 100.0 | $2 \%^{\prime \prime}$ | .75 |
| 0.715 | 0.100 | $4^{\prime \prime}$ | 1.11 |
| 0.716 | 100.0 | $4^{\prime \prime}$ | 1.11 |

INDICATORS ONLY

## Cat. No. Type Net Price

 IN- 723 Vemier Indic. for $2 \%$ " Dials. $\$ 0.18$ IN. 725 Vernier Tmilic. for $4^{\prime \prime}$ Dials. $\quad .18$IN. 1736 Single Line Inrlicator.
IN-1736 Single Line Indicator.

## ETCHED DIAL PLATES (Plain)

These dial plates are made of high grade tempered aluminum. Raised polished dial divisions and numerals on bluck satin fintish background. Center lole will fit over学" bushing.
Cat. No. Slze Arc Calibrated Net Price

| 1175 | $3^{\prime \prime}$ | $180^{\circ}$ | 0 to 100 | $\$ 0.18$ |
| ---: | :--- | :--- | :--- | ---: |
| 1176 | $3^{\prime \prime}$ | $180^{\circ}$ | 100 to 0 | .18 |
| 1177 | $2^{\prime \prime}$ | $180^{\circ}$ | 0 to 100 | .12 |
| 1178 | $2^{\prime \prime}$ | $180^{\circ}$ | 100 to 0 | .12 |

## WITH MARKING

2" Dia. calibrated $0-100$ in $300^{\circ}$ rutation.
Cat. No. Marking Net Price
1224-Ikecorl
1225-Xicrophone ....................................................... 12
1226-(iain
1227—T'one
1179
1228 -Tone Control (artow calib.)
1229 - Volume (arrow calih.)
1273 - Marked 1 to is for sw.

## RECTANGULAR TYPE

 tation.
Cat. No. Marking Net Price
978-Recorl .................................................. $\$ .12$

979-Microphone .......................................... 12
980-Gain .................................................... . 12
981-Tone
.12
982

JACK NAME PLATES
For identitying input and out. put circuits. Polished letters on black satin hackground. Fit on为" dia. bushings. 1 1/6" diameter.

## No. Marking

1180--Vicmphone
Net Price


1181-Phono Pick Up .......... .. ............... . 09

## RADTUNCTS

## LATTICE-WOUND R.F.  <br> MAGICORE "HY-Q" R.F. CHOKES



IRON CORE
Thesp new metal-
 doubla $Q$ factor
of air core eroils. Iligh permeability with mininumn hysteresis. Wound with silk covered enamel wire.

## SHIELDED

| Cat. No. | Inductance | Net Price |
| :--- | ---: | ---: |
| 1277 | 1.5 M.II. | $\$ 0.51$ |
| 1278 | 2.5 M.II. | .51 |
| 1279 | 3.4 M.I. | .54 |
| 1280 | 5.5 M.II. | .54 |
| 1281 | 8 | M.II. |

## HY-FREQUENCY R.F. CHOKES

> For II.F. receivers and low powermi with ssk wird on Isolantite corc. Fixtremely low distributed capacity. Cat. No. Inductance Net Price

| 920 | 2.5 M .11. | $\$ 0.27$ |
| :--- | :--- | ---: |
| 922 | 5.5 Mil | 36 |


| 922 | 8. M.1. | .35 |
| ---: | ---: | ---: |
| 923 | 10. | .45 |
| 924 | .51 |  |

BUD H.F. TRANSMITTING CHOKE


This newly designed choke is for use with the new medium power transmitting tuber in high and ultra-high frequency circuits. Three lateral wound pies on $1 / 4^{\prime \prime}$ diameter Isolantite core. Heavy strap learls. Size $3 / 4{ }^{\prime \prime}$ diameter ly 1 1/2" long. Iuluctance, 2.5 M.II.; I.C. leses, 16 ohms; Current City. 250 MA continuous: Dist. Calp. mmfd.
No. 876
Net Price $\$ 0.51$

## ASK FOR A COMPLETE BUD CATALOG

Which Deseribes Numerous Opher Money Saving Items Not Listed Here

ISOTEX SOCKETS Mnisture-proof, himh surface resistance. law loss effeet. Sub-panel,

 | 955 | 1 |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 956 | нr. | .24 | 958 | 71 |

## BUD TUBE SOCKETS Made of Bakelife

Ar conktricted
trrials through
ont, usirug FentiWro plosibhor
bronze contacts
 - $H$ is contacts. Vixeellent for regular at foulde. laxeelient for regular as well as
ixperimental work. Eised as ktanixperimentat work. Esed as ktan-
dard equibment by manufacturers of test "quipment.
N
No.
26
26
2
2
2
9
10
10
10
10



TTER R.F. CHOKES
fxecption Wowertionally low
power loss, mo trans. mission lands. Cons. tintous witulings of : seretions. Low D.C resistance
Ind. 2.8 M.II.; 5 ohms j. C. lies.; rating No 568
No. 568 ...Net $\$ 1.05$ Ind. 5.3 M. $11 .: 121 / 2$
ohins B.C. JRes. : ratohans 500 M. A
No. 569 $\qquad$ Net $\$ 0.90$
li. II. F. lincar wound, Iml, 15 mirro-luenrice, .2 ohms D.C. Res. rating farnjos.
No. 570
Net $\$ 0.60$

## BUD ULTRA HY-FREQ. R.F. CHOKE

A compact, wril denigned R.F. Phoke for lise in ultra
high frequency transmilters und receiven on leonen receivers. Wound long b" microte diametor. inductance 5.7 microhenrias, resistance 1.4 ohms. Current rating-750 man. No. 925

## F



## BUD ROTARY SWITCHES

Positive contact rotary switcli, underlated 3 ampus. al 125 volts ant 1 amp. at 2 :
volts. Conper plated stecl cnearad, bakcolite insulation. Shafts are 1 复" long. Cat. Descrip Shank Net
No. tion lienth Price

| No. tion | Lenthth | Price |  |
| :---: | :---: | :---: | :---: |
| 499 | $S .1 ' S T$. | $7 /{ }^{\prime \prime}$ | $\$ 0.27$ |

1070 S.P.S.T. $1^{\prime \prime} \quad 1 \quad .33$

| 1072 | S.P.D.T. | $1^{\prime \prime}$ | . 42 |
| :---: | :---: | :---: | :---: |
| 1073 | D.P.S.T. | \%" | . 51 |
| 1074 | D.P.S.T. | $1 "$ | . 60 |
| 1075 | IS.P.D.T. | \%" | . 60 |
| 1076 | D.P.D.T, | $1^{\prime \prime}$ | . 69 |

1076

## PUSH BUTTON SWITCHES

## Two circuit nom-indicating slow

 make and quick break momentary contact switch. One circuit is"OFF."
No. 743

## FLEXIBLE COUPLINGS

For ganging units or shaft extensions.
" diameter shafts

| No. | lina. | Insulation | Net |
| :---: | :---: | :---: | :---: |
| 855 | 11/2" | Bukelite | \$0.21 |
| 845 | $1^{\prime \prime}$ | Fibre | . 15 |
| 795 | $16_{6 \prime \prime}^{\prime \prime}$ | Isotix | . 27 |

High Voltage Type
Glazed Isolantite Rod Insulation



## HEAVY DUTY COUPLER



New type spring construction. Very flexible. Alsimag 196 disc is $11 / 2^{\prime \prime}$ dia. $x^{3}{ }^{3}$ " thick.
Fits $1 / 0^{\prime \prime}$ shafts. Cat. No Insulation 614 Alsimarg 196 Net 619 Ibakelit. .30

## FLEX-O.SHAFTS

Will turn at angles up to 90 deprecs. Free from back lash. $1 / 4$ " hubs sweated on each end to fit ins type coupling.
No. 859-I.ength $3^{\prime \prime}$.... Net $\$ 0.21$ No. 860-langth $\mathrm{fi}^{\prime \prime}$.... Net .30



BAT HANDLE SWITCHES
Sitmer const ruetion as regubar tomarlo switch shapeed like ball bat anhl is triflo longer.
Niok

Cat. No. Description Net Price SW-1115 S, P. S. T. $\$ 0.24$ SW-1118 S. P. IV. T. 33 SW. 1119 D S.T
.45

| Toggle | Nepes. |
| :--- | ---: |
| No. 1270-Push Inten | Net Price |
| 1.20 |  |

No. 1269-Tomple 69

## ETCHED NAME PLATES

## OSCILLATOR

Iligh quality aluminum used. Haised polished letture on black satin finish, For transmit ters, amplifiers, etc. Furnishell with following inscript inns:

Manitor Send
Sellector Cryector Crystal osc
Cw-phone Ch-phone
200 ohlim 5101.0 hm Tone Control Output Firem, Meter

Reperive
sumflecceive Power Amp. Faller Antentia Kitr A. i. Input Transreviver Suredilmp. Cain Contro Grid Morlubator Dombler

Plate Voltage
Off-On
Class "B" Mod.
Gritl ('urrent
Crystal Ose. Plate
Micruphone Curte
2010 - 0 hm Input
200.0hm Oitput
500. 0 him Input
$500-0 \mathrm{hm}$ Output
Radio
Record
Net Price
Net Pric


## BAND SWITCH ASSEMBLIES



Made in 50 and 100 watt sizes. No. OCS-1 is for oscillator and buffer use with capacity coupling. Nos. OC'S-2 and XCS-2 are for single ended operation with link coupling. Nos. OCS-3 and XCS-1 are center tapped and center-linked. All types except Nos. OCS-16 and XCS-16 are for all band operation from 10 to 160 meters. Nos. OCS-16 and XCS-16 are for 10 and 160 meters only. All units tune with single 100 mmfd . condenser or dual 200 mmfd . condenser in split. stator. Supplied with nameplate, mounting hardware and instruc. tions.

| Cat. No. | Rating |
| :--- | ---: |
| OCS-1 | 50 watts |
| OCS-2 | 50 watts |
| OCS-3 | 50 watts |
| OCS-16 | 50 watts |
| XCS-1 | 100 watts |
| XCS-2 | 100 watts |
| XCS-16 | 100 watts |



## EVER-READY TEST LEADS

Made of the finest quality insulated flexible wire. Black lead is negative, red positive.
No. 280-42" long. Supplied with spade terminals or phone tips...
. Net Price $\$ 0.36$
No. 184-42" long. Removable needle point inserted into the chuck; penetrates the insulation without injury; spade or phone tip turminals. Net Price $\$ 0.39$

No. 1841-42" long. Long fixed needle point; spade or phone tip terminals.. Net Price $\$ 0.39$
No. 621-De-Luxe Test Leads-60" long. Heavy duty with removable tips; phone tip terminals; handles are polished hard rolled fibre; extremely flexible. Continuity test tips are the cluck type.

Net Price $\$ 0.75$


Genuine bakelite. White pointer stripe. Has numerous uses.

| No. ${ }_{\text {K }}$ | Type | Size ${ }_{\text {c }}$ | Color | Net Price |
| :---: | :---: | :---: | :---: | :---: |
| K-579 | A | $11 /{ }^{\prime \prime}$ | Black | \$0.06 |
| K-580 | A | $11 / 4$ | Wialnut | . 06 |
| K-174 | A | $11 / 4$ | Redd | . 09 |
| K-204 | A | $11 / 4$ | direm | . 09 |
| K-581 | A | $21 / 4 \prime$ | Black | . 08 |
| K-582 | $\boldsymbol{\Lambda}$ | $21 /{ }^{\prime \prime}$ | Walnut | . 08 |
| K-175 | A | 21/" | Red | .11 |
| K-2C5 | A | $21 /{ }^{\prime \prime}$ | Gircen | . 11 |
| K-575 | B | $11 /{ }^{\prime \prime}$ | 13lack | . 06 |
| K-576 | B | $11 /{ }^{\prime \prime}$ | Walnut | . 06 |
| K. 559 | B | $11 / 4$ | Red | . 09 |
| K-577 | B | $21 / 4 \prime$ | 13lack | . 08 |
| K-578 | B | $21 /{ }^{\prime \prime}$ | Walnut | . 08 |
| K-560 | B | $21 / 4$ | Red | . 11 |

## SEE BUD CATALOGUE FOR OTHER

 TYPES AND STYLES OF KNOBS.

## ANTENNA MATCHING NETWORK COILS

Designed to meet all of the various requirements encountered in antenna matehing networks. Mate in 500 and 1000 watt sizes and in two values of inductance. The low frequener coil in rach size is for 40 to 1 ato meter operation and the high fremurncy coil is for 10 and 20 meter "pration. Coil and links have a large number of taps allowing the inductance and coupling to be varied over a wide range.

| Cat. No. | Rating | Range in | Net |
| :--- | :---: | :--- | ---: |
| ACV-1 | Moters watts | 40 to 160 | Price |
| ACV-2 | 500 watts | $\$ 3.42$ |  |
| ACM-1 | 1000 watts | 10 to 20 | 2.64 |
| ACM-2 | 1000 wat ts | 40 to 160 | 6.60 |
|  |  | 10 to 20 | 5.10 |

## JEWEL LIGHT <br> ASSEMBLIES

For Kadin and Electric Panel Switchhoards, Sirnal Devices, "tc. Single hole mount ingr. Jewel holder, polisherd chrome plated brass. Specify color wanted. Red, Green, Amber, Blue. Opal, Crystal
1/2" Dia. Jewol, Mtg. Brackel Depth 15" Mtg. hole dia. fi"
No metal parts. Made of high di-electric, hard rolled fibre. Screw driver slides into one end of handle.

Net Price
No. 237-Adjust

## BUD NEUTRO.WRENCH



Alligator jaw type for knurled and hex head trimmers. Metal hade serow driver at other end.

## NEUTRALIZING SCREW DRIVER

Ilard roltom filiro hiandle.
No.
No. Net Price
235-No metal ends................................ $\$ 0.21$
287- V'ith metal blade.
.21
4-IN-1 NEUTRALIZING AND ALIGNJNG TOOL


ASK FOR A COMPLETE WHICH DESCRIRES LOGUE WHICH DESCRIBES NUMEROUS OTHER MONEY SAVING
ITEMS NOT LISTED HERE

mig. hole dia. fin
No. Type Socket Jewe! Net JL 1692 F Miniature racotied $\$ 0.15$ JL 1692 S Miniature Smenth 15 JL 1693 F Cand. 110 volt Fiaretterl .18 JL 1693 S Cand. 110 volt Simouth .18 JL 1694 F Min. Bayonet Facetlenl .18 JL 1694 S Min. Bayonet Smooth . 18
$3 / 4$ " Dia. Jewel, Mtg. Bracket Depth 11/8" Mtg. hole dia. 1t"
JL 1695 F 110 volt raterted 36
1" Dia. Jewel, Mlg. Bracket Depth 2" Mtg. hole dia. $1^{\prime \prime}$

| JL 1698 F | Cand. 110 volt | ramenterl | .60 |
| :--- | :--- | :--- | :--- |
| JL 1698 S | Cand. 110 volt | smonth | .60 |
| JL 1699 F | Min. Screw | racetted | .60 |
| JL 1699 S | Min. Screw | Smewth | .60 |
| JL 1699 F | Min. Baynet | Facetted | .60 |
| JL 1699 S | Min. Bayonet | Smowth | .60 |



## JEWEL HOLDERS

"if pamils up $101 / 4{ }^{\prime \prime}$ thick. Specify color wanted.
Red, Green, Amber, Blue, Opal, Crystal

No.
JL 1696 F
JL 1696 S
JL 1697 F
JL 1691 F

| Jowol | Size | Net |
| :--- | :---: | ---: |
| Facetted | $1 / 2 "$ | $\$ 0.09$ |
| Smooth | $1 / /^{\prime \prime}$ | .09 |
| Facetted | $2 / /^{\prime \prime}$ | .24 |
| Facetted | $1 "$ | .51 |

## RAD ${ }^{3}$



OSCILLATOR AND BUFFER COILS

now hoss, hithly "dficiont, air wombl. Windinges are Mrowery spaced and searins, promer laconte alazed retamic lase tite. Hazar ram abmitary fromp talme sockel. ('onsis.

(*). rails. hand link at ceonter with main wind. ink wenter tapped.
HFO, mils have links at one end and are Not 1:1pmed.

CENTER LINKED AND TAPPED

| Cat. No. | Band | Capacity* | Net Price |
| :---: | :---: | :---: | :---: |
| OCL-160 | 1 (iv) Mutur | 60 mmfa . | \$0.99 |
| OCL-80 | -11 M.1.1.98 | Tis mmid. | . 90 |
| OCL-40 | (11) Mterers | St mmed. | . 90 |
| OCL 10 | 111 Mrter | 2s minfol. | . 90 |
| OCL-20 | 211 Min+m | : i: mmal. | . 90 |
| OCL-5 |  | 18 mmfd . | . 75 |
|  | END LINKED | NO TAP |  |
| OEL-160 | 1 lin Meters | (10) mmfed. | . 99 |
| OEL-80 | at Motiors | Tis mmfil. | . 90 |
| OEL-40 | (1) Meters | S\% mmfed. | . 90 |
| OEL-20 | 20 Muters | $3: 3 \mathrm{mmad}$. | . 90 |
| OEL-10 | 10 Mrem | $2 \mathrm{E}_{\text {mmid. }}$ | . 90 |
| OEL-5 | d) Molds | 1s mmat | . 75 |

CENTER ADJUSTABLE LINK
OLS-160 1 till Mertr
OLS-80 M Meders $\quad: i$ munt
OLS-40 fo Meters io munfl.
OLS-20 $\quad-0$ Moters 33 mmfil
OLS-10 10 Metels $\because 12$ menfd.
 reoname at the low treiturne: and of the bame.

## AIR-WOUND TANK COILS


cumbl indurtather havioge the urupur L (C ratin for phone "pretation. large
 wive in the roil insurters agatiost hatimg losses. All gils land limed conter
link, Windints ara comentuld 10 areqate atrips. Itsimate lan insulation. Nickel plated brase hardwirre.

## 150 WATT

| Cat. No. | Band | Capacity ${ }^{\text {a }}$ | Net Price |
| :---: | :---: | :---: | :---: |
| RCL. 160 | 1 dill Melter | si mmut. | \$2.25 |
| RCL. 80 | (1) Mater | fis mmit. | 2.10 |
| RCL-40 | (11) Meters: | 318 mmfal . | 1.92 |
| RCL-20 | -0 Mater | $\because 7 \mathrm{mmma}$. | 1.62 |
| RCL-10 | in Metirs | $\xrightarrow{2} \mathrm{Bmmfd}$ | 1.50 |
| AM-1932 | Mtr. haso fer | :1bow mils. | . 48 |
| 500 WATT |  |  |  |
| VCL-160 | 1 1ill Mritis | : 41 mmatal. | 2.70 |
| VCL-80 | -n Meter | 16 mmind . | 2.40 |
| VCL-40 | 10 Mroters | $\underline{-1} \mathrm{mmmfd}$. | 2.10 |
| VCL-20 | 20 Meters | 23 mmfa . | 1.95 |
| VCL-10 | 10 Meters | 21 mimifa . | 1.80 |
| VCL-5 | ,is Meturs | 11 mmid. | 1.65 |
| AM-1356 | Mounting Pasa | for Jhowe rovils | . 66 |
| KILOWATT |  |  |  |
| MCL-160 | 1 (in) Merters | hei mmad. | 5.70 |
| MCL-80 | on Meters | 73 mmfd . | 4.95 |
| MCL-40 | in Meters | 37 mminl . | 4.50 |
| MCL-20 | 20 Meters | 33 mmfd . | 4.20 |
| MCL-10 | 10 Meters | $\underline{2} \mathrm{mmidd}$. | 3.90 |
| MCL-5 | .5 Meter: | 18.8 mumis. | 3.60 |
| AM-1354 | Mounting for | Above Coils | 1.05 |

- Denotes total capacity required to thate io



ADJUSTABLE LINK TRANSMITTER COILS

IIl venils in this sorits in-

 link wimling is attaclool tu the jiach loar into which the roils art blumeral. Thu link coil is llosed low all tank
 ta" shatt. 'The link soil on the lin wall



 allh rいi

| 150 WATT |  |  |
| :---: | :---: | :---: |
| Band | Capacity | Price |
| 1 till Meters | ! 5 mmmft. | \$1.95 |
| A 13 Notors | -x mmal. | 1.80 |
|  | is mmafl. | 1.56 |
| 20 Metors | :30 minfl. | 1.35 |
| 11) Metors | -s mmifl. | 1.29 |
| Rast and link allowe | as-s.mbly | 1.95 |

500 WATT

| VLS-160 | 1 dil Matrs | tis mmil. | 2.19 |
| :---: | :---: | :---: | :---: |
| VLS-80 | * 11 Mrtors: | F'0mmf. | 2.01 |
| VLS-40 | (1) Meters | 3ti mmit. | 1.71 |
| VLS-20 | 20 M (10) | $\because$ anmind. | 1.56 |
| VLS-10 | 10 Meters | $\because 1$ immfl | 1.41 |
| AM-1352 | Hase and link above | assombly for | 2.70 |
| 1000 WATT |  |  |  |
| MLS. 160 |  | :\% mutal. | 4.80 |
| MLS-80 | sol Moters | fi. mmfd. | 4.35 |
| MLS-40 | 111 Metons | : $3^{7}$ mmfal. | 3.90 |
| MLS-20 | (1) \1-tors | 38 mmifd . | 3.60 |
| MLS-10 | 111 Meters | -1 mmfd. | 3.15 |
| AM-1340 |  | :-sitmily for | 4.20 |
|  <br>  |  |  |  |
|  |  |  |  |



## SHORT WAVE PLUG-IN COIL FORMS MADE OF LOW LOSS

## BAKELITE

Supplided with dise in tenp which

 Mositive These forms are supgion in 4. i, ithla ti promer units to fit stamiarl tulue surkets. Al all wall of "orit forms whilitend give low lose air core windinse

## GIANT COIL FORMS

 ifac spate|  | No. | Lis! | Net |
| :---: | :---: | :---: | :---: |
|  | 734 | 4 proug | \$0.39 |
|  | 735 | if ¢ $^{\text {¢ }}$ | . 42 |
|  | 736 | (i) prame | . 45 |
| Sambe as allore. lint thrcatlenl 12 turne inch for space winding coils. |  |  |  |
|  |  |  |  |
| No. |  |  | Net |
|  | 1221 | 1 Probur | \$0.54 |
|  | 1222 | - Pramar | . 57 |
|  | 1223 | (i Prous | . 60 |
| SENIOR COIL FORMS |  |  |  |
| $1!{ }^{\prime \prime}$ in diameter. $2!3$ wimding apace. |  |  |  |
|  | 125 | 4 I'roug | \$0.21 |
|  | 126 | i l'rong | . 21 |
|  | 310 | 6 Irong | . 24 |

## JUNIOR COIL FORMS

1 处" in diameter. "3/6" windints space.

| No. |  | Net |
| :--- | :--- | ---: |
| 594 | i lquint | $\$ 0.15$ |
| 595 | i l'reng | .18 |
| 596 | 0 | l'rung |

## LO-COIL KITS



 with onolll mfil. condenser. Euch kit las 4 coils.

| No. |  |  | Net |
| :---: | :---: | :---: | :---: |
| 222 | 4 1'jorlt - | Winuling | \$1.65 |
| 918 |  | Windings | 2.10 |
| $916$ | © 1'rous 2 <br> Secondary tilp (ouppled | W'intlings ed ien elec circuits. | 1.98 |
|  | JUNIOR |  |  |
| Wound on 1 B" diamoter forms. Wiave-length rathee, 11 to 210 moters with .00014 mfd . condenser. 4 coils to kit. |  |  |  |
| No. |  |  |  |
| 384 | 4 Pronir er | Windinim | \$1.20 |
| 356 | 6 Pronir | Windinus | 1.74 |
|  | SUPERHETERODYNE |  |  |
| Cermsists of 8 moils. 4 detertor coils and 4 osrillator coils (o track with I.F. transformers tuned $\mathbf{4 6 5} \mathrm{KC}$. Wave-hength range 13 to 200 meters with . 00014 mfd . combleraser. |  |  |  |
|  |  |  | \$3.30 |



BUD FLOOR STANDS FOR CRYSTAL, VELOCITY \& DYNAMIC


Insulated akginst rattling or drolpiag of adjustahle steme. Positive and smooth acting chuck tyw look. Telescoping stems tinished in "ulishuil chrominm platr. "Fwo suction stands adjustahte 3.: to bi". "hrare sertion 24 " to piti". Heary cast bases are tinished in durabla hack (racklo enamel. Nilustable stem has万3 - 27 thrmad. On atands supplied with rimp. the ring is $\mathrm{ti}^{\prime \prime}$ dia. with Fi-Z hoohs tinished in back crackle chamel.
No. 585-Net Price.
'wo sution. Wejght $121 / 2 \mathrm{~s}$.
No. 587-Net Price
©
"hrre velison: momernistic, 12" dia. basce. Wright $1: 2$ Jhes.
No. 583-Net Price
Three sections: priped buce ier spres. $\$ 7.50$ Wrijeht 916 lhs.
No. 586-Net Price
 Wright ! 11.2 ibs.
No. 584—Net Price ... ....................... . $\$ 5.10$ Two sucpion; modernistic $10^{\prime \prime}$ diametar basi. Weight $81 / 2$ llw.

No. 6753-6" Dia. Ring with \& springs to fit timels listerl alore. Net Price........ $\mathbf{\$ 0 . 9 0}$

## DESK \& 8ANQUET STANDS

Ruggedly buile for use on tables. dexks, pulpits, pte. Heary cast bises of modernistic design is tinieheal in black rratekle enambil and will uot, tip tasily.Stems art chrominm phaterd tinish. Adjustahlo typer have thmmb mut lowk ing deviere Siem is threaded 3/2-27. Where rings are supplided. they are also finished in blat - rackle.

No. 588 Net Price $\$ 1.05$ Heipht $6^{\prime \prime}$. Base Dia. $5^{\prime \prime}$, Wrimht $\because$ llas.
No. 589-Net Price $\$ 1.35$ llivist 8

No. 590-Net Price
Ioirlit adjustable 10, to $10^{\circ \prime}$ luac. D. $\$ 3.00$ Weight is lbs.
No. 803-Net Price ..................... $\$ 3.90$
Same as No. 590 , complete with $6^{\circ \prime}$ micruphone ring and 8 springs.
No. 591-Net Price, $\$ 3.45$
Hright adjustahle $13^{\prime \prime}$ to $22^{\prime \prime}$. Base Dia. $6^{\prime \prime}$ Weight $3^{1}{ }_{2} \mathrm{lbs}$.
No. 802-Net Price 4.35

Samı as No. 591 , complete with $6^{\prime \prime \prime}$ micro phone ring with 8 surings.


## BUD DESK STANDS

These beautiful stands are preferred by most amateurs and arr ideal for portable and arn infeal for portable
P.A. inntallations. Ruggedly P.A. installations. Ruggedly constructed. Modemistic de-
sighed hase casting. Black signerl hase $c$
crackle finish.

No. 817--Not Price $\$ 1.35$ He.ight $y^{\prime \prime}$. Hase Dia, $5^{\prime \prime}$. "\% oetagonal microphone ring.
No. 818-Net Price, Ha-ight 10" Hasu 1Bia $0^{\prime \prime \prime} 6^{\prime \prime}$............. $\$ 1.65$ Jo-ight $10^{\prime}$
phone ring.
No. 819-Net Price.................................. \$2.01 Height 1:3". Base Dia. 6". 6" diameter round microphone ring.


## CARBON

 GRANULES('arefully melected and hiarny poolished. Acid treated ta remows all traee of ash. Will stand $20 \%$ mors curront without burning. Ilighly sensitiva. Vial rontains enoush carbon to repach finir two luttun microphones.
No. 410 -Net Price
$\$ 0.45$

## MICROPHONE CABLE CLIP

Holdn microphone cable paralled to stem. Made of spring steel and nickel plated. Fits around $1^{\prime \prime}$ dia. stem. Fiusily attiched and adjusted. Cat. No. 599—Net Price............... $\$ 0.06$ ea

## CONE STAND.OFF

 INSULATORSThese glazed ceramic insula tork fill ill rpquirements for insulated mountinure and supports. A type smal size for any purpionp. Jick typer accommo. date standard lanama plupe. REGULAR
Dia. Diase Net

 Top Base -301
-302
-303


$$
\frac{2}{9} \$ 0.0
$$

-303

$$
\begin{array}{ll}
40 \\
40 \\
40
\end{array}
$$

 $1 / 2$
$\%$
$3 / 4$
3

SE
-


Cat. No.
1.435
1.435
1.436
1.437
1.436
1.437
1.437
1.438
$1-453$
$1-454$
1.455

## CONE FEED-THRU

 insulatorsExcellent insulation when bringing high voltage and R.F. leads through panels, chassis, etc. Glazed Ceramic.


## BUD GRID CLIPS

For transmitter, rectifier, metal and glass type tubes. Marle from heavy gauge spring brass, cadmium plated.

[^5]Sinall, compact spring hrass contacts, nickel plated. Supplied with insulating washers.
No. 232-Open Circuit. Net Price
$\$ 0.18$

## PHONE \& MICROPHONE PLUGS



No. 284-Net Price........ $\$ 0.66$

## PORTABLE PHONE \& MICROPHONE CONNECTORS

No. 1039--Net Price ............... $\$ 0.30$ Two way; fits No. 230 plug; bikelite handle.
No. 279—Net Price................. $\$ 0.54$
Sime as No. 1039 with shielded metal handle.
No. 1059-Net Price............................ $\$ 0.45$ Three way; fits No. 1057 mike plug; bakelite handle.
No. 283-Net Price..................... $\$ 0.66$ Same as No. 1059 with shielded metal handle.


No. 1058-Net Price $\$ 0.30$
Thounting wicrophone jack for panel .
No. 1038-Net Price....... $\$ 0.18$ Two way
mounting.

## ALL PURPOSE JACKS

small in size, highly efficient. Niskel silver springe for equal, positive tension at all times. Conlaets are pure silver, J.arge bakelite separators overlap springs for long leakage path. Supplied with insulating washers.

| Cat. No. | Type | Net |
| :---: | :---: | :---: |
| 1324 | Open Circuit | \$0.21 |
| 1325 | Single Closed | . 27 |
| 1326 | 3 Circuit Mic. | 30 |
| 1327 | Double Closed | 36 |

## JACK



## LO-LOSS TRANSMITTING INDUCTORS

COTO offers a very complefe line of highly efficient inductors for All-Band operation. These inductors are wound with bright copper wire, protected from oxidation by a coating of colorless baked enamel and cemented in SLOTS in narrow strips of Cellulose Acetate, (not celluloid). The use of clear enamel, allows the skinning of the wire for taps without marring the appearance of the inductor. Note the " $Q$ " data of each inductor, indicating its high efficiency.

Inductors are available in eight types, covering the Amateur bands from 160 to 10 meters. The "T" "TL" and "TVL" series are designed to handle the output of a one kilowatt amplifier. The "B", "BT" "BTL" and "BTVL" series are intended for oscillator, buffer and low powered stages, not exceeding 300 watts. They are also suitable for constructing Pi-Section networks. The "A" series inductors are for antenna coupling.

## LINK COUPLING TYPES

The TANK and Center-Tapped BUFFER types are available with three turn, internally mounted, fixed or rotatable variable link coils. The internal method of mounting, affords mechanical protection for both type links and obviates altering the optimum coupling adjustment in the latter type when band-changing. The advantages of variable coupling over those of fixed coupling are obvious adjustment in the latter type when band changing. The ars, equipped with plugs to complete necessary connections, when inserted in proper mounting base listed below.

Standard mounting centers for the various groups of inductors, permit the inter-changing of units for All-Band operation.

"Maxi-
mum"
Condenser
Capacity
Recom-
mended
160 M
types
75 Mmf.
All others
35 Mmf
35 Mmf.


Mounting Centers
T, TL, \&
TVL
$71 / 2^{\prime \prime}$
B, BT,
BTL, BTVL

A-4"
TYPE 80TVL


TYPE 40TL
Net

| Type | Wire Size No. Turns | Dia. | "Q" | Net |
| :---: | :---: | :---: | :---: | :---: |
| LO.PWR. TANKS - C.T. BUFFERS |  |  |  |  |
| 160 BT | 14............ 36 | 4" | 400 | \$1.80 |
| 80BT | $14 . . . . . . . . . . . . .34$ | $23 /{ }^{\prime \prime}$ | 390 | 1.71 |
| 40BT | 14 ................ 22 | $23 \%$ " | 270 | 1.44 |
| 20BT | $14 .$. | $23 \%$ | 200 | 1.23 |
| 10BT | 14 - 6 | $23 / 4$ " | 180 | 1.17 |

LO-PWR. TANKS - C.T. BUFFERS (with Fixed Link)
HI-PWR. TANKS
(with Fixed Link)


| with Fixed Link) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 160 BTL | 14 | . 36 | 4" | 400 | \$2.76 |
| 80BTL | 14 | . 34 | $23 /{ }^{\prime \prime}$ | 390 | 2.67 |
| 40BTL | 14 | . 22 | $23 /{ }^{\prime \prime}$ | 270 | 2.40 |
| 20BTL | 14 | 10 | $23 \%$ | 200 | 2.19 |
| 10BTL | 14 | 6 | $23 / 40$ | 180 | 2.13 |

LO-PWR. TANKS - C.T. BUFFERS
(with Variable Link)


| 160B | . 14 | . 36 | 4" | 400 | \$1.65 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 80B | . 14 | 34 | $23 / 4 \prime$ | 390 | 1.59 |
| 40 B | . 14 | 22 | 2\%"' | 270 | 1.29 |
| 20 B | 14 | 10 | $23 /{ }^{\prime \prime}$ | 200 | 1.08 |
| 10B | . 14 | 6 | 23 " | 180 | 1.02 |

## HONEYCOMB COILS



## STEATITE

 MOUNTING BASESThese units offer an accu. rate and convenient jack assembly for receiving COTO Inductors. The bar and insulators are of Steatite. All hardware is of nickel plated brass. Available in 2,3 and 5 jack combinations.

|  | For Ind. Type | Jacks | Net |
| :--- | :---: | :---: | :---: |
| Type | T | $\mathbf{3}$ | $\mathbf{1 . 1 4}$ |
| CI-8TM | TL, TVL | $\mathbf{5}$ | 1.20 |
| CI-8TLM |  | B | 2 |
| CI-6BM |  | BT | 1.08 |
| CI-6BTM |  | 3 | 1.14 |
| CI-6BTLM |  | BTL, BTVL | 5 |



## CONTROL WHEELS

In presenting these CONTROL WHEELS, 'Coto' establishes a new vogue in dial and indicator design for Radio Transmitter and Commercial applications where frequent and accurate adjustments must be made. Created to combine the advantages of both the dial and pointer type controls, it has that professional appearance, so lacking in the former types.

The Control Wheel proper is moulded of genuine mirrorblack bakelite and fitted with a polished nickel plated brass pointer mounted unobtrusively under one of the wheel struts.

The dial scale is made of 20 guage aluminum with black anodized finish. Dial markings and border are of polished aluminum, creating a striking contrast. A unique feature is the provision for interchangeable name plates designating the purpose of each control. The name plates are attached to the scale by two escutcheon pins, which also serve to hold the scale to the panel. Name plates are available in the titles listed below, choice of any one plate being included with each complete assembly.
For some applications the complete control with scale may not be required, therefore the wheels with pointers only, are available as listed.

The wheels are equipped with heavy brass inserts for $1 / 4^{\prime \prime}$ " shafts. However, the $31 / 4$ " wheels can be supplied for $3 / 8$ " and $1 / 2^{\prime \prime}$ shafts on special order.

$$
\begin{aligned}
& \text { DIMENSIONS: }
\end{aligned}
$$

$\begin{aligned} & \text { Bakelite Wheel } 21 / /{ }^{\prime \prime} \text { Dia., Height } 11 / /^{\prime \prime} \\ & \text { Pointer Radius } 11 / "^{\prime \prime} \text {; Scale Width } 3 \% "\end{aligned}$

COMPLETE CONTROL WHEELS



## INDICATOR PLATES

For use with the Control Wheels listed above, although these indicator plates may be mounted above $31 / 4^{\prime \prime}$ plates may be mounted above aly ${ }^{\prime \prime}$ round meters. Available only in titles listed.

1. Oscillator
2. Osc. Plate
3. Butfer
4. Buffer Plate
5. Doubler
6. Doubler Plate
7. Buf. Dblr. Plate

Grid
9. Plate
10. Tank
11. Neutralize
12. Pwr. Amp. Grid
13. Pwr. Amp. Plate
14. Mod. Grid
15. Mod. Plate

CI-42 (For CI-40) size $18 / 16^{\prime \prime} x^{7} / 16^{\prime \prime}$
CI-47 (For CI-45) size $11 / 10^{\prime \prime} x^{\prime \prime} / 16^{\prime \prime}$................................
16. Class B. Mod.
17. Sp. Amp. Plate
18. Fil. Voltage
19. Plate Voltage
20. \% Modulation
21. Gein Control
22. Antenna

NET 9c

## STAND-OFF INSULATORS

Made in two sizes, these genuine STEATITE insulators are suitable for mounting apparatus clear of absorbing surfaces. Heavy nickel plated brass fittings attached at both ends by 6.32 machine screws. They may be readily removed for special mounting on the core.
CI-30 Core size $3^{\prime \prime} \times 1 / 2^{\prime \prime}$-Overall lgth. $35 / 8^{\prime \prime}$.
CI-31 Core size $11 / 4^{\prime \prime} \times 1 / 2^{\prime \prime}$-Overall lgth. $17 / 8^{\prime \prime}$


NET \$. 18
NET \$.12


## RF TRANSMITTING CHOKE

A compact heavy-duty choke for the high power stage. Particularly suited to the $160,80,40$ Meter bands. Wound with five continuous universal tapered pies on a one-half inch core, three inches long. The effective impedance is high enough to make parallel plate feed practical. The current carrying capacity is conservatively rated at .6 amp . continuous and .8 amp. intermittent service.

Inductance, $3.6 \mathrm{mh} . ;$ D. C. resistance, 11 ohms; Size $35 / 8 \mathrm{in}$. x $13 / 8 \mathrm{in}$. CI-20

NET \$.75

## RF TRANSMITTING CHOKE

Designed especially to offer maximum impedance at frequencies in the 80,40 , and 20 Meter bands. The pies are universal HONEYCOMB wound for low distributed capacity. This feature together with a unique winding method for obtaining a balanced distributed capacity between pies has resulted in a choke unparalleled in efficiency. STEATITE core and current ratings similar to the CI. 20.

Inductance, 1.1 mh .; D. C. resistance, 6 ohms; Size $35 / 8$ in. x $11 / 4 \mathrm{in}$. CI-21

NET \$.75


## MIDGET RF CHOKE

A popular choke applicable to high frequency receiver construction and low power transmitter stages. Wound on a STEATITE core with four continuous pies, TAPERED to provide maximum impedance and minimum distributed capacity. Fitted with nickel plated caps, permitting either grid leak mounting or soldered connections.
Inductance, 2.5 mh .; current carrying capacity .125 amp .; D. C. resistance 40 ohms; Size $11 / 2^{\prime \prime} x^{1 / 2}{ }^{\prime \prime}$.

## CI-11

NET \$.36

## MASTER RF CHOKE

This unit meets a demand for a choke capable of carrying more current than the popular 125 ma.. type. Retaining all the features of the CI-11, it will pass 250 milliamperes without heating. Fine for high frequency transmitter work.
Inductance 2.2 mh .; D. C. resistance 18.5 ohms; size $11 / 2^{\prime \prime} x^{55 / 8 "}$.
$\mathrm{CI}-12$
NET \$. 45


## FIVE METER CHOKE

This choke is extremely efficient at the specified frequency. $A$ very compact unit for transceivers, etc., where space is at a premium. Single layer winding on STEATITE capped and pigtailed similar to the CI-11 and CI.12.
CI-13
NET \$. 24

## SHAFT COUPLINGS

Useful wherever controls must be isolated from high voltage. STEATITE insulation provides ample insulation against flashover. Exact alignment of apparatus, not necessary due to slight flexibility of couplers. Absolutely no backlash. Made for $1 / 4^{\prime \prime}$ shafts only.
CI-32 Overall Igth. $315 \%$ ".
Cl-33 Overall lgth. $2 \% / 16^{\prime \prime}$
NET \$.48
NET \$.45


AUDIO（A）INTERSTAGE TRANSFORMERS

For coupling the plate or plates of an amplifier stage to the grid or grids of the next stage where grid current is not drawn C．H．T．interstage audio transformers have hum－bucking coil construction and balanced windings．Frequency response，using
parallel feed in the primary winding，is flat within $\pm 11 / 2 \mathrm{db}$ from 60 to 8,000 c．p．s．Compound filled cases fully protect the coils from adverse climatic conditions．


Single Plate To Push－Pull Grids


Max．signal level +15 db ＊Parallel feed recommended．

Push－Pull Plates To Push－Pull Grids



Maximum signal level +15 db

## Universal Interstage Replacement Transformer

Will couple single plate to single grid，single plate to push－pull grids or push－pull plates to push－pull grids．Has split secondary．


| T－65A73 | \＄2．75 | DB mike to grid | 200／50 | 100，000 | 1：22．2 | $2 F^{\circ}$ | 24 | $33 / 2$ | $21 / 2$ | 3 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－58A37 | 2.25 | DB mike to grid | 200／50 | 100,000 | 1：22．2 | 2F | $2{ }^{\frac{8}{6}}$ | $23 / 4$ | 2 | $2^{3 / 4}$ | $1 \frac{1}{12}$ |
| T－83A78 | 2.00 | Single button mike to | 100 | $400,000 \mathrm{Ct}$ ． | 1：64 | 2 F | 28 | 23 | 1 1 | 23 \％ | 11／4 |
| T－86A02 | 1.75 | single or P－P grids |  |  |  | 2B | 23\％ | $27 / 8$ | $181 /$ | 23年 |  |
| T－55A16 | 2.75 | Dyn．mike，line or mixer to single or $\mathrm{P}-\mathrm{P}$ grids | 200／50 | $100,000 \mathrm{Ct}$ ． | 1：22．3 | 2 F | $23 / 3$ | 29／3 | $21 / 8$ | 2 3， | 11／21 |
| T－61A94 | 3.25 | Line to single or P－P Cl．A grids | ． $500 / 125$ | 100，000 Ct． | 1：14．1 | 2 F | 2\％ | $3^{28}$ | $21 / 3$ | 3 | 21／6 |
| T－72A59 | 1.65 | Plate and Single Button microphone to grid | $\begin{array}{r} 5,000 \\ \hline 200 \end{array}$ | 100.000 | $\begin{aligned} & 1: 3.25 \\ & 1: 35 \end{aligned}$ | 2 B |  | 2 \％ |  | 2 | 3／4 |
| T－14A94 | 2.50 | Voice Coil to grid | 4－8 | 100，000 | 1：112 | 2 B | 23／6 | $2{ }^{7} 8$ | 18／6 | 28／8 | 1 |
| T－15A66 | 7.25 | C．H．T．Low Impedance to grid | $\begin{aligned} & 500 / 333 / 250 / \\ & 200 / 125 / 50 \end{aligned}$ | $\begin{gathered} 60,000 / 15,000 \\ \text { Single Grid } \end{gathered}$ | 1：10．95 | 3L | $2^{1 / 1}$ | 23／6 | 3 | 3 㹉 | 21／4 |
| T－15A67 | 8.00 | C．H．T．Low Impedance to P－P grids | $\begin{aligned} & 500 / 333 / 250 / \\ & 200 / 125 / 50 \end{aligned}$ | $\begin{aligned} & 120,000 / 30,000 \\ & \text { P-P Grids } \end{aligned}$ | 1：15．5 | 3L | 21／3 | 28／6 | 3 | 3 产 | 21／4 |
| T－15A68 | 8.00 | C．H．T．Low Impedance to single grid | $\begin{aligned} & 60 / 38 / 30 / 22 / \\ & 15 / 10 / 5.5 / 2.5 \end{aligned}$ | $\begin{aligned} & 60,000 / 15,000 \\ & \text { Single Grid } \end{aligned}$ | 1：31．6 | 3L | 21复 | 23／4 | 3 | 3 新 | 21／2 |
| T－17A42 | 9.00 | C．H．T．MAGNETI－ CALLY SHIELDED | $\begin{aligned} & 500 \dagger / 333 / 250 / \\ & 200 \dagger / 125 / 50 \\ & \hline \end{aligned}$ | $\begin{gathered} 50,000 \\ \text { Single Grid } \end{gathered}$ | 1：10 | 3 U | $\begin{array}{r} 2^{3} \mathrm{~s} \\ \text { n. } 1 \mathrm{lev} \end{array}$ | $2^{7 / 6}$ | $2$ | $33 \text { 自 }$ | 11／6 |

## Microphone or Line to Mixer or Line

| T－70A83 | \＄3．50 | Crystal mike to line or mixer | 100，000 | 200／50 | 1：22．4 | 2 F | 24 | $3{ }^{3}$ | 2 源 | 3 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{\mathrm{T}}$－15A69 | 7.25 | C．H．T．Low Impedance to mixer or line | $\begin{aligned} & 500 / 333 / 250 / \\ & 200 / 125 / 50 \end{aligned}$ | $\begin{aligned} & 500 / 333 / 250 / \\ & 200 / 125 / 50 \end{aligned}$ | 1：1 | 3L | $2^{1 / 3}$ | 23／6 | 3 | 3 持 | 2 |
| T－15A 70 | 7.50 | C．H．T．Dyn．mike to mixer or line | $\begin{aligned} & 60 / 38 / 30 / 22 / \\ & 15 / 10 / 5.5 / 2.5 \end{aligned}$ | $\begin{aligned} & 500 / 333 / 250 / \\ & 200 / 125 / 50 \end{aligned}$ | 1：2．88 | 31. | 21\％ | 2\％／6 | 3 | 3 扬 | 2 |

＊Indicatea Primary M．A．
Tube to Line or Mixer（Low Level）＊Indicates Primary M．A．


We can supply all Thordarson products．Ask for complete Thordarson catalog．

MICROPHONE CABLE TRANSFORMERS Microphone Cable transformers, excluaively Thordarson, are
connected in series with the microphone cable and the amplifier input connector and are small and inconspicuous. Frequency Reaponse $\pm 13 / 2 \mathrm{db}$ from 80 to $15,000 \mathrm{c} . \mathrm{p} . \mathrm{s}$.

| Type No. | List Price | Application | Ohms Impedance |  | Turns Ratio | Mtg. Fig. | Dimensions |  |  | Wt.Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pri. | Sec. |  |  | W. | D. | H. |  |
| T-14A75 | \$14.50 | Low impedance mic. to high | 80-50 | 50,000 | 1:31.6 | 82 | 1 | 1 | 2 尘 | \% 6 |
| T-14A76 | 14.50 | impedance input | 200-250 | 50,000 | 1:14.14 | 32 | 1 | 1 | $2 \%$ | 1/6 |

## CHOKES AND REACTORS (C)

## Parallel Feed Audio Reactors

For supplying plate current to a vacuum tube where it is desirable to isolate plate current from the transformer primary or where the voltage drop caused by a resistor load is objectionable.


|  |  |  |  |  |  |  | R.M.S |  | Mtg. Centers |  | mensi |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | $\stackrel{\text { List }}{\text { Price }}$ | Application | Typical | Induct. Hen. | Cur. <br> M.A. | D.C. Ohms | Volts | $\begin{aligned} & \text { Meg. } \\ & \text { Fig. } \end{aligned}$ | Width Depth | W. | D. | H. | Wbs. |
| $\begin{aligned} & \mathrm{T}-37 \mathrm{C} 36 \\ & \mathrm{~T}-67 \mathrm{C} 46 \end{aligned}$ | $\begin{array}{r} \$ 2.00 \\ 1.75 \end{array}$ | Plate Impedance | $\left\{\begin{array}{l} 56-30-76-6 C 5- \\ 55-85, \text { etc. } \end{array}\right.$ | 300 | 5 | 6470 | 1600 | $\begin{aligned} & 2 F \\ & 2 B \end{aligned}$ | $\begin{aligned} & 23 / 1 \\ & 23 / 1 \end{aligned}$ | $\begin{aligned} & 27 / 8 \\ & 2 \% \end{aligned}$ | $2_{2}^{1 / 3}$ | $23 / 13$ | ${ }_{1}^{19}$ |
| T-52C88 | 1.75 | Plate Impedance | 24-57-56-76- | 700 | . 5 | 6150 | 1600 | 2 F | 23/6 | 27/6 | 17/8 | 23/6 | 11/4 |
| T-29C27 | 1.50 | for screen Grid detector or as grid impedance | 6C5-6F5-6J7 |  |  |  |  | 2 B | 2314 | $27 / 6$ | 1\% | 2318 | 1 |
| T-68C08 | 1.75 | Plate Impedance | 45-46-10, etc. | 22 | 35 | 405 | 1600 | 2 F | 21/10 | 23/4 | 21/3 | 23/3 | $11 / 2$ |
| T-18C92 | 1.50 | or Filter |  |  |  |  | $\begin{aligned} & 1100 \\ & \hline 1600 \end{aligned}$ | 8B | $2 \%$ | 33 | 2 | 2 | $11 /$ |
| T-15C52 | 5.00 | C.H.T. Plate Impedance | $\begin{aligned} & \text { 6C5-6A6-6F8G } \\ & \text { 6U5-6L5G-7A } \end{aligned}$ | 30 Parallel 120 Series | $\begin{aligned} & 35 \\ & 17 \end{aligned}$ |  |  | 3L | 21/8 | 2\%/6 | 3 | $3{ }^{3}$ | 3 |
| T-15C53 | 5.50 | C.H.T. Plate Impedance | $\begin{aligned} & \text { 6V6-6F6-6E6 } \\ & \text { 6AL6G-7C5 } \end{aligned}$ | 12 Parallel 50 Series | $\begin{array}{r} 100 \\ 50 \end{array}$ |  | 1600 | 3L | $21 / 8$ | 2\% | 8 | 84 | 84/4 |
| T-15C54 | 5.50 | C.H.T. Plate Impedance | $\begin{aligned} & \text { 2A3-6A3-6A5G } \\ & \text { 6B4G-6L6-6Y6G } \end{aligned}$ | 82 Parallel | $\begin{array}{r} 150 \\ 75 \end{array}$ |  | 1600 | 3L | $21 / 3$ | 2\%/4 | 8 | 843 31/2 |  |
| Tuned Audio Circuit Reactora |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-81C15 | \$2.50 | Tuned Audio Circ | uits | . 75 | . 5 | 30 |  | 2 B | 21/8 | 2\% | 151/ | 2 | 8/4 |
| T-93C20 | 3.00 | Tuned Audio Circ | uits | 250 | . 5 | 6400 |  | 2 B | 23/6 | 27/6 | 2 | 21/6 | 11/4 |
| T-74C30 | 1.50 | Tuned Audio Circ | cuits or Filter | 42 | 15 | 2100 |  | 2 B |  | 2 | 11/2 | 23/6 | 1 |

## DUAL TONE CONTROL COMPONENTS

| T-14C70 | 2.50 | Tone Control, hura-bucking type | 22 | 0 | 220 | $3 Y$ | $17 / 4$ | $1 \%$ | $1 / 21 / 4$ | $1 / 2$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | R-1068 2.50 Dusi tone control potentiometer

## FILTER CHOKES

Thordarson filter reactors are rated in henries under actual working conditions. It is well known that as the D.C. current in a choke increasea, there is a corresponding decrease in inductance. In selecting a filter choke from this listing, full assurance may be had that inductance rating has been measured under full operating load conditions


2G


No. 352
Replacement Guide-Free

| Replacement Filter Chokes |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type No. | List Price | Inductance At Zero At Rated D.C. D.C. |  | $\begin{aligned} & \text { Current } \\ & \text { Rating } \\ & \text { M.A. } \end{aligned}$ | D.C. Res. Ohms | R.M.S. <br> Test Volts | $\begin{gathered} \text { Mtg. } \\ \text { Fig. } \end{gathered}$ | $\begin{aligned} & \text { Mtg. Centers } \\ & \text { Width Depth } \end{aligned}$ |  | Dimensions |  |  | $\begin{gathered} \text { Wt. } \\ \text { Lbs. } \end{gathered}$ |
|  |  |  |  | W. |  |  |  |  |  | D. | H. |  |
| T-13C26 | \$. 90 | 21 | 8 |  | 40 | 530 | 1600 | 3B | 2 |  | 23/8 | 13/6 | 13/6 | 1/2 |
| T-13C27 | 1.10 | 22 | 10 | 40 | 475 | 1600 | 38 | 23/6 |  | 2\% | 13/6 | 13/6 | \% $1 /$ |
| T-13C28 | 1.20 | 20 | 10 | 65 | 460 | 1600 | 38 | $21 / 4$ |  | 3 | 1\%/6 | 2 | 1 |
| T-43C92 | 1.65 | 24 | 10 | 75 | 260 | 1600 | 2 C | 1\% | 13/2 | 2 | 14\% | 23/10 | 11/6 |
| T-47C07 | 1.65 | 20 | 12 | 75 | 410 | 1600 | 38 | $81 / 1 / 8$ |  | $35 / 3$ | 11/8 | 21/4 | 14/4 |
| T-44C02 | 1.50 | 31 | 12 | 80 | 405 | 1600 | 3B | $21 / 8$ |  | 3\%/1/9 | 2 | 2 | 11/4 |
| T-57C51 | 1.50 | 15 | 6 | 80 | 138 | 1600 | 2B | 2\% |  | 27\% | 2 | 23/3 | 11/4 |
| T-13C29 | 1.60 | 20 | 9 | 85 | 250 | 1600 | 3B | 2\%/6 |  | 31/1/0 | 2 | 2 | 15/2 |
| T-68C07 | 2.00 | 32 | 15 | 85 | 375 | 1600 | 2 B | $2 \%$ |  | 3 3/6 | $21 / 3$ | 3 | 2 |
| T-57C53 | 2.00 | 27 | 10 | 110 | 200 | 1600 | 2B | 2\% |  | 3\%/1/ | $21 / 3$ | 3 | $21 / 4$ |
| T-75C49 | 1.50 | 22 | 8 | 120 | 290 | 1600 | 3 B | 2\%/6 |  | 3\%/4 | 2 | 2 | 11/2 |
| T-53C19 | 1.50 |  |  |  |  |  | 2 B | $21 /$ |  | 23 | 2 | 21/0 | 12 |
| T-13C30 | 2.00 | 25 | 8 | 150 | 200 | 1600 | 2B | $2 \%$ |  | 81/6 | 21/8 | 3 | 21/4 |
| Filter Chokes for Replacement in AC-DC Receivers |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-14C61 | \$1.00 | 14 | 7 | 55 | 200 | 1600 | 38 | 21/6 |  | 25\% | 18/8 | 15/8 | \% 6 |
| T-14C62 | 1.00 | 16 | 8 | 55 | 250 | 1600 | 38 | 2\%/6 |  | 24/10 | 11/8 | 1\%/9 | \% 4 |
| T-14C63 | 1.00 | 19 | 8 | 55 | 300 | 1600 | 8B | 21/6 |  | 2\% | 18/1 | $15 / 8$ | \%/4 |
| T-14C64 | 1.00 | 21 | 10 | 55 | 350 | 1600 | 3B | 2\% |  | 2\% | 15/6 | $15 / 3$ | \% |
| Filter Chokes for Amplifiers and Small Transmitters |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-57C52 | \$1.75 | 15 | 5 | 80 | 138 | 1600 | 2 F | 2\%/9 |  | 27/8 | $21 / 8$ | 23/6 | $13 / 4$ |
| T-16C07 | 2.25 | 32 | 15 | 85 | 375 | 1600 | 2 F | 2\% |  | 32/3 | 21/2 | 3 | 21/4 |
| T-57C54 | 2.25 | 27 | 10 | 110 | 200 | 1600 | 2F | 2\% |  | 31/2 | 21/6 | 3 | 21/4 |
| T-49C91 | 1.50 | 12 | 4 | 120 | 160 | 1600 | 2F | 21/6 |  | 2\%/1 | $13 / 1$ | 23/8 | 11/4 |
| T-17C00-B | 2.75 | 28 | 12 | 150 | 231 | 1600 | 2 F | 3\%/8 |  | 8\% | 31/8 | 31/2 | 3\% |
| T-74C29 | 3.75 | 29 | 15 | 150 | 200 | 2000 | 2G | 24-1 | 2\% | 8\%/6 | 31/8 | 43/8 | 51/4 |
| T-67C49 | 2.75 | 12 | 5 | 200 | 80 | 1600 | 2F | 3 4 |  | 3\% | $3{ }^{4}$ | 31/2 | 3\% |
| T-75C51 | 5.00 | 24 | 13 | 250 | 121 | 1600 | 2G | 3 | 25\% | 31/6 | 3410 | 446 | 8 |
| Also available, free to the serviceman - 352 Rephacement Encyclopedia and Service Guide. Ask for your copy now. |  |  |  |  |  |  |  |  |  |  |  |  |  |

[^6]CHOKES (C)

| $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ |  |  | Current M.A. | R.M.S. <br> Test <br> Volts | $\begin{aligned} & \text { D.C. } \\ & \text { Res. } \end{aligned}$ |  | Mig. Centers Width Depth | Dimensions |  |  | Wt. Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List Price | Inductance Henries |  |  |  | $\begin{aligned} & \text { Mig. } \\ & \text { Fig. } \end{aligned}$ |  |  |  |  |  |
|  |  |  |  |  |  |  |  | W. | D. | H. |  |
| T-15C54 | \$5.50 | 8 Parallel 32 Series | $\begin{array}{r} 150 \\ 75 \end{array}$ | 1,600 | $\begin{aligned} & 1845 \\ & \hline \end{aligned}$ | 3L | 21/8 | 2\%/4 | 3 | 3 效 | $31 / 2$ |
| T-15C55 | 7.00 | 2 Parallel 8 Series | $\begin{array}{r} 500 \\ 250 \end{array}$ | 1,600 | $\begin{array}{r} 32 \\ 130 \\ \hline \end{array}$ | 3L |  | 4 | 41/2 | 4\% | 73/2 |

TRANSMITTER INPUT AND FILTER CHOKES
3L
Matched input and smoothing chokes for amateur, amplifier or experimental applications. Inductance valuea are measured under full ing chokes for amateur, amplifier or experimental applications. Inductance val
loud conditions and adequate insulation is provided for recommended service.

C.H.T. TRANSMITTER CHOKES

Conservatively deaigned for continuous and quiet operation. Cases are compound filled for complete coil protection.

| C.H.T. Input Chokes |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-15C36 | \$8.00 | 200-20 | 5-25 | 105 | 4,000 | 8L | 2\%/8 | 3 \% ${ }^{\frac{1}{5}}$ | 4. | 41/2 | 49 |  |
| T-15C37 | 10.00 | 300-30 | 5-25 | 78 | 4.000 | 8L | 35 | $4 \frac{18}{1 / 3}$ | 5\%/6 | $5 \%$ |  | 22 |
| T-15C38 | 14.00 | 400-30 | 5-25 | 95 | 4,000 | 3L | 3\% | $4!$ | 5\% ${ }^{6}$ | 5\% |  |  |
| T-15C39 | 22.00 | 500-30 | 5-25 | 86 | 10,000 | 3L | $4{ }^{\text {P }}$ | 5H | $5{ }^{3} 8$ | 7\% | $81 /$ | 381/2 |
| $\overline{\mathrm{T}}$-15C41 | 26.50 | 650-50 | 5-25 | 46 | 10,000 | 3L | $5^{414}$ | 6 年 | 7 | 7\% | 8 | 51 |
| C.H.T. Smoothing Chokes |  |  |  |  |  |  |  |  |  |  |  |  |
| T-15C45 | \$8.00 | 200 | 12 | 105 | 4,000 | 3L | 23. | $3 \frac{7}{\frac{7}{81}}$ | 415 |  |  |  |
| T-15C46 | 10.00 | 300 | 12 | 78 | 4,000 | 3L | 35 | $4 \frac{18}{18}$ | 5\%6 | $5{ }^{\circ} \mathrm{E}$ | 6\% |  |
| T-15C47 | 14.00 | 400 | 12 | 95 | 4.000 | 3L | 3 ${ }^{5}$ | $4 \frac{1}{15}$ | 5\% | $5 \%$ |  |  |
| T-15C48 | 22.00 | 500 | 12 | 86 | 10,000 | 3L | $4 \%$ | 517 | 57/8 | 7 \% | $81 /$ | $381 / 2$ |
| T-15C50 | 26.50 | 650 | 12 | 46 | 10,000 | 3L | 54 | $6 \frac{1}{17}$ | 7 | $7 \%$ | 8 | 51 |

DRIVER (D) TRANSFORMERS
For coupling the plate or plates of an amplifier stage to the grids of an amplifier stage in which grid current is drawn during a part


## DRIVER TRANSFORMERS FOR SPECIFIC APPLICATIONS



We can supply all Thordarson products. Ask for complete Thordarson catalog.

## UNIVERSAL AND MULTI-MATCH DRIVER (D) TRANSFORMERS

Versatility of application reduces to a minimum transformer obsolescence which is a costly prohlem to the umateur in these days of rapid tube development. Through the use of five ratios
on euch transformer, these transformers will handle all driver requirements usually encountered in umateur transmitter circuits.

| Type No. | List Type | Cup. Watts | Max. I'ri. <br> M.A. Per Side | Ratio Pri. to 1/3 Sec. | Meg. F'ig. | Mtg. Centers Width Depth | Dimensions |  |  | $\begin{gathered} \mathbf{W i} \\ \mathbf{L b s} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | W. | D. | H. |  |
| Universal Driver Transformers "19'* Series |  |  |  |  |  |  |  |  |  |  |
| T-19D01 | \$6.00 | 15 | 60 | 1:1, 1.2:1, 1.4:1, 1.6:1, 1.8:1 | 4 D | $3^{3} \times$ | 33 | 3 m | 31/2 | 31/2 |
| T-19D02 | 6.00 | 15 | 60 | $2: 1,2.2: 1, \overline{2.4}: 1,2.6: 1,2.8: 1$ | 4 D | $3{ }^{3}$ | 33 | 33/4 | 31/2 | 31/8 |
| T-19D03 | 6.00 | 15 | 60 | 3:1, $3.2: 1, \overline{3.4}: 1,3.6: 1,3.8: 1$ | 4D | 3 | 3\% | 31 | 31/2 | 3185 |
| T-19D04 | 6.00 | 15 | 60 | $4: 1, \overline{4} .5: 1,5: 1, \overline{5.5}: 1, \overline{6: 1}$ | 41) | 3 \% | 3\%18 | 3 H | 31/2 | 31 |
| T-19D05 | 6.00 | 15 | Trimary for 560 ohm line | $1: 3.15,1: 2.75,1: 2.5,1: 2.25$ | 4D | $3{ }^{3}$ | 3\% | $3 \sqrt{3}$ | 31/2 | 312 |

C.H.T. Multi-Match Driver Transformers

Feature Convenient Switchboard Plug-In Terminal Board and Compound Filled Cases


The ensentials of improved voltage regulation and minimum heat rise have been given prime consideration in the design of these units. Itatinga kiven are for continuous operation at full had.

| Type No. | $\begin{aligned} & \text { list } \\ & \text { l'rice } \end{aligned}$ | $\begin{aligned} & \text { I'rimary } \\ & \text { Volts } \end{aligned}$ | Secondary Volis | Sec. <br> Amps. | Pri. V.A. | R.M.S. Test Volts | Mig.Fig. | Mig. Centers Width Depth | Dimensions |  |  | Wt. 1.bs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | W. | D. | 1. |  |
| SINGLE SECONDARY |  |  |  |  |  |  |  |  |  |  |  |  |
| T-50F61 | \$1.50 | 115 | 2.5 cit. | 3.5 | 10 | 1600 | 28 | $2^{3}$ | 27 \% | 13/4 | $2^{3}$ | 1 |
| T-19F88 | 1.75 | 115 | 2.5 Ct. | $5 . \overline{2} 5$ | 15 | 1600 | 213 | 2** | $2^{7}$ | 2 | 23\% | 11/6 |
| T-19F89 | 2.25 | 115 | 2.5 Ct . | $1)^{1}$ | 25 | 1600 | 2 B | 24 | $3^{3} \times$ | 214 | 3 | 2 |
| T-19F90 | 3.00 | 115 | 2.5 Ct. | 10 | 25 | 7500 | 3 C | 218 | 2 \% | 21/4 | $31 / 4$ | 21/4 |
| T-64F33 | 4.50 | 105/110/115 | 2.50 ct | 10 | 25 | 7500 | 2N | $3^{\prime \prime} 2^{\prime \prime}$ | 3\% | 31/4 | 4 | 41/2 |
| T-19F82 | 5.00 | 115 | 2.5 Cl . | 15 | 45 | 10000 | 3 C | $31 / 413$ | 38 | $21 / 4$ | 4 | 4 |
| T-63F99 | 3.25 | 115 | 5 Cl . | 4 | 20 | 1600 | 2 D | 21* ${ }^{1}$ | $2{ }^{\text {\% }}$ | 3 | $31 / 8$ | 21/4 |
| $\overline{\mathrm{T}}$-19F83 | 2.25 | 115 | 5 Ct . | 5 | 30 | 1600 | 2 B | 24. | 3 ${ }^{3}$ | 2! | 3 | 2 |
| T-19F84 | 2.75 | 115 | 5 Cl . | $\times$ | 45 | 1600 | 3 C | 2 13/4 | 24 | 21/4 | $31 / 4$ | 23\% |
| T-19F85 | 3.25 | 115 | 5 Cl . | 13 | 75 | 1600 | 30 | 34414 | 33.4 | 21/4 | 4 | 4 |
| $\bar{T}-19 \mathrm{~F} 86$ | 5.50 | 115 | 5 Cl . | 21 | 120 | 1600 | 3 C | $31 / 421 / 4$ | $33 / 4$ | 2 $1 / 4$ | 4 | 41/2 |
| T-74F23 | 5.00 | $105110 / 115$ | 5 Ct. | 13 | 75 | 1600 | 21) | $31 / 1{ }^{1 / 4}$ | $3 \frac{1 / 2}{}$ | 31/4 | 4 | 41/4 |
| T-74F24 | 7.50 | 105/110/115 | 5 Cl . | 21 | 125 | $16 \%$ | $21)$ | 2\% 14 | 3\% | 3 5 | 4 \% $/ 8$ | $51 / 4$ |
| T-19F91 | 2.25 | $11 \overline{5}$ | $5.25 \%$ | 4 | 25 | 1600 | 3 C | 2 - 134 | 2 \% | 2\% | $31 / 4$ | $21 / 3$ |
| T-19F92 | 3.25 | 115 | 5.25 (1. | 13 | 75 | 1600 | 36 : | $31 / 134$ | $33 / 6$ | 21/4 | 4 | 4 |
| T-19F80 | 1.25 | 115 | 6.3 Ct | 1 | 7 | 1600 | 213 | 2 | 14 | $13 / 8$ | 2 | 8/8 |
| T-19F81 | 1.50 | 115 | 6.3 Ct. | 2 | 14 | 1600 | 213 | $2^{3}$ | 2 | $18 / 4$ | 23/3 | $3 / 4$ |
| T-19F97 | 1.75 | 115 | 6.3 Ct. | 3 | 21 | 1600 | 213 | $2^{3}$ | 2 | 2 | 23\% | 11/2 |
| T-61F85 | 2.00 | 115 | $6.3,5, \overline{2} .5$ | 2.5 | 18 | 1600 | 3 Fi | 31 | 36 | 2 | 21/4 | 11/2 |
| T-73F60 | 3.75 | $105 / 110 / 115$ | 6.3 (\%t. | 5 | 36 | 1600 | 2D | $2{ }^{1} 114$ | $2^{7} 3$ | 29 | 34 | 31/4 |
| T-19F98 | 2.75 | 115 | 6.3 Ct . | 6 | 47 | 1600 | 3 C | $21^{1}$ | 2 自 | $2^{3}$ | $31 / 4$ | 2 $\%$ |
| T-19F99 | 3.50 | 115 | 6.3 c | 10 | 73 | 1600 | 3 C | $31 / 418$ | 3\% | $21 / 4$ | 4 | 4 |
| T-19F93 | 2.25 | 115 | 7.5 Cl | 4 | 34 | 1600 | 3 C | $218 / 4$ | 20 | 21/4 | 31/4 | 21/4 |
| T-19F94 | 3.00 | $11 \overline{5}$ | 7.5 Ct | 8 | 67 | 1600 | 3 C | $2{ }^{1 / 4}$ | 3 | $2^{7 / 1}$ | $31 / 4$ | 4 |
| T-92F20 | 4.75 | 115 | 7.5 Cl . | 8 | 68 | 1600 | 2D | $31 / 2$ | 3\% | 3114 | 4 | $48 / 4$ |
| T-19F95 | 2.75 | 115 | 10 Ct . | 4 | 48 | 1600 | 30 | $2 \quad 18 / 4$ | 29 | $21 / 4$ | $3^{11}$ | 23/4 |
| T-19F96 | 3.50 | 115 | 10 Ct . | 8 | 92 | 1600 | 3 C | $2141 / 4$ | 3 | $2^{7}$ | $33 / 4$ | 4 |
| T-64F14 | 4.75 | $105 / 110 / 115$ | 10 Ct . | 8 | 90 | 1600 | 2 D | $31 / 41 m$ | 31/4 | 3\% | 4 | 5 |
| T-19F87 | 6.25 | $115$ | 10 ( t . | 12 | 140 | 1600 | 3 C | $31.21 \%$ | 3\%/4 | 3 | 4 | $63 / 4$ |



## 2 D



## SINGLE SECONDARY



| T-19F76 | \$4.75 | 115 | Sec. 1-5 V. <br> Sec. 2-7.5 6.3,5 | $\begin{aligned} & 3 \\ & 6 \end{aligned}$ | 67 | $\begin{aligned} & 1600 \\ & 1600 \end{aligned}$ | 2(; | 2" | 2 in | $33^{3} 8$ | $31 / 18$ | 43/8 | 42/6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-19F77 | 7.50 | 115 | Sec. 1-5 V. <br> Sec. 2-2.5 V. Ct. <br> Sec. 3-10/7.5 6.3 5 | $\begin{array}{r} 3 \\ 10 \\ 8 \end{array}$ | 133 | $\begin{aligned} & 1600 \\ & 7500 \\ & 1600 \end{aligned}$ | 29 | 3 | $2^{7}$ | $3 \% / 4$ | 35/8 | 48 | 7 |
| T-19F78 | 5.25 | 115 | Sec. 1-2.5 V. Ct. Sec. 2-5 V. | $\begin{array}{r} 10 \\ 3 \end{array}$ | 45 | $\begin{aligned} & 7500 \\ & 1600 \end{aligned}$ | 29 | 2 m | $2 \%$ | 33/8 | 33/4 | 45/8 | 5 |
| T-19F79 | 6.75 | 115 | sec. 1-6.3 V. Ct. sec. 2-10/7.5/6.3/5 | $\begin{array}{r} 3 \\ 10 \end{array}$ | 133 | $\begin{aligned} & 1600 \\ & 1600 \end{aligned}$ | 29; | 2 m | 3 | 33/8 | $35 / 8$ | $4 \frac{3}{3}$ | 6 |
| T-79F84 | 4.75 | 115 | Sec. 1-2.5 V.Ct. Sec. 2-5 V. Ct. Sec. 3-6.3 V. Ct. | $\begin{aligned} & 3.5 \\ & 3 \\ & 3 \end{aligned}$ | 48 | $\begin{aligned} & 1600 \\ & 1600 \\ & 1600 \end{aligned}$ | 29 | $2^{11}$ | $2^{12}$ | $3{ }^{3}$ | 3 ¢ \% | 4\%/8 | 41/4 |

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## MODULATION TRANSFORMERS FOR SPECIFIC APPLICATIONS

To couple the plate or plates of an audio output stage to a Class C R．F．load．

| $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Tube Type | Class | Ohms Impedance |  | $\begin{array}{r} \text { Max. } \\ \text { S.c.M.A. } \end{array}$ | $\begin{aligned} & \text { Max. } \\ & \text { Audio Mtg. } \\ & \text { Pwr.Watt Fig. } \end{aligned}$ |  | Mtg．Centers Width Depth |  | Dimensions |  |  | Wt． Lbs． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pri． | Sec． |  |  |  | W． | D． | H． |  |
| T－17M59 | \＄2．75 | $\begin{aligned} & 1-6 A 6, \\ & 6 \text { N7 or } 53 \end{aligned}$ | B | 10.000 | $\begin{gathered} 3,000 \\ 3.750 / 4,500 \end{gathered}$ | 100 | 10 | 2 F |  |  | 2 5 |  | 32／6 | $21 / 2$ | 3 | 2 |
| T－64M26 | 6.00 | $\begin{aligned} & 2-46 \text { or } 59 \\ & 2-250 \end{aligned}$ | $\begin{array}{r} B \\ \mathbf{A B} \end{array}$ | 5，800 | $\begin{array}{r} 5,000 \\ 10,000 \end{array}$ | 100 | 40 | 2D | $31 / 4$ | 2 自 | 38／4 | 33／8 | 4 | 5 |
| T－84M70 | 10.00 | $\begin{aligned} & \begin{array}{l} 2-6 \mathrm{~L} 6 \\ 2-35 \mathrm{~T} \\ 4-210 \end{array} \end{aligned}$ | $\begin{array}{r} \mathbf{A B} \\ \mathbf{B} \\ \mathbf{B} \end{array}$ | 3，800 | $\begin{aligned} & \hline 2,500 \\ & 5,000 \\ & 7,500 \end{aligned}$ | $\begin{aligned} & 250 \\ & 200 \\ & 150 \end{aligned}$ | 75 | 2D | 23／6 | 2\％ | 38／4 | $41 \%$ | 436 | 10 |
| T－14M49 | 16.50 | 2－TZ－40 | B | 6，900 | $\begin{aligned} & \mathbf{2 , 8 5 0} \\ & \mathbf{4 . 5 0 0} \\ & \mathbf{6 , 5 0 0} \end{aligned}$ | $\begin{aligned} & 350 \\ & 300 \\ & 235 \end{aligned}$ | 175 | 2Q | 6\％／4 | 3\％ | 71／2 | 5 5／6 | 63／8 | 20 |



2D


| Type No． | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Capacity Watts | Pri．M．A． Each Side | Secondary M．A． |  | $\begin{aligned} & \text { Mtg. } \\ & \text { Fig. } \end{aligned}$ | Mtg．Centers Width Depth | Dimensions |  |  | $\begin{gathered} \text { Wt. } \\ \text { Lbs. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Series | Parallel |  |  | W． | D． | H． |  |
| T－19M13 | \＄4．00 | 15 | 50 | 50 | 100 | 4D | 2\％ | 3泊 | 2 源 | 3 | 2 |
| T－19M14 | 7.00 | 30 | 75 | 75 | 150 | 2N | 31／414\％ | 3\％／4 | 3 | 4 | $41 / 2$ |
| T－19M15 | 10.00 | 60 | 125 | 125 | 250 | 2N | $31 / 42 \%$ | 38／4 | 32／4 | 4 | $61 / 2$ |
| T－19M16 | 15.00 | 100 | 175 | 175 | 350 | 2N | 31／4 28／4 | 41／6 | 41／2 | 6 m | 121／2 |
| T－19M17 | 24.00 | 250 | 225 | 225 | 450 | 2Q | 7\％／4 3\％ | $81 / 2$ | 53／4 |  | 301／6 |

## C．H．T．MULTI－MATCH MODULATION TRANSFORMERS

A premium feature of this group is the exclusive Thordarson $S$ witchboard Plug－in terminal board，enabling quick and accurate match－ ing of tube loads without soldering．

2Q

| T－11M74 | \＄9．00 | 40 | 100 | 80 | 160 | 3G | 27／8 | 3 年 | 4 ＇in | 41／2 | 4\％／8 | 73／3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－11M75 | 12.50 | $7 \overline{5}$ | 145 | 145 | 290 | 3G | 2\％／8 | 3 3 ${ }^{\text {\％}}$ | 411 | 41／2 | 4\％／3 | 9 |
| T－11M76 | 19.50 | 125 | 210 | 160 | 320 | 3G | 3\％ | $4 \frac{1}{2}$ | 5\％ | $5^{\circ}$ | 6 | 18 |
| T－11M77 | 30.00 | 300 | 250 | 250 | 500 | 3G | $4{ }^{\circ}$ | 5 \％${ }^{\frac{9}{3}}$ | 54 | 6 \％ | 71／4 | 30 |
| T－11M78 | 60.00 | 500 | 320 | 320 | 640 | 3G | $5 \%$ | 7 新 | 7 \％ | 84 | $71 / 2$ | 15 |

## PLATE SUPPLY（P）TRANSFORMERS

While ordinarily used to supply tbe voltage potential between cathode and anodes of vacuum tubes in a rectifier circuit，there are Thordarson aplate trans requiring relatively high voltages in which Thordarson plate transformers may be used to good advantage． Thordaraon plate transformers are rated in D．C．voltages from a two section filter which includes the voltage drop through the rectifier tubes．Designed especially for Amateur Short Wave or experimental equipment．Electrostatic shielding is provided between primary and secondary windings．


We can supply all Thordarson products．Ask for complete Thordarson catalog．

## Power（R）Transformers

## UNIVERSAL REPLACEMENT POWER TRANSFORMERS－＂13R＂SERIES

The choice of servicemen in all parta of the world because of the universal adaptability to receiver replacement，from both electrical and mechanical considerations．Adjustable mounting brackets permit flush，vertical or horizontal mounting．Replacement recommen dations are given in Thordarson Replacement Transformer Encyclopedia and Service Guide No． 352.

| $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | $\underset{\text { Price }}{\text { List }}$ | $\begin{gathered} \text { Pri. } \\ \text { V.A. } \end{gathered}$ | $\begin{aligned} & \text { Secondary } \\ & \text { A.C. D.c. } \end{aligned}$ |  | Filament Windings |  |  | Mtg． Fig． | $\frac{\text { Mtg．Centers }}{\text { Width Depth }}$ |  | Dimensions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Rect．Fil． | Fil．No． 1 | Fil No． 2 Fil．No． 8 |  |  |  | W． | D． | H． |  |
| T－13R19 | \＄2．50 | 45 | 240－0－240 | 40 | 5V－2A | 6．3V－2A Ct． |  | 3A | 2 槪 | 2 1／6 | 21／2 | 21／2 | 8 | 21 |
| T－13R11 | 2.75 | 60 | 290－0－290 | 50 | 5V－3A | 6．3V－2A Ct． |  | 8A | 23 | 21／2 | 23／2 | 21／6 | 3 | 31 |
| T－13R12 | 3.50 | 65 | 350－0－350 | 70 | 5V－3A | 6．3V－2．5A Ct． |  | 3A | 2 \％ | 21／2 | $21 / 2$ | 3\％ | 3 | 31／2 |
| T－13R13 | 4.00 | 90 | 350－0－350 | 90 | 5V－3A | 6．3V－3．5A Ct． |  | 3A | $21 / 2$ | 31／8 | $31 / 8$ | 81／6 | 83／6 | $51 / 4$ |
| T－13R14 | 4.25 | 115 | 350－0－350 | 120 | 5V－4A | 6．3V－4．7A Ct． |  | 8A | 21／2 | $31 / 8$ | $31 / 1 /$ | 31／2 | 3 $2 / 6$ | 61 |
| T－13R15 | 5.75 | 140 | 375－0－375 | 150 | 5V－4A | 6．3V－5A Ct． |  | 8A | 3 | 3\％／3 | 3\％／3 | $3 \mathrm{l} /{ }^{\text {c／}}$ | 41／3 | 61 |
| T－13R16 | 6.25 | 180 | 400－0－400 | 200 | 5V－4A | 6．3V－5．14A Ct． |  | 3A | 3 | 3\％／8 | 3\％／3 | 345 | 41／2 | 78 |
| T－13R17 | 4.00 | 85 | 800－0－300 | 60 | 5V－3A | 6．3V－2．5A Ct． | 2．5V－7．5A Ct． | 3A | $21 / 6$ | 2\％ | $2 \%$ | 3／1／ | 3 \％$/ 6$ |  |
| T－13R18 | 4.50 | 115 | 350－0－350 | 90 | 5V－3A | 6．3／2．5－3．5A Ct． | $2.5 \mathrm{~V}-9 \mathrm{~A}$ Ct． | 3A |  | 3\％／8 | 3\％／4 | $31 / 4$ | $41 / 2$ | 52 |
| T－13R08 | 4.50 | 105 | 350－0－350 | 90 | 5V－3A | $6.3 \mathrm{~V}-3.3 \mathrm{~A} \mathrm{Ct}$ ． | $2.5 \mathrm{~V}-6 \mathrm{~A} \mathrm{Ct}$ ． | 3A | $21 / 2$ | 31／8 | 31／8 | 31／2 | 3\％／2 | 51 |
| T－13R09 | 6.25 | 160 | 375－0－375 | 180 | 5V－3A | 6．3V－3．3A Ct． | $2.5 \mathrm{~V}-6 \mathrm{~A}$ Ct． | 3A |  | 38／8 | 31／8 | 3\％ | 41／3 | 7 |
| T－13R00 | 4.25 | 70 | 275－0－275 | 70 | 6V－3A | $5 \mathrm{~V}-.5 \mathrm{~A} \mathrm{Ct}$ ． | $2.5 \mathrm{~V}-10.5 \mathrm{~A} \mathrm{Ct}$ ． | 3A | 21／4 | 2\％ | 2\％ | 3\％／6 | 33／8 | 4 |
| T－13R01 | 2.75 | 60 | 325－0－325 | 40 | 5V－3A | $2.5 \mathrm{~V}-4 \mathrm{~A} \mathrm{Ct}$ ． |  | 3A | 2 海 | $21 / 3$ | 21／2 | $28 / 6$ | 3 | 31 |
| T－13R02 | 3.50 | 60 | 350－0－350 | 50 | 5V－3A | $2.5 \mathrm{~V}-7.25 \mathrm{~A}$ Ct． |  | 3A |  | 21／2 | 21／2 | 2\％ | 8 | 31 |
| T－13R03 | 3.75 | 75 | 350－0－350 | 70 | 5V－3A | $2.5 \mathrm{~V}-9 \mathrm{~A} \mathrm{Ct}$ ． |  | 3A | 21／4 | 2\％ | 2年 | $3 \%$ | 3\％ |  |
| T－13R04 | 4.25 | 115 | 350－0－350 | 100 | 5V－3A | 2．5V－12．5A Ct． |  | 3A | 21／83 | 31／8 | 31／8 | 31／2 | 8\％ | $51 / 4$ |
| T－13R05 | 4.00 | 110 | 350－0－350 | 70 | 5V－3A | $2.5 \mathrm{~V}-9 \mathrm{ACt}$ | $2.5 \mathrm{~V}-3.5 \mathrm{~A} \mathrm{Ct}$ ． | 3A | 21／2 | $31 / 8$ | 31／8 | $31 / 2$ | 3 $8 /$ | $51 / 4$ |
| T－13R06 | 5.25 | 130 | 350－0－350 | 120 | 5V－3A | $2.5 \mathrm{~V}-12.5 \mathrm{~A} \mathrm{Ct}$ ． | 2．5V－3．5A Ct． | 3A | 3 | $38 / 8$ | 31／2 | 31／6 | 41／2 | $61 / 2$ |
| T－13R07 | 5.50 | 140 | 400－0－400 | 110 | $5 \mathrm{~V}-3 \mathrm{~A}$ | 2．5V－15A Ct． | $2.5 \mathrm{~V}-3.5 \mathrm{~A} \mathrm{Ct}$ ． | 3A | 3 | 3\％／3 | 38／4 | 3 81 | 41／2 | $6 \frac{1}{6}$ |

## Amplifier，Transmitter and Replacement Power Transformers




## FULLY SHIELDED－UPRIGHT MOUNTING

Leads are brought out through opening in base．Knock－out holes on sides of shields provide optional above－panel connection．

| T－56R01 | \＄5．50 | 60 | 325－0－325 | 70 |  | 5V－2A | $2.5 \mathrm{~V}-3 \mathrm{~A} \mathrm{Ct}$ ． | $\begin{aligned} & 1.5 \mathrm{~V}-1 \mathrm{~A} \\ & 1.5 \mathrm{~V}-4 \mathrm{~A} \end{aligned}$ | 5V－5A Ct． | 2G | 2\％ | 3 | 3\％ | 35／6 | 45／8 53／4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－56R03 | 6.00 | 85 | 350－0－350 | 105 |  | 5V－3A | $2.5 \mathrm{~V}-3 \mathrm{~A} \mathrm{Ct}$ ． | $2.5 \mathrm{~V}-1.75 \mathrm{~A}$ Ct． | $\begin{gathered} 1.5 \mathrm{~V}-5 \mathrm{~A} \\ 1.5 \mathrm{~V}-1 \mathrm{~A} \end{gathered}$ | 2G | 3 | 2先 | 38／2 | 3\％ | 41／6 71／6 |
| T－56R05 | 6.00 | 115 | 350－0－350 | 110 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | $2.5 \mathrm{~V}-9 \mathrm{~A} \mathrm{Ct}$. | $2.5 \mathrm{~V}-3 \mathrm{~A} \mathrm{Ct}$ ． | $2.5 \mathrm{~V}-3 \mathrm{~A} \mathrm{Ct}$. | 2 G | 3 | 24\％ | 3\％／4 | 34／1／ | 4\％78／4 |
| T－70Ri8 | 3.25 | 60 | 340－0－340 | 55 |  | 5V－2A | 6．3V－1．5A Ct． |  |  | 2 G | 24． | 18／6 | 3\％ | 23／2 | 43／6 |
| T－70R61 | 4.00 | 60 | 385－0－385 | 70 |  | 5V－2A | $6.3 \mathrm{~V}-2.5 \mathrm{~A}$ Ct． |  |  | 20 | 240 | 2\％ | 3\％ | 31／8 | 45／848／3 |
| T－70R62 | 5.50 | 110 | 350－0－350 | 145 |  | 5V－3A | 6．3V－4．5A Ct． |  |  | 2 G | 3 | 31／8 | 32／2 | 3\％ | 420 813 |
| T－92R21 | 7.50 | 150 | 400－0－400 | 200 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | 6．3V－5A Ct． |  |  | 2G | 3 | 31／2 | 32／6 | 41／6 | 4芴 9 |
| T－17R30 | 8.50 | 200 | 370－0－370 | 280 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-7 \mathrm{~A} \mathrm{Ct}$ ． |  |  | 2G | 3 | 31／8 | 3\％／2 | 48／6 | 44／1／0193 |
| T－17R31 | 12.50 | 300 | 430－0－430 | 325 |  | $5 \mathrm{~V}-6 \mathrm{~A}$ | $6.3 \mathrm{~V}-8 \mathrm{~A} \mathrm{Ct}$ ． |  |  | 2 G | 3 | 47\％ | $32 / 4$ | 53／8 | 4\％131／2 |
| T－74R28 | 6.50 | 105 | 440－0－440 | 125 | 38 V | $\begin{array}{r} 5 \mathrm{~V}-3 \mathrm{~A} \\ 2.5 \mathrm{~V}-3 \mathrm{~A} \end{array}$ | $6.3 \mathrm{~V}-3.3 \mathrm{~A} \mathrm{Ct}$ ． |  |  | 2G | 3 | 2\％ | 31／4 | 34／1／ | 4\％ 8 |
| T－87R85 | 7.00 | 145 | 330－0－330 | 160 | 77 V | $\begin{aligned} & 5 \mathrm{~V}-3 \mathrm{~A} \\ & 5 \mathrm{~V}-2 \mathrm{~A} \end{aligned}$ | $6.3 \mathrm{~V}-2 \mathrm{~A} \mathrm{Ct}$ ． | $2.5 \mathrm{~V}-5 \mathrm{ACt}$ ． |  | 2 G | 3 | 31／8 | 34／8 | 3\％ | 41／10 83／2 |
| T－68R26 | 6.75 | 160 | 550－0－550 | 150 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | 7．5V－2．5A Ct． | 2．5V－5A Ct． |  | 2 G | 3 | 31／2 | 3\％／2 | 41／3 | 440101／ |
| T－69R35 | 6.50 | 135 | 385－0－385 | 200 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-3 \mathrm{ACt}$ ． |  |  | 26 | 3 | 31／2 | 3\％／4 | 41／6 | 446016 |
| T－75R50 | 7.50 | 160 | 435－0－435 | 250 | 80 V | $\begin{array}{r} 5 \mathrm{~V}-3 \mathrm{~A} \\ 2.5 \mathrm{~V}-3 \mathrm{~A} \end{array}$ | $6.3 \mathrm{~V}-1.5 \mathrm{~A}$ Ct． | $2.5 \mathrm{~V}-10 \mathrm{~A} \mathrm{Ct}$. |  | 2G | 3 | $31 / 2$ | 3\％／4 | 41／6 | 4\％1036 |
| T－83R85 | 12.00 | 290 | 740－0－740 | 200 | 150 V | $\begin{array}{r} 5 \mathrm{~V}-3 \mathrm{~A} \\ 2.5 \mathrm{~V}-3 \mathrm{~A} \\ \hline \end{array}$ | $7.5 \mathrm{~V}-5 \mathrm{ACt} .$ |  |  | 2 C | 31／8 | 41／2 | 3\％ | 51／6 | 4\％131／2 |
| T－99R28 | 11.00 | 250 | $\begin{aligned} & 550-0-550 \\ & 325-0-325 \end{aligned}$ | $\begin{array}{r} 275 \\ 75 \end{array}$ |  | $\begin{aligned} & 5 \mathrm{~V}-3 \mathrm{~A} \\ & 5 \mathrm{~V}-2 \mathrm{~A} \end{aligned}$ | $\mathrm{ta} 8 \mathrm{~V}-8 \mathrm{ACt} \text {. }$ |  |  | 2 G | 3 | 41／2 | 34\％ | 51／4 | 4\％ 15 |
| T－19R30 | 7.75 | 170 | 560－0－560 | 150 |  | 5V－3A | $6.3 \mathrm{~V}-3 \mathrm{~A} \mathrm{Ct}$ ． | 7．5V－2．5A Ct． |  | 2 G | 3 | 3／4． | $31 / 2$ | 4 | 41／6 88／4 |

## C．H．T．POWER TRANSFORMERS

For amplifiers，transmitters，or deluxe receivers．Designed to operate continuously at full rated load．Cases compound flled for complete coil protection．

| T－15R04 | 4.75 | 30 | 255－0－255 | 25 | $6.3 \mathrm{~V}-2.1 \mathrm{~A}$ Ct． |  |  |  | 3L | 21／38 |  | 24／0 | 3 | 3\％ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－15R05 | 10.50 | 150 | 340－0－340 | 135 | 77 V | $\begin{aligned} & 5 \mathrm{~V}-3 \mathrm{~A} \\ & 5 \mathrm{~V}-2 \mathrm{~A} \end{aligned}$ | 6．3V－4A Ct． | $\begin{aligned} & \text { *6.3V-2A Ct. } \\ & { }^{2} .5 \mathrm{~V}-5 \mathrm{ACt} \end{aligned}$ | 3L | 2\％ | 37 | 4\％ | 41／3 | 5\％／6 10 |
| T－15R06 | 9.75 | 155 | 380－0－360 | 175 |  | SV－3A | $6.3 \mathrm{~V}-5 \mathrm{~A}$ Ct． |  | 31． | 27／6 | 3 ${ }^{\text {5 }}$ | 43） | 41／2 | 55／6．11 |
| T－15R07 | 10.50 | 238 | 380－0－380 | 280 |  | $5 \mathrm{~V}-3 \mathrm{~A}$ | $6.3 \mathrm{~V}-7 \mathrm{~A}$ Ct． |  | 3L | 2\％／8 | 3\％${ }^{\text {\％}}$ | 43／10 | 41／3 | 51／1 12 |
| T－15R08 | 13.75 | 253 | 450－0－450 | 325 |  | 5V－6A | $6.3 \mathrm{~V}-8 \mathrm{~A} \mathrm{Ct}$. |  | 3L | 3\％ | 43 | 5\％ | 57／1 | 53／822 |

## SPEAKER FIELD SUPPLY TRANSFORMERS



[^7]
## OUTPUT（S）TRANSFORMERS

For coupling audio power amplifier tubes to a loud speaker voice coil or line．Correctly matching the output tubes to a speaker losd is important．Effielency，frequency response and distortion are affected by this matching．Small，unshielded types are listed for use with receivers where the transformer is usually mounted on the loud speaker frame．Larger shielded types have multiple secondary impedances as required in sound amplifiers．C．H．T．out put transformers have a greater selection of output impedances，meeting prac－ tically all speaker requirements．These units are compound filled and are provided with jacks and plugs to facilitate speaker matching． Tertiary winding included on some ty pes for inverse feed－back connections．


## REPLACEMENT OUTPUT TRANSFORMERS

| T－14S81 | \＄1．25 | 1－42，2A5， 6 F6 or P－P45， 71 | A | $7,000 \mathrm{Ct}$ ． | 3 to 6 | 40 | 5 | 3B | 2 | $2{ }^{3}$ | 18\％ | 13／3 | ， |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－14S82 | 1.25 | 1－25L 6 | A | 1．500 | 3t06 | 55 | 5 | 3B | 2 | $28 / 8$ | $13 / 3$ | $13 / 8$ |  |
| T－14S83 | 1.25 | 1A5－G，1E7－G | A | $25,000 \mathrm{Ct}$ ． | 3 to 6 | 8 | 5 | 38 | 2 | 23 自 | 13\％ | 1\％ |  |
| T－14S84 | 1.25 | 1－1C5G，1Q5G | A | 8，000 | 3 to 6 | 10 | 5 | 38 | 2 | 21／8 | $1{ }^{3}$ 品 | 1\％自 |  |
| T－13S37 | 1.25 | 1－6F6，42，2A5， 47 | A | 7，000 | 124 | 36 | 5 | 3E | 2 | 283 | 18， | 13／10 |  |
| T－13S39 | 1.25 | 1－45，12A5，43，71A | A | 4，000 | $1 / 2 / 4$ | 36 | 5 | 3E | 2 | 2\％／8 | $1^{8}$ 自 | 18／8 |  |
| T－13S43 | 1.35 | 1－1F4，1D4，1F5G | A | 16，000 | 12.4 | 10 | 5 | 3E | 2 | 23\％ | 11 | $1^{1 / 1}$ |  |
| T－33S99 | 1.50 | 2－45，71，43，25A6 P－P | A | 8，000 Ct． | 61012 | 36 | 10 | 2 B | $2^{8 .}$ | $2^{7}$ | 2 | $2^{3} 1$ | 11／6 |
| T－13S40 | 1.50 | 2－6F6， 42 P－P，2－2A5， 47 P－P | A | 14，000 Ct． | 124 | 40 | 10 | 3E | 2\％自 | 24 | $1^{5}$ 自 | 15自 |  |
| T－81S01 | 1.50 | $1-19,1 \mathrm{JGG}, 1 \mathrm{G} 6 \mathrm{G} \text { P-P }$ | ${ }_{8}^{8}$ | $10,000 \mathrm{Ct}$ ． | 2／4／8／ | 15 | 8 | 2B | 2 y | $2 \%$ | 1 首 | 2 |  |

## HEAVY DUTY OUTPUT TRANSFORMERS TO LINE OR SPEAKER（High Level）

| T－72S58 | \＄1．65 | Pentode Plate to phones or oscillator |  | 10，000 | $\begin{array}{r} 2,000 \\ 50 \end{array}$ | 30 | 5 | 28 | $2!$ |  | 2 \％í | 18／8 | 2 | 1／4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－17S10 | 3.00 | 1.61 .6 | A | 2.500 | 2 ／8，500 | 80 | 8 | $2 F$ | 25 |  | $3^{2}$ | $21 / 2$ | 3 | $21 / 4$ |
| $\mathrm{T}=17 \mathrm{S11}$ | 4.50 | 2－6V6 P－P | AB1 | $8,000{ }^{*}$ | 4，8 15，250 500 | 52 | 15 | 2 F | $3{ }^{3}$ |  | 34 |  | $31 / 3$ | 31 |
| T－17S12 | 4.50 | 2－6L6 P－P | $\begin{aligned} & \text { AB1 } \\ & \text { (with } \end{aligned}$ | $\begin{aligned} & 4.300^{*} \\ & 300 \mathrm{~V} . \text { on } \end{aligned}$ | $\begin{aligned} & 4.816250500 \\ & \text { n plate and screen) } \end{aligned}$ | 95 | 25 | 2 F | 3 桹 |  | $3 \%$ |  | $31 / 2$ | $3{ }^{1} 2$ |
| T－17S13 | 6.00 | 2－6L6 P－P | AB1 | 6，600＊ | 4／8／15／250／500 | 80 | 34 | 2G | 24 | $2{ }^{\circ}$ | 34 | $3{ }^{3}$ | 4\％／6 | 51／2 |
| T－17514 | 6.00 | 2－6L． 6 P －P | A82 | 5，500＊ | 4／8／15，250／500 | 90 | 40 | 2G | 24 | 2 | 36 | 324 | 4\％／4 | $51 / 4$ |
| T－17S15 | 6.50 | 4－6L6 P－P Par． | A $\overline{8} 1$ | 3，300＊ | 4／8／15 250／500 | 155 | 60 | 2 G | 24 | 24 | 3 n | $3 \mathrm{~s} /$ | $4^{3}$ | 5 \％ |
| T－68506 | 2.50 | 1－6F6，42，2A5，1－47 | A | 7.000 | 10 or 2,000 | 36 | 5 | 2 F | 23. |  | 23 |  | $2{ }^{3}$ | 1 |
| T－67S51 | 3.50 | 2－6F6，42，2AE， 47 P－P | A | 14，000 | $4.815 \cdot 500$ | 40 | 20 | 2 F | 24 |  | $3^{3}{ }^{3}$ | 212 | － | 21／4 |
| T－67S48 | 3.50 | $\begin{aligned} & 2-45,71,43,25 A 6 P-P \\ & 1-6 N 7,6 A 6,53 \mathrm{P}-\mathrm{P} \end{aligned}$ | $\begin{aligned} & \mathrm{A} \\ & \mathbf{B} \end{aligned}$ | 8，000 | 4／8／15／500 | 36 | 25 | 2 F | 24 |  | $3{ }^{3}$ | 212 | 3 | $21 / 6$ |
| T－67S52 | 4.00 | $\begin{aligned} & 2-46,59 \text { P-P } \\ & 2-6 \mathrm{~F} 6,42,2 \mathrm{~A} 5 \text { P-P } \\ & 2-6 \mathrm{~N} 7,6 \mathrm{~A} \text { ¢, } 53 \text { P-P Par. } \end{aligned}$ | $\begin{gathered} \mathrm{B} \\ \mathrm{AB2} \\ \mathbf{B} 2 \end{gathered}$ | 5，800 | $4 / 8 / 15 / 500$ | 60 | 30 | 2 F | 313 |  | 3\％ | $3{ }^{1}$ | $31 / 2$ | 31／2 |
| T－58572 | 3.75 | $\begin{aligned} & \text { 2-2A3, 6B4 G P-P } \\ & 2-48,251,6 \text { P-P } \end{aligned}$ | ${ }_{A}^{A B}$ | 3，000 | 4／8／15／500 | 60 | 30 | 2 F | 3 H |  | 34 | 3 | $31 / 2$ | 31／6 |
| T－67S54 | 4.00 | $\begin{aligned} & \text { 2-6L6 P-P } \\ & 2-2 \mathrm{~A} 3,6 \mathrm{~B} 4 \mathrm{G}, 45 \mathrm{P}-\mathrm{P} \end{aligned}$ | $A$ | 5，000 | 4／8／15／500 | 60 | 30 | 2 F | 3 桹 |  | 3\％ | 3 自 | 34. | 31／2 |
| T－67S92 | 4.00 | 4－2A3，6B4G， 45 P－P Par． 4－48，25L6，P－P Par． | $\begin{gathered} \mathrm{AB} \\ \mathrm{~A} \end{gathered}$ | 1.500 | 4／8／15／500 | 80 | 40 | 2 F | 3 H |  | $3{ }^{5}$ | $3^{1 / 6}$ | 31／2 | $31 / 2$ |
| T－65S94 | 4.00 | $\begin{aligned} & \text { 2-50 P-P } \\ & 2-6 \mathrm{~F} 6,42,2 \mathrm{~A} 5 \mathrm{P}-\mathrm{P} \end{aligned}$ | $\stackrel{A}{A B 2}$ | 8，000 | 4／8／15／500 | 55 | 40 | 2 F | 3 桹 |  | 34 | 31 | 31／2 | 31／3 |
| T－75S75 | 4.00 | $\begin{aligned} & \text { 2-6F6, 42 or 2A } 5 \\ & \text { 1-6N7, 6A6, 63 P-P } \\ & \text { 2-6N6G, 6B5, 2B6, 6AC5 P-P } \end{aligned}$ | $\begin{gathered} \mathbf{A B 2} 2 \\ \mathbf{B} \\ \mathbf{A} \\ \hline \end{gathered}$ | 10，000 | 4／8／15／500 | 45 | 40 | 2F | 3 th |  | 34 | 3 ＇m | $31 / 2$ | 31／2 |
| T－84S58 | 6.00 | 2－6L6 P－P | AB2 | ．3，800 | 4／8／15／500 | 115 | 60 | 2G | 240 | 24 | 35 | $3^{3} \times$ | 458 | 6 |
| T－89S75 | 4.00 | 2－6L．6 P－P | $\mathrm{AB}^{\mathbf{B}}$ | 6，600 | 4／8／15／500 | 80 | 40 | 2 F | 3 槙 |  | 34 |  | $31 / 2$ | 31／2 |

UNIVERSAL REPLACEMENT TUBE TO VOICE COIL
Preferred by many because of their wide plate impedance ard voice coil coverage．Proper matching of loud impeduncen to speaker voice coils is accomplished by using taps as specified in the instruction sheets．

| T－13S38 | \＄1．50 | Universal | A | 4，000 7，000 | Adjustable | 36 | 8 | 3E | $2^{\prime \prime}$ | 24 | $1^{5}$ | $15 /$ | 1／1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－57S01＊ | 2.00 | Single or |  | 8,000 10，000 | ． 1 to 29 |  |  | 2 E | 23 | $2{ }^{2} 8$ | 2 | $2^{3}$ \％ | 13 |
| T－57S02 $\dagger$ | $2.00)$ | P－P Tubes |  | 14，000 Ct． |  |  |  | 28 | 23\％ | $2{ }^{7}$ | 2 | 2： | $11 / 4$ |
| T－13S42 | 1.50 | Univerar Single Tube | A | $\begin{aligned} & 1,500 / 2,000 \\ & 4,000 / 5,000 \\ & 7,000: \end{aligned}$ | $\begin{aligned} & \text { Adjustable } \\ & .1 \text { to } 29 \end{aligned}$ | 55 | 10 | 3E | $2^{3}$ | 24 | $15 \%$ | 13 自 | 3／4 |
| T－13S41 | 2.75 | Universal P－P <br> Tubes | A | $\begin{aligned} & 3,000 / 5,000 \\ & 6,600 / 7,000 \\ & 8,000 / 10,000 \end{aligned}$ | $\begin{gathered} \text { Adjustable } \\ .1 \text { to } 29 \end{gathered}$ | 60 | 20 | 2E | 24 | 35 | 21／6 | 3 | 21／6 |



UNIVERSAL TUBE TO LINE

| T－61525 | \＄3．25 | Univ．Single Tube | A | $\begin{aligned} & 2,500 / 4,000 \\ & 5,0006,000 / 7,000 \end{aligned}$ | 500 | 60 | 10 | 2F： | 2 年 | 354 | 2 \％ | 3 | 21／4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－61S26 | 3.50 | Univ．P．P Tubes | A | $\begin{array}{rl} 8,000 & 10,000 \\ 12,000 & 14,000 \mathrm{Ct} . \end{array}$ | 500 | 55 | 10 | 2E | 24 | 3＊＊ | $2^{\prime}$ | 3 | $21 / 6$ |

UNIVERSAL LINE TO VOICE COIL

| T－53S81 | \＄4．00 | Line to Voice Coil | 500／250 | 4－8－15 | 35 | 2 D | 2 椥 | $1 \%$ | $2^{7}$ | 24 | 34 | $31 /$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T－60S48 | 3.00 | Line to Voice Coil | 500／1，000 | ${ }^{4}$ Pri．as 500 ohm－． 06 to 8 ． pri，as 1,000 ohm .12 to 16，etc．2D |  |  |  |  | $3^{3}$ | $21 / 6$ | 3 | 2 |
|  |  | 1 to 6 may be con．in | 1，500／2，000 |  |  |  |  |  |  |  |  |  |
| T－17S 18 | 3.50 | par．to 500 ohm line | 2，500／3，000 |  |  |  |  |  | 3 | 2\％ | 21／ | 23 |
| T－14S80 | 2.00 | Line to Voice Coil | 500 | 2／4／6／8 | 12 | 2 E | 2\％ |  | 23／8 | 2 | 23／ | 1 |

2D

We can supply all Thordarson products．Ask for complete Thardarson catalog．

## C. H. T. CRYSTAL RECORDER TRANSFORMERS

The wave of intereat in recording radio programs, speech and other audio happeninga has created the deaire to build recording equipment. These two tranaformers are offered to meet the requirements for coupling to a cryatal recording head. Designed for constant

| T-15S98 | \$9.00 | Line to crystal cutting head | 500 | 30,000 | 10 | 3U | 23/8 | 21/6 | 2\% | 31/4 | 41/4 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-15S99 | 9.00 | Push-pull 2A3 to crystal head | 3,000/5,000 | 30,000 | 10 | 3U | 23 | $2 \frac{1 / 6}{}$ | $2 \%$ | $31 / 4$ | 41/4 | 5 |

## C. H. T. MULTIPLE TAP OUTPUT TRANSFORMERS

Indude these C. H. T'. premium quality features: Switchboard plug-in terminal board for quick and accurate selection of secondary impedancea, conservative design for exceptional performance, and complete coil protection against humidity. Tertiary winding to give

| T-15S90 | \$9.25 | $\begin{aligned} & \text { 2-6V6 P-P } \\ & \text { 2-6L6 P-P } \\ & \text { 2-2A3 P-P (self bias) } \end{aligned}$ | $\begin{aligned} & \mathrm{AB1} \\ & \mathrm{AB1} \\ & \mathrm{AB} \end{aligned}$ | $\begin{aligned} & 8,000 \\ & 5,000 \\ & 5,000 \end{aligned}$ | $\begin{aligned} & 2 / 3 / 4 / 6 /- \\ & 8 / 16 / 125 /- \\ & 250 / 500 \\ & \hline \end{aligned}$ | 70 | 15 | 3H | 27/4 | $3 \frac{1}{3}$ | 4 \% | $41 / 2$ | 4 \% | 71/4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-15S91 | 11.50 | $\begin{aligned} & \text { 2-6.16 P-P } \\ & \text { (300 V. } \mathrm{P} \text { \& Sc.) } \\ & \text { 2-2A3 P-P(fixed bias) } \end{aligned}$ | AB AB | 4,300 3,000 | Same as above | 95 | 25 | 3 H | 2\%/19 | 3 3 $\frac{1}{3}$ | 4 \% | $41 / 2$ | 4\%/1 | 8 |

## VOLTAGE CHANGER (V) TRANSFORMERS FILAMENT CORRECTOR AUTOTRANSFORMERS

To compensate for variations in line voltage or for drop in filament leads. Correct filament voltage at the tube is made possible.

| $\begin{aligned} & \text { Type } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Capacity Filament Power Watts | Primary <br> Tapp | $\begin{gathered} \text { Mtg. } \\ \text { Fig. } \end{gathered}$ | Mtg. Centers | Dimensions |  |  | Wt. Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Width Depth | W. | D. | H. |  |
| T-18V24 | \$2.00 | 60 | 105/110/115 120/125V. | 2 F , | $2^{3}$ \% | $2{ }^{7}$ | 2 | $2^{3 / 5}$ | - |
| T-18V25 | 2.75 | 150 | 105/110/115/120/125V. | 2 E . | 24 | $3 \cdot$ | $23 / 4$ | 24 | 13 |

## AUTOTRANSFORMERS

Autotransformers consist of a single winding on an iron core. Voltage variation is accornplished by means of taps.
Step Down - Convenience Outlet Type
Input aide equipped with cord and plug. Output side hau standard receptacle.


| Type No. | List Price | Input Volts | Output Volts | Output Load |  | Mig. Fig. | Mig. Centers |  | Dimensions |  |  | $\underset{\text { Lbs. }}{\substack{\text { Wt }}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | V.A. | Amps. |  | Width | Depth | W. | D. | H. |  |
| T-26V04 | \$4.50 | 220-250 | Ti0 125 | 80 | 0.725 | 2 V | 24 | 21/4 | 3 $\frac{1}{6}$ | 27/3 | $4 \%$ | 43/2 |
| T-18V06 | 6.00 | 220-250 | 110-125 | 150 | 1.35 | 2V | 2 | 3 | 3噃 | 30自 |  | $61 / 4$ |
| T-50V11 | 7.50 | $220-250$ | $110-125$ | 250 | 2.25 | 2 V | 3 | $31 / 2$ | $3 \frac{1}{4}$ | $41 / 4$ | 44 | 10 L |
| T-18V07 | 13.50 | 220-250 | 110125 | 500 | 4.5 | 2 V | 3 | $41 /{ }^{1 / 4}$ | 3 y | 2 ? | $4{ }^{4}$ | 13 |

Line Voltage Adjusting — Convenience Outlet Type
For boosting or lowering line voltage. Input taps may be selected by means of a convenient plug arrangement as illustrated (Fig. 4E)

| T-18V20 | \$5.00 | $95 \quad 105,125$ | 115 | 100 | 0.9 | 2V | 24. | 24 | 33/8 | 21/8 | 4 $\frac{1}{8}$ | 41. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T-18V21 | 6.00 | 95/105/125 | 115 | 150 | 1.3 | 2V | 24 | 2\% | 33\% | 31/k | 4 5 ${ }^{\text {a }}$ | 5 |
| T-18V22 | 7.50 | 95/105/125 | 115 | 250 | 2.2 | 2V | 3 | $23 / 1$ | 34 | $3^{2}$ \% | 44 | 61 |
| T-18V23 | 12.00 | 95/105/125 | 115 | 500 | 4.5 | 2 V | 3 | $3^{1 /}$ | $35^{5}$ | 37/4 | $4^{43}$ | 9 |

## LINE REGULATING AUTOTRANSFORMER

Provides for an increase or decrease of 7.5 volts. May be used on sny A.C. line of $50-60$ cycle frequency from 90 V to 125 V as a stepup or step-down transformer. Especially suitable for boosting line voltage for fluorescent lighting units. Fully enclosed (similar to r-18V26 $\quad \$ 5.25$ anted on a $4^{\prime}$ outlet box cover, allowing for complete encloaure of all wiring in a conduit or BX symtem

## THORDARSON OSCILLOSCOPE KIT



No. 340
Manual


No. 333
Amateur Radio
-340 Complete Transformer Manual - 35e pestpaid - containa Sound Amplifier Guide, Tranamitter Guide, Replacement Fincyclopedia and Service Guile with catalogs. A popular book in every technical library.
d333 Amateur Radio - a beginner's zuide - 75 e postpaid - one of the most comprehansive and clearly written booke availalse for learning Amateur lladio. Cloth lound book, 160 pages, over 100 illustrations. A bandy reference book for the experienced amateur.

## UNIVERSAL MOUNTING CONDENSERS

## TYPE E

Furnished with monntink rings for universa! selection of ca. parities in single, double, triple and unts for Eponeral servicer Mattiph sert toll umits con sections with commonn negative grombed to the cem. Single-section unit also has negativeogrounded 600v Surge Pk. - 475 v D.C. Wark. Type E475-Single Section (rap. Can Size-Ins. Kist
Mifls.
Dia.-lligh $\begin{gathered}\text { Net }\end{gathered}$ $1 \frac{3}{1} \times 2 \frac{1}{4} \quad \$ 1.25 \quad \$ 0.75$ 525v Surge Pk. 450 v D.C. Work. Type E450-Single Section


Type E450—Double Section



Type E450-Triple Section
 Type E450-Quadruple Section $\begin{array}{llll}\text { K-K-N-S } & 3 \times 11 / 1 & \$ 3.60 & \$ 2.16 \\ \mathrm{~K}-\mathrm{K}-11 \mathrm{i}-16 ; & 3 \times 41 / 8 & 4.50 & 2.70\end{array}$

\section*{COMPA} $525 v$ Surge Pk. -450 v D.C. Wark. Cap. Size-Ins. $\quad \underset{\text { Dist }}{\text { Dist }}$ Net | Mfils. Dia. | High Price | Price |  |
| :--- | :--- | :--- | :--- |
| $4-4$ | $13 \times 34$ | $\$ 1.30$ | $\$ 0.78$ |

## COMPACT INVERTED MOUNTING CONDENSERS <br> TYPE 2G

Double section units desirned for incorted sets. llermetically scaled. May bre used for ground. ing or insulated mounting With special insulating was. provideol with two positive terminal lugs.

525v Surge Pk.-450v D.C. Work. Cap. Size-Ins. List Net $\begin{array}{cccc}\text { Mlf.ls. Dia.-High } & \text { Price } & \text { Price } \\ 4-4 & 11 / 4 \times 31 / 4 & \$ 1.30 & \$ 0.78\end{array}$ $\begin{array}{rrrr}+4 & 11 / 1 \times 31 / 4 & \$ 1.30 & \$ 0.78 \\ 4-8 & 11 / 8 \times 41 / 4 & 1.45 & .87 \\ 8-8 & 18 & \times 41 / 1.60 & .96\end{array}$ $\begin{array}{llll}12-12 & 18 / 18 & \times 51 / 4 & 2.00 \\ 1.20\end{array}$ Type LW: 3 can contact lug and


## INVERTED MOUNTING CONDENSERS

## TYPES G and I

These stamdard size inverted units are furmisheel in either groumd (4] or megative mount ing tr insulated monnt ing. The latter. Tly have an integral insu latille can lug.
600v Surge Pk.—475v D.C. Work Single Section
Type G475-Grounded Mounting Cap. Cansize-Ins. List Net 1fils. 1)ia.-1ligh Price Price
 Type 1.475-Insulated Mounting
 525v Surge Pk 450v D. work Single Section


PRONG-BASE MIDGET CONDENSERS
 Compact.
cal, sconomi
simply
mounterl dry' electrolytic for new assemblies and replact ments. Buse prongs slip intu fibre (for insulated cant or meial (groumm-
(ed) can) elliptic washor rivetted or eycletted on chassis, Terminal lugs slip through hole in Washer for soldered comnections. sions to other makes, but incorporate the standard tried, tested and
 No attempt mate at ulera-etching or "ther wractices to redace bulk and cost at "xpernse of worformanne"
and service lifs". Hermeticallysualed. Salfety vent. Sergative cant. Metal or bakelite washer 5 c each.

| Type | $\begin{aligned} & \text { Cap. } \\ & \text { Mids. } \\ & \text { Wiv: } \end{aligned}$ |  | Iist | Net Price |
| :---: | :---: | :---: | :---: | :---: |
| F2J | 10x450 | $1 \times 2$ | \$0.75 | \$0.45 |
| F4) | 20×450 | $1 \times 2$ | 1.10 | . 66 |
| F8) | 40x450 | $1 \times 3$ | 1.60 | 96 |
| F22J | 10-10x450 | $1 \times 2$ | 1.20 | 72 |
| F44J | 20-20×450 | $1 \times 3$ | 1.65 | 99 |
| F222] | 10-10-10x450 | 1×3 | 1.55 | 93 |
| F16H | 80x400 | 1x3 | 2.45 | 1.47 |
| F22F | 10-10.250 | $1 \times 2$ | 1.05 | . 63 |
| F44F | 20-20.250 | 1x2 | 1.10 | . 66 |
| F6D | $30 \times 150$ | 1x2 | 70 | 42 |
| F44D | 20-20×150 | 1x2 | 1.00 | 60 |
| F66D | 30-30×150 | 1x2 | 1.10 | . 66 |
| F64D4A | $\begin{array}{r} 30-20 \times 150 \\ +20 \times 25 \end{array}$ | $1 \times 2$ | 1.15 | 69 |
| F33F4A | 15-15 2 250 |  |  |  |
|  | +20x25 | 12 | 1.10 | . 66 |
| F22J4A | $\begin{array}{r} 10-10 \times 450 \\ +20 \times 25 \end{array}$ |  | 1.30 |  |

## INVERTED MOUNTING WET ELECTROLYTIC CONDENSERS

TYPE PG
 Note: 'Trumd in wet ollectrolytica is toward smaller sizes. Sizes listed are minim anloptey as raphay as through in larger sizes until complete changeover is achiesed.

600 Volts Peak-Type PG600 Cap. Can Size-Ins. I.ist Net | 4 | $12 \times 3 \%$ | $\$ 1.35$ | $\$ 0.81$ |  |
| :--- | :--- | :--- | :--- | :--- |
| 8 | $1 \%$ | $\times 4.0$ | 1.30 | 90 | $\begin{array}{rlll}8 & 13 \times 4 \\ 10 & 11 / 2 \times 44 & 1.00 & .90 \\ 5 & 2.00 & 1.20\end{array}$ 500 Volts Peak-Type PG500 Cap. Can Size-Ins. List Net



## WIRE LEAD CONDENSERS

These illuert fal mounting, alumimun can condensers ar mane it simpl" section units winh separate culor-coulad leads. Multiple sec. tion units have sec leads brought out
 from each section
800v Surge Pk.-600v D.C. Work
Type GL600-Single Section Cap. Cam Nize-1ns. List Net ${ }_{i}$ (18. Dan, -high Price Price $8 \quad 1 \frac{3}{8} \times 41 / 2 \quad 2$. (i) 1.56 600v Surge Pk.-475v D.C. Work Type GL475-Single Section

| 4 | $13 / 6 \times 3$ | $\$ 1.25$ | $\$ 0.75$ |
| ---: | :--- | ---: | ---: |
| 8 | $13 \times 4 \times 4$ | 1.50 | .90 |
| 12 | $13 \times 8 \times 4$ | 2.05 | 1.23 |
| 10 | $13 \times 41 / 2$ | 2.30 | 1.38 |

Type 2GL475-Double Section $12 / 4 \times 482.40 \quad \$ 1.44$ 525v Surge Pk.-450v D.C. Work Type GL450-Single Section

| 4 | $18 \times 3$ | \$0.85 | $\$ 0.51$ |
| :---: | :---: | :---: | :---: |
| 8 | $18 \times 4$ | 1.0\%) | . 63 |
| 111 | 14.1 | 1.25 | . 75 |
| 12 | $13 / 8 \times 4$ | 1.40 | . 84 |
| 11; | $12 / 184$ | 1.55 | 93 |
| 20 | 12044 | 1.75 | 1.05 |
| 10 | $12 \times 4$ | 3.05 | 1.83 |
| 80 | $13 / 4 \times 4$ | 4.25 | 2.55 |
| Type 2GL450-Double Section |  |  |  |
| 1-1 | 12/184 | \$1.30 | \$0.78 |
| 4-8 | 13/14 $\times$ | 1.45 | . 87 |
| K-8 | $13 \times 4$ | 1.60 | . 96 |
| 8-16 | 13/14 4 | 2.00 | 1.20 |
| 10-10 | 12/8x+ | 1.95 | 1.17 |
| 1ij-16 | $11,2 \times 4$ | 2.30 | 1.38 |
| 20-20 | $11 / 2$ | 2.75 | 1.65 |
| y |  |  |  |

 $\begin{array}{llll}8-8.8 & 13 / 18 \times 41 / 2 & 2.40 & 1.44 \\ 10-10-10 & 11 / 2 & x+4 & 2.65 \\ 1.59\end{array}$
Type 3GL250-Triple Section 300 v Surge Pk.-250v D.C. Work. $\begin{array}{llrr}8-8-8 & 12 / 4 \times 3 & \$ 2.10 & \$ 1.26 \\ 8-8-16 & 13 \times 3 & 2.35 & 1.41\end{array}$
 Type GL 45025 $450 \times 25 v$. D.C. Work. $10-10-x+50$
$+20 \times 2513 \times 3$
$2.65 \quad 1.59$

MIDGET CAN-TYPE CONDENSERS

## TYPE GLS

Colored polarity - indicouting flexible leads. huverted serew mounting. Two s-in, leads for each section in single anul double section units. 1 -inch diameter call
 and short length make compact asemblies for more ing generous propurtions for hard service.
525v Surge Pk.-450v D.C. Work. Type GLS-450-Single Section Cap. (ann Size-Ins. List Net

ype 2GLS450-Double
 300v Surge Pk.-250v D.C. Work.

Type GLS250-Single Section

| 18 | 1 | $\times 23$ | $\$ 0.75$ | $\$ 0.45$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 8 | 1 | $\times 24$ | .95 | .57 |
| 12 | 1 | $\times 2 y$ | 1.15 | .69 |
| 16 | 1 | $\times 31 / 3$ | 1.35 | .81 |



TypePRS Single Section

DANDEES

## Miniature Tubular Aluminum Can DRY ELECTROLYTICS

Genuine hermeticallysealed aluminum-can dry electrolytics for sprace-siving consider. ations are paramount smallust proportions smalics pint consistent with fullvoltage, operating under nommal-duty conditions.
Excellent for crowided assemhlies. D ININEES are favorites for use in midget sets, AC-DC' sets, into-radios. Also many servicing jolss
where low cost is important. Elec trically insulated with special varnished paper jackot. Ends spun over can rim. eliminating possi bility of shorts if leads ari. hent close to unit. Polaritysimbicatine (ed and wather (umerous latirit imet wiru labis oll sing le theth units minlature type andy minlature type electrolytics properly vented. Fixcessive gas pressur escapes, without fuss, bother, dan ger. DANDNEFS are thoroughly agted, ready for immediate use Each unit is thoroughly tester!. Indi vidually packed with guarantee slip.

## D ANDEES

## SINGLE-SECTION UNITS



## HIGH-CAPACITY LOW.VOLTAGE CONDENSERS



E12 \& E25


Al2

For use in flter cirruits of "A" eliminator units. lleal for replacements, also for use across field wintings of low voltage dybamic speakers.
Type El2-12v. D.C. Working Cap. Size-Ins. I.ist Net Mfd. Dia.-lligh Price Price 500 13. $\times 41 / \mathrm{F} .38 \mathrm{\$ 1.43}$ $\begin{array}{rrrr}500 & 110 \times 41 / 4 & 82.38 & \$ 1.43 \\ 1000 & 216 \times 41 / & 3.56 & 2.14\end{array}$ $\begin{array}{llll}1000 & 21 / 2 \times 41 / 8 & 3.56 & 2.14 \\ 2000 & 23 \times 418 & 6.32 & 3.79 \\ 4000 & 3\end{array}$ $\begin{array}{lllll}4000 & 3 & \times 41 / 8 & 11.96 & 7.18\end{array}$ Type E25-25v. D.C. Working $\begin{array}{rrrr}500 & 21 / 2 \times 416 & \$ 3.76 & \$ 2.26 \\ 1000 & 216 \times 41 / 8 & 6.56 & 3.94\end{array}$ $\begin{array}{lllll}1500 & 3 & \times 41 \% & 9.48 & 5.69\end{array}$ Type A12-12v. D.C. Working $1000 \quad 5 \times 4 \times 11 / 4 \quad \$ 3.56 \quad \$ 2.14$
$\begin{array}{llll}1000 & 5 \times 4 \times 16 & \$ .06 & \$ 2.14 \\ 2000 & 5 \times 4 \times 14 & 6.32 & 3.79\end{array}$

Miniature Tubulars
TYPE PRS
For electric fence control, ete., calling for very high capac. $\begin{array}{ll}\text { ities at very low } \\ \text { voltages. } & \text { Metal can }\end{array}$ fully protecterl and insulated ly paper sleeve with ends rolled over can edres 10 preclude sharting of pads. Supplied with centered mount
ing strap. *U It it similar to Type 2 F., furnishen with
insulating tube and mounting ring. Type PRS6-6v. D.C. Working Cap. Size-Ins. I.ist Net $\begin{array}{cccc}\text { Mifd. Dia.-ifigh } & \text { rice } & \text { Price } \\ 1000 & 1 \times 2 & \$ 2.00 & \$ 1.20\end{array}$ $\begin{array}{llrr}1000 & 1 \times 3 & 2.75 & 1.65\end{array}$ Type PRS12-12v. D.C. Working $\begin{array}{lllll}1000 & 1 & \times 3 & \$ 2.50 & \$ 1.50 \\ 2000 * * & 13 & \times 41 / & 3.25 & 1.95\end{array}$ $\begin{array}{llll}2000^{* *} & 13 / 1 \times 41 / 3 & 3.25 & 1.95 \\ 3000^{* *} & 13 / 8 \times 41 / 4 & 4.00 & 2.40\end{array}$ $\begin{array}{cccc}3000 * * & 13 / \mathrm{s} & \times 41 / 4 & 4.00 \quad 2.40 \\ \text { Type PRS } 15 & -15 v . & \text { D.C. Working }\end{array}$ $1000 \quad 1 \quad 3 \quad \$ 3.00 \quad \$ 1.80$ $2000^{* *} \quad 18 / 6 \times 43 / 3 \quad 3.75 \quad 2.25$


## COMPACT CAN-TYPE BYPASS CONDENSERS

## TYPE MM <br> Especially suited as by pass or filter units. Provided with an aluminum mounting strap, rivetent to side of rath. Fiasily chassis by means of sere's holes at ends of strap. <br> 350 v. Surge Pk.- 300 v. D.C. Work Type MM300-Single Section

|  |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Dia.-Hig | Pric |  |
|  | $1 \times 2$ 18 | $\$ 11.8$ | \$0.48 |
|  |  | 1.00 |  |
| 250v Surge Pk.-200v D.C. Work. Type MM200-Single Section |  |  |  |
| - | $1 \times 146$ | \$0.6.5 | \$0.39 |
| 4 | x |  |  |
| 200v Surge Pk.-150v D.C. Wor Type MM150-Single Section |  |  |  |
| 4 | $1 \times 2$ | \$0.70 | \$0.42 |
| $75 v$. Surge Pk.-50v. D.C. Work. Type MM50-Single Section |  |  |  |
| 10 | $1 \times 1$ | \$0.75 |  |
| 25 | $1 \times 240$ | 90 | . 54 |
| 40v. Surge Pk.-25v. D.C. Work. Type MM25-Single Section |  |  |  |
| 5 |  | $\mathbf{5 0 . 6 0}$ | 50.36 |
| 10 | $1 \times 14$ | . 6 |  |
| 25 | $1 \times 14$ | . 75 |  |

COMPACT STUD. MOUNTING BYPASS CONDENSERS

## TYPE SM

 Stud-mounting. Hermetically sealed $1^{\prime \prime}$ can. Lug terminal at one and and serew stud at other. Latter permits mounting by means of single hole means of single holelow chassis. Only end of screw st low chassis. Only end of screw stud of chassis. Negative grounded cun.
250v Surge Pk.-200v D.C. Work. Type SM-200-Single Section Cap. Size-Ins. I.ist Net $\begin{array}{cccc}\text { Mifd. } & \text { Dis.-High } & \text { Price } & \text { Price } \\ 2 & 1 \times 1 \mathrm{hs} & \$ 0.65 & \$ 0.39 \\ 8 & 1 \times 214 & 90 & 54\end{array}$

150v Surge Pk.-100v D.C. Work. Type SM100-.-Single Section

| 5 | $1 \times 24$ | $\$ 0.65$ | $\$ 0.39$ |
| ---: | ---: | ---: | ---: | ---: |
| 10 | $1 \times 24$ | .80 | .48 | $75 v$. Surge Pk.-50v. D.C. Work. Type SM-50-Single Section $\begin{array}{lllr}10 & 1 \times 14 & \$ 0.75 & \$ 0.45 \\ 20 & 1 \times 24 & .85 & .51 \\ 25 & 1 \times 246 & .90 & .54\end{array}$

$40 v$. Surge Pk.-25v. D.C. Work.
Type SM25-Single Section

| 5 | $1 \times 11 / 5$ | 80.60 | $\$ 0.36$ |
| ---: | :--- | ---: | ---: | ---: |
| 10 | $1 \times 110$ | .30 |  |
| 25 | $1 \times 14$ | .75 | .45 |

## PLUG-IN ELECTROLYTICS

As small or smaller than othe corresponding milgetelype of electrolytics. Seprarate sections, 4 flexible leads. Permit independent use of either section and either common positive or common negative connections.


TYPE AEP Quick change dry electrolytics. Fa and replesting and replacement in equipment where continuity of service is im-
portant.
lnstall portant. lnstall merely by plug. cing into standard octal socket. Unit can be inserted only the right way. Key of octal base fits octal socket Litra-compact due to use of etched foil for higher capacities in the foil for higher capacities in the small can sizes. Aluminum internal
construction. Non-corrosive due to construction. Non-corrosive due to
use of similar metals throughout. use of similar metals th
Fully vented for safety.

Max. 525v Surge, 450v D.C. Work Type AEP-450-Single Section
Cap. Size-lns. I.ist Net Mfd. Dia.-High Price Price $\begin{array}{lllrr}10 & 1 \% & 521 / 2 & \$ 1.25 & \$ 0.75 \\ 20 & 15 & \times 24 / 2 & 1.75 & 1.05 \\ 40 & 1 \% & \times 21 / 2 & 3.05 & 1.83\end{array}$ $80 \quad 1 \frac{15}{51} \times 41 / 4 \quad 4.25 \quad 2.55$

Type AEP.450-Double Section | $10-10$ | 1 | 8 |  |  |
| :--- | :--- | :--- | :--- | :--- |
| $20-20$ | 1 | $\times 21 / 2$ | $\$ 1.95$ | $\$ 1.17$ |
| 12.75 | 1.65 |  |  |  |

Type AEP-450-Triple Section $10-10-10 \quad 1 \frac{6}{16} \times 21 / 2 \quad \$ 2.65 \quad \$ 1.59$

## Type AEP-45025

$450 \times 25 v$. D.C. Working
$10 \times 10 \times 450$
$+20 \times 25 \quad 1$


## CARDBOARD TUBE CONDENSERS

Single and Double Section Units
 TYPE PR
Single and double－section dry electrolytic units en－ cased in sturdy cardboard tube containers．Complete－ ly sealed in．Bare wire leads $21 / 2$ inches long．Po－ larity－inuicating markings on tubular case．Two leads siugle section；three leads double section．L＇sed in preference to cardboard case type for point－to－point wiring jows where unit
connections．


250v．Surge Pk．－200v．D．C．Work． Type PR－200－Single Section

| 2 | $31 / 8 \times 21 / 6$ | \＄0．55 | \＄0．33 |
| :---: | :---: | :---: | :---: |
| 4 | 3／4 $\times 21 / 4$ | ． 65 | ． 39 |
| 8 | 7／1821／4 | ． 80 | ． 48 |
| 10 | 2／8 $\times 21 / 6$ | ． 90 | ． 54 |

150 v ．Surge Pk．－100v．D．C．Work． Type PR－100－Single Section

| 5 | $1 / \times 21 /$ | \＄0．55 | \＄0．33 |
| :---: | :---: | :---: | :---: |
| 10 | 新 $\times 21 /$ | ． 70 | ． 42 |
| 20 | 5\％ $51 / 4$ | ． 90 | ． 54 |
| 25 | 匂 $\times 2314$ | ． 95 | ． 57 |
| Type PR－100－Double Section |  |  |  |
| 5－5 | $1 \times 21 / 6$ | \＄0．75 | \＄0．45 |
| 75v．Surge Pk．－100v．D．C．Work． Type PR－50－Single Section |  |  |  |
|  |  |  |  |
| 5 | 2／6 $\times 21 /$ | \＄0．50 | \＄0．30 |
| 10 | 3／4 $\times 2$ | ． 65 | ． 39 |
| 20 | \％$\times 211$ | ． 85 | ． 45 |
| 25 | 7／1923／4 | ． 80 | ． 72 |
| 50 | \％$\times 23 / 4$ | 1.20 | ． 72 |

Type PR－50－Double Section
$5-5 \quad 1 / 3 \times 21 / 4 \quad 30.75 \quad \$ 0.45$
40 v ．Surge Pk．－25v．D．C．Work．
Type PR－25－Single Section

| 5 | $8 / 8 \times 216$ | \＄0．50 | \＄0．30 |
| :---: | :---: | :---: | :---: |
| 10 | $814 \times 214$ | ． 50 | ． 30 |
| 20 | 7621／4 | ．60 | ． 36 |
| 25 | $7 \times 214$ | ． 05 | ． 39 |
| 50 | 11\％$\times 2 \%$ | ． 95 | ． 57 |

Type PR－25—Double Section | $5-5$ | $7 /$ |  |  |
| ---: | ---: | ---: | ---: | ---: |
| $10-10$ | $\times 21 / 6$ | $\$ 0.75$ | $\$ 0.45$ |

CARDEOARD CONTAINER CONDENSERS


## TYPE PBM

Heavy－duty units aimi－ lar to Type PB but pro－ vided with cardboard mounting flanges for flat mountime．Made in double section，each section having two col－ long．

525v．Surge Pk．－450v．D．C．Work． Type PBM450－Double Section Cap．Sizelna．List Net Mfds．D．－W．－L．Price Price



## SPACE－SAVER MIDGET CONDENSERS

with Aerovox＂ADJUSTIMOUNT＂Mounting Flanges
TYPE PBS—Singla Section－2 Leads；Double Section－4 Leads Triple Section－6 Leads


25 to 600 v．D．C．Working，made possible in this small size by a tried，tested and perfected pro－ cess，whereng far greater capacity out impairing the working voltare out imparing the working voltag or service life．lnits ebsused in heavy curdioard containers，thor－ oughly impregnated and fully seal－ ed．Wire leads color－coded for po－ larity．

The＂Adjustimount＂feature comprises a swivel mounting flange with slotted holes to fit any mount－ ing hole spacings．The condenser may be mounted flat or upright depending on space．Also，two or
three condensers may be stacked by overlapping the metal flanges．

| 800v．Surge Pk．－600v．D．C．Work． Type PBS600－Single Section |  |  |  |
| :---: | :---: | :---: | :---: |
| Can． | Size－In | List | Net |
| Mids． | D．－W．－L． | Price | Price |
| 4 | 1 ＇5x11／82 | S1．75 | \＄1．05 |
| 8 | 1 \％ $711 / 2 \times 3 \%$ | 2.45 | 1.47 |
| 525v．Surge Pk．-450 v，D．C．Work． Type PBS450－Single Section |  |  |  |
| 2 | 1／2x 1／6x ${ }^{1 / 6}$ | \＄0．65 | \＄0．39 |
| 4 | \％x1 $\times 2$ | ． 75 | ． 45 |
| 6 | M011／0x2 \％ | ． 90 | ． 54 |
| 8 |  | ． 95 | ． 57 |
| 10 | 419011／$\times 3$ | 1.15 | ． 69 |
| 12 |  | 1.30 | ． 78 |
| 16 | 囱x11／827\％ | 1.45 | .87 |
| Type PBS450－Double Section |  |  |  |
| 4－4 | 11／6x11／8×27 | \＄1．20 | \＄0．72 |
| 4.8 | 1\％x11／52\％ | 1.35 | ． 81 |
| 8.8 | $13611 / 62$ ？ | 1.50 | 90 |
| 8－16 | 11／411／2x | 1.90 |  |



Type PBS450－Triple Section Cap．Size－Ins．I．ist Net Mfds．D．－W．－L．Price Price 8－8－8 $\quad 11 / 4 \times 11 / 2 \times 3 \quad \$ 2.20 \quad \$ 1.32$ 300v．Surge Pk．－250v．D．C．Work Typo PBS250－Single Section

## 2 4 6 8 10 12 11 20 24 30

 Type PBS250－Doublo Section$4-4 \quad 1 \frac{1}{4} \times 2$ is $\$ 0.90 \quad \$ 0.54$
 $\begin{array}{llll}8-8 & 1 & 6 x & 1.25 \\ 8-16 & 11 / 4 \times 11 / 8 \times 23 & 1.45 & .87 \\ 12-16 & 13 \times 116 \times 2 & 1.60 & .96\end{array}$ $\begin{array}{llll}12-16 & 1,9 \times 11 / 8 \times 2 & 1.60 & .96 \\ 16-16 & 1 \% 6 \times 11 / 8 \times 2, & 1.63 & .99\end{array}$
Type PBS250－Triple Section S－8－8 $1 \% \times$ N $\times 2$＂＇$\$ 1.90 \quad \$ 1.14$
 150v．Surge Pk．-100 v．D．C．Work． Tyde PBS100＿Single Section $\begin{array}{rrrrr}5 & 3 \times 1 & \times 2 & 0.5 \% & \$ 0.33 \\ 10 & 4 \times 11 / 82 & .70 & .42\end{array}$ $75 v$ ．Surge Pk．-50 v ．D．C．Work． Tyde PBS50－Single Section

40v．Surge Pk．－25v．D．C．Work．

Type PBS25－Single Section | 5 | $1 / 3 x$ | $4 \times 2$ | 80.50 | $\$ 0.30$ |
| ---: | ---: | ---: | ---: | ---: |
| 10 | $1 / 3 x$ | 30 |  |  |
| 95 | 10 | .50 | .30 |  |

## PAPER－WOUND REPLACEMENTS FOR ELECTROLYTIC CONDENSERS



IItgh－grade paper sectiona in standard inverted serew mounting aluminum can（PWC）or cardboard case（PWP）similar in appearance to electrolytics．Lised as replace－ ments for standard electrolyties in－ dicated；applications suljected to high AC component or ripple par－ ticularly in first stage of flter cir－ cuit；or where excessive surges are enconnterel．No polarity to be ob－ served．Actual capacity indicated in each cass．Capacity is less than electrolytic being replaced but will be found adequate in most flter circuits since flltering capacity in electrolytics is more than gener ous．PWP has cardboard mounting flanges：PWC similar to GL dry type．

800v．Surge Pk．－600v．D．C．Work Type PWC600－Single Section
Repl＇g．Act．Size－Ins．List Net Mids．Mifds．D．L．Price Prico $4 \quad 2 \quad 11 / 8 \times 41 / 2 \quad \$ 1.35 \$ 0.81$ $8 \quad 2.75 \quad 13 / 8 \times 41 / 2 \quad 1.75 \quad 1.05$

Type PWC600－Double Section
$\begin{array}{llllll}8-8 & 1.75-1.75 & 11 / 2 \times 416 & 2.50 & 1.68\end{array}$
800 v．Surge Pk．－600v．D．C．Work
Type PWP600－Single Section

Repl＇g．Act．
Mfds．Mfds．
42

## Sise－Ins．

w．D．List Net


## CARDBOARD CONTAINER CONDENSERS



525v．Surge Pk．－450v．D．C．Work． Type P450－Single Section

| $\times 12 / 4 \times 258$ | \＄0．55 | \＄0．33 |
| :---: | :---: | :---: |
| $\times 13 \times 23$ | ． 65 | ． 39 |
| $8 / 4 \times 1 / 4 \times 4$ | ． 75 | 45 |
| $4 \times 1{ }^{2} \times x+1$ | ． 90 | ． 54 |
| 4ix $13 / 8 \mathrm{x}+1 / 1$ | ． 95 | 57 |
|  | 1.15 | 99 |
| $1110 \times 19 \times 11 / 8$ | 1.30 | 78 |
| $1{ }^{7}{ }^{6} \times 1{ }^{19} \times 11 / 6$ | 1.45 | 87 |

Type P450－Double Section

| 4－1 | $46 \times 13 / 4 x+1 / 8$ | 81.20 | \＄0． |
| :---: | :---: | :---: | :---: |
|  |  | 1.35 |  |
| （i－8 |  | 1.45 |  |
| 8－s |  | 1.50 |  |

## COMPACT CARDBOARD BOX CONDENSERS

TYPE PM－Single，Double and Triple Section Units


Convenient size dry electrolytic condensers bouble section unit providerl with three leads，common nega CW！．and triple gection mits with four leads， common negative．

600 v ．Surae Pk．-475 v ．D．C．Work． Type PM475－single Section
Cap．Size－Ins．List Not Mids．D．－W．－L．Price Price $\begin{array}{lrrr}8 / 6 \times 11 / 6 \times 21 / 4 & 80.85 & \$ 0.51 \\ 8.6 \times 11 / 6 \times 21 / 8 & .95 & .57\end{array}$


$525 v$ ．Surge Pk．$-450 v$ ．D．C．Work． Type PM450－Single Section

| 1 | 5／8×11／19314 | \＄0．55 | \＄0．33 |
| :---: | :---: | :---: | :---: |
| 2 | $3 / 8 \times 11 / 8 \times 21 / 4$ | ． 65 | ． 39 |
| 4 | 3／6x11／8x21／6 | ． 75 | ． 45 |
| 6 | 11／7x11／92\％ | ． 90 | ． 54 |
| 8 | 11 ¢0x ${ }^{3}$ | ．95 | ． 57 |

Type PM450－Double Section
4－4 $\quad 13 \times 13 / 4 \times 2 \frac{5}{6} \quad \$ 1.20 \quad \$ 0.72$
$4-8 \quad 11 \frac{4}{4} \times 18 \times 25 \quad 1.35 \quad .81$
Type PM450－Triple Section $4-4-4 \quad 1 \% \times 11 / \mathrm{Ex} 41 / \mathrm{s} \quad \$ 1.80 \quad \$ 1.08$ $\begin{array}{llll}8-8-8 & 11 / 2 \times 1 / 1 / 63 & 2.20 & 1.32\end{array}$

## AEROVOX Reotacement Condemers

Having pioneered the Exact-Duplicate idea for years, AEROVOX is happy indeed to have it universally accepted today. And doubly so because, having refused to take the easier way of so-called general-utility types, and sometimes called "Universal" replacements, AEROVOX has built up a really complete line backed by the most extensive listings in use.

## FIT Right! . . .

Because exact needs of standard sets in use have been critically studied, AEROVOX Exact-Replacement units readily fit in place of the original condensers. No jamming. No taping. No sloppy wiring. Saves time and trouble.

## WORK Right! . . .

Because electrical as well as mechanical considerations have received thorough attention, AEROVOX roplacements not only duplicate but usually excel the performance of the replaced units.

## LOOK Right! . . .

Last but not least, an AEROVOX replacement restores the radio chassis to its original "new" status. Sot owner is satisfied the job has been done right.

## EXACT-DUPLICATE PAPER-WOUND REPLACEMENT CONDENSERS



Atwater-Kent


These units are the finest replacement condensras obtainable, embodying Afirovox high quality construction throughout.
They are carcfully engineered and built to give long lasting scrvice in the seta for which they are designed.

| ATwaterKENT | Cap. Mids. |  | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net Pric* |
| :---: | :---: | :---: | :---: | :---: |
| 37 Filter | . 5 .55-.25-.25 |  | \$0.90 | \$0.54 |
| 37 Bypass |  |  | 135 | . 81 |
| 37 Block |  |  | 9.00 | 6.40 |
| SPARTON | Cap. | D. C. | List | Net |
| Part No. | Mfds, | W. V. | Price | Price |
| 5 C 31 | . 5 | 400 | 80.90 | \$0.54 |
| 5032 | 1. | 200 | . 90 | . 54 |
| 5033 | 25 | 600 | . 90 | . 64 |


| CROSLEY <br> Part No. | Cap. <br> Mids. | List <br> Price | Not Price |
| :---: | :---: | :---: | :---: |
| W40138 | 1. | \$0.85 | \$0.51 |
| W42328 | . 5 -. 5 | 1.05 | . 83 |
| W4233 | . 5 | . 65 | . 39 |
| W43138 | . 5 | . 65 | . 39 |
| W4381 | .06-.06 | . 75 | . 45 |
| W43818 | .1-. 1 | . 80 | . 48 |
| W4919 | . 5 | . 80 | . 48 |
| W4968 | . 5 | . 65 | . 39 |
| W8862 | 1.1. | 1.70 | 1.02 |
| W5863 | .5-5 | 1.65 | . 99 |
| W6943 | . 1 | . 80 | . 36 |
| W6428 | .5-5 | 1.05 | . 83 |
| W6471 | . 1 | . 55 | . 33 |
| W77338 | .1-5-. 1 | 1.25 | . 75 |
| W20186 | .3-.25-.25 | 1.25 | . 75 |
| W20187 | .1 | . 60 | . 38 |
| W20188 | . 1 | . 60 | . 36 |
| W204464 | .1-5-5.1 | 1.25 | . 76 |
| W20447 | . 1 | . 60 | . 36 |
| W20448 | . 1 | . 55 | . 33 |
| W20449 | .5-1 | . 85 | . 51 |
| W22412 | .1-.1-.1-.1 | 1.15 | . 69 |
| W22815 | .1-5 | . 90 | . 34 |
| W22995 | .1-. 5 | . 90 | . 54 |
| W23736 | .5-.25-. 25 | 1.25 | . 75 |
| W24333 | . $5-.5$ | 1.05 | . 83 |
| W27204 | .02-.02 | . 35 | . 21 |
| general MOTORS | Cap. <br> Mfds. | $\underset{\text { Price }}{\text { List }}$ | Net Price |
| 1204221 | 1.166 | \$2.00 | \$1.20 |
| 1204757 | .1-.1-.1-. 1 | 1.50 | . 40 |
| 1208158 | 1.0-3.0 | 4.00 | 2.40 |
| 1208397 | .1-1 | . 65 | . 39 |
| 1208834 | .5-.1-. 1 | 1.20 | . 72 |
| 1207239 | 1.0 | . 00 | . 54 |



TUBULAR CARDBOARD REPLACEMENTS
A line of handy universal replacement electrolytics in cardboard tubes, with two spade lugs for mounting and separate wire leads for each section. Inexpensive. Attractive in appearance. l'opular as general-utility replacements.

| A-C D-C REPLACEMENTS |  |  |  |  | List | Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 88 | Spade Lug Type | 8.8 | 450 | ( $176 \times 3 \%$ | \$1.35 | \$0.81 |
| 1218 | Spade Lug Type | 12-16 | 200 | (-) $176 \times 2 \frac{1}{4}$ | 1.55 | . 93 |
| 816 | Spare Lug Type | 8-16 | 450 | (C) $176041 / 4$ | 1.65 | . 99 |
| 148 | Spade Lug Type | 14-8×10-10 | $200 \times 25$ | (B) 179x41/4 | 2.05 | 1.23 |
| 188 | Spade Lug Type | $16-8 \times 10-10$ | $200 \times 25$ | (1) $18{ }^{2} \times 3^{3}$ ! | 2.05 | 1.23 |
| 1812 | Spade Lug Type | 16-12x10-10 | 200x 25 | (i) $176 \times 41 / 4$ | 2.15 | 1.29 |
| 2020 | Spade Lug Type | 20-20 | 200 | ( ( $) ~_{18} 18 \times 41 / 4$ | 2.25 | 1.35 |
| 1212 | (Same as | $\begin{aligned} & 12-12 \times 5-5 \\ & \text { osch Part } C \end{aligned}$ | $\begin{aligned} & 200 \times 25 \\ & 9520) \end{aligned}$ | (1) $1 \times 1 \frac{3}{3} \times 2 \frac{3}{4}$ | 1.95 | 1.17 |
| 88886 |  | 8-8-8×5-5 | 200:25 | (1) $11 / 1 \times 11 / 2 \times 3$ | 2.50 | 1.80 |
| 16188 |  | 16-16-8x5-5 | 150:25 | (1) $11 / 4 \times 11 / 4 \times 3$ | 2.45 | 1.47 |
| 8820 |  | $8-8-20$ | 20.) | (1) 14. | 2.10 | 1.26 |



[^8]| EMERSON-Continued Chassis No. Pirt No. |  |  | Cap. Mfd. | D.C. Work. Voltage | Sise- <br> Inches | List Price | Not Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 409,410 . \\ & 411 \\ & \text { (Mickey } \\ & \text { Mouse) } \end{aligned}$ | U48 | 2WC-239 | 8-5x5 | 150-25 | (1) $11 / 4 \times 8 / 4 \times 28 / 8$ | \$1.45 | $\$ 0.87$ |
| Mod. 45 | 6EJ | EEC-129 | 8-8-4 | 150 | (4) $13 / 8 \times 41 / 4$ | 1.50 | . 90 |
| 107 | U6F | 2LC-224 | 10-4-8 | 150 | (1) $12 / 8 \times 4$ | 1.85 | 1.11 |
| 965 |  | ZC-123 | 6-10 | 350 | (1) $11 / 8 \times 17 / 4 \times 21 / 1$ | 1.40 | . 84 |
| BA-199 |  | 4DC-348 | 16-16 | 150 | () $1 \times 31 / 2$ | 1.40 | . 84 |
| 375 | W6 | TC-89 | $4 \times 12 \times 16$ | 150 | (1) $1 \times 11 / 2 \times 3$ | 1.70 | 1.02 |
| 36 |  | TTC-159 | 6-8-12 | 450-450-25 | (1) $11 / 3 \times 41 / 2$ | 2.25 | 1.35 |
|  | AX-211 | 4HC-348B | 20-20 | 150 | (-) $8 / 4 \times 2 \frac{1}{3}$ | 1.15 | . 68 |
| Mobel of Set |  | No. | Cap. Mfd. | D.C. Work. Voltage | Size- <br> Inches | List Price | Net Price |
| $\begin{aligned} & \text { FADA } \\ & \text { RN } \end{aligned}$ |  | 62-MS | 8-16 | 200 | (3) $11 / 8 \times 31 / 4$ | 81.45 | \$0.87 |
|  | 4-13 | 80-MS | 8-8 | 250 | (3) $1 \times 48 / 8$ | 1.20 | . 72 |
| HU | 4-1 | 50-MS | 8-8-16 | 250-150-250 | (4) $18 / 8 \times 4 \frac{1}{4}$ | 1.95 | 1.17 |
|  | 4-1 | 51-MS | 8 | 150 | (1) $11 / 8 \times 31 / 4$ | . 65 | . 38 |

## GALVIN (See Motorola)

| GE Mods. | $\text { 8. } \begin{gathered} \text { RCA } \\ \text { Models } \end{gathered}$ | Part No. | Cap. Mfd. | $\begin{gathered} \text { D.C. Worl' } \\ \text { Voltage } \end{gathered}$ | Size- Inches | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 5-5 | 35 |  | . 75 | . 45 |
| $\begin{gathered} \hline \text { K40A R27, } \\ \text { R17 } \\ \text { R18iW } \\ \hline \end{gathered}$ |  | $\begin{aligned} & 3538 \text { (new) } \\ & 66140 \text { (old) } \end{aligned}$ | $4-4$ | 200 | (1) $8.8 \times 31 / 3$ | . 95 | . 57 |
| K60, R37, <br> K65,  <br> R38,  <br> K 63 R37P, <br>  R38P, <br>  120 |  | 6487 (new) 66155 (old) | 4-4-10-4 | $\begin{gathered} 300-300- \\ 150-25 \end{gathered}$ | (1) $11 / 2 \times 11 / 2 \times 31 / 4$ | 2.05 | 1.23 |
| E52 | $\begin{aligned} & \text { M34, } \\ & \text { M105 } \end{aligned}$ | $\begin{aligned} & 6492 \text { (new) } \\ & 66140-4 \text { (cld) } \end{aligned}$ | 3.6-1 | 100-200 | (0) $3 / 8 \times 2$ 相 | . 80 | . 48 |
| L50 | R22 | 6511 (new) $66160-2$ (old) | 8-4-10 | 150-100-25 | (1) 140131/8x3/4 | 1,30 | . 78 |
| L50 | R22 | $\begin{aligned} & \hline 6518 \text { (new) } \\ & 66160 \text { ( } \mathrm{lld} \text { ) } \\ & \hline \end{aligned}$ | 8 -8 | 250-175 | (1) $11 / 8 \times 1$ \% $\times 35 / 6$ | 1.15 | . 69 |
| K40A R18W |  | 6535 | 4-4 | 150-300 | (c) $1 \times 31 / 2$ | . 90 | . 54 |
| $\begin{aligned} & \text { K78 } \\ & \text { K79 } \end{aligned}$ | $\begin{aligned} & 330 \\ & 331 \end{aligned}$ | $\begin{aligned} & 6555 \text { (new) } \\ & 66143-2 \text { (old) } \end{aligned}$ | 10-4 | 300-150 |  | 1.20 | . 72 |
| $\begin{array}{cc} \hline \text { C-30, } & 100, \\ \text { K43 } & 101, \\ 103 \\ T-48, \\ T-49 \end{array}$ |  | $\begin{aligned} & 6661 \text { (new) } \\ & 66185-2 \text { (old) } \end{aligned}$ | 8-8-5-5 | $\begin{gathered} 450-450- \\ 50-50 \end{gathered}$ | (1) $14.617 / 9 \times 1 / 4$ | 2.20 | 1.32 |
| $\begin{aligned} & \text { K66, } 220 \\ & \text { K66N } 222 \end{aligned}$ |  | $\begin{aligned} & \hline 6691 \text { (new) } \\ & 66189-2 \text { (cld) } \end{aligned}$ | 8-4-4-4 | $\begin{aligned} & 350-150- \\ & 300-25 \end{aligned}$ | (1) $11 / 2 \times 150933 / 4$ | 2.05 | 1.23 |
| $\begin{aligned} & \text { K64, 121, 122, } \\ & \text { M65, }{ }^{221} \\ & \text { M68 } \end{aligned}$ |  | $\begin{aligned} & 6703 \text { (new) } \\ & 66189-1 \text { (old) } \end{aligned}$ | 8-4-4 | $\begin{gathered} 350-150 \\ 300 \end{gathered}$ | (1) 11/8x1312x39/4 | 1.65 | . 89 |
| $\begin{aligned} & \hline \text { L53 } \\ & \hline \text { K52, } \\ & \text { K53, } \\ & \text { K58 } \end{aligned}$ | 114 | $\begin{aligned} & 6783 \text { (ncw) } \\ & 66171-1 \text { (old) } \end{aligned}$ | $\begin{array}{r} 8 \times 8 \times 8 \\ -4-8-10 \\ \hline \end{array}$ | $\begin{gathered} 200-200- \\ 250-25 \\ \hline \end{gathered}$ | (1) $11 / 8 \times 25 / 6 \times 33 / 4$ | 3.60 | 2.16 |
|  | R28, R26P, R28BW, RE40, RE40P, T5-2, <br> 110, 111, <br> 115, 117, <br> 118, 119, <br> 128, 128E, <br> 210, 211, <br> 224 E , <br> 226, 310 | $\begin{aligned} & 7589 \text { (new) } \\ & 66143 \text { (old) } \end{aligned}$ | 4-4 | 150-450 | (1) $1 \times 11 / 2 \times 33 / 4$ | 1.05 | . 63 |
|  | C8-2, C7-6 <br> C8-15, C8-17 <br> C8-4, C9-6, <br> C11-1, C13-2. <br> C15-3, <br> D7-7, <br> D9-19, <br> D11-2, <br> D22-1, <br> T8-1, T8-9, <br> T7-8, <br> T8-14, <br> T8-16, <br> T9-9 | 5512(new) 68597-3iold) | $\begin{gathered} 20 \\ \text { (Standard } \end{gathered}$ | $\begin{gathered} 350 \\ \text { d Aerovox } 7 \end{gathered}$ | (C) $18 / 18331 / 2$ <br> Type PG350-20) | 1.40 | . 84 |



Type Container-(1) Cardboand Box; (3) Rectangular Can; (3) Universal Can; (1) Inverted Can; © Inverted Can (Wet); © Cartridge; (3) Inverted Can (Insulated Cover); (1) Cardboard Tube; (O) Cardboard Tube (Spade Lug Mounting); (19) Metal Can; ( 1 ) Round Can Special.

## EROVQX EXACT DUPLLCATE Replacement Condensers



[^9] Interference Filters Auto－Radic Condensers

AEROVOX INTERFERENCE ANALYZER TYPE ANL－37


Plugs between interfering de－ vice and outlet．Selector switch adjusted until noise is elimina－ ted or minimized．Dial indicates which type filter to use．Hand－ some．Sturdy metal cabinct． Compartment contains neces－ sary test leads and attachment plugs and clips．Size $51 / 2 \times 51 / 2 \times$ 8 inches．

TYPE ANL－ 37
Dealers＇and Servicemen＇s Net Price $\$ 7.00$

## AEROVOX Type IN－ 23



Especially for elimina－ tion of interference caused by fractional horsepower motors． Mounting bracket for uttaching to frame of motor．Flexible leads for commecting across motors such as in hairdriers，fans，mix－ $5 \mathrm{mfd} .1 \times 21 / 3 \mathrm{in}$ ． TYPE IN－23
ers，etc．
List Price $\$ 0.75 \ldots$ Net Price $\$ 0.45$
AEROVOX Type IN－24


Designed for use in the most seri－ ous cases of radio interference front power lines and appliances． Provided with inductance us well as capacitance for thorough fil tering action．Plugs into electric outlet．Radio set or interfering device plugs into receptacle of the filter．Especially desirable be tween device and line．Measures $4 \times 21 / 8 \times 31 / 8 \mathrm{in}$ ． $110-220 \mathrm{v}$ ．A．C． TYPE IN－24
List Price $\$ 4.75$ ．Net Price $\$ 2.85$

## AEROVOX Type IN－27



Simple，inexpensive noise filter．Inserted between set and outlet when interference is slight．Also used with appliance causing low－ intensity interference． Keeps troublesome noises out of house wiring and power line． Size $13 / 8 \times 1 \frac{1 / 2}{}$ inches．

TYPE｜N－27
List Price $\$ 0.65 \quad$ Net Price $\$ 0.39$

## AEROVOX Type IN－28



Intended for cases where ground is considerable dis－ tance from point of application． Most efficient when mounted directly on inter－ fering device by bracket．Size $13 / 8 \times 2$ inches．

List Price $\$ 0.95 \ldots .$. Net Price $\$ 0.57$ List Price $\$ 1.00 \ldots$ ．．．．Net Price $\$ 0.60$

## AEROVOX Type IN－29



Provides additional fil． tering action over IN－ cially effective for cially effective for local sources of in－ terference of variable character but strong intensity．Very effec－ tive for electric razor and other vibrating devices．Plugs between device and line．Size $13 / 8 \times 3$ inches．
TYPE IN－29
List Price $\$ 0.75 \ldots$ ．．．Net Price $\$ 0.45$

## AEROVOX Type IN－30



Similar to IN－29 but with additional in－ ductance．Handles niore severe inter－ ference．Plugs be－ tween set and outlet， or preferably be． tween noisy appli－ ance and outlet．Size $17 / 8 \times 3$ inches．

TYPE IN． 30
List Price $\$ 1.25 . .$. Net Price $\$ 0.75$

AEROVOX Type IN－31


Plugs in between attachment cord and electric out－ let，either of set or preferably at appliance．Addi－ tional inductance for better filer． ing Works best mounted best mounted by bracket directly appliance．Size $13 / 4 \times 3$ inches． TYPE IN－31
List Price $\$ 1.50$ ．．．Net Price $\$ 0.90$

## ANTENNA SUBSTITUTE



Plugs into butlet or light socket．Flexible lead connects with set antenna post．Provides grod aerial substitute under average wiring conditions．Size $13 / 8 \times$ 2 inches．
TYPE ANT－32

## AUTO－RADIO CONDENSERS



Suppressor Condensers
Type $1120-1.0 \mathrm{Mid}$ ． List Price
Net Price $\quad . \quad .45$
Type $1140-0.5$ Mifd．
List Price Net Price

## Dual Section Suppressor Condenser

Type 1141 －．5－． 5 Mfd ．
List Price
Net Price

## MOTOROLA <br> Replacement Condenser <br> For Models 65 and 70 （Part No．3321） <br> （2）Type $1466-.0008$ Mfd． 2500 v ．D．C．Test



List Price
.$\$ 0.50$
.30

SUPPRESSOR CONDENSERS FOR FORD AUTO RADIOS


Type 1144 －Cap．． 5 Mid．
List Price ．．．．．．．．．．$\$ 0.50$ Nat Price


## OIL－IMPREGNATED

 OIL－FILLED TUBULAR CONDENSERS

## 2000v．D．C．Working

Type 2089 oil－impregnated，oil－ filled tubular condensers com－ pletely sealed from moisture or oil leakage and are ideal for vibrator applications，coupling condensers and transmitters，or high－voltage amplifiers and test equipment．All 2089 units are housed in a hrss codmium are housedin a hrass cadmium－plated can electrically insulated by spe－ cial varnished－paper jacket．Ends of jacket spun over can rim elim－ inate possibility of shorts if leads are bent close to unit．Provided with mounting strap for addi－ tional connection．
Type Cap Size－Ins．List Net
No．Mfd．D．L．Price Price
2089 ． 0075 H82雷 $\$ .75 \quad \$ .45$
2089 ． 01 13x23 $80-48$
2089 ． 015 H×2量 $80 \quad .48$
2089 ． 02 4 $4 \times 2$ 臬 85 ． 81
$2089-03-13 \times 9$－ 85



Type 1130 － Type $1131-$
Two Leads Iwo Leads
One Lead
Cap．
.007 Mifd ．
.01 Mfd ．
.02 Mfd ．
007 Mfd． 043 sfo
01 Mfd .05 Mfd
02 Mfd．． 06 Mfd ．
Any Capacity，Each
List Price $\$ 0.45$ Net Price $\$ 0.27$
Oil－Jmpregnated Vibrator Condensers


## Tubular Paper

Vibrator Condensers
Type 1684 － 1600 V．D．C．W．


Cap．List Net Mfd．Price Price $.005 \$ .35 \quad \$ .21$ | .007 | .35 | .21 |
| :--- | :--- | :--- | :--- |
| .01 | .21 |  | $\begin{array}{lll}.01 & .35 & .21 \\ .02 & .35 & 21\end{array}$

Cap．List Net Mfd．Price Price $.03 \quad \$ .40 \$ .24$ $\begin{array}{lll}.04 & .40 & .24\end{array}$

Oil－Impregnated Tubular Vibrator Condensers
Iermetically sealed oil condenser in metal tubes，with an outer cardloard tube as in insulating carmbo
cover．



## ＇Hash＇＂ <br> Condenser

Type 1122－Cap． 5 Mfd ． List $\$ 0.40 \ldots$ ．Net $\$ 0.24$


## 

tUBULAR PAPER CONDENSERS


Smonom cartridan comdensers are especially desirable for use where hifh grade units are required at low coat．They are emmpate，nem－ induetively wound and saled in wax impregnated paper tubes with wax filled ends for lonerer life and proteetion arwinst moist ure．

| Types and D．C．W．Voltages |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cap． Mid． | 484－400 |  | 684－600 |  |
|  | List | Net | List | Net |
|  | Price | Price | Price | Price |
| ． 001 | ．．．．． | ．．． | S0．15 | \＄0．09 |
| ． 002 |  |  | ． 15 | ． 09 |
| ． 003 |  |  | ． 15 | ． 09 |
| （1）14 |  |  | ． 15 | ． 09 |
| ． 005 |  |  | ． 15 | ． 09 |
| ． 006 |  |  | ． 15 | ． 09 |
| ． 01 | \＄0．15 | \＄0．09 | ． 15 | ． 09 |
| ． 015 |  |  | ． 15 | ． 09 |
| ． 02 | ． 15 | ． 09 | ． 15 | ． 09 |
| ． 03 | ． 15 | ． 09 | ． 20 | ． 12 |
| ． 04 | ． 15 | ． 09 | ． 20 | ． 12 |
| ． 05 | ． 15 | ． 09 | ． 20 | ． 12 |
| ． 06 | .20 | ． 12 | ． 25 | ． 15 |
| ． 1 | ． 20 | ． 12 | ． 25 | ． 15 |
| ． 25 | 25 | ． 15 | ． 35 | ． 21 |
| ． 5 | ． 35 | ． 21 | ． 50 | ． 30 |
| 1.0 | ． 50 | ． 30 |  |  |
|  | 1084－1000 |  | 1684－1600 |  |
| ． 001 | \＄0．20 | \＄0．12 | ．．．．． |  |
| ． 002 | ． 20 | ． 12 | $\ldots$ |  |
| ． 003 | ．2） | ． 12 |  |  |
| ． 004 | 20 | .12 | S0．35 | \＄0．21 |
| ． 005 | 20 | ． 12 | ．．．．． |  |
| ． 01010 | $\cdots$ | ． 12 |  |  |
| .107 |  |  | ． 35 | ． 21 |
| ． 01 | ． 30 | ． 18 | ． 35 | ． 21 |
| ． 02 | .30 | ． 18 | ． 35 | ． 21 |
| （1）3 |  |  | ． 40 | ． 21 |
| ． 04 |  |  | ． 40 | ． 24 |
| ． 05 | ． 35 | ． 21 | ． 45 | ． 27 |
| ． 1 | ． 50 | ． 30 |  |  |
| STAMPED METAL CASE |  |  |  |  |
| PAPER CONDENSERS |  |  |  |  |



200 Volts D．C．Working

|  | Wap． | Iist | Net |
| :--- | :--- | ---: | ---: |
| Type | Wifds． | l＇rice | Price |
| 260 | .05 | $\$ 0.50$ | $\$ 0.30$ |
| 260 | .1 | .50 | .33 |
| 260 | .25 | .70 | .42 |
| 260 | .5 | .80 | .48 |
| 260 | $1-.1$ | .75 | .45 |
| 260 | $.25-.25$ | .15 | .57 |
| 260 | $.1-.1-.1$ | 1.00 | .60 |
| 261 | 1.0 | 1.05 | .63 |
| 261 | $.5-.5$ | 1.15 | .69 |
| 261 | $.25-.25-.25$ | 1.25 | .75 |

400 Volts D．C．Working

| 460 | .05 | $\$ 0.55$ | $\$ 0.33$ |
| :--- | :--- | ---: | ---: |
| 460 | .1 | .10 .5 | .39 |
| 460 | .25 | .75 | .45 |
| 460 | .5 | .95 | .57 |
| 460 | $.1-.1$ | .80 | .48 |
| 460 | $.1-.1-.1$ | 1.05 | .63 |
| 461 | .25 | .75 | .45 |
| 461 | 1.0 | 1.25 | .75 |
| 461 | $.25-.25$ | 1.00 | .60 |
| 461 | $.5-.5$ | 1.25 | .75 |
| 461 | $.25-.25-.25$ | 1.30 | .78 |

## MICA CONDENSERS

Providing a wide choice of designs，sizes，mountings and terminals， AEROVOX molded mica receiving condensers offer the correct unit for every application，as listed．

Despite low cost，each unit is built of selected mica and foil，with the clamped section finally imbedded in a molded bakelite casing that is impervious to moisture，heat and mechanical damage．Capacity values are closely maintained by micrometer test for thickness of every sheet of mica used．As a result，values are precisely maintained through years of service．

Capacity values are indicated on the units．


IIgh voltage． 1,000 volts D．C． test．Size $11 / 4 \times 11 / 4 \mathrm{in}$ ．

## Cap．I．ist Net Cap．List Net

 Wrals．I＇rice Price Mifs．Price Price| .0011 | $\$ 0.35$ | $\$ 0.21$ | .003 | 80.55 | $\$ 0.33$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| .0412 | .35 | .21 | .004 | .55 | .33 |
| .00025 | .35 | .21 | .005 | .55 | .33 |
| .0614 | .35 | .21 | .006 | .65 | .39 |
| .00105 | .35 | .21 | .01 | .80 | .48 |
| .001 | .40 | .24 | .02 | 1.20 | .72 |
| .002 | .45 | .27 |  |  |  |

Type 1460


Popular tyer miea condenser． Size $15 / 8 \mathrm{x} 5 / \mathrm{jn}$ ．Two soldering luq terminils．Test volts 1000.
 $\begin{array}{lrclrr}(00004 & \$ 0.15 & \$ 0.09 & .0 M 1) 25 & \$ 0.20 & \$ 0.12 \\ .00005 & .15 & .09 & .041) 5 & .20 & .12 \\ .0001 & .15 & .09 & .001 & .25 & .15 \\ .00015 & .15 & .09 & .002 & .30 & .18 \\ 0002 & .15 & .09 & & & \end{array}$


Compact，size ${ }^{2}$ ：in．square，pro vided with wire leads．Test volts 1000.

| Cap． Mid． | $\underset{\text { Priste }}{\text { List }}$ | Net Price | Cap． <br> IId． | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ． 00004 | \＄0．15 | \＄0．09 | ． 0002 | \＄0．15 | \＄0．09 |
| ． 00005 | ． 15 | ． 09 | ． 00025 | .20 | ． 12 |
| ． $0 \times 10$＇ | ． 15 | ． 09 | （105 | 20 | ． 12 |
| ． 0101075 | ． 15 | ． 09 | （0）1 | ． 25 | ． 15 |
| ． 0001 | ． 15 | ． 09 | ．002 | ． 30 | ． 18 |
| ． 00015 | ． 15 | ． 09 | ． 0025 | ． 35 | ． 21 |

MIDGET MICA CONDENSERS
Type 1468 With Wire Leads


Minget size in $x$ in in．providetl with wire leads．Test volts 1000. Cap．J，ist Net Can．Lisp Net Nifd．Price Price 11 fd ．Irime Price | $\mathbf{0} 0104$ | 80.15 | $\$ 0.09$ | .00015 | $\mathbf{0 . 1 5}$ |
| :--- | :--- | :--- | :--- | ---: |
| .000 .09 |  |  |  |  |
| .0015 | .15 | .09 .0402 | .15 | .09 |
| .00007 | .15 | .09 | .00025 | .20 |
| .000075 | .15 | .09 | .0005 | .20 |
| 00012 |  |  |  |  | $\begin{array}{lll}.0001 & .15 & .09\end{array}$

SILYER MICA CONDENSERS


## Type 1464

For most crilical applications where procise cabacity values must lye attaine and malitained．A1：R（）－
 ed XM lakelita．similar in extormal appearatuce to standaral halielite mobled mica units．
Fnique consturtion．Only plus

 fent retrace chanacheristics．Prab－ dically mo catpiatily dritt with timn Fxcoptiomally hiarh＂（y．Mer－lyath jeally protectmat aramst physical damage and chanes in electrical characerist ies dae to varvine all mospherie eomatitions． maten extrimally horal for ase on circoils whore inductance athe eat lacity prownet must remanan com－ atilli mubar all operatinar eondi－ tions．Specifically desiznetl for us in push－halton tuniner where aceur acy and stability are of prime im－ 1041：
Standaral foldrancur＋of：For $\pm 20^{\prime \prime}$ deduce 106 frum price add $10 c^{\prime}$ ．For $\pm 2 C$ add $15 \%$ ．For $\pm 1$ add 25 名。
TYPE $1464-1000$ v．D．C．TEST
Size
wire leads．
in．square．I＇rovided with

Type 1469


TYPE 1469－1000v．D．C．TEST Size＂．＂in．$x$ if in．Provided with wire leads．
（ayp．List Net｜Cap．List Net Nfid．I＇rice Price Mifd．I＇rier Price
 $\begin{array}{lllllll}\text {（К）（M）1 } & .40 & .24 & \text {（KNO2 } & .50 & .30\end{array}$

 $\begin{array}{lllll}\text { MMO } \\ \text { HO } & .40 & 24.0105 & .75 & 45\end{array}$ .0001 .000

## PAPER CONDENSERS

UNCASED


Non－inductively wourd hiph grade wheased sections neaty shaped and woapped in black vamioh paprer with ＂unds sestland with piteh and providerl with insulated wir learls．eiritit inches lome．Designed for replacement use in filter block rejuir work．

TYPE UC200．200 V．D．C．W

| Cap． Mf． | Size－Ins． <br> L．$x$ ． D． | List Price | Net Price |
| :---: | :---: | :---: | :---: |
| ． 1 | $2 \times 3 \times 14$ | §0．30 | \＄0．18 |
| ． 25 | $2 \times 1 \times 8$ | ． 30 | ． 18 |
| ． 5 | $2 \times 1.1012$ | ． 40 | 24 |
| 1.0 | $2 \times 1{ }^{3} 8 x$ 近 | .60 | ． 36 |
| TYPE UC400－400 V．D．C．W． |  |  |  |
| ． 1 | $2 \times{ }^{\circ}$ ，x ${ }^{1}$ | \＄0．35 | \＄0．21 |
| ． 25 | $2 \times 1 \times 3$ | ． 40 | ． 24 |
| ． 5 | $2 \times 1 \mathrm{mx}$ \％ | ． 50 | ． 30 |
| 1.0 | $2 \times 15{ }^{17}$ | .75 | ． 45 |
| 2.0 |  | 1.15 | ． 69 |
| 4.0 | $4^{3} \times \mathrm{x}^{17} \times \mathrm{S}^{11}$ | 2.00 | 1.20 |
| TYPE UC600－600 V．D．C．W． |  |  |  |
| ． 1 | $2 \times 1 \times 8$ | \＄0．40 | \＄0．24 |
| ． 25 | $2 \mathrm{x}^{11}$ \％ $\mathrm{x}^{9}$ | ． 50 | ． 30 |
| ． 5 | $2 \times 18 x^{3} x^{4}$ | ． 60 | ． 36 |
| 1.0 | $3^{1} \times 11^{7} \times{ }^{11}$ | ． 90 | ． 54 |
| 2.0 | $3^{1 /} \times 1^{7} \times \times 1^{3}$ | 1.35 | ． 81 |
| 4.0 | $4^{3}=\times 1^{7}, \times 1^{7} \mathrm{~s}$ | 2.70 | 1.62 |
| TYPE UC1000－1000 V．D．C．W． |  |  |  |
| ． 25 | $2 \times 1{ }^{-1} \times$ then | \＄0．75 | \＄0．45 |
| ． 5 |  | 1.00 | ． 60 |
| 1.0 | $4^{3} \times \times 1^{7} \times 1$ | 1.50 | ． 90 |
| 2.0 | $4^{3} \times 2^{1} \times 14$ | 2.50 | 1.50 |

BAKELITE－CASE PAPER CONDENSERS


TYPE 250－200 V．D．C．W


TYPE 450－400 V．D．C．W

| ． 05 | $13,513, x$ | \％ | 80.95 | \＄0．57 |
| :---: | :---: | :---: | :---: | :---: |
| 1 | $13 \times 13$ ，$x$ | 5 | 1.00 | ． 60 |
| ． 25 | $1^{2} \times 1 ; x$ | ${ }^{\prime \prime}$ | 1.05 | ． 63 |
| ． 5 | $1^{3}, \bar{\lambda} 1^{3}$ ， x | \％ | 1.50 | ． 90 |
| ． 8 | $13,4 \times 1 \times$ | 5 | 2.00 | 1.20 |

## COMPLETE

ERDVOX

## CATALOG

NOTE．－W！CIS SI＂PPLY AXY AEROVOX CONID：NEFR NOT LISTED IN THESE：BMEFN SENH FOR COMPIJETE AEROVOX Catalog．

## AEROVOX＂HYVOL＂ TELEVISION CONDENSERS

OIL－IMPREGNATED OIL－FILLED
＂12＂Series

of aperatite clecking of operatime condi－ tions for television recenvers alruady in
use has created a use has created a
wholestome respuct for high voltages， peaks，surgers
general
strain
and
on general strain on
comlensern in
in
such assembliess．To ment such repuirements， AERRovod this hisho． voltage oil－filled papar comalconer． Type 12 drsign inclutes new high voltape molderd cover，climinatimg Hated wilthilled bayer sertiom fulls insellatiol from chin．（ginerous slnio eifications－morn baper dieleertric than usually consibilered necessar：

Type 2012－2000v．D．C．W． （in），Size－Ins．I．ist Net


Type 3012－3000v．D．C．W．

| ．n．） | $21 / 2{ }^{1}$ | S．5．7． | \＄3．45 |
| :---: | :---: | :---: | :---: |
| ． 1 | 21／4x ${ }^{1 / 4}$ | 16．2\％ | 3.75 |
| ．25 | 2＇年 $\times 14$ | 7.60 | 4.50 |
| ．5 | $21 / 4 \times 36$ | 0.00 | 5.40 |
| 1.0 | 214 $\times 1 /$ | 12．00 | 7.20 |

Type 4012－4000v．D．C．W． ก．） $214 \times 23 \quad 87 . \pi 0 \quad \$ 4.50$ $\begin{array}{llll}.1 & 21 / 4 \times 33 & 8.95 & 4.95 \\ .25 & 21 / 4 \times .11 / 4 & 9.00 & 5.40\end{array}$

Type 6012－6000v．D．C．W．


Type 7512－7500v．D．C．W

| ． 11 | $214 \times 31 /$ | \＄7．50 | \＄4．50 |
| :---: | :---: | :---: | :---: |
| ．1）2 | 219 $\times 1$ 1 | 8.35 | 4.95 |
| ． $0: 3$ | $21 \times 3$ | 9.00 | 5.40 |
| 0.0 | $21 / 4 \times 13$ | 10.00 | 6.00 |
| ． 1 | $21 / 4 \times 4$ | 12．\％ | 7.50 |

## ＂14＂Series



Particularly ap－
 circuits such as cu－ Heolleray tulw pow－ ＂r suphlies．ligeh coltage ly－pass cir cuits in transmit ters and high－pow－ （1）＂ed pulblite aldress ＂nuigment．Typu It units ary malle in the stanalari 1 zo＂ can milt with sin－ chle highovoltage in． stlator ferminat，Offered in choice of pupular eapacities．Gels． crons suceificat ions．

Grounded Can－Single Insulator
Type 3014－3000v．D．C．W．
Cap．Size－lns．IList Net Mfds，Dia．－Ilgt．Price Price
$\begin{array}{llrr}.01 & 18 / 8 \times 21 / 4 & \$ 4.60 & \$ 2.76 \\ 0.5 & 18 \times 21 / 4 & 4.75 & 2.85 \\ .1 & 18 \times 2 \% & 5.00 & 3.00\end{array}$

## AEROVOX＂HYVOL＂

OIL－IMPREGNATED OIL－FILLED CONDENSERS
In Rectangular Metal Cans
＇09＇Series
With NEW Universal Adjustable Mounting Bracket


Selected paper suretion condens＊ ers fillerd and im－ breghant with whe the new Hyso，the new sujnrodielectric oil． llemmetically－sealed in sturdy welaled－ sforel alominum－ finished can，laak＊ proof and seopage－ proof．1tiph tension bilas ferminats fitted with lock－ huls and solilering lugs．bixception－ ally compact dimminuons fol goven capacts，working voltage－and safoty factor due to use of＂Hyvol．＂ Intentided for loway＊aluty continu＊ ous sirvice in transmitters，anmpli－ fiers，etc．1＇ruvided with the now univerzal idjustalble mounting bracket for motutine ans heirht above or helow chassis phat form．

Type 609－600v．D．C．W．
Cap．Size－Ins．J．ist Net Mifls．I．W，I．Jrice Price $121 / 8 \times 14 \times 11$ 名 $3.50 \quad \$ 2.10$ $31 / 4 \times 27 / 2 \times 1=3.50$
Type 1009－1000v．D．C．W．
$21 / 8 \times 1$ 比 $\times 1{ }^{1 / m} \$ 3.75 \$ 2.25$
$37 / 8 \times 14 \times 11 / \pi \quad 3 .(0) \quad 3.00$
Type 1509－1500v．D．C．W．
 $\begin{array}{llll}41 / 8 \times 91 / 2 \times 13 & 13.05 & 3.75 \\ 45 \times 3 \times 18 & \times 11 & 8.00 & 5.10\end{array}$
Type 2009－2000v．D．C．W．
 $17 / 8 \times 13 / 4 \times 21 / 40,005.40$
Type 2509－2500v．D．C．W． $31 / 8 \times 33 / 813 \% \quad \$ 8.0 n \quad \$ 4.80$ Type 3009－3000v．D．C．W． $37 / 3^{3} 1 \times 21 / 4 \quad 812.00 \quad \$ 7.20$ $\begin{array}{ll}1.3 .(1) & 9.00\end{array}$


Type 4009－4000v．D．C．W． $51 / 8 \times 3 \% \times 21 / 4 \quad \$ 22,00 \quad \$ 13.20$ $518 \times 4$ 复 $\times 3.4 \quad 28.00 \quad 16.80$

Type 5009－5000v．D．C．W．


## AEROVOX＂HYYOL＂

OIL－IMPREGNATED OIL－FILLED CONDENSERS
In Round Aluminum Cans
＂05＂Series


Pure linen paper dielectric，impreynat－ ed and filled with the new super edioloctric oil，＂Hyvol．＂Consern－
ient roumal can，nom－ vilud with ring mounting．Highevoli－ aro pillar terminals． Hermetically sealed in leak－proof contain－ （178，Vory conserva tinuous operation，and therefore larger than the＂ 10 ＂Sories invort－ cl serew－mounting tuits．

Type 605－600v．D．C．W． Cap．Size－Ins．Iist Net
 1.50
1.95
2.70 2.70

Type 1005－1000v．D．C．W

| Cap． | Size－lns． | I．ist | Net |
| :---: | :---: | :---: | :---: |
| M1fds． | Dia．－11gt． | l＇rice | Pric |
| 1 | $2 \times 51 / 4$ | \＄2．75 | \＄1．6 |
| 2 | $2 \times \mathrm{i} / 1$ | 3.75 | 2.25 |
| 4 | $21 / 2 \times 51 / 8$ | 4.75 | 2.8 |

Type 1505－1500v．D．C．W．

| 1 | 2 | $\times 51 / 4$ | $\$ 3.50$ | $\$ 2.10$ |
| :--- | :--- | :--- | :--- | :--- |
| 2 | 2 | $\times 51 / 4$ | 4.75 | 2.85 |
| 4 | $21 / 2 \times 51 / 4$ | 6.00 | 3.60 |  |

Type 2005－2000v．D．C．W $\begin{array}{lllll}1 & 2 & \times 4 \% / 4 & \$ 4.50 & \$ 2.70 \\ 2 & 21 / 2 \times 51 / 4 & 3.00 & 3.00\end{array}$

Type 2505－2500v．D．C．W．
$\begin{array}{llll}1 & 2 & \times 51 / 4 & \$ 6.00 \\ 2 & 21 / 2 \times 51 / 4 & 10.00 & 6.00 \\ 2 & & & \end{array}$
Type 3005－3000v．D．C．W $\begin{array}{lll}21 / 2 \times 51 / 4 & \$ 0.00 & \$ 5.40 \\ 8 & 11.00 & 6.60\end{array}$

AEROVOX＇HYYOL＇＂
OIL－IMPREGNATED OIL．FILLED CONDENSERS
in Round Aluminum Cans －Inverted Mounting
＂ 10 ＂Series
Desirned for inverted serew monnting witls can groumled．With insulat－ mug Washot，＂ati may lon
instalat form metal chassis if pue instatal from metal chassis if pre－
forref，Fxil remely compact for use
 in crowird tosembilox，Hommotic＊
ally sealed，lopakage－proof，ITsed extonsively in tiltur circuits of pow－ er supplies，high－gain，high－fldality amplifirrs，tolovision cirenits transcoivors，etc．

| Cap．Size－Ins． |  |  |  |
| :---: | :---: | :---: | :---: |
| Mffs． | Dia．－Hgt． | Prise | Price |
| 2 | $11 / 6 \times 31 / 6$ | \＄2．7．7 | \＄1．65 |
| 3 | 11／2x＋1／ | 3.2 .5 | 1.95 |
| 4 | $11 / 2 \times 51 / 4$ | 3．7．） | 2.25 |

Type 1010－1000v．D．C．W． $\begin{array}{llll}1 & 17 / 9 \times 27 / 8 & \$ 2.50 & \$ 1.50 \\ 2 & 11 / 2 \times 1 / 2 & \$ .25 & 1.95\end{array}$

Type 1510－1500v．D．C．W． $\begin{array}{llll}.5 & 11 / 2 \times 27 / 8 & \$ 3.00 & \$ 1.80 \\ & 11 / 2 \times+1 / 6 & 3.25 & 1.95\end{array}$

Hermetically－Sealed

## Tubular

## Condensers

oil．Impregnated
OIL－FILLED Type 89
Genuine oil－improps：
 nated oil－fillerl tubli ar cound insers．Completely sealeal from moisture or oil leakagn，lalail or vilurator applications．（ooupling ondeniser＇s תlat tratismititers，on bighovoltario amplifiers allud tost （quipmont．It lrass cadmiunn－plat． od can．Filuctrically insulated la surcial varmished－papur jack + ． Finfs spun ovor rim eliminate pos＊ siloility of shorts if lembs aro lorit close to unit．Provided with mount－ ing strap for adderl connmetion．

Types and D．C．W．Voltages

|  | 489－400 |  | 689－6C0 |  |
| :---: | :---: | :---: | :---: | :---: |
| Cap， | list | Net | list | Net |
| Mfd． | Jrice | Price | l＇rice | Price |
| ． 0006 | 80.35 a | \＄0．21 | 80．40a | \＄0．24 |
| ．007 | ．3ia | ． 21 | ．40a | ． 24 |
| ．0075 | ．3ina | ． 21 | ． 40 n | 24 |
| ．008 | ． 3 5̄a | ． 21 | .40 n | ． 24 |
| ． 01 | ．40a | ． 24 | ． 50 n | 30 |
| ． 015 | ． 40 a | ． 24 | ． 50 O | ． 30 |
| ． 02 | .40 b | ． 24 | ． 50 O | 30 |
| ． 03 | ． 50 b | ． 30 | ． 6011 | 36 |
| ． 04 | ． iO 01 | ． 30 | ．60c | 36 |
| ．0．5 | ．60c | ． 36 | ．701 | 42 |
| ． 1 | ．70d | ． 42 | ．80m | 48 |
| ．25 | ．8ive | ． 51 | sme | ． 54 |
| ．${ }^{\circ}$ | $1.00 f$ | ． 60 |  |  |
|  | 1089－1 | 000 | 2089 | 2000 |
| ． 006 | \＄0．50a | \＄0．30 | 80．7．ig | \＄0．45 |
| .007 | ． 50 O | ． 30 | ．73n | ． 45 |
| ．007： | ．50a | ． 30 | ． 7.7 m | ． 45 |
| ． 008 | ． 50 a | ． 30 | ． 80 gr | ． 48 |
| ． 01 | ． 60 b | ． 36 | ．80） | ． 48 |
| ． 015 | ．60b | ． 36 | ．80）1 | ． 48 |
| ． 02 | ． 60 Ob | ． 36 | ．851 | ． 51 |
| ．03 | ． 70 c | ． 42 | ．8．h | ． 51 |
| ． 04 | ．70c | ． 42 | ． 0 OH | 54 |
| ． 05 | ．80c | ． 48 | ． $3 . H_{1}$ | 57 |
| ． 1 | ． 90 gr | ． 54 |  |  |
| Sizes－Type 89 |  |  |  |  |
| a－1／2 $\times 1$ is a－4is |  |  |  |  |
| b－5／8× $1^{\text {im }} \quad 1-1$ is $\times 2$ |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Quality Controls • Resistors • Selector Switches



WALL TYPE RESISTOR hugs inner circumference of black molded bakelite case. Exclusive non-rubbing contact band assures quiet, smooth rotation and long life. Case dimensions: $13 / 8^{\prime \prime}$ diameter x $9 / 16^{\prime \prime}$ deep. Soft aluminum chaft extends $33 / 8^{\prime \prime}$ from case; milled full length for push-on or set screw knob.

| CENTRALAB STANDARD <br> LESS SWITCH $\quad \$ 1.00$ |  | RADIOHM WITHOUT TAP WITH SWITCH........ $\$ 1.50$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Catalog Number |  | Usual Circuit Location | Resistance |  |
| Withou! Switch | With Switch |  | Ohms | Curve |
| 72-118 | 62-118 | Voltage Divider | 500 |  |
| 72-107 | 62-107 | Voltage Divider | 1000 |  |
| 72-101 | 62. 101 | Voltage Divider | 2000 |  |
| 72.108 | 62-108 | Voltage Divider | 3000 | 1 |
| 12-109 | 62.109 | Vollage Divider | 4000 | 1 |
| $72-110$ | 62-110 | $V$ cliage Divider | 5000 | 1 |
| 70-204 | 52-204 | Antenna Shunt | 5000 | 6 |
| 72-139 | 62-139 | Voltage Divider | 7500 |  |
| 12.114 | 62.114 | Antenna, C-bias | 10000 | 1 |
| 72.113 | 62.113 | Antenna. C-bias of One Tube | 10000 | 3 |
| 10-205 | 52.205 | Antenna. C-bias of Two Tuber: | 10000 | 4 |
| \%2. 100 | 62.100 | Antenna Shunt | 10000 | 6 |
| 12-115 | 62.115 | Antenna, C-bias | 15000 | 3 |
| 19.006 | 99-006 | Antenna, C-bias | 15000 | 4 |
| -2-119 | 62-119 | Antenna, C-bias | 20000 | 3 |
| 12.111 | 62.111 | Voltage Divider | 25000 | 1 |
| 70-206 | 52-206 | C-bias | 25000 | 4 |
| 12-102 | 62-102 | Antenna Shunt | 25000 | 3 |
| $\therefore 103$ | $62-103$ | Voltage Divider | 50000 | 1 |
| \%-117 | 62-117 | Tone Control | 50000 | 6 |
| 72-123 | 62-123 | Tone Control | 75000 | 6 |
| 10-202 | 52-202 | C-bias | 75000 | 4 |
| 12.104 | 62.104 | Voliage Divider | 100000 | 1 |
| 12-122 | 62-122 | Audio Grid or Tone | 100000 | 6 |
| :2-136 | 62-136 |  | 150000 | 6 |
| 12.120 | $62-120$ | Audio Grid or Tone | 200000 | 1 |
| 72.131 | 62-131 | C-bias | 200000 | 4 |
| 12-121 | $62-121$ | Audio Grid or Tone | 250000 | 6 |
| $72-105$ | 62-105 | Audio Grid or Tone | 500000 | 6 |
| 72-106 | 62-106 | Voltage Divider | 500000 | 1 |
| 70-203 | 52-203 | Series in R. F. Plate | 500000 | 4 |
| 72.140 | 62.140 | Audio Grid or Tone | 750000 | 6 |
| 72-116 | 62.116 | Audio Grid or Tone | 1 Meg | 6 |
| $72-137$ | 62-137 | Audio Grid or Tone | 2 Megs | 6 |
| 72-132 | 62-132 | Audio Grid or Tone | 3Megs |  |

TAPPED STANDARD RADIOHM LESS SWITCH S1.50 WITH SWITCH

| $72-138$ | $62-138$ | Tapped Audio Grid | 250000 | 10 |
| :--- | :--- | :--- | :--- | :--- |
| 72.134 | $62-134$ | Tapped Audio Grid | 500000 | 10 |
| 72.135 | $62-135$ | Tapped Audio Grid | 1 Meq | 10 |
| 72.142 | $62-142$ | "lapped Audio Grid | 2 Megr | 10 |



Companion to the Standard Radiohm, the Midget is necessary to replace original controls in many current models using small controls lor space savers. Molded bakelite case, $11 / 8^{\prime \prime}$ diameter. $1 / 4^{\prime \prime}$ soft aluminum shaft $33 / 8^{\prime \prime}$ long.


ATTACHABLE SWITCH COVERS


## Quality Controls • Resistors • Selector Switches

## UNIVERSAL SPLIT-KNURL REPLACEMENT CONTROLS



Many 1938-39 and 40 radio sets use split-knurl shafts and the knobs will not fit the usual flatted shaft. These new Centralab replacements will fit simply by cutting the shaft to proper length. Shaft is brass, $33 / 8^{\prime \prime}$ long from mounting surface, and easily cut. For switch type, add Midget Radiohm switch covers K-155, K-156, K-157, or K-158.

| Cat. No. | Ohms | Type | Price |
| :---: | :--- | :--- | :--- |
| NK-139 | 250 M | Plain | $\$ 1.00$ |
| NK-140 | 500 M | Plain | 1.00 |
| NK-141 | $1 \mathbf{M e g}$. | Plain | 1.00 |
| NK-142 | 2 Meg. | Plain | 1.00 |
| NK-143 | 500 M | Tapped | 1.50 |
| NK-144 | 1 Meg. | Tapped | 1.50 |

## EXTENSION SHAFTS



RI.GULAR PGt. No. 21576r,2 AUTO TYPE
Use with replacement controls or selector switches where long shafts are required. The auto type extension replaces any slotted or tongue type original auto control shaft,

K-181—Extension shaft (4" $\times 1 / 4^{\prime \prime}$ dia. $\times 1 / 32^{\prime \prime}$ flat). $\$ .30$ K-182—Extension shaft (4" $\times 1 / 4{ }^{\prime \prime}$ dia. $\times 3 / 32^{\prime \prime}$ flat).. . 30 K-183-Extension shaft ( $4^{\prime \prime} \times 3 / 16^{\prime \prime}$ dia. $\times 1 / 64^{\prime \prime}$ flat
K-159—Auto type ( $3^{\prime \prime} \times 1 / 4^{\prime \prime}$ dia.; $3 / 32^{\prime \prime}$ tongue and slot)

## SHAFT COUPLERS

K-161: for coupling two $1 / 4^{\prime \prime}$ shafts or one $1 / 4^{\prime \prime}$ and one $3 / 16^{\prime \prime}$ shaft. Steel, $3 / 4^{\prime \prime}$ long, $7 / 16^{\prime \prime}$ diameter.

Price \$ 25


INSULATED
K-184: Bakelite insulating auto control coupling. $1 / 4^{\prime \prime}$ diameter hole for control shaft; opposite end cone shaped and slotted to take most remote cable coupling.

Price \$ . 25
K-168: Same as K-184 but with square hole for Motorola receivers.

Price $\$ .25$

WIRE WOUND RADIOHMS
Dimensions identical to Standard Radiohm. Only plain controls are listed - converted to switch type with Standard Radiohm switch covers. Insulated soft aluminum shaft extends $33 / 8^{\prime \prime}$ from case, milled full length for push-on or set screw knob. Rating 3 watts. All controls have linear relation of resistance to rotation.

Price-All Types $\$ 1.00$ (Less Switch)

| Cat. No. | Ohms | Cat. No. | Ohms |
| :---: | :---: | :---: | :---: |
| V-100 | 2 | V-121 | 100 |
| V-102 | 4 | V-123 | 200 |
| V-104 | 6 | V-125 | 300 |
| V-106 $\mathrm{V}-108$ | 8 | V-126 | 400 |
| V-108 | 10 | V-127 | 500 750 |
| V-110 | 20 | VF-129 | 1000 |
| V-11] | 25 | VF-131 | 2000 |
| V-112 | 30 | VF-133 | 3000 |
| V-114 | 40 | VF-134 | 4000 |
| V-116 | 50 | VF-135 | 5000 |
| V-117 | 60 75 | VF-136 VF-137 | 7500 10000 |
|  |  |  |  |

## UNIVERSAL AUTO REPLACEMENT



Pat. No. 2157662

Replaces controls having slotted or tongue type shafts. $1 / 4^{\prime \prime}$ shaft $3^{\prime \prime}$ long slotted with hinged insert, complete with guide funnel. Plain units furnished with slip clutch. Separate switches cannot be attached to plain controls. Order plain or switch type as required. Tone compensation tap on all controls can be omitted if desired. Switches D.P.S.T. type.

LESS SWITCH...... $\$ 1.50$ WITH SWITCH $\quad \$ 2.00$ | NA-123 | PA-123 | Tapped Audio Grid | 250000 | 10 |
| :--- | :--- | :--- | :--- | :--- |
| NA-105 | PA-105 | Tapped Audio Grid | 500000 | 10 |
| NA-124 | PA-124 | Tapped Audio Grid | 1 Meg. | 10 |
| NA-125 | PA-125 | lapped Audio Grid | $2 \mathrm{Megs}$. | 10 |

## TWIN REPLACEMENT RADIOHMS

Two resistance elements completely insulated from each other and from the shalt and bushing. Sections are Standard Radiohm bases, $13 / 8^{\prime \prime}$ diameter, both rotated by a single aluminum shaft $3^{\prime \prime}$ long.

| Cat. No. | Hesistance |  | Price |
| :---: | :---: | :---: | :---: |
|  | Front Base | Back Base |  |
| 74-601 | 10,000 | 2S,U0U | \$2.50 |
| 14-602 | 10,00\% | 50,000 | 2.50 |
| 4010805 | 100,000 | 100,000 | 2.50 |
| 4010807 | 250,000 | 250,000 | 2.50 |
| 4010804 | 5001000 | SU0.U00 | 2. 30 |

## PHONOHM

A compact portable headphone volume control in "L" pad or potentiometer type enclosed in black molded bakelite case furnished with arrow knob. All types furnished less cords.

| Cat. No. | Type | Hesis. Uhms | Price |
| :---: | :---: | :---: | :---: |
| MP-149 | Potentiometer | SM | \$1.50 |
| MP-150 | Potentiometer | IUM | 1.50 |
| MP-151 | Potentiometer | IUUM | 1.50 |
| ML-152 | ."L." Pad | SM | 2.00 |
| ML-153 | "L'" Pad | 10M | 2.00 |
| ML-154 | "LL, " Pad | 100M | 2.00 |

[^10]
# Centrelab <br> Quality Controls - Resistors • Selector Switches 

## - ADASHAFT MIDGET RADIOHM



By merely adding any one of the shafts illustrated below the simple Adashaft consiruction permits a maximum of replacement possibilities with a minimum of stock. One K-163 shaft is included with each control listed in this group and additional parts are available upon request. The illustration above indicates the method of attaching the shaft to the control and by firmly clinching the "C" washer, the shaft is held in place without wobble or play


Adashaft Midget Radiohms are :a.plied without switch. To convert any control to swith type, use Midget switch covers listed on paje L-5. Available resistance values and tapers are listed below.

Price. Less Tap. $\$ 1.00$

| Catalog Number | Usual Circuit Location | Resistance Ohms Curve |  |
| :---: | :---: | :---: | :---: |
| NF-126 | Antenna, C-Bias | 10M |  |
| NF-146 | Antenna. C-Bics | M | 4 |
| N-127 | Tone Control | 250M | ${ }_{6}^{6}$ |
| N-129 | Audio Grid or Tone. | 500 M | 6 |
| N -130 | Audio Grid or Tone. | ${ }_{2} \mathrm{Mag}$. | 6 |
| N-131 | Audio Grid or Tone |  | ${ }^{6}$ |
| N 145 | Audio Grid or Tone. | 3 Meg . |  |

## - TAPPED ADASHAFT MIDGET RADIOHMS

## Price. With Tap. $\$ 1.50$

| Catalog <br> Number | Usual Circuit Location | Resistance Ohms Curve |  |
| :---: | :---: | :---: | :---: |
| NT-132 | Tapped Audio Grid | 250 M | 10 |
| NT-133 | Tapped Audio Grid | ${ }^{\text {500M }}$ | 10 |
| NT-134 | Tapped Audio Grid | ${ }_{2} \mathrm{Meg}$. | 10 |

## ADASHAFT FOR CONTROLS LISTED ABOVE



## - STANDARD ROUND SHAFT RADIOHM

Shaft has no milled flat, so that a pointer type knob can be located in any desired relation to the slider. Useful for many commercial applications. This unit is identical to
 the Standard Radiohm except that the shaft is $1 / 4^{\prime \prime}$ round steel cadmium plated length, $21 / 4^{\prime \prime}$ from the face of the unit, with grooves every half inch for breakoff purposes. Below are listed the available types less switch. These may be converted into switch type by using any of the standard switches listed on this and previous page.

Price, All TYpes (Less Switch), $\$ 1.00$

| Cataloa llumber | Resistance | '14p\% |
| :---: | :---: | :---: |
| AS. 139 | 11 MM | 1 |
| AS 140 | 25 M | 1 |
| AS. 141 | 100M | 1 |
| AS-143 | 100 M | 6 |
| AS-144 | 250 M | 1 |
| AS-145 | 250 M | 6 |
| AS-146 | 500 M | $\frac{1}{6}$ |
| AS-147 | ${ }_{1}{ }^{500 \mathrm{M}}$. | 6 |
| AS-149 | ${ }_{5}{ }^{\text {M Megs. }}$ | 6 |
| AS-150 | 13 Meas. | 6 |

## - STANDARD SUB-MIDGET RADIOHM

A small diameter control with many of the characteristics of larger units, the standard submidget radiohm is ideal for use in small equipment and spaces where STANDARD SUB•MIDGET RADIOHM other control will
 not fit. It is especially aaptable in the construction of hearing aids and to the requirements of experimenters, home set builders or "hams" for use in portable equipment. Case dimensions are $3 / 8^{\prime \prime}$ depth by $3 / 4^{\prime \prime}$ diameter. Round steel shaft extends $23 / \%^{\circ}$ beyond face of unit, and is grooved every half inch from end of bushing. Features the wall type resistor which hugs the inner circumference of a metal case. The Standard Submidget Radiohm is not available with switch. Below are listed the available types.

| Catalog Number | Kesis ance | Curve |
| :---: | :---: | :---: |
| NS-10 | IM | I |
| NS-11 | 5 M | $!$ |
| NS-12 | 10 M | 1 |
| NS-13 | 25 M | 1 |
| NS-14 | 50 M | 1 |
| NS-15 | 100 M |  |
| NS-16 | 250 M 500 M | 6 |
| NS-19 | 500 M | 6 |
| NS-18 | 1 Mea. | n |

## - ADASHAFT DEALER KIT



Kit consists of twelve controls listed on this and previous page, an assortment of twelve shafts, five K-155 and one K-157 switches, and two couplers. An attractive and sturdy metal box tinished in Centralab blue offers a handy method of carrying and maintaining a complete supply of adashalt controls and accessories.

Catalog No. 418 - Price $\$ 17.60$

# Centralab 

## Quality Controls • Resistors • Selector Switches

## - CENTRALAB FIXED RESISTORS



Pat. No. 1.978,163; 2,083,339; 2,084,840; 2,188,667
This magnified cross section illustrates important and exclusive features of Centralab resistor design. These are

1. Center core of resistance material is surrounded by a dense shock-proot ceramic providing strength and protection against lsumidity.
2. Cole and jacket are fired together at 2500 degrees $r$ '. into a single solid unit, hard and durable as stone.
3. Pure copper covers the resistor ends for wire lead contact Contact to the resistance material is at the extreme ends only providing uniform resistance and load distribution over ENTIRE length. End contacts do not short circuit part of resistance as in other types.
4. Because resistance is small in diameter and unitormly distributed for entire length. Centralab's specific resistance per unit length is low. The result is low noise level and constant value over a wide range of trequency and voltage. In ordering specify both type and desired resistance. All resistors have Ilexible wire leads $11 / 2$ " long, and are H.M.A. color coded Type 316 and 314 individually labeled and packed in cartons of ten. Type 710 and 714 packed tive of one value to a card oten cards in a package.

## - RADIAL LEAD RESISTORS

 lype 314 -Size $1 / 4^{\prime \prime} \times 1^{\text {" }}$ ratina 1 wat! ..$\$ 0.18$ "Iype 316 -Size $1 / 4$ " $\times 1 / 4$ ", rating 2 watts .$\$ 0.20$


## - AXIAL LEAD RESISTORS


Type 710 - Size $1 / \mathbf{g}^{\prime \prime} \times 3 / \mathbf{B}^{\prime \prime}$, rating . 5 walt
Type 714 -Size $1 / 4^{\prime \prime} \times 1{ }^{\prime \prime}$, rating 1 watt, $\$ 0.20$

| 10 | 750 | 2.500 | 12,000 | 50,000 | 300.000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | 800 | 3,000 | 13,000 | 55,000 | 400.000 |
| 50 | 900 | 3,500 | 14,000 | 60,000 | 500,000 |
| 75 | 1,000 | 4.000 | 15,000 | 70,000 | 750,000 |
| 100 | 1.100 | 5,000 | 17,000 | 75.000 | 1 Meg. |
| 200 | 1,200 | 6,000 | 20,000 | 100,000 | 1.3 Meg. |
| 300 | 1,300 | 7,500 | 25,000 | 125,000 | 4 Meg. |
| 400 | 1.400 | 8,000 | 30,000 | 150,000 | 3 Meg |
| 500 | 1,500 | 9,000 | 40,000 | 200,000 | 4 Me |
| 600 | 2,000 | 10,000 | 45.000 | ¿2SO, W00 | Meg |

Note: 10 ohm and 25 ohm values not available in types 710

## - CENTRALAB CERAMIC CAPACITORS

Small special purpose capacitors tor high frequency circuits and where temperature compensation, low power factor, or absolute permanence are important. Capacitors consist al a thin wall ceramic tube of special composition spacing two tubular condenser plates. one inside and one outside the ceramic. Kemains per-
 aging tests because the metal is actually electroplated on ceramic and no mechanica movement or warping that might change the distance between plates is possible.
General specification include voltage rating 1000 volts D.C. with leakage esistance of more than 10,000 megohms. Yower factor less than $.1 \%$. No capacity change after 100 hours a $90 \%$ humidity, the power factor continuing to measuring less than $.1 \%$. Standard capacitor tolerance is $\pm 21 / 2 \%$ (minimum tolerance below .000025 mld is $\pm .5 \mathrm{mmtd}$ ). Negative compensating capacitors have a unitorm capacity change with tem perature of $.00074 \mathrm{mmi} / \mathrm{mml} \mathrm{c}^{\circ}$ and are particularly uselul in balancing the positive temperature dritt of most circuit com ponents. For details write for special Centralab Bulletin. Below are listed available types and capacities.

## ZERO COEFFICIENT CAPACITORS

Used where no change with temperature is desired.
Type $8132-5 i z e 1 / 8 . " x^{x} / 8^{\circ}$ long. Standard capacities $.000005, .00001, .000025, .00004$ and .00005 mid...........Price $\$ 0.60$
 Type $814 Z$-Size $1 / 4^{\prime \prime} \times 1^{\prime \prime}$ long. Standard capacities .000125 . 00015 , 000175 , and .002 mld. Type $8162-$ Size $1 / 4^{\prime \prime} \times 13 / 4^{\prime \prime}$. long. Standard capacities
$.00025, .0003$, and $.00035 \mathrm{mid}^{2}$.

## - NEGATIVE TEMPERATURE COMPENSATING CAPACITORS

Type $813 \mathrm{~N}-$ Size $1 / 8^{\prime \prime} \times 3 / \mathrm{m}^{\prime \prime}$ long. Standard capacities .00001 $00002,000025, .00004,00005$, and .0001 mld . Price $\$ 0.60$ Type $810 \mathrm{~N}-\mathrm{Size} 1 / \mathrm{s}^{\circ} \times \mathrm{x}^{\mathrm{x}} / \mathrm{s}^{\prime \prime}$ long. Standard capacities .00015 .0002 , and .00025 mid. Price . 60 Type 814 N -Size $1 /{ }^{\prime \prime \prime} \times 1^{\prime \prime}$ long. Standard capacities .0003 00035,0004 , and . 06045 mld . Price . 83 Type 816 N -Size $1 / 4^{\circ \prime} \times 13 /{ }^{\circ "}$. long. Siandard capacities 0005 Price 1.00

## - AUTO RADIO NOISE SUPPRESSORS

The standard resistance is 10,000 ohms with the exception that the Ford special is furnished with a resistance of 20,000 ohms. Resistances of $5,000,20,00 \mathrm{~W}$ or 30,000 ohms are avalable at no extra charge in all types.
Part No. 413-Screw on plig type. Will fit most popular cars .............................. .................................................. Price $\$ 0.30$ Part No. 304 -Snap on plug type. Snays on plug at any angle Hrice
Part No. 409-Distributor type. Placed in series with center distributor cable . Hrice
Part No. 405-Bracket type. For older types of cars Hrice Part No. 338-Cable type. 'l'o be inserted in cable near spark plug

Centralab Power Rheostats Work at High Temperctures Without Damage

ldeal tor many com mercial applications, such as small motor speed controls. charg-
ing rate adjusters, or soldering iron tem. peralure regulators peralure regulators. Give maximum dissipation for size because ol complete air circulation. All meial sumated with ccre, in25 Watt Rheostat sulated with treated indestructible. Made in three sizes, all iwo inches in diameter. Bushing $3 / 8^{\prime \prime} x$ $1 / 2^{\prime \prime}$ long. Shaft $1 / 4^{\prime \prime} \times 1 / 2^{\prime \prime}$ long. Depth behind panel-25 watt, $3 / 4^{\prime \prime}$; 50 watt, $11 / 4^{\prime \prime} ; 75$ watt, $13 / 4^{\prime}$
All sizes furnished with Bakelite knob and panel insulating washers.

25 WATT RHEOSTATS

| Part No. | Resistance, Ohms | Price |
| :---: | :---: | :---: |
| $48-002$ | 2 | $\$ 2.00$ |
| $48-006$ | 6 | 2.00 |
| $48-010$ | 10 | 2.00 |
| $48-015$ | 15 | 2.00 |
| $48-026$ | 25 | 2.00 |
| $48-042$ | 40 | 2.00 |
| $48-050$ | 50 | 2.00 |
| $48-100$ | 100 | 2.00 |
| $48-150$ | 150 | 2.00 |
| $48-200$ | 200 | 2.00 |
| $48-250$ | 250 | 2.00 |
| $48-300$ | 300 | 2.00 |
| $48-400$ | 400 | 2.00 |
| $48-500$ | 500 | 2.00 |
| $48-810$ | 1000 | 2.00 |
| $48-815$ | 1500 | 2.00 |
| $48-850$ | 5000 | 2.00 |

50 WATT RHEOSTATS

| Part No. | Resislance. Ohms | Price |
| :---: | :---: | :---: |
| $48-003$ | 2 | $\$ 2.50$ |
| $48-025$ | 25 | 2.50 |
| $48-060$ | 60 | 2.50 |
| $48-151$ | 150 | 2.50 |
| $48-201$ | 200 | 2.50 |
| $40-301$ | 300 | 2.50 |
| $48-501$ | 500 | 2.50 |
| $48-811$ | 1000 | 2.50 |
| $48-835$ | 2500 | 2.50 |
| $48-851$ | 5000 | 2.50 |

75 Watt rheostats

| $47-277$ | 50 | $\$ 3.00$ |
| ---: | ---: | ---: |
| $47-278$ | 150 | 3.00 |
| 47.279 | 300 | 3.00 |
| $47-28 \mathrm{G}$ | 500 | 3.00 |
| $47-281$ | 1000 | 3.00 |

# Centralab 

# Quality Controls • Resistors • Selector Switches 

SOUND PROJECTION CONTROLS FOR EVERY APPLICATION


- CENTRALAB SERIES II

Controls are the finest for input circuits in broadcast stations. public address systems, and recording apparatus of new or old design. Will prove laultless in the most critical service.


The curve charl shows the change in imped ance and attenuation plotted against clock= wise rotation for a "T" pad attenuator. The impedance characteristic (doted line) is substantially the same at any setting. The attenuation curve (solid line) varies from infinity at zero rotation to zero Db. at full rotation. No insertion loss.
Electrostatic and electromagnetic shielding provided by a black finished steel case. Bakelite screw type terminal strip on back of case. All resistance clements insulated from shaft and bushing. Single hole mounting. Mounting bushing $3 / 4^{\prime \prime}$ long with 2 locknuts and lockwashers. Case diameter $23 / 4^{\prime \prime}$. Depth back of panel ' $T$ "' Pad - 23/8"; Gain Control - 13/8". Maximum load dissipation 1 watt.
For defailed information, write for technical booklet.

|  | Line Impedance | Resistance | $\left\lvert\, \begin{gathered}\text { Resistance } \\ \text { Each Side } \\ \text { of Center }\end{gathered}\right.$ | Part Number | Price* |
| :---: | :---: | :---: | :---: | :---: | :---: |
| "T" Pad <br> Attenuator | 500 Ohms 200 Ohms 50 Ohms | Constant Impedance to Both Input and Output |  | $\begin{aligned} & 7-010-852 \\ & 7-010-851 \\ & 7-010-850 \end{aligned}$ | $\begin{array}{r} \$ 10.00 \\ 10.00 \\ 10.00 \end{array}$ |
| "T" Pad Fader | 500 Ohms 200 Ohms 50 Ohms | Two Constant Impedance Legs on Both Sides |  | $\begin{aligned} & 7-210-852 \\ & 7-210-851 \\ & 7-210-850 \end{aligned}$ | $\begin{array}{r} \$ 15.00 \\ 15.00 \\ 15.00 \end{array}$ |
| "L'" Pad Attenuator | $\begin{aligned} & 500 \text { Ohms } \\ & 200 \text { Ohms } \\ & 50 \mathrm{Ohms} \end{aligned}$ |  |  | $\begin{aligned} & 4-010-852 \\ & 4-010-851 \\ & 4-010-850 \end{aligned}$ | $\begin{array}{r} \$ 5.00 \\ 5 \\ 5.00 \\ 5.00 \end{array}$ |
| Gain Control | Attenuation 50 Decibels for Each Control | 250MOhms 500 MOhms 1 Megohm | - | $\begin{aligned} & 1-010-852 \\ & 1-010-851 \\ & 1-010-850 \end{aligned}$ | $\$ 4.00$ 4.00 4.00 |
| Straight Fader | For Crystal or High Impedance Pickups |  | 500,000 100000 50,000 | $\begin{aligned} & 1-210-852 \\ & 1-210-851 \\ & 1-210-850 \end{aligned}$ | $\$ 5.00$ <br> 5.00 <br> 5.00 |

## - KNOBS AND DIALS

All controls listed above are furnished with knobs and dials. When additional knobs and dials are required, order from list below
K-112 Dial 'TT". and "L"' Pad, Gain control
K-113 Dial "T" Pad Fader
K-114 Knob All Series Il Controls

## - ECONOMY P/A CONTROLS

These controls are intermediate to the Series II line and the older Series I types. As their name implies, they are economy controls, designed primarily for inexpensive sound equipment, where original cost is a limiting factor. They are designed for all types of fading and mixing
systems.

power rating for all units 1 watt
Sketch illustrates connections to "Delta T" Pad. Resistance listed for these units is line impedance

| Catalog No. | Description | Resistance Ohms | Price <br> Each |
| :---: | :---: | :---: | :---: |
| M-140 | Gain Control | 250 M | \$1.75 |
| M-141 | Gain Control | 500 M | 1.75 |
| M-142 | Gain Control | 1 Meg . | 1.75 |
| M-143 | Gain Control | 2 Meg . | 1.75 |
| MT-144 | Straight Fader | 500M | 2.00 |
| MT-145 | Straight Fader |  | 2.00 |
| MX-146 | "Delta-T" Pad | 50 | 3.50 |
| MX-147 | "Delta-T" Pad | 200 500 | 3.50 3.50 |

## - KNOBS AND DIALS

For Economy P/A Controls:
$\mathrm{K}-120$ Bar Knob, all controls
$\$ 0.15$
K-117 Dial, Gain Controls and Attenuators
.15
K-160 Dial, Faders

## - CENTRALAB SERIES I

Constant impedance attenuators that are wire wound in the 10 watt or 50 watt "L'" Pads, wire for the series and carbon for the shunt resistors in the I watt "T" Pad and C.I. Faders, also 4 watt " $L$ " Pads. All carbon resistance in the 1 watt " $L$ ' Pad. Bakelite housing $31 / 2^{\prime \prime} \times 13 / 4^{\prime \prime}$ deep single or 3 hole mounting for 10 watt "L"' Pad, 1 watt "T"' Pad, and C.I. Fader. 4 walt "L" Pad bakelite housing $21 / 4^{\prime \prime} \times 7 / 8^{\circ}$ ' deep. All furnished with insulating washers for bushings. One watt "L" Pad mounied in bakelite case $13 / 8^{\prime \prime} \times 1-1 / 16^{\prime \prime}$ deep. Priced without knob or dial.

| Impedance Matching Resistance |  | $\left\lvert\, \begin{aligned} & 1 \text { Watt } \\ & \cdots \mathrm{W} \text { Pad } \\ & \$ \$ .00 \\ & \text { Part No. } \end{aligned}\right.$ | $\left\lvert\, \begin{array}{\|c\|} 10 \mathrm{Watt} \\ { }^{\prime 2} \mathrm{~L} \text { Pad } \\ \$ \$ 5.00 \\ \text { Part No. } \end{array}\right.$ | $\left\lvert\, \begin{gathered} 50 \text { Watt } \\ \text { "L"Pad } \\ \text { Par. No. } \\ \text { Part No. } \end{gathered}\right.$ | $\left\lvert\, \begin{aligned} & \text { I Walt } \\ & \text { •T'Pad } \\ & \$ 7.00 \\ & \text { Part No. } \end{aligned}\right.$ | $\begin{aligned} & \text { I Watt } \\ & \text { C.I. Fader } \\ & \text { \$8.00 } \\ & \text { Part No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10,000 Ohms | $\begin{aligned} & 74-544 \\ & 74-543 \end{aligned}$ | $\begin{aligned} & 96-003 \\ & 96-002 \end{aligned}$ | 94-006 |  |  |  |
| 1.500 - |  |  | 94-006 |  | 93-008 <br> 93-001 | $\begin{aligned} & 83-006 \\ & 83-002 \end{aligned}$ |
| 500 |  | 96-007 | 94-005 | - | 93-002 | $83-003$ |
| 200 |  | 96-006 | 94-004 |  | 93-003 | 83-004 |
| 50 - |  | 96-005 | 94-002 | 47-209 | 93-005 | 83-005 |
| 15 |  | 96-001 | 94-001 | 47-208 | 93-006 |  |
|  |  |  | 94-007 | 47-990 |  |  |

[^11]
# Quality Controls • Resistors • Selector Switches 

## ASSEMBLED SELECTOR SWITCHES

Centralab switches employ a double jawed "biting" contact clip that maintains noiseless contact after standing for months in humidity or corrosive atmosphere as well as on original life test. Switch sections are available with Bakelite or Isolantite insulation. Bakelite is commonly used, but Isolantite is recommended for all

high frequency applications because of its low power factor.

Switches have single hole mounting on $3 / 8^{\prime \prime}$ diameter bushing. Aluminum shaft $21 / 4^{\prime \prime}$ long from mounting surface. Adjustable stop index permits choice of from two to eleven positions. Each switch complete with bar knob.

| WITH BAKELITE INSULATION |  |  |  |  |  | WITH ISOLANTITE INSULATION |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Part Number |  | Description |  |  | Price <br> Each | Part No. | Gangs | Poles | Positions | Price Each |
| Shorting | Non-Sherting | Gangs | Poles | Positions |  | 2501 | 1 | 1 | 2 to 6 | \$1.70 |
| $\begin{aligned} & 1400 \\ & 1402 \\ & 1404 \\ & 1406 \\ & 1408 \end{aligned}$ | $\begin{aligned} & 1401 \\ & 1403 \\ & 1405 \\ & 1407 \\ & 1409 \end{aligned}$ | $\frac{1}{1}$ | 1 | 2 to 6 |  | 25052507 | 1 | 2 | 2 to 52 to 3 | 1.701.70 |
|  |  |  |  |  | $\$ 1.00$ 1.15 |  |  | 3 |  |  |
|  |  | 1 | 2 | 2 to 5 | 1.25 | 2511 | 2 | 2 | 2 to 62 to 11 | 2.70 |
|  |  | 1 | 4 | $2_{2}$ to 3 | 1.45 | $\begin{aligned} & 2513 \\ & 2515 \\ & 2517 \end{aligned}$ | 2 | 2 |  | 2.76 2.70 |
|  |  |  |  |  |  |  |  | 6 | 2 to 5 | 2.70 |
|  | 1411 |  |  | 2 to 6 | 1.60 |  | 2 |  | 2 to 3 |  |
| 1114 | 1413 1415 | 2 | 4 | 2 to 5 | 2.00 | $\begin{aligned} & 2521 \\ & 2525 \\ & 2525 \end{aligned}$ | 333 | $\begin{aligned} & 3 \\ & 3 \\ & 6 \end{aligned}$ | $\begin{aligned} & 2 \text { to } 6 \\ & 2 \text { to } 11 \\ & 2 \text { to } 5 \end{aligned}$ | $\begin{aligned} & 3.90 \\ & 3.90 \\ & 3.90 \end{aligned}$ |
| 1416 | 1417 |  | 6 | 2 to 3 | 2.10 |  |  |  |  |  |
| 1418 | 1119 | 2 | 8 |  |  |  |  |  |  |  |
| $\begin{aligned} & 1420 \\ & 1422 \\ & 1424 \end{aligned}$ | $\begin{aligned} & 1421 \\ & 1423 \\ & 1425 \end{aligned}$ | 333 | 336 | $\begin{aligned} & 2 \text { to } 6 \\ & 2 \text { to } 11 \\ & 2 \text { to } 5 \end{aligned}$ | $\begin{aligned} & 2.25 \\ & 2.20 \\ & 2.35 \end{aligned}$ | Any bakelite or Isolantite selector switch can be assembled Irom |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 444 | 1118 |  | $\begin{aligned} & 2.50 \\ & 2.15 \\ & 3.00 \\ & 3.50 \end{aligned}$ |  |  |  |  |  |  |  |  |  |
| 1426 1128 | $\begin{aligned} & 1427 \\ & 1429 \\ & 1431 \end{aligned}$ |  |  | $\begin{aligned} & 2 \text { to } 6 \\ & 2 \text { to } 11 \\ & 2 \text { to } 5 \end{aligned}$ |  | SWITCHKIT PARTS. See page P-3 for complete list of parts to assemble these and similar switches. |  |  |  |  |
| 1430 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## TRANSMITTER SWITCHES FOR AMATEURS

Isolantite sections with four positions, 90 degrees apart for greater spacing between contacts. Adjustable stop will limit rotation to 2 or 3 positions if required. Contact will operate in transmitters rated up to 100 watts and at potentials up to 1000 volts D.C. One pole per section in all types, $1 / 2^{\prime \prime}$ spacing between sections. $21 / 4^{\prime \prime}$ aluminum shaft can be easily cut to length required. Attractive bar knob included with each switch.

| Cat. No. | Poles | Positions | Sections | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 2542 | 1 | 2104 | 1 | \$1.70 |
| 2543 | 2 | 2 to 4 | 2 | 2.70 |
| 2544 | 3 | 2 to 4 | 3 | 3.90 |
| 2545 | 4 | 2 to 4 | 4 | 4.90 |
| 2546 | 5 | 2 to 4 | 5 | 6.10 |

Dial Plate . . . Special, numbered 1-4 to agree with 90 degree index on switches listed above. Cat. No. K-162.

Price each $\$ 0.20$

## UNIVERSAL FLAT SWITCH



A compact inexpensive switch for many circuit applications. May be used as single pole single throw, single pole double throw, double pole single throw, double pole double throw, three pole single throw, three pole double throw, four pole single throw, four pole double throw. Non-shorting teeth. Flat construction requires only $5 / 8^{\prime \prime}$ overall back of mounting surface. Supplied with aluminum shaft $21 / 4^{\prime \prime}$ overall. Standard bar knob included.
Catalog No. 1450
Price $\$ 0.75$

## TONE SWITCHES

Catalog No. 1460 -S.P.D.T. ...............Price $\$ 0.50$ Catalog No. 1461 -Single Pole. Three Pos. . 60 Catalog No. 1462 -D.P.D.T. .60
Catalog No. 1465 --Like 1461 plus snap switch1.00

# Quality Controls • Resistors • Selector Switches 

## LOW CAPACITY LEVER ACTION SWITCHES



Used singly or in groups these space saving switches are particularly adapted to broadcasting, receiving, public address, test instru. ments and industrial use. Available in ten different combinations including positive and spring return action with either shorting or nonwith elither shorting or nonshoring coniacts. shorting fype contact for circuit switching where contacting the new circuit before breaking the old circuit will avoid noise. Further uses for this type of switch can be found in any application where multiple contact low capacity switches are required to operate at low voltage and current. Dimensions of single switch are $5 / 8$ width $x 1 / 8$ height x $11 / 2^{"}$ depth behind panel. Below are listed the various types, all furnished with black knob and nuts and bolts for panel mounting.

Price, All Types - $\$ 1.00$

| Contacts |  | Description |  | Type of Index |
| :---: | :---: | :---: | :---: | :---: |
| Shorting | Non-Shorting | Poles | Positions |  |
| $\begin{aligned} & 1452 \\ & 1453 \\ & 1456 \\ & 1459 \\ & 1466 \end{aligned}$ | 1454 1455 1457 1458 1467 | 2 2 4 4 2 | 3 3 2 2 3 | Positive Spring Return Spring Return Positive Positive and Spring Return |

## LEVER ACTION SWITCHES WITH SNAP SWITCH

Similar in size and construction to the switches listed above. the two switches noted below differ in that the switch action consists of an underwriters approved snap switch either S.P.S.T. or D.P.S.T. Rated 1 amp at 250 volts or 3 amp. at 125 volts. Can be mounted singly or in groups when used with mounting plates listed below.

Catalog No. 1468-S.P.S.T.
Price $\$ 0.60$
Catalog No. 1469-D.P.S.T.
Price .75

## MOUNTING PLATES

| Part No. | No. of <br> Switches | Mounting Holes | Price |
| :---: | :---: | :---: | :---: |
| P1755 | 1 | Vertical | $\$ 0.20$ |
| P1756 | 2 | Vertical | .30 |
| P1757 | 3 | Vertical | .35 |
| P1758 | 4 | Vertical | .45 |
| P1759 | 5 | Vertical | .50 |
| P1760 | 2 | Horizontal | .30 |
| P1761 | 3 | Horizontal | .40 |
| P1762 | 4 | Horizontal | .50 |
| P1763 | 5 | Horizontal | .55 |

## MOMENTARY PUSH SWITCHES



Centralab momentary open circuit switches may be used for many light duty applications such as meter insertion, record rejection or selection, test equipment, call bell. buzzer or annunciator sysbell, buzzer or annunciator systems, solenoid door check release, miniature lomp signals, small motor uses, and simple on-all switch. Rated 1 amp. at $110 V$ A.C., contacts are phosphor bronze silver plated. Designed for panel mounting. Insulated $3 / 9^{\circ "}$ bushing, $3 / 8^{\circ}$.. long. Push button protrudes $3 / 6$ from end of bushing.
Catalog No. 1470-Momentary opened $\qquad$ Price $\$ 0.50$ Catalog No. 1471-Momentary closed
.Price $\$ .50$

## 23 POSITION SELECTOR SWITCH

For test instruments and laboratory use. One common terminal contact twenty-three clips mounted on one section. Double wiping low capacity contact insures long life. Contact resistance averages .002 ohms. Furnished with shorting type contact only. Non-shorting type contact only. Non-short
 1/4 aluminum shaft $21 / 4$ long can 3 " brass bushing. Bar knob furnished with each switch. Switch cannot be supplied with adjustable stop.
Catalog No. 1 $\dot{4} 43$... ............................. .... . . Price $\$ 2.50$
Dial Plate numbered 1, 2, 3 for above switch.
Catalog No. K-173

## SPRING RETURN SWITCHES

Replacements for intercommunicator talk-back switches. All are two positions. Shaft returns to original position when knob is released. Rotation against spring in clockwise position. Normal position is counter-clockwise. All have long shaft that can be cut to iength
Catalog Number Description Price
Cat. No. 1463-1 Pole 2 Position.......................................................... $\$ 0.65$
Cat. No. 1464-2 Pole 2 Position
.75
Cat. No. 1451-4 Pole 2 Position................................................................ 1.00

## METER INSERTION SWITCH

Twelve positions continuous rotation. Inserts milliameter in any one of twelve differen circuits, keeping remaining eleven circuits closed Aluminum shatt 21/" long 3/" brass num shatt $21 / 4$ long. $3 / 8$ brass bushing. Bar knob included wiring instructions included.


Catalog No. 1442. $\qquad$ Price $\$ 4.50$

## ROTARY LINE AND TONE SWITCH

A compact and sturdy rotary type switch in a molded bakelite case, underwriters approved. Available in three types listed below, all furnished with long steel shaft milled for push-on knob.

|  |  | Price |
| :--- | :--- | ---: |
| No. 1447 | SPST | $\$ 0.50$ |
| No. 1448 | DPST | .60 |
| No. 1449 | Tone Type | .60 |

## KEY OPERATED SWITCH

Prevents unauthorized use or adjustment of equipment. Only key of proper shape will operate switch. Key fur will operate switch. Key iurnished with each switch Numerous uses include coin phonographs, electronic eye apparatus, power, timer or est recording equipment electric door opener, teraperature and humidity confrol regulators. laboratory setups, etc. Available in D.P.S.T. which can also be used as S.P.S.T. Rating o sither switch 1 amp. at 25 volts A.C., 3 amp. at 125 volts A.C., or 15 amp. at
 12 volts.
Catalog No. $1472-S . P . S . T$. or D.P.S.T.


Price $\$ 1.00$

# Quality Controls - Resistors • Selector Switches 

## the Centralab switchkit provides COUNTLESS SWITCH ASSEMBLIES

THE demand for selector switches includes so many different types that it is virtually impossible to maintain a complete stock of assembled switches. Selector switches are usually assembled with standard sections. The difficulty arises from the number of different ways that a small group of sections can be put together. To simplify stocking selector switches, Centralab has two switchkit assortments of sections, hardware, and accessories available. One of these includes bakelite sections and hardware; the other Iso-

No. 414 KIT - includes assortment of bakelite sections, index assemblies and accessories listed below. Price $\$ 100.00$.

\section*{PARTS INCLUDED IN BAKELITE SWITCHKIT <br> SECTIONS WITH BAKELITE INSULATION <br> | Cuantity | Cataloa Number | Poles | Positions | Contact | Price <br> Fiach |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12. | A | 1 | 6 | Shortina |  |
| 17 | 8 | , | 11 | Shorting | . 55 |
| 1 | C | \% | 5 | Shortina | . 65 |
| 1 | $\Gamma$ | 3 | 3 | Shortina | -35 |
| 4 | F | 1 | ${ }_{5}^{2}$ | Shorting | 85 |
| 4 | ${ }^{5} \cdot$ | $!$ | 5 | Shorting | 60 |
| 1 | G•• | 1 | 17 | Shorting | 75 |
| 12 | H | 1 | 6 | N. S. | 40 |
| 17 | ! | 1 | 11 | N. S. | . 5.5 |
| 1 | $k$ | 2 | 5 | N. S | 65 |
| 1 | 1 | 3 | ${ }_{3}^{3}$ | N. S. | . 75 |
| 1 | M | 1 | 2 | N. S | . 85 |
| 3 | N |  | se Togethe |  | 50 |
| 3 | P | 1 H | sistance De |  | 50 |
| 3 | Q |  | ndenser De | de | . 60 |
| 5 | $\mathrm{R}^{+\cdots}$ |  | 5 | Shorting | 1.00 |
| 1 | S*** | 3 |  | Shorling | 1.00 |

[^12]
lantite sections and hardware. The parts included in each are tabulated below.
Each switchkit assortment is packed in an attractive sturdy steel cabinet identified with $a$ Centralab decalcomania. Drawer pulls include identification cards to show location of parts.
Cabinet contains 25 drawers, $3^{\prime \prime} \times 2 \frac{1}{2^{\prime \prime}} \times 8^{\prime \prime}$ inside. Cabinet $19^{\prime \prime}$ wide, $173 / 4^{\prime \prime}$ high, $91 / 4^{\prime \prime}$ deep overall. Finished in neutral green lacquer. Cabinet supplied FREE with either assortment listed below. Shipped F.O.B. Milwaukee, Wisconsin.

No. 119 KIT -- includes assortment of Isolantite sections, index assemblies and accessories listed below. Price $\$ 100.00$

## PARTS INCLUDED IN ISOLANTITESWITCHKIT

 SECTIONS WITH ISOLANTITE INSULATION| Quantity | Catalog Number | Poles | Positions | Conlact | Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | T | 1 | $\overline{6}$ | Shortina | \$1.00 |
| 10 | U | , | 11 | Shortina | 1.00 |
| 1 | R | \% | 5 | Shortina | 1.00 |
| 1 | $\leqslant$ | 3 | 3 | Shortina | 1.00 |
| 1 | V | 1 | 2 | Shorting | 1.00 |
| 4 | X | 1 | 6 | N. S | 1.00 |
| 1 | Y | 1 | 11 | N. S. | 1.00 |
| , | RH | 2 | 5 | N. S. | 1.00 |
| 4 | SS | 3 | 3 | N. S. | 1.00 |
| \% | Z | , | 3 | N. S. | 1.00 |
| 6 | GG* | 1 | 10 | Shorting | 1.00 |
| 15 | XX* | 1 | 1 | N. S. ${ }^{\text {a }}$ | 1.00 |

[^13]* 90 Dearees between positions-for transmitler switchers.


## INDEX ASSEMBLIES - COMPLETE WITH HARDWARE

| Quantity | Catalog <br> Number | Description | Price <br> Each |
| :---: | :---: | :---: | :---: |
| 10 | K-121 | For 1 or 2 Gang Selector Sw. | $\$ 55$ |
| 10 | K-170 | For 1 or 2 Gang Trans. Sw. | 55 |
| 5 | K-122 | For 3 or 4 Gang Selector Sw. | 75 |
| 3 | K.171 | For 3 or 4 Gang Trans. Sw. | 75 |
| 3 | K-123 | For 5 or 6 Gang Selector Sw. | 75 |
| 3 | K-172 | For 5 or 6 Gang Trans. Sw. | 96 |

## DIAL PLATES AND KNOBS

| 25 | $K-120$ | Bar Knob | $\$ .15$ |
| ---: | ---: | :--- | ---: |
| 10 | $K-119$ | Bar Knob | .55 |
| 5 | $K-115$ | Dial Plate 1-5 | .15 |
| 10 | $K-117$ | Dial Plate 1.10 | .15 |
| 5 | $K-118$ | Dial Plate 1-11 | .15 |
| 12 | $K-162$ | $1-4$ Dial: 90 dearee Index | .20 |

## BE RIGHT WITH OHMITE

## OHMITE RHEOSTATS All-Porcelain-Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.


## MODEL "H" 25 Watt

Diameter 15". Depth behind panel $1 \frac{5}{18}$

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0140 | 1 | 5,000 | \$4.50 | 0152 | 125 | 445 | \$4.00 |
| 0141 | 2 | 3.450 | 4.00 | 0153 | 175 | 375 | 4.00 |
| 0142 | 3 | 2,880 | 4.00 | 0154 | 250 | 315 | 4.00 |
| 0143 | 6 | 2,040 | 4.00 | 0155 | 350 | 267 | 4.00 |
| 0144 | 8 | 1,770 | 4.00 | 0156 | 500 | 222 | 4.00 |
| 0145 | 10 | 1,580 | 4.00 | 0157 | 750 | 173 | 4.00 |
| 0146 | 15 | 1,290 | 4.00 | 0158 | 1,000 | 155 | 4.50 |
| 0147 | 25 | 1,000 | 4.00 | 0159 | 1.500 | 129 | 4.50 |
| 0148 | 35 | 845 | 4.00 | 0160 | 2,500 | 100 | 4.50 |
| 0149 | 50 | 709 | 4.00 | 0161 | 3,500 | 84 | 4.75 |
| 0150 | 75 | 575 | 4.00 | 0162 | 5.000 | 70 | 4.75 |
| 0151 | 100 | 500 | 4.00 |  |  |  |  |

MODEL "J" 50 Watt
Diameter $2 \frac{5}{17 \prime \prime}$, Depth behind panel $13,8^{\prime \prime}$

| Slock No. | Ohms | Max. <br> Mils. | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Stock | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0308 | 0.5 | 10,000 | \$5.00 | 0321 | 150 | 575 | \$4.50 |
| 0309 | 1 | 7,070 | 5.00 | 0322 | 225 | 470 | 4.50 |
| 0310 | 2 | 5,000 | 5.00 | 0323 | 300 | 405 | 4.50 |
| 0311 | 4 | 3.500 | 4.50 | 0324 | 500 | 315 | 4.50 |
| 0312 | 6 | 2,880 | 4.50 | 0325 | 800 | 250 | 4.75 |
| 0313 | 8 | 2,500 | 4.50 | 0326 | 1,000 | 220 | 4.75 |
| 0314 | 12 | 2.040 | 4.50 | 0327 | 1.600 | 176 | 4.75 |
| 0315 | 16 * | 1,760 | 4.50 | 0328 | 2,500 | 140 | 4.75 |
| 0316 | 22 | 1.500 | 4.50 | 0329 | 3,500 | 119 | 5.00 |
| 0317 | 35 | 1,190 | 4.50 | 0330 | 5,000 | 100 | 5.00 |
| 0318 | 50 | 1,000 | 4.50 | 0331 | 8,000 | 79 | 5.00 |
| 0319 | 80 | 790 | 4.50 | 0332 | 10,000 | 70 | 5.00 |
| 0320 | 125 | 630 | 4.50 |  |  |  |  |



OHMITE SPECIAL RHEOSTATS

## for Soldering Iron Control

Adjusts heat of the soldering iron or melting pot for best work and economical operation.

| Wattage of Soldering Iron or Pot to be Controlled |  | Rheostat Control Stock No. |  | Cage |  | ListPriceEach |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Dim | ons |  |
| Watts | Volts |  |  | Diam. | Hgt. |  |
| 40-65 | 115 |  | SRC65 |  | 31/8" | 2' | \$ 7.25 |
| 85-100 | 115 | SRC100 |  | $31 /$ | 2" | + 7.25 |
| 120-150 | 115 | SRC150 |  | $3{ }^{3 \prime \prime}$ | 23/8 | 9.15 |
| 175-220 | 115 | SRC220 |  | $3 \% / 4$ | $23.8{ }^{\prime \prime}$ | 10.00 |
| 300-350 | 115 | SRC350 |  | 41/2" | $23 /$ | 11.70 |
| 430-500 | 115 | SRC500 |  | $71 /{ }^{\prime \prime}$ | 31/4" | 17.00 |

MODEL "K" 100 Watt
Diameter $3 \% \mathrm{~B}^{\prime \prime}$. Depth behind panel $13 / 4$ "

| Stock No. | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | Max. Mils. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0440 | 0.5 | 12,500 | \$7.50 | 0452 | 200 | 707 | \$7.00 |
| 0441 | 1 | 10,000 | 7.50 | 0453 | 300 | 575 | 7.00 |
| 0442 | 2 | 7.070 | 7.50 | 0454 | 400 | 500 | 7.00 |
| 0443 | 3 | 5,750 | 7.50 | 0455 | 500 | 445 | 7.00 |
| 0444 | 5 | 4,450 | 7.50 | 0456 | 750 | 365 | 7.00 |
| 0445 | 7.5 | 3,650 | 7.00 | 0457 | 1.000 | 315 | 7.50 |
| 0446 | 10 | 3,150 | 7.00 | 0458 | 1.500 | 258 | 7.50 |
| 0447 | 16 | 2,500 | 7.00 | 0459 | 2,000 | 224 | 7.50 |
| 0448 | 25 | 2,005 | 7.00 | 0460 | 2,500 | 200 | 7.50 |
| 0449 | 53 | 1,420 | 7.00 | $\underline{0461}$ | 5.000 | 141 | 8.00 |
| 0450 | 75 | 1,150 | 7.00 | 0462 | 7,500 | 115 | 8.50 |
| 0451 | 1 CO | 1,000 | 7.00 | 0463 | 10.000 | 100 | 9.00 |

MODEL "L" 150 Watt
Diameter 4". Depth behind panel $13 / 4^{\mathrm{N}}$

| $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | Max. <br> Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0524 | 0.5 | 15,000 | \$9.50 | 0537 | 150 | 1,000 | \$9.00 |
| 0525 | 1 | 12,500 | 9.50 | 0538 | 200 | 865 | 9.00 |
| 0526 | 2 | 8,650 | 9.50 | 0539 | 250 | 775 | 9.00 |
| 0527 | 3 | 7.070 | 9.50 | 0540 | 350 | 655 | 9.00 |
| 0528 | 5 | 5,480 | 9.50 | 0541 | 500 | 548 | 9.00 |
| 0529 | 7.5 | 4,470 | 9.50 | 0542 | 750 | 447 | 9.50 |
| 0530 | 10 | 3,880 | 9.00 | 0543 | 1,250 | 346 | 9.50 |
| 0531 | 15 | 3,163 | 9.00 | 0544 | 1,800 | 288 | 10.00 |
| 0532 | 25 | 2.450 | 9.00 | 0545 | 2,250 | 259 | 10.00 |
| 0533 | 35 | 2.070 | 9.00 | 0546 | 3,000 | 224 | 10.00 |
| 0534 | 50 | 1.735 | 9.00 | 0547 | 4,500 | 182 | 10.50 |
| 0535 | 75 | 1,415 | 9.00 | 0548 | 7,500 | 141 | 11.00 |
| 0536 | 100 | 1,225 | 9.00 | 0549 | 10.000 | 122 | 12.00 |

MODEL "N" 300 Watt
Diameter $6^{\circ \prime}$. Depth behind panel $21 / \mathrm{m}^{\prime \prime}$

| Stock No. | Ohms | Max. Mils. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | Max. Mils. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0650 | 1 | 17.250 | \$13.50 | 0661 | 100 | 1,730 | \$13.50 |
| 0651 | 2 | 12,240 | 13.50 | 0662 | 150 | 1,410 | 13.50 |
| 0652 | 3 | 10,000 | 13.50 | 0663 | 200 | 1,220 | 13.50 |
| 0653 | 4 | 8,660 | 13.50 | 0664 | 300 | 1,000 | 13.50 |
| 0654 | 5 | 7.750 | 13.50 | 0665 | 400 | 866 | 13.50 |
| 0655 | 7.5 | 6,320 | 13.50 | 0666 | 700 | 655 | 13.50 |
| 0656 | 10 | 5,480 | 13.50 | 0667 | 900 | 578 | 13.50 |
| 0657 | 15 | 4,470 | 13.50 | 0668 | 1,200 | 500 | 13.50 |
| 0658 | 25 | 3,460 | 13.50 | 0669 | 1,500 | 449 | 13.50 |
| 0659 | 50 | 2,450 | 13.50 | 0670 | 1.750 | 414 | 13.50 |
| 0660 | 75 | 2,000 | 13.50 | 0671 | 2,500 | 346 | 13.50 |

## OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.


## Popular OHMITE "‘BROWN DEVIL" RESISTORS



High quality, small size, wire wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, allporcelain, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free servicetheir wide use in all climates of the worldprove their complete reliability and economy. All units have $11 / 2^{\prime \prime}$ tinned wire leads.

| 10 Watt-13/4" $\mathrm{x}^{3} / \mathrm{s}^{\prime \prime}$ |  |  |  |  |  | 20 Watt-2"x ${ }^{1 / 2} \mathbf{2}^{\prime \prime}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Mils. | Ohms | Mils. | Ohms | Mils. | Ohms | Mils. | Ohms | Mils. | Ohms | Mils. |
| 1 | 3,150 | 350 | 169 | 6,000 | 36 | 5 | 2.000 | 700 | 169 | 2,750 | 85 |
| 2 | 2,230 | 400 | 158 | 7,000 | 36 33 | 10 | 1.415 | 750 | 163 | 3,000 | 81 |
| 3 | 1,825 | 450 | 149 | 7,500 | 32 | 55 | 895 | 800 | 158 | 3.500 | 75 |
| 4 | 1.580 | 500 | 141 | 8,000 | 31 | 50 75 | 633 517 | 850 1,000 | 153 | $\mathbf{4 , 0 0 0}$ $\mathbf{4 , 5 0 0}$ | 70 66 |
| 5 | 1.415 | 600 | 129 | 8,500 | 30 | 100 | 448 | 1,200 | 129 | 5,000 | 63 |
| 7.5 | 1,155 | 700 | 119 | 10.000 | 24 | 150 | 348 | 1.250 | 126 | 6,000 | 57 |
| 10 | 1.000 | 750 | 115 | 11,000 | 22 | 200 | 316 | 1,500 | 115 | 7,000 | 53 |
| 12 | 910 | 800 | 111 | 12,000 | 20 | 250 | 283 | 1,750 | 107 | 7,500 | 51 |
| 15 | 815 | 900 | 105 | 12,500 | 20 | 300 | 258 | 1,850 | 104 | 8,000 | 50 |
| 20 | 707 | 1,000 | 100 | 13,500 | 19 | 350 | 239 | 2,000 | 100 | 10,000 | 43 |
| 25 | 630 | 1,100 | 95 | 14,300 | 18 | 400 | 223 | 2,250 | 94 | 12,500 | 39 |
| 30 | 575 | 1,200 | 91 | 15.000 | 18 | 500 | 200 | 2,400 | 91 | 15,000 | 33 |
| 35 | 535 | 1.250 | 89 | 16.000 | 17 | 650 | 175 | 2.500 | 89 | 15.000 | 3 |
| 40 | 500 | 1,500 | 79 | 17.500 | 17 | ${ }^{\circ}$ List |  |  |  |  |  |
| 50 | 447 | 1,750 | 74 | 18,000 | 16 | List | rice, a | ny 20 w | t uni | t above | . 65 |
| 75 | 365 | 2,000 | 69 | 20.000 | 15 | 20,000 | 25 | 35,000 | 15 | 45,000 | 12 |
| 100 | 315 | 2.250 | 64 | 22.500 | 15 | 25,000 | 22 | 40,000 | 13 | 50,000 | 11 |
| 125 | 283 | 2,500 | 61 | 25,000 | 14 | 30,000 | 19 |  |  |  |  |
| 150 | 258 | 3,000 | 56 | -30,000 | 8 | List Price, any 20 watt unit above \$0.75 |  |  |  |  |  |
| 200 | 223 | 3,500 | 51 | -35,000 | 7 |  |  |  |  |  |  |
| 225 | 217 | 4,000 | 47 | * 40.000 | 7 | *55,000 | 8.5 | * 75,000 | 7.0 | *90,000 | 6.5 |
| 250 | 200 | 4,500 | 44 | - 45,000 | 6 | * 60,00 | 8.0 | * 80,000 | 7.0 | *95,000 | 6.5 |
| 300 | 182 | 5.000 | 40 | -50,000 | 6 | -65,00 | 7.5 | *85,000 | 6.5 | * 100.000 | 6 |
|  |  |  |  |  |  | * 70.0 | 7.5 |  |  |  |  |
| List Price, any 10 watt unit above $\$ 0.40$ |  |  |  |  |  | List Price, any 20 watt unit above \$1.00 |  |  |  |  |  |

*The units marked with an asterisk are coated with a low temperature enamel.


OHMITE CENTER-TAPPED RESISTORS

## Compact, Accurate, Convenient

"Wirewatt" and "Brown Devil" centertapped resistors especially designed for use across radio transmitter tube filaments to provide an electrical center for the grid and plate returns. Should be connected as closely as possible to the tube socket. Center tap accurate to plus or minus $1 \%$.


[^14]OHMITE "WIREWATT"


## 1 Watt wire-wound Resistor

Wire-wound on porcelain and insulated with low temperature enamel. Ends of the wire are mechanically locked and then brazed to terminal lugs to insure freedom from noise. $11 / 2^{\prime \prime}$ tinned wire leads. RMA color coded, and labeled with the resistance. Size $13 / 4^{\prime \prime} \times 1 / 4^{\prime \prime}$.

| Ohms | Mils. Volts | Ohms | Mils. |  | Volts |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | 100 | 10 | 2,250 | 21 | 46 |
| 125 | 89 | 11 | 2,500 | 20 | 50 |
| 150 | 81 | 12 | 3,000 | 18 | 54 |
| 200 | 70 | 14 | 3,500 | 16 | 56 |
| 250 | 63 | 15 | 4,000 | 15 | 60 |
| 300 | 57 | 17 | 4,500 | 14 | 63 |
| 350 | 53 | 18 | 5,000 | 14 | 70 |
| 400 | 50 | 20 | 6,000 | 12 | 72 |
| 500 | 44 | 22 | 7.000 | 11 | 77 |
| 600 | 40 | 24 | 7,500 | 11 | 82 |
| 700 | 37 | 26 | 8,000 | 11 | 88 |
| 750 | 36 | 27 | 9,000 | 10 | 90 |
| 800 | 35 | 28 | 10,000 | 10 | 100 |
| 900 | 33 | 29 | 12,500 | 9 | 110 |
| 1,000 | 31 | 31 | 15,000 | 8 | 120 |
| 1,100 | 30 | 33 | 16,000 | 7 | 112 |
| 1,200 | 28 | 33 | 17,500 | 7 | 122 |
| 1,250 | 28 | 35 | 18,000 | 7 | 126 |
| 1,500 | 25 | 37 | 20,000 | 7 | 140 |
| 1,750 | 23 | 40 | 22,500 | 6 | 135 |
| 2,000 | 22 | 44 | 25,000 | 6 | 150 |
| List | Price | $\ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots, \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots . \$ 0.25$ |  |  |  |



## OHMITE "CORDOHM"

## Line Cord Resistors

Replares internal voltage dropping resistors in AC-DC radio sets. A resistance element is incorporated in the line cord.

| Stock No. | Voltage Drop | Ohins |
| :---: | :---: | :---: |
| C-350 | 12.0 to 17.0 | 350 |
| C-3330 | 18.0 to 2.4 .0 | 330 |
| C-290 | $2.3,0$ to 31.5 | 290 |
| (-250 | 32.0 to 44.5 | 250 |
| (-220 | 4.50 to 5.2 .0 | 220 |
| C-180 | 53.0 to 611.0 | 180 |
| C-160 | (i2.0 to (i8.4) | 110) |
| ( -143 | 69.0 to 7 \%.2 | 18.7 |
| List Price, any above value. . . . . . . . . . $\mathbf{\$ 0 . 7 5}$ |  |  |

C-165-P For $\bar{j}$ tube sets ( $3 \times 6.3+165-$ Titj)
 C-1si-p For + tube sets ( $2 \times 12.3$ + 100 -Ti1] $2 \times 25)(0.25 A$. pilot lamy. at 10
List Price, any above value. . . . . . . . . . . $\$ 1.00$
X-320 Line Drop Cord, 220 Volts to 110 Volts at 0.36 Amps. 320 Ohms- $\$ 1.50$

# BE RIGHT WITH OHMITE 

 OHMITE DIVIDOHM RESISTORS

You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps Where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

Extra-sturay, wire-wound, all-porcelain resistors with the permanent protection of Ohmite Vitreous Enamel. Widely used for heavy duty applications to assure continuous troubleused for heavy duty applications to ass
free service. With mounting brackets.

## 10 WATTS

Size $13 / 4$ " $x^{3 / 8 "}$ Mounting Centers $2^{1 / 4 / 2}$ Adjustable Res. Adjustable Res. Res. Max. Stock Res. Max. Stock Ohms Mils. No. Ohms Mits. No.

|  | , | ORms |  |
| :---: | :---: | :---: | :---: |
| 1 | 3.1501001 | 750 | 1151021 |
| 2 | 2.2301002 | 800 | 1111022 |
| 3 | 1.8251003 | 1.000 | 1001023 |
| 5 | 1.4151004 | 1,250 | 891024 |
| 7.5 | 1,155 1005 | 1,500 | 791025 |
| 10 | 1,000 1006 | 2.000 | 691026 |
| 15 | 8151007 | 2,250 | 641027 |
| 20 | 7071008 | 2,500 | 611028 |
| 25 | 6301009 | 3,000 | 561029 |
| 50 | 4471010 | 3,500 | 511030 |
| 75 | 3651011 | 4,000 | 471031 |
| 100 | 3151012 | 4,500 | 441032 |
| 150 | 2581013 | 5.000 | 401033 |
| 200 | 2231014 | 6.000 | 361034 |
| 250 | 2001015 | 7,000 | 331035 |
| 300 | 1821016 | 7.500 | 321036 |
| 350 | 1691017 | 8.000 | 311037 |
| 400 | 1581018 | 8,500 | 301038 |
| 500 | 1411019 | 9,000 | 261039 |
| 600 | 1291020 | 10,000 | 241040 |
| List Price, any above unit............. $\mathbf{\$ 0 , 6 0}$ |  |  |  |

75 WATTS
Size $6^{\prime \prime} x$ : ${ }^{\prime \prime}$



## ADJUSTABLE LUGS

| Bakelite Knob |  |  | Screw Driver Type |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. | Stock | List | Res. | Stock | List |
| Dia. | No. | Price | Dia. | No. | Price |
| ${ }^{11_{6}^{\prime \prime}}$ | 0359 | \$0.15 | 318" | 1058 | \$0.10 |
| \% | 1959 | . 25 | $1{ }^{\prime \prime}$ | 0358 | . 10 |
| 11/4" | 2159 | . 25 | \% | 1958 | . 15 |
|  |  |  | $11 / 4$ | 2158 | .15 |

25 WATTS
Size $2^{\prime \prime \prime} x^{\prime \prime}$

## Mounting

Fixed Resist Ad 23 ,

##  <br> $\qquad$ ${ }^{\text {Pri }}$

 List Stocrice No

| Ohms | Mils. | No. | Price | No. | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5,000 |  |  | 0360 | \$0.85 |
| 2 | 3,540 |  |  | 0360B | . 85 |
| 3 | 2.890 |  |  | 0361 | . 85 |
| 5 | 2,240 | 0200A | \$0.75 | 0362 | . 85 |
| 7.5 | 1,890 |  |  | 0362B | . 85 |
| 10 | 1,580 | 0200B | .75 | 0363 | . 85 |
| 15 | 1.290 |  |  | 0364 | . 85 |
| 20 | 1.140 |  |  | 0364 B | . 85 |
| 25 | 1,000 | 0200C | . 75 | 0365 | . 85 |
| 50 | 707 | 0200D | . 75 | 0366 | . 85 |
| 75 | 577 | 0200E | . 75 | 0367 | . 85 |
| 100 | 500 | 0200F | . 75 | 0368 | . 85 |
| 150 | 410 | 0200G | . 75 | 0369 | . 85 |
| 200 | 354 | 0200H | . 75 | 0370 | . 85 |
| 250 | 316 | 0201 | . 75 | 0371 | . 85 |
| 300 | 289 |  |  | 03718 | . 85 |
| 400 | 250 |  |  | 0371C | . 85 |
| 500 | 224 | 0202 | . 75 | 0372 | . 85 |
| 750 | 182 | 0203 | . 75 | 0373 | . 85 |
| 800 | 177 | 0204 | . 75 | 0374 | . 85 |
| 1,000 | 158 | 0205 | .75 | 0375 | . 85 |
| 1.250 | 141 |  |  | 0375B | . 85 |
| 1,500 | 129 | 0206 | . 75 | 0376 | . 85 |
| 2.000 | 112 | 0207 | . 75 | 0377 | . 85 |
| 2.250 | 105 |  |  | 0377B | . 85 |
| 2,500 | 100 | 0208 | . 75 | 0378 | . 85 |
| 3.000 | 91 | 0209 | .75 | 0379 | . 85 |
| 3,500 | 84 | 0210 | . 75 | 0380 | . 85 |
| 4,000 | 79 | 0211 | . 75 | 0381 | . 85 |
| 4.500 | 74 |  |  | 0381 B | . 85 |
| 5,000 | 70 | 0212 | . 75 | 0382 | . 85 |
| 6,000 | 64 | 0213 | . 85 | 0383 | . 95 |
| 7,000 | 60 |  |  | 0383B | . 95 |
| 7.200 | 59 |  |  | 0383C | . 95 |
| 7.500 | 57 | 0214 | . 85 | 0384 | . 95 |
| 8,000 | 56 |  |  | 0384B | . 95 |
| 9.000 | 53 |  |  | 0384C | . 95 |
| 10,000 | 50 | 0215 | . 85 | 0385 | . 95 |
| 12,000 | 44 | 0216 | . 85 | 0386 | . 95 |
| 15,000 | 34 | 0217 | . 85 | 0387 | . 95 |
| 20.000 | 26 | 0218 | 1.00 | 0388 | 1.10 |
| 25,000 | 23 | 0219 | 1.00 | 0389 | 1.10 |
| 40,000 | 14 | 0222 | 1.00 |  |  |
| 50,000 | 12 | 0224 | 1.00 |  |  |
| 100.000 | 7 | 0229 | 1.75 |  |  |

## 100 WATTS

Size 6 \%/2"x ${ }^{7}$, "

## "

Mounting Centers 71,4"

|  |  |  |  |  |  |
| ---: | ---: | :--- | :--- | :--- | :--- |
| 5 | 4,470 | 0600 A | $\$ 1.50$ | 0956 | $\$ 2.00$ |
| 10 | 3.160 | 0600 B | 1.50 | 0957 | 2.00 |
| 25 | 2.000 | 0601 | 1.50 | 0958 | 2.00 |
| 50 | 1,414 | 0602 | 1.50 | 0959 | 2.00 |
| 75 | 1,155 | 0603 | 1.50 |  |  |
| 100 | 1,000 | 0604 | 1.50 | 0960 | 2.00 |
| 150 | 815 | 0605 | 1.50 |  |  |
| 250 | 632 | 0606 | 1.50 | 0960 B | 2.00 |
| 500 | 447 | 0607 | 1.50 | 0961 | 2.00 |
| 750 | 365 | 0608 | 1.50 |  |  |
| 1,000 | 316 | 0609 | 1.50 | 0962 | 2.00 |
| 1,500 | 258 | 0610 | 1.50 | 0962 B | 2.00 |
| 2,000 | 223 | 0611 | 1.50 |  |  |
| 2.500 | 200 | 0612 | 1.50 | 0963 | 2.00 |
| 3,000 | 182 | 0613 | 1.50 | 0.4 | 2.00 |
| 5,000 | 141 | 0614 | 1.50 | 0964 | 2.00 |
| 7,500 | 115 | 0615 | 1.75 |  |  |
| 10,000 | 100 | 0616 | 1.75 | 0965 | 2.25 |
| 15,000 | 81 | 0617 | 1.75 | 0966 | 2.25 |
| 20,000 | 70 | 0618 | 1.75 | 0967 | 2.25 |
| 25,000 | 56 | 0619 | 1.75 | 0968 | 2.25 |
| 30,000 | 51 | 0620 | 2,00 | 0969 | 2.50 |
| 40,000 | 38 | 0621 | 2.00 | 0970 | 2.50 |
| 50,000 | 28 | 0622 | 2.00 | 0971 | 2.50 |
| 60,000 | 22 | 0623 | 2.25 |  |  |
| 75,000 | 16 | 0624 | 2.25 | 0972 | 2.75 |
| 100.000 | 14 | 0625 | 2.50 | 0973 | 2.75 |

## 50 WATTS

Size 4"xin Mounting Centers $43^{\prime \prime \prime} 4^{\prime \prime}$ Res. Max. $\left|\begin{array}{l}\text { Fixed Resist } \\ \text { Stock List }\end{array}\right| \begin{aligned} & \text { Adj. Resist, } \\ & \text { List }\end{aligned}$ Ohms Mils. ${ }^{\text {Res. }}$ Stock List Stock $\begin{aligned} & \text { List } \\ & \text { No. }\end{aligned}$

| 5 | 3,160 | 0400A | \$1.10 | 0560 | \$1.35 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 2,240 | 0400B | 1.10 | 0561 | 1.35 |
| 25 | 1,420 | 0400C | 1.10 | 0562 | 1.35 |
| 50 | 1,000 | 0400D | 1.10 | 0563 | 1.35 |
| 75 | 815 | 0400E | 1.10 | 0564 | 1.35 |
| 100 | 707 | 0400F | 1.10 | 0565 | 1.35 |
| 150 | 577 | 0400G | 1.10 | 0566 | 1,35 |
| 200 | 500 | 0400H | 1.10 | 0567 | 1.35 |
| 250 | 447 | 0401 | 1.10 | 0568 | 1.35 |
| 300 | 408 |  |  | 0568B | 1.35 |
| 400 | 354 |  |  | 0568C | 1.35 |
| 500 | 316 | 0402 | 1.10 | 0569 | 1.35 |
| 750 | 258 | 0403 | 1.10 | 0570 | 1.35 |
| 1.000 | 224 | 0405 | 1.10 | 0572 | 1.35 |
| 1,250 | 200 |  |  | 0572B | 1.35 |
| 1,500 | 183 | 0406 | 1.10 | 0573 | 1.35 |
| 2,000 | 158 | 0407 | 1.10 | 0574 | 1.35 |
| 2.500 | 142 | 0408 | 1.10 | 0575 | 1.35 |
| 3,000 | 129 | 0409 | 1.10 | 0576 | 1.35 |
| 3,500 | 120 |  |  | 0576B | 1.35 |
| 4,000 | 112 | 0410 | 1.10 | 0577 | 1.35 |
| 4,500 | 105 |  |  | 0577B | 1.35 |
| 5,000 | 100 | 0411 | 1.10 | 0578 | 1.35 |
| 6,000 | 91 |  |  | 05788 | 1.50 |
| 7,000 | 84 |  |  | 0578C | 1.50 |
| 7.500 | 81 | 0412 | 1.25 | 0579 | 1.50 |
| 8.000 | 79 | 0413 | 1.25 | 0580 | 1.50 |
| 9,000 | 74 |  |  | 0580B | 1.50 |
| 10.000 | 70 | 0414 | 1.25 | 0581 | 1.50 |
| 12,000 | 64 | 0415 | 1.25 | 0582 | 1.50 |
| 15,000 | 57 | 0416 | 1.25 | 0583 | 1.50 |
| 20.000 | 48 | 0417 | 1.25 | 0584 | 1.50 |
| 25,000 | 43 | 0418 | 1.25 | 0585 | 1.50 |
| 30,000 | 41 |  |  | 0586 | 1.70 |
| 35,000 | 33 | 0419 | 1.45 |  |  |
| 40,000 | 35 |  |  | 0587 | 1.70 |
| 50.000 | 25 | 0420 | 1.45 | 0588 | 1.70 |
| 60.000 | 20 |  |  | 0589 | 2.00 |
| 75.000 | 16 | 0421 | 1.45 |  |  |
| 80,000 | 15 |  |  | 0590 | 2.00 |
| 100,000 | 12 | 0422 | 1.45 | 0591 | 2.00 |

## 200 WATTS

Size $101 / 2^{\prime \prime} \times 11 / 4^{\prime \prime}$ Mounting Centers 113/8"

| 5 | 6,310 | $0900 A$ | $\$ 2.50$ | 1356 | $\$ 3.00$ |
| ---: | ---: | :--- | :--- | :--- | ---: |
| 10 | 4,470 | $0900 B$ | 2.50 | 1357 | 3.00 |
| 25 | 2,830 | 0901 | 2.50 | 1358 | 3.00 |
| 50 | 2,000 | 0902 | 2.50 | 1359 | 3.00 |
| 75 | 1,635 | 0903 | 2.50 |  |  |
| 100 | 1,414 | 0904 | 2,50 | 1360 | 3.00 |
| 150 | 1,150 | 0905 | 2.50 |  |  |
| 250 | 894 | 0996 | 2.50 | $1360 B$ | 3.00 |
| 500 | 632 | 0907 | 2,50 | 1361 | 3.00 |
| 750 | 515 | 0908 | 2.50 |  |  |
| 1,000 | 447 | 0909 | 2.50 | 1362 | 3.00 |
| 1,500 | 364 | 0910 | 2.50 | $1362 B$ | 3.00 |
| 2,000 | 316 | 0911 | 2.50 |  |  |
| 2,500 | 283 | 0912 | 2.50 | 1363 | 3.00 |
| 3,000 | 258 | 0913 | 2.50 |  |  |
| 5,000 | 200 | 0914 | 2.50 | 1364 | 3.00 |
| 7,500 | 163 | 0915 | 2.50 |  |  |
| 10.000 | 141 | 0916 | 2.50 | 1365 | 3.00 |
| 15,000 | 115 | 0917 | 3.00 | 1366 | 3.50 |
| 20,000 | 100 | 0918 | 3.00 | 1367 | 3.50 |
| 25,000 | 89 | 0919 | 3.00 | 1368 | 3.50 |
| 30,000 | 81 | 0920 | 3.00 | 1369 | 3.50 |
| 40.000 | 63 | 0921 | 3.00 | 1370 | 3.50 |
| 50,000 | 49 | 0922 | 3.00 | 1371 | 3.50 |
| 60,000 | 40 | 0923 | 3.00 |  |  |
| 75,000 | 30 | 0924 | 3.00 | 1372 | 3.50 |
| 100,000 | 20 | 0925 | 3.00 | 1373 | 3.50 |

For more complete information on OHMITE PRODUCTS, ask for Ohmite Catalog 17.


## OHMITE DUMMY ANTENNA

 To Check R.F. Power and Tune Up to Peak Efficiency For the first time, a compact, highwattage resistor suitable for high radio-frequency measurements. Non-inductive, non-capacitive, constant in resistance. Provides a simple, accurate, direct means of measuring R. F. power in all transmitter stages for the purpose of tuning up to maximum efficiency. Used to determine transmission line losses-to check line to antenna impedance match-to keep signal off the air while tuning up-to eliminate unnecessary interference-and generally useful as a non-inductive resistor in other R. F. Circuits. Space-wound resistance element of unusual design, mounted in a glass bulb, evacuated and gas filled. Fourprong steatite standard tube base. Several units can be connected in various ways for higher wattages.
Model D-100. 100 Watt rating. In popular 73 ohm and 600 ohm resistance values. Also in 13, 18, 34, 64, 100,146 , $219,300,400,500$ ohm values. Diameter $31 / 8^{\prime \prime}$. Height (from bottom of base) $43 / 8{ }^{\prime \prime}$.
List Price.
. $\$ 5.50$
Model D-250. 250 Watt rating. In 73 ohm and 600 ohm stock resistances. Diameter of bulb $2 \frac{1}{2}{ }^{\prime \prime}$. Height $9^{\prime \prime}$ (from bottom of base).
List Price.
. $\$ 11.00$
Non-Inductive Vitreous-Enameled Resistors also available. See Ohmite Catalog 17.


## RITEOHM " $\mathbf{8 1 " ~}_{1 / 4}$

## Precision Resistors

High quality, $1 \%$ accurate, 1 watt, non-inductive, piewound Precision Resistors for voltmeter multipliers, laboratory equipment, radio and electrical test sets, attenuation pads, etc. Special Ohmite vacuum-type impregnation provides complete protection. Size $9 / 16^{\prime \prime} x$ $13 / 4^{\prime \prime}$. Equipped with soldering lugs and threaded stud terminals.
Available in many stock resistance values from 0.1 ohm to 2 megohms. For complete listing, see Ohmite Catalog 17. (Also available in closer tolerances.)
Riteohm " 71 " Vitreous-Enameled Precision Resistors and Riteohm Series " 90 " Hermetically-Glass-Sealed Precision Resistors are also available.

## OHMITE PARASITIC SUPPRESSOR

Designed to prevent unwanted ultra-high-frequency parasitic
 oscillations which occur in the plate and grid leads of push-pull and parallel tube circuits. The parasitics are suppressed, without loss of driving power.
The $P-300$ is a non-inductive, vitreous-enameled resistor combined with a choke into one small integral unit. Only $13 / 4^{\prime \prime}$ long overall and $5 / 8^{\prime \prime}$ diameter.
Model P-300 List Price.
e................
.................................. \$1.50

## OHMITE R.F. PLATE CHOKES Built to Carry 1,000 M.A.



High frequency solenoid chokes designed to avoid fundamental or harmonic resonance in the amateur bands. Single-layer wound on low power factor steatite core -insulated and protected by moisture-proof coating. No portion can resonate independently of any other portion. Designed also to prohibit breakdown from high R. F. potentials. Ample space allowed at the ends to prevent flashover to ground. Non-magnetic mounting brackets furnished with the three larger sizes. Rated at 1000 milliamperes. May be used in diathermy and therapeutic equipment as well as in radio transmitters.

| Stock No. | Amateur Band. Meters | Microhenries | Current Rating (D.C.) |  | Lgth. | Tube Dia. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Z-1 | 5 | 5.4 | 1,000 M.A. | 0.85 | 13/4" | 1/4" | \$0.25 |
| Z-2 | 10 and 20 | 35 | 1,000 M.A. | 2 | $3^{\prime \prime}$ | \%" | . 75 |
| Z-3 | 20 and 40 | 95 | 1,000 M.A. | 5 | $6^{\prime \prime}$ | 18" | 1.10 |
| Z-4 | $\begin{gathered} 20,40,80 \\ \text { and } 160 \end{gathered}$ | 220 | 1,000 M.A. | 9 | 61/2" | 3,410 | 1.50 |

## OHMITE POWER LINE CHOKES



Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core-insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

| Stock <br> No. | Micro- |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| henries |  |$\quad$| Current |
| :---: |
| Rating |$\quad$| Total D.C. |
| :---: |
| Resistance |
| Ohms |$\quad$ Lgth. | Tube |
| :---: | | List |
| ---: |
| Price |

## OHMITE BAND SWITCH

## For Rigs up to 1 K.W.

Instant, easy change from one frequency to another by front-ofpanel knob control, with really lowloss efficiency. Band changing may be provided in all stages of the transmitter, and "ganged" for singlecontrol. Low-loss porcelain construction, vitreous-enameled.
Model BC-3. Complete with Knob and Mounting Bracket.
List Price.
$\$ 3.00$


For more complete information on OHMIIE PRODUCTS, ask for Ohmite Catalog 17.

## CONNECTORS SOCKETS <br> ADAPTERS PLUGS


 thlige thlintid! to the right) assem
 "tht sloterd mounting holes to fit
 trplate wasm estme sorkit Socket Plun
RS.5 $\quad$ RCP-5 - $\quad$ R-contact RS-7S RCP-7S 7 - $\mathbf{~ - ~ c o n t a l l ~}$ RS-7L RCP-7L 7-large RS-7C RCP-8 -
RS-8
RS
R



110-2SO VOLT PLUGS AND RECEPTACLES
 plate Illuxtrated ahove. For monint 1HF O RECEPTACLES $60-\mathrm{Fi}-3$ pole polartzed ….....23c Net 61-MI - 2 pole standard .. 17c Nat 6I-MPI- 2 pole polarized... 17c Met fo-mi 3 pole polarized 23c Not

## VIBRATOR SOCKETS

Not Price - 12c ea Moldeal black bakelite smekets for mupt hbrafors carried in sinck. plate and No. \& retainer ring: can he ukell for replacing waier or sinthe bole misunting sorkets. Whatn wricting send in old sowef or

| LOW-LOSS SOCKETS <br> Any wrikiop listed on thls pale avallably molded from Mis? Filled hakelite. I'rovides 5nC" hettor juover factor and sis ec better difolectrle combtrat. <br>  <br>  part indmber and se to siet |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
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|  |  |
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|  |  |

## TUBE SHIELD BASE

 3- rorstand ard tuble shiolls ets. held tirmly t crews or rivety Has solelering lu No. TSB-Ifor grommelit


## SOCKET PUNCHES

## Special diex for punchang keye

chassis hunes for
"g" typr whertand "61" bowe plugs and reyrepta pratory men. ama teurs and rad! marte Jobbers. Mad of toul steat.

LD.i for small sockets. $\quad$ Net LD-2 for large sockets
LD-3 mike connectors

Amphenol Sockets and Plug Assemblies are used in most of the better radio receivers, transmitters and test instruments throukhout the world. Constructed of the best materials obtainable. molded from high dielectric black bakelite. designed perfectly for the purpose for which they are intended, yet priced so that they may be used by all servicemen, custom set
builders, soundmen and amateurs. There is an Amphenol buiders, soundmen and amateurs. There is an Amp
Socket or Plug Assembly for every radio or sound job.

## RETAINER RING MOUNTING

## "'S" TYPE SOCKETS

"CP" TYPE PLUGS


FOR ABOVE SURFACE

hluns son $110-250$ rolt jluks and reernthales are avaliable mount $w+$ ight aluntinum chell luminun ralses the unit $13 / 16^{\prime \prime}$ ahove or helow siderate of forll for wira entranere. lileat for mounting on work herultus, breadboard ratlins, ete.




## MINIATURE SOCKETS



## FOR RCA

$78-7 \mathrm{P}-7 . \mathrm{contact} \quad 10 \mathrm{c}$ Net A) Ahaye hat motivel frum Ant


## RAYTHEON



For the tins linstlienn ba ring




SIDE MOUNTING
 eller-irleat wark
Momust on side "all. work bench.
ete. Sugntied with
 ancle or plug listent
$110-250$ VOLT PLUGS AND RECEPTACLES




 plame No. 4 retalner rint a pole typr argrots ans statuln ril comertors see unxt Dage.
61-F-2-pole universal ............... 15 60-F-3-pole polarized
.15 c

$$
\text { 61.M }-2 \text {-pole standard }
$$ 61-MP—2-pola polarized

15 c $60-\mathrm{M}-3$-polo polarized $\quad . \quad 15 \mathrm{c}$

## FLUSH MOTOR SHELL

 hid on all tupes of radio and electrinal apparatus. Adtd 3e to the not price of the unit selectex sper-ify "with fil til shell.
selanterl. specify

BANTAMJR


BANTAM JR.
Tor H1Htron Bantam

Hount in at round hote. Helf firmly in
place with the No. tertanas riny Frien
stioly nod in hear
$\qquad$ N. bhenan ?9t2-1" pure polystyrene 5 -5H Not


PHOTOCELL
For litis Jre-whee and reF 2" photo cells. roumd hule. Irlid firmentios ly in place by the S3S-3-contact ................... $81 / 2 \mathrm{c}$ Net

MIP SOCKETS
(Molded-in-Plate)


World's strongest socket, Sturd sted mounting plate molded dh
 momenting repoters, Nounts in $1^{1}{ }^{2}$ hole (MIIP20 in 1-9/3 ${ }^{2 \prime \prime}$ hole). Mol iol
Ite.
lip
MIP: - 4 -contact …...... 6c Net MIPS - 5-contact ..... 6c Net MIP6 - 6-contac M1P7L- F-large A1PR - 8-octal MIP9 - 9 -contac M1PPI- 11 contact
MIP12 M1P20-20-contac

## MIP LOKTAL

Inlikedin plate sth'r"t for lokzal ubes. Jdenthat to vandart $\mathbf{3 l l}$ menerets bit in shatler in size and hav 1-5 14;" mumbting centers homits in 1-1/16" hole. 88-8X-Loktal Socket ..........10c Net

## MIDGET OCTAL

Has all the features of the stand ard Mll' sockets. but is smatler it as. For building compact rablion and as the cmmpanton sonket for he above laktal. Nige, centirs 88-8-Midget Octal

## STEATITE SCCKETS



Recommended for
 "hure high tenter athres are emounfrathmitters. ampliflers having high it riseting sompers frombting holes


RSS 1 - -conta
RSS5 - 5 -contact
RSS 7 - 6 -contact
RSS7L-7-1arge
RSS8 -8-octal
PLUGS
RCPS6-6-prong plug
U.H.F. SOCKETS
(Polystyrene)

forly moleterl from fransparent Amthinn "91? $A^{\prime \prime}$ (polystyrene). He markable lan hondre pieater cothempter for ultrab botere lmen powhler faution sonfer fast! Do not heat beyonn montiting ce:aters. 54.8-Octal 24c Net

Amphenol Radio Tube Sockets are patented under U. S. No. 2.087.784 - aso foreinn patents. Other patents pending.

Products of American Phenolic Corporation

## CONNECTORS SOCKETS

110.250 VOLT CONNECTORS


The mont practleal of all pluges and rable conthertors for lise on power lines Noider bakelite reveptarles Ing page, encaved in drawn steel caps, makthe unbriakable calble ter mithal that are fulls shideldent. The cay shaps on and fits securely, but may for remnefl tavily. ('able en tranter acrommolatex riables up to "lutere in dhameter. Rushorer crommet pretterts rables bationt abrasion. Cable clamp listed helow mas be

 $\begin{array}{lll}\text { No. } & \text { Net } \\ \text { 61-Fi } & \text { 2.Pole Recentacle } & \text { Net } \\ \text { 61-Mit } & 21 \mathrm{c}\end{array}$ $\begin{array}{lll}\text { G1-MP4 2-Pole Polarized Plug } & 21 \mathrm{c} \\ \text { 60-F4 } & \text { 3-Pole Receptacle } & 27 \mathrm{c}\end{array}$ 60 -A:t 3-Pole Polarized Plug 27 c


CABLE CLAMP
primomel primarly


 romberthents of all stain. Hso weed eable flome in place, slips rasily thto any shape hole from i/16;" to

## RUBBER PLUG HANDLE

 nertors or "1'M"" ('on- 110 ( 250 wole commertore shap into thas rublure handle in plare by in inner moked shmulelor. For adey removil of connemers blupery thoreplaces. Moliled fromblark rubloer. Illuviration is cut
antay to show how connector is gripperi by blun handle. RPH—Rubber Plug Handle 9c Net

## LOCKING SHELLS



Cadmbim-plated steet coters whith "ath he slifped ober "1'F" and "res"" Comutriors abd 110250 wht conner Pr, proventing arcithental pulf-aparts. Fasberiatls sulted for publice adders shons Also mesel prtencisply in cords. Sot conslats of ont batan and one female threaderl shalls. C.CAB-Per Set

CHASSIS TYPE


Set conslsts of one threadied shell which fits under "S" ${ }^{1}$ ype-sockets or
 and one shell which slips ouer the cable connector
C. CHA-Per Se

MULTI-WIRE CABLE CONNECTORS


Made of regular "AMPIIENOL, " $\mathrm{S}^{\prime}$ type tube sockepts and "rlp" Hluss. singily eovered by a sted cap that the tightly hut may be remover
 nerl. A rubbere krumamet poterts
 shields connerptons and provides as unberakable (rable tedmipal. Sman and sturely: Actommaklater eabsma ${ }^{10} 7 / 16^{\prime \prime}$

$\begin{array}{ll}\text { PF4 PM4 } & 4 \text {-contact } \ldots \ldots . . . . . . . . .15 c ~ \\ \text { PF }\end{array}$
$\begin{array}{llll}\text { PF5 } & \text { PMS } & \text { S.contact } & \text { P......... 15c } \\ \text { PF6 } & \text { PM16 } & \text { 6-contact }\end{array}$

$\begin{array}{llll}\text { PF8 } & \text { PMR } & \text { B-contact } & \ldots . . . \\ \text { PFg } & \text { PM9 } & \text { 15c } \\ \text { P-contact }\end{array}$
PFIt PMII 11-contact .........21c

## MINIATURE SOCKETS


 аинениа s. $\begin{gathered}\text { el } \\ \text { sit }\end{gathered}$
space is at
Mombt int an, plain


 $\begin{array}{llll}\text { S3S-3-contact sucket } & 812 \mathrm{c} & \mathrm{Not} \\ \text { StS-4-contact socket } & 812 \mathrm{cc} & \mathrm{Net}\end{array}$ $78.5 \mathrm{H}-5$-contact socket 100 Net
$73.6 \mathrm{H}-6$-contact

PHOTO CELL SOCKET



interophonkes

## athempas


 Male Fenale Prongs Nete MPM3S MPF3S MPM4S
MPMSS MPMSS
MPM6S

MINIATURE PLUGS CABLE TYPE
Furmoly rompace

 ident ons in roo pact midpats. Also batal for abl phat
 recenerl in inclis fidalls Hershem! purk ets. pren rent ing shorts dice to insulat tion pulling birk. With moldonl fin ker kilp.


## 2-POLE MINIATURE

 POWER PLUGS

## 62.F $\quad 62 . \mathrm{MI}$

 Rated at is Amps.. Yo Volts compate ele trical and tadtu appat

 herting phono plek-ups. rewobler and other ateresorles. Indal for conwerting 10, 11 , speakers in publis idderess work. Jante! Tybe motums in $I^{\prime \prime}$ round hole with $15 / 1 t^{\prime \prime}$ rivetink

 Lito, assumbled whth fwo mbatine

 Gumbity soross.


Moleled bakelite connemors housed in cualminm platers brass shells.





Nowly deslgned chassis ronturetors Whith ramhine Amplienol quallty

 combertors are thagerlly built. Hizal thathey dhelectrive and low resistande contarte mates it poxstble to ure thert in photo cell expellits, elte. Whare minute currents are hamberi.
 [12.) lutul abur PCG3M PCG3F 3 -contact Net 18 c $\begin{array}{lll}\text { PCGtM } & \text { PGG-1F } & \text { t-contact } \\ \text { PCGSM } & \text { PCGSF } & 5 \text {-contact } \\ \text { PCGGM } & \text { PCG6F } & 6 \text {-contact } \\ & 201 /\end{array}$ U.H.F. ALIGNMENT TOOL

| Moldeal from pure polvatyrime Amphenol ":12-.". The onlv allign- |  |
| :---: | :---: |
|  |  |
| ment tool manufacturent which has |  |
| no rapacity effect upon ciltleal cir- |  |
| rilits sompled with a metheil the |  |
|  |  |
| rrs in breast pockuts. |  |
| Align |  |

20-CONTACT SOCKET AND PLUG


Plug is for conumethin to cables has

 Pronks moblam तileatly lita bakellt borly rliminaling pesslbility of borking lowe or ketthag out of rate bakelita fedl, so hat in sepa sulation tas be pulled downe fito bakelite, prevent hat horts the to Insulation funting buck. Muluted or tal isge polatioling stmit prevernts in correct finsertlons. siellete laav moh! ent-in sterel mombing whate. Nomats in a 70-20-20-prone plug | 30 c | Net |
| ---: | :--- | ---: |
| et |  |
| $\mathbf{3 0 c}$ | Net | MIP.20-20.contact socket ..30c Net

## SPEAKER PLUGS


 ablector for mhaking malti-sir fols, test tnserculachts.

$\begin{array}{ll}1-6 & 6-p r o n g\end{array} \quad 61{ }^{2} \mathrm{C}$ Net
$1-7 \quad 7$-prong
$\begin{array}{ll}\text { 0-8 } & \text { 8-prong }\end{array}$
$70-9 \quad 9$-prong $70-20$ 12-prong

## BLANK SOCKET


rivention In slzo

 sed as a bakelltu hashinus by trity the a hole in the a-anter, but pri marily slestante! as a dumbas a pare mechet. Supulioll with scresw or lifuts refluitell.
78B—Blank Socket
HEARING AID SOCKETS AND PLUGS


"hore jluks must use a
minlutum of spare. Pluss are of
ton wierl a support: to
taintn
6 c Ne
70-25-3-prong plug
$70-26$ - - prong plut
77.25-3-contact socket
$77.26-4$-contact socket

9c Net
13c Net
As ahore put fin rata
o fit phone tipe contacts adjuster
 series or parallel.
$7.25 \mathrm{~S}-3$-contact socket . .13c Net

Products of American Phenolic Corporation

## ADAPTERS PLUGS

## SINGLE CONTACT <br> PRESSURE TYPE CONNECTORS



MCIF
Conipletely shletded unbreakahle connectors for tise "Ith single conductor microphome cable. Shell is chrmue-blated machined hrass. Coupling ing bretents aceldental olfsconnections. Contact tosether by thatuning the coupling ring Dresed
 MCiF—Female
MCiM—Male

## CHASSIS UNIT

Mount in $3 \times 5$ hole to around to circuits are desired independent of chassis. Supplied complete with extrumed fibre washer, llat fibre washer. flat solder lug washor and lowkinn mut. I'se AC'IF as the cable com PCIM-F Female Chassis Connector...........18c Net

## CLOSED CIRCUIT CONNECTOR

Same a, le'lM but croutt eloses when cable connector is tomencel. Same theres and harduare supolided as on l'ClM. Contact is spring actuated.
CL.PCIM 1'se MClf as the calle coupuctor
se MClf as tlie calale connuetor, simpe as above but elrcult does not close when
rable unit is disconnected sprint presoure make at more positise contant than Primp



## MIKE SWITCH

 Compact, unbreakable mit crophone swlteh. Easlly Mase threads fit the Mold iemale conneretor livied abme. May he connected direetly to any mike SWITCH FORWARO for permanent connection MCIS-Switeh Complete $\qquad$ 60c Net
PHONE PLUG ADAPTER

 the MCIF (rable Connertor, per-
mitink the cable to be plukge inting the cable to pe plugkenl MCIP-(Plug Only)
1 and 2 CONTACT
PLUG-IN CONNECTORS


MC2F
A neir imploneqt wonnerpor for thiedelemal ar 2 conductor cables. Male has standard $3 / 30^{\prime \prime}$ prong
and teante has phosphor bronze contact oo sult $80 \mathrm{~F}-1$-contact Female .... 39c Net 80M-1 contact Male MC2F-2-contact Female

## CHASSIS UNITS

'hassho commedor- for alome. Sup and hex. locking nut. ISe Sia (0)- M or Mo M as the rable con$80 \cdot \mathrm{C}-1$-contact Female 24 e Ne PC2F-2-contact Femalo 27 c Net RIVETING TYPE
dientical to alme but has round mounting thange, 1-1/14" in dianmeter. Two mountin, 80-CR - - -contact Femal
PC-2-CR-2-contact Female $\qquad$ 30e Net


CAP AND CHAIN
Chrome plated cap for seallng chasisis mits when not in thee.
l'res mats dust pentering. ellmit hatine rovy ronnertions. Net CCC-1-For PC1M, CL.PCIM, 80-C \& PC2F 30 c CCC $3-F$ or PC3F, PC4F, SP.PC3F. etc.... 30 c CCC-8—For P04F, 92.C, etc. $\quad 30 \mathrm{c}$

## 3 and 4 CONTACT

MICROPHONE CONNECTORS


MC3M
MC3F
Nolded bakifite plements encased in unbrakable chrome-plated polarized brass shells. Elements are interehangrahle. By, iemoving ceap and spring
 ndustrs. Spzew type compling ring preventic accis

 Mate Female
$\begin{array}{ll}\mathrm{MC3M} & \mathrm{MC3F} \\ \mathrm{MC} H & \mathrm{MC} F\end{array}$
3-conta
ntact
Net
.60 c

## CHASSIS CONNECTORS

Mounts in $13 / 10^{\prime \prime}$ hole in any panel or "hawly up in at" in thitlithes. in phated-brass shell. Supplierl comIny, leck whiner and bed montitug
PC3F-3-contact remale
30c Net
PCIF—l-contact female 33c Net

SPECIAL CHASSIS CONNECTORS
Adiustable to panels up to M" in photecting them from propsett clamaze and eliminating dianger of
 Cablo cominetor.
contact
60e Net SP.PCAF-4.cont

Aliustable to pancls up io
Shell to font of pamel 1:" Shell is chrome plated and carrles the coupling ring.
I'se MCBF or MCfF as the hble cominetor MALE

60c Net
66 c Net
SP-PC3M-3.dron
SP-PCHM-1.pron

## STAND CONNECTOR

Screws en to top of any standard mis 25 . Finisherd in polishet charons SC3F-3-contac $\qquad$ 60 c
6 cc Net

## SIDE CABLE OUTLET <br> Desibned to ber placed betweern a

 Tophtonk and stand having P P" 27 outhet for the materophone rable where it Is not clecirod to rim it throusth the stand tubing. Fifficient. calble grip rellesea train. Heary metal rastings, findshed in polished chrome SCO3-Side Cable Outlet.

## SHOCK ABSORBER



For the between stand antl miero plote. A rubber whow absurtier ernficm in murtal keepe flome thrations 27 threrads, male at ane end fomule nt the wher. Has $7 / 10^{\prime \prime}$ openins
through the center for mike cable.

MSA3-Shock Absorber -................. 60e Net


## WALL PLATES

('hrome plated wall blates, puncheel for any Anphernol re. crobacle, socket of chassis connoves. Strunting holes flt dlHetly on standard outlet bores. Whan ordering speclify which Smphremol protust is to be mounted on the wall plate. 84.2CH-Plate Only ....45c Net Complete with erontact antenna mitet and 110 bolt outlet. Suppleed with a minlature 3-

84-AC-Conplete assembly .......................87c Net

4 TO 12 CONTACTS


06M


08 F

Fully shielded, unbreakahle polarizel comector: Which will "thatand the rough usage of wublic
 a povitive setain relleof clamp whely will iucom morlate rables up to $\dot{2}_{2 \prime \prime}^{\prime \prime}$ in diameter.

| c CABLE |  |  | FEMALE CABLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| , |  | N |  |  | Ne |
| 04 M | \$-contact | \$0.75 | 01F | 4.contact | \$0.7 |
| 05M | 5 -contact | . 75 | 05F | 5.contact |  |
| 06 M | 6-contact | .75 | 06 F | 6. |  |
| M | 8.contact | . 75 | 08F |  |  |
| 12 |  |  |  |  |  |

## CHASSIS UNIT

Chassis tjpe mounts in $11 / 40$ hole and is supplion complete with lock wastior. Aat washer and hav. lockIng nut. I'se wlth Male C'able Connectors.

P04F - 4 -contact
P05F - 5-contact
P0GF - 6 -contact
P012F-12-contact


Heary Duty POWER CONNECTORS

22. M- Male -51.50 Net
92. Female

Has four flat blade promer and phosphor bronze contarts more that beasy emough in carty 10 amps a 250 volts, 15 amps at 125 volts. Holden! bakelite element tompletels eneased In drawn brass, cadmfum-plated whell Idintod by l'nderwriters' Laboratorites.

## CHASSIS UNIT

Mounts in 14 " hole in an panel or bank ontet cover adapted eo stantarel outlet bores by une ot No. 92-1.2
耳oke. Ine with Male crable 92.C-Female ........51.50 Net


## "AN" CONNECTORS

Army.Nary Spec. AN9534 Amplinmol 1 No romerotors ate now atallable for aireraft and in ematial has, havime 1 to 42 con fats. for arryime from ot to emm ate abailable, housed in elenump

 corls or shieltet cable can be sumblient. four jobber has complete intomation on this neve

[^15]
## ADAPTERS PLUGS

## UNIVERSAL GRID CAP



A nese innwersal grich cad orkiat checkers. Fits the tuhe. 1 bovy is molded batithlte. A sprine molded ten asmures a proitlive com nertion atl all times. Stpplime wier with a foxilhe $15^{\prime \prime}$ lead. No. 20 st rambed! 63. IWR-Red Grid Cap $\qquad$ 12c Not
12c Net
same us abour but unsiret. Contact is ratily remosm from lakelle body and solddered out in the open. No Niru supplied, 63-1R—Red Grid Cap $\qquad$ $9 \mathrm{c} N e$

IMPEDANCE MATCHING SWITCH 8-position. single pale matehther forperlasi- white nu natedhing White ma Wheralow in cap are 0-2-4-8-16-250-500. Sille set seress lox.ks sulitedy in ponition. Solder lugs protriale throngh bottom. It mumping centers.
inn Switch 45 c Net
$36-2-1 m p e d a n c e ~ M a t c l i n g ~ S w i n C H ~$


## BULB TESTER SOCKET


socelket flits both large fint
 tialt buthe efte. whith either

RS7.CO—With Mounting Plate $\quad 27 \mathrm{c}$ Not
$-8.7 \mathrm{CD}-$ Retainer Ring Mounting $26_{2} \mathrm{C}$ Ne


Conapact verket por tosting miniatury
halby
 hasi. "tounts in a Ke" round hole

## UNWIRED ADAPTERS


 adapter: Fimilarel ablabter fin all resperef. lequired for inn ath rasigners. Thlne chathers and
 brin.ing atit leads on nutgut
 ADAPTER BASES
 hold for brimging out leats or with a shle stu
 seress for lobling issimbly tomether
Bases aro supplied in black only


Socket tops atallable in blatk. Fed, sreen. blue Hay, sullow and brown. Sperlfy color

FIT SMALL BASES ONLY
No. 41.4-1-contact No. $41.7 \mathrm{~S}-7.3 n \mathrm{al}$ No. 4.5-5.contact No. 4.-8-8-octal FITS LARGE BASES ONLY No, 44-7L-7-1arge No. $44.7 \mathrm{C}-7$. comb - Contae? (aj) with eemter stuci for lock-tyw analyare pluas. foits amy small base.

## LOKTAL ADAPTERS



## Kit coltains five arlaptery which

 adapters whith loktal tube ex cept the 7 Fi 7 and iFi in any tube checker, whether factory or cus: tom buile. Alapters contert lok-tals to exact counterparts in octal serles
Alapters are completely wired. ready for 14 sishot tops are color cosled for easy irlenti 44.11WK—Complete Wired Kit $\$ 3.00$ Net UNWIRED KIT
same ns abowe but andutars aw unuirel. Sup. Dhed whth wining and isitha instiutions.

SPECIAL LOKTAL ADAPTERS
The That and off bohtal tuber revaire sperlal adaptets berause of their pin arrandernont. Mlapters are completely whet and ate sup 41.11W7-for 7E7 tulie


## LOKTAL ANALYZER PLUG <br> Completely wired

Alapery botton f lohe:al teme plus. Stame pin Nat atul pin shatins as lokeal tulses. Flts oft No. 4-13-8-With Octal Top. No. 44-13-7-7.contact Ton $\qquad$ | 75 c |
| ---: |
| 5 Net |
| 75 Net |

## With Center Locking Stud

 No. 4-1-13-Si-Comalete with Stud ....... Bic Net

## FOR SINGLE ENDED TUBES

Kit rontains fine wirod alantory for teuting

 UNWIRED KIT
lelogthal to the abo low the watabters are
 41.14K-Complete Unwirod Kit ........... $\$ 1.50 \mathrm{~N}$

## FOR MINIATURE TUBES

UBES


## SINGLE CONTACT SOCKETS



Molderd hakelite sintle contart wekets. Mount in $5 / 16^{\prime \prime}$ hole. No firmly in plate by Amphenol So. 211 1n tatar fine sumplied in a thiferent colors and
 tuches inentifed, and hikh voltage pluns kebt whit of low whate sockets. color, wailable: black, ter, green, blue, yellow, dray and walnut.





## SINGLE PRONG PLUGS

simaltor yet mont practleal pluss fu the worlit Supplictl
 allove "sockicts
71.1S $-3 / 32^{\prime \prime}$ prong

3 c Nat
$71.1 \mathrm{M}=1 / \mathrm{s}^{\prime \prime}$
$71.1 \mathrm{~L}-52^{\text {prong }}$

MAGIC EYE ASSEMBLY


For easil
 tubes to any radio haring volume con
trol. to F-M recelvers, and for constructing test insiriments surli as sifual trasers, ete. spring clip grips tube base flimly vat per mits rotation for broper focusing of eye move tracket so tuthe will extend properly to any thli-knes manul One-merolma tarait to plate sistor wired inio sorket Five-ulre coior cocled cable, ga" long (All neceivary hardurare for ansembling, with an attractive morlernaticall stbleri mirutcheon). With instrumtions. MEA-6-Complete Assembly

FOR OCTAL MAGIC EYE
Similar in above Maric Fye Assombly lut hav simitar

 MEA-8-Complete Assembly

## CATHODE RAY ASSEMBLY

 $\begin{array}{ll}\text { For mounting the } \\ \text { gon } \\ \text { and } & \text { ol: } \\ \text { ca- }\end{array}$ 9H2 and $91:$ callowle ray tubes
ldeal foumblation (o) toon mplusument tor tow empiment
Consint of hate
 adjustubla mount nge loracket and


MAGIC EYE ESCUTCHEONS


10-2
For mapie eves. Morlernistically deximmed to tuateh the other eomponemts of sour apmaratus Fimisher in amlulte bronze tubes 150 Na 10-1-For 6-prong Sintle Eye tubes ... 150 Net
10.2 For 8 -prong Double Eye tubes.- 18 c Net ANTENNA OUTLET

,it pate rescrimad be
 small contact socke type antema, Supulied brone pluz for plusuzän he radio into the an apmaturine assumbly is br ing nasel in ath moter chrome plisted. Sockets are black.
81. AC-Completo Assembly
.87c Net
BLANK WALL PLATES
hromepherr win struckup berel edge. Con wrotrs, rectplacles and sockets mount direct

 8+2CH-Wall Plate Only .......45 Net


## 3-14 ADAPTER SHELL

## Formen black-japanned brass tubing

 Amphonol "S taje sekets or "CP' rpe pluss shay into either end and rin surn reved proug or compurt io a posisible from lact Suppllet in the blank shles or with rubber ars. in side for bringing out leads 3-14 -Shell, lass side hole ... 9c Not
## Products of American Phenolic Corporation

INSULATED BINDING POSTS
These popular Eby Binding Posts have been America's standard for many years. Their sturdy construction, excel. lent quality and patented non-removable heads make them preferred to all others.
Nos. 30 and 40 have a knurled insert projecting below the insulated base to prevent post turning when mounted. The metal base of No. 33 is knurled to prevent turning.
Nos. 31 and 41 have a flattened twoside extension molded on the Bakelite base. The extension on No. 31 is furnished in three lengths: $1 / 32^{\prime \prime}, 1 / 16^{\prime \prime}$ and $1 / \mathrm{s}^{\prime \prime}$. The extension on No. 41 is $1 / \mathrm{s}^{\prime \prime}$. Please mention length of extension when ordering No. 31.
Nos. 32 and 42 have a dowel pin molded in the base to prevent turning. Cat. Helght Cap Insu- List No. Name Closed Diam. lation Price

 3 Ace

Packed 10 to a box. Standard package 50. Supplied in black only. A soldering lug and nut are furnished with each of the above.
Note 1: Composition top and Bakelite base.
MARKINGS-All posts supplied plain unless otherwise specified, but the following markings are available at same prices:
On Junior posts: ANT, GND, INPUT. OUTPUT. + or -.
On Commander posts: + or -
On Ace post: ANT or GND.

METAL BINDING POSTS
These high quality patented Binding
 Posts have been nationally used for many years. An accurately milled slot across the base provides the lower contacting surface. A precision milled sliding shoe which operates by the cap serves as the upper contacting surface, thus assuring a positive, parallel contact to be made on a pin jack, stranded or solid cable.
To further prove the accuracy of these posts, a firm contact can be made on a very fine wire without cutting or marring it. The base on all of these posts is heavily knurled to prevent


12 lirning

| Cat. |  | Height | Cap | List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Name | Closed | Diam. | Price |
| 10 | Midget | 7/16" | 5/16" | \$0.15 |
| 11 | Corporal | 9/16" | 3, ${ }^{\text {c/ }}$ | . 20 |
| 12 | Buddy | 9/16" | 3\%' | . 20 |
| 13 | Sergeant | 3/4", | 1/2" | . 30 |
| 14 | Serg. S.S. | 3/4" | 1/2" | . 35 |
| 15 | Captain | $1^{\prime \prime}$ | \%" | . 45 |

Packed 10 to a box. Standard package
Note: All of the above posts are made from brass, tumbled nickel finish. With each of the above posts mounting serews
and nuts are furnished

MOLDED TWIN AND TRIPLE BINDING POSTS


These high quality standard Eby patented posts are molded on special Bakelite bases of excellent quality, and are Hack in color.

For the convenience of users the posts on either the twin or triple assemllies may be supplied plain or with any of the following markings: ANT, GND, L ANT, S ANT, INPUT, OUTPUT, + or - , on special request. If no marking is specified all assemblies will be furnished as indicated below. All posts ineasure " s " between centers.

| Cat. |  |  | List |
| :--- | :--- | ---: | ---: |
| No. |  | Markings | Price |
| 21-R | Twin | Ant., Gnd. | $\$ 0.50$ |
| $21-S$ | Twin | Ant., Gnd. | .50 |
| 21-T | Triple | L. Ant., S. Ant., Gnd. | .65 |

LAMINATED TWIN \& TRIPLE BINDING POSTS


22-R
 ed. Markings only as indicated.

| Cat. |  |  | List |
| :---: | :---: | :---: | ---: |
| No. |  | Markings | Price |
| 22-R | Twin | Ant., Gnd. | $\$ 0.40$ |
| 22-T | Triple | L. Ant., S. Ant., Gnd. | .55 |

## SPRING TYPE BINDING POSTS

Top section telescopes into bottom section. Hole in center of both sections allows insertion of wire, and spring action holds wire firmly.

Bottom knurled to prevent turning when mounted. Bottom tapped. Mounting screw and washer supplied.

| C |  |  |  | List |
| :---: | :---: | :---: | :---: | :---: |
|  | Height |  | Thread | Price |
| 51 | $7^{\prime 2} 16{ }^{\prime \prime}$ | 516 | - 6 4-32 | \$0.07 |

## SCREW TYPE BINDING POSTS

Filister head screw in top grips wire

| $\underset{54}{8}$ | \% | inserted in horizontal hole in body of post. Bottom tapped. Mounting screw and washer supplied. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | st |
|  |  | No. <br> 54 |  |  |  | $\begin{array}{r}\text { Price } \\ \text { \$0.05 } \\ \hline 05\end{array}$ |

SPRING TYPE TWIN \& TRIPLE BINDING POSTS


Type 50 Spring Post mounted on laminated Bakelite strips, with two mounting holes.

50 Twin Posts $\qquad$ List Price $\mathbf{\$ 0 . 2 0}$ . List Price .30

ALL BAKELITE PARTS REGULARLY FURNISHED IN BLACK UNLESS OTHERWISE NOTED

BATTERYADAPTORHARNESS—ADAPTORS

MOST combination AB battery packs are out of balance insofar as battery life is concerned. As a rule, the " B " section of a pack wears out before the "A" section. By using individual dry batteries and an Eby Adaptor Cable, replacement of a complete battery pack is eliminated. Only the individual battery that goes bad need be renewed. This means a big saving to the user. All cables are of ample length to allow placing the batteries on the floor near the receiving set if there is insufficient room for the batteries in the receiver cabinet.


Battery Adaptor Cable, equipped with 7 -prong socket. Permits replacement of power pack in Philco Nos. 37.33, 37.38, 38.33 and 38.38 with three 45 V . "B" and two $41 / 2 \mathrm{~V}$. "C" batteries.
5394-7 List Price
.$\$ 1.50$

Battery Adaptor Cable, equipped with 8 -prong socket, for Philco Nos. 34, 34A, 39 and 39 A . Permits use of three 45 V . " B " and three $41 / 2 \mathrm{~V}$. " C " batteries.
5394-8 List Price
.$\$ 1.50$

Battery Adaptor Cable, equipped with 1 female receptacle fitting the 90 volt "B" battery plug using the small 3 . prong layout and 1 female receptacle fitting the standard 1.4 volt battery plug. The opposite end of the cable is fitted with our special 4 -prong plug to fit the $A B$ pack.
5852 (Not illustrated) List Price. . $\$ 0.75$

Battery Adaptor Cable allows replacement of the 90 -volt $B$ battery pack with individual 45.volt $B$ batteries in Philco Nos. 70, 71, 80 and 85. Fitted with sockets to take the plug from the receiver cable and two plugs to fit any standard 45 -volt " $B$ " batteries.
5846-3 List Price
.$\$ 0.60$

Battery Adaptor Cable provides for replacement of battery packs on all sets using new $A B$ packs with standard 45 volt "B" batteries and $11 / 2$-volt dry " $A$ " batteries.
5846-4 List Price
$\$ 0.75$


5903
5943


5857-1
5857-2
5857-3

Battery Adaptor Cable has been designed for use with all battery sets using 2-45-volt " $B$ " batteries and the $11 / 2 \cdot$ volt "A" battery. It allows the use and convenience of the single $A B$ battery pack in place of the individual $A$ and $B$ batteries. The cable is fitted with 3 female receptacles for either the standard or the small layout " B " battery plugs from the receiver, and the opposite end of the cable is fitted with our special 4-prong plug to fit the $A B$ pack.

List Price
5903 Standard "B" Layout . . . . . . . $\$ 0.75$ 5943 Small 3-prong Layout

Battery Adaptor is designed for use with Zenith $4 \mathrm{~K} 331,4 \mathrm{~K} 310$ and 4 K 355 battery sets. The female end fits the male plug on the receiver cable. The male end fits the Eby No. 5846. 4 Battery Adaptor Cable so as to allow the use of standard " $A$ " and " $B$ " batteries in place of the battery pack.
5870 List Price
. $\$ 0.40$

Battery Adaptor Cable has been designed to allow the replacement of battery packs in many battery operated sets with standard 4.5 volt ' $B$ ' batteries and 2 -volt wet " $\Lambda$ " batteries. It is wired on one end with a special 4 -prong female receptacle to fit the 4 -prong male plug on the receiver. The oppo site end of the adaptor cable is fitted with two male plugs to fit any standard 45-volt " $B$ " battery and two spade terminals to fit a wet 2 -volt " $A$ " battery.

| Cat.No.5857-3 | Ohm Resistor | for | 4 tube |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Price |
|  | 2.5 |  |  | sets | \$0.95 |
| 5857-2 | 2.0 |  |  |  | . 95 |
| 5857-1 | 1.43 | " | 6 | - | . 95 |

Battery Adaptor Cable has been designed to allow the replacement of the $11 / 2$-volt "A" dry battery with a 2 -volt wet " $A$ " battery. It is equipped with a 2 -prong female receptacle at one end which fits the plug on the receiver cable. The opposite end is fitted with two spade type terminals to fit the posts on the storage battery. A resistor holder is placed on the plus "A" lead to allow for the different drain taken by sets with 4,5 or 6 tubes.

5878-1
$5878-1$
$5878-2$
5878-3

| Cat. | $\xrightarrow{\mathrm{Ohm}}$ |  | List |
| :---: | :---: | :---: | :---: |
| 5878-3 | Resistor |  | rice |
| 5878-2 | 2.0 | for 5 \% | \$0.75 |
| 5878-1 | 1.43 | " 6 " | . 75 |

USERS OF EBY ADAPTORS AND ADAPTOR HARNESSES APPRECIATE THE SAVING

## "ALIGN-AIRE" I.F. TRANSFORMERS

FEATURES: AligheAire (Air Tuned) 'Trim Mons Moisture-Proof - Just-Proof Ten jueriturc-l'root - 3600 Degrees Smooth Tub ing - Permanently Stable - Iniulile Tunen - Ton Tuninge Permat-strut ('onstruction - No Drift.

NEW AIR TUNED UNITS- 1 grist coil development. The combination of "Align-dire" ai tuning and exclusive Meissner construction methods eliminates drift und shifting, and per mits permanconly stable: udjustment. Coil performance aho improverl lyy use of atheriat lowlonse coil eompround.
ALIGN-AIRE CONDENSERS-Easily and accurately sou may, loy means of the Alighe-sire conndotusers, seentre 3 нol derrees of micrometer smooth tunilly, shlostantialy hinear-inablem service man or amateur lo align the tramfor mer permanently. Aligning remains stable ru curdless of temperature changes or violent vi limations. No microphonic noimp- the chance of short cireuit-no dust enters the trimmers.

BUS-BAR CONSTRUCTION-Eliminating the use of loud npucers ath erratly impowing mechanical assembly. Fimlsodies rigid leads that connoi bend prent breukare of the fine lity wire used it these cannot bat coil. ond placed in a position where it is unnecessary for flexible leads of *bsl piaced away from all others insuring coupling eapacities electrically equal lucoallis of geometrieal similarity.
ferrocart (Iron Core)

| Cat. <br> Ne. | Frequency <br> Rathke (ke) | Peak Factory Setting | Gain Factory Hetting | selectivity Hand Width |  |  | Use |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2 x | 10x | ${ }^{4} 20 x$ |  |
| 16-6631 | 155-148 | 175 | 125 | 5.5 | 13.6 | 18.5 | Input |
| 16-5977 | 155-198 | 175 | 28 | 5.5 | 13.0 | 18.0 | Interstage |
| 16-6633 | 155-195 | 175 | 150 | 7.3 | 22.3 | 32.8 | Out put |
| 15-6635 | 233-305 | 262 | 70 | 4.5 | 11.6 | 16.53 | mput |
| 16-5967 | 233-305 | 262 | 29 | 6.0 | 17.0 | 22.5 | Interstume |
| 15-6637 | 233-305 | 262 | 110 | 7.5 | 23.5 | 36.0 | Output |
| 16-6639 | 338-443 | 370 | 72 | 4.5 | 11.5 | 17.5 | Input |
| 16-5993 | 338-443 | 370 | 30 | 4.5 | 17.5 | 24.0 | lnterstume |
| 16-6641 | 338-443 | 370 | 120 | 5.0 | 22.5 | 33.5 | Output |
| 16-6643 | 415-540 | 456 | 77 | 7.0 | 18.0 | 22.0 | input |
| 16-6123 | +15-540 | 454 | $\stackrel{29}{105}$ | 7.0 | 18.6 | 28.4 | Interstake Output |
| 16-6545 | +15-540 | 456 | $10 \%$ | 0.0 | 20.63 | 38.2 | Ousput <br> ()utput C.' ${ }^{-1}$ |
| 16-5139 | +15-544 | 453 | 100 | !. | 23.2 | 3.3 .5 | Output C.I. |
| 15-8059 | 1325-1750 | 1500 | 40 | 14.4 | 3 K .4 | 54.5 | Input Intstge. |
| 16-8097 | 1325-1750 | 1500 | 58 | 19.2 | 48.0 | 73.5 | Gutput cir |
| 16-5101 | 1325-1750 | 1500 | 55 | 20.0 | 50.0 | 75.0 | Output C.T. |
| 15-6239 | 2500-3300 | 3000 | 50 | 40.6 | 80.0 | 125.0 | Input-Intige. |
| 16-6241 | $2500-36100$ | 30 NO | 43 | 40.0 | 120.0 | 170.0 | (sutput |

LIST, $\$ 6.00$
NET EACH \$3.00

## AIR CORE

| cat. | Frequency <br> Range (kc) | Peak Factory setting | Galn Factory Seting | Selectivity Band Width |  |  | Use |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2 x | 10x | 20x |  |
| 16-6630 | 158-195 | 175 | 100 | 6.8 | 16.8 | 23.5 | 1uput |
| 16-5979 | 158-195 | 175 | 127 | \$8.9 | 13.6 | 19.2 34.5 | I'terstake Output |
| 16-6632 | 158-195 | 175 | 110 | 5.2 |  |  |  |
| 16-6634 | 233-305 | 262 | 52 | 6.5 | 17.0 | 24.5 | Input |
| 16-5971 | 233-305 | 282 | 19 | 7.0 | 18.0 | 25.0 | 1utershage |
| 16-6636 | 233-305 | 262 | 100 | 9.0 | 28.5 | 41.0 | Output |
| 16-6638 | 338-443 | 370 | 52 | 6.5 | 16.0 | 23.0 | Input |
| 16-6e11 | 338-443 | 370 | 18 | 7.0 | 18.0 | 25.0 | Interstage |
| 16-6540 | 338-443 | 370 | 100 | 10.0 | 26.0 | 39.5 | Output |
| 16-6642 | 4150540 | 458 | 50 | 7.0 | 18.8 | 25.2 | Input |
| 15-6129 | +15-540 | 456 | 19 | 6.5 | 15.0 | 22.0 | Interstgge |
| 16-6544 | 415-540 | 456 | 95 | 10.7 | 27.8 | 38.9 | Output ©. |
| 16-6163 | 415-540 | 456 | 87 | 11.9 | 27.3 | 39.5 | Output C.T. |
|  | 132R-1750 | 1500 | 27 | 17.6 | 46.3 | 68.7 | Input 1 Jtstge. |
| 16-20es | 1325-1750 | 1500 | 55 | 24.0 | 46.3 | 92.5 | Output |
| 18-5142 | 1325-1750 | 1500 | 55 | 25.0 | 48.0 | 95.0 | Output C.T. |
| 16-6243 | 2500-3300 | 3000 | 36 | 50.0 | 120.0 | 190.0 | Input-1ntatge |
| 18-5247 | 2500-3300 | 3000 | 40 | 81.0 | 190.0 | 250.0 | Output |

## FERROCART (IRON CORE) DOUBLE TUNED I.F. TRANSFORMERS

 (mieroscopically fine partieles of pure, solt iron) for the finent clugineering refuirements, Fancla particle is insulated trom every other particla. mak. ing possithe the development of an extremely low loss core of high permeability. This coris improver selectivity, increases the ginif and ignal, and lowprs set noise.
I.F. transformers using Ferrocart embody the lat ost in chgineering design and manatacturing prav fic\%. lroper inductabee of windings ammacreural
 of charatereristies. Fach trabsiformer terited physically and rectrically and patake at the simerified reyucney.
The Mica trimmens are built on low-loss bases as. suring minimum leakake. Spacers are usen to an sure uniform capacity couphing. In $\mid 3 / 8$ "sithare 3 K" black crackleofinish cans.

LOW LOSS CERAMIC BASE-MICA TRIMMERS

| Cat. | Frequency Range (kc) | $\left\|\begin{array}{l} \text { Feak } \\ \text { Fetcory } \end{array}\right\|$ | $\begin{array}{\|c\|} \text { Gain } \\ \text { Factury } \\ \text { Selting } \end{array}$ | Selectsits Band Widit |  |  | Use |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2 x | 10x | 20 x |  |
| 16-5728 | 127 | 175 | 80 | 5.5 | 130 | 20.3 | tap |
| $16-5981$ $16-5730$ | $144-320$ $127-206$ | 175 175 | ${ }_{80}^{14}$ | 3.5 | 22.2 | 138.2 | ${ }^{\text {dutarsta }}$ |
| 16-5933 | 127-206 | 175 | 83 | 7.2 | 20.0 | 30.0 | cutput C.T. |
| 16-573 | $200-3$ | 262 | 68 | 5.4 | 13.6 | 20.4 | tupu |
| 16-5734 | 200-345 | 262 | 59 | 7.5 | 23.0 | 35.0 | Outpu |
| 16-5736 | 295-540 | 370 | 59 | 8.1 | 18.4 | 28.4 | Inp |
| 16-5t38 | 295-540 | 370 | 83.0 | . 5 | 24.7 | 34.1 | Output |
| 16-5740 | $360-800$ | 456 | 50.0 | 7.3 | 17.6 | 25,01 | inp |
| 16-6131 | $360-600$ | 456 | ${ }^{23.2}$ | 8.98 | 13.3 | 18.3 |  |
| 16-5742 | 360-400 | 456 +56 | 80.0 77.0 | 10.8 | 23.5 |  | Sutput <br> Output C:I |
| 16-6211 | 360-600 | 456 |  |  |  |  |  |
| 16-8091 | 1050-2000 | 1500 | 30 | 16 | 34.4 | 539.3 | Input |
| 16-8099 | 1050-2000 | 1500 | 47 | 14.1 | 522.7 | 80.0 | $\begin{aligned} & \text { Output } \\ & \text { Cutput } \\ & \hline \text { S. } \end{aligned}$ |
| 16-8103 | 1050-2000 | 1500 | 50.0 | 20.8 | 49.5 | 76 | Tutput C. |
| 16-6253 | 2300-3700 | 3000 | 50.0 | 80 | 140 | $\frac{210.0}{2,24}$ | Input-1 |
| 16-6257 | 2300-3700 | 3000 | 40.0 | 64 | 153 |  | Outpue |

## STANDARD REPLACEMENT DOURLE TUNED I.F. TRANSFORMERS

The ideal replacement tranaformor for sorvicernen and Fixperimenters who demand the utmont in I.F, trams former performance at low cost.
HIGH GAIN-WIDE RANGE-DOUBLE TUNEDwith Mejssher Low-Loss Ceramic Bame Mica Di-elfectric trimmers. For increased ethiciency und stability, a Nf, cial noisture-proof treatment is accarilal 1 hit base. . It larads are color eroded.
F:FFICIF.NCY has not been sucrithed in making these transformers so compact they can fit into exeeption-
 black cruckle-fnished.

## LOW LOSS CERAMIC BASE-MICA TRIMMERS

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Frequency Range (kc) | PeakFactorySettlng | $\begin{aligned} & \text { Gain } \\ & \text { Factory } \\ & \text { Selting } \end{aligned}$ | selectivity Band Width |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2 x | 10x | 20x |  |
| 16-5709 | 121-235 | 175 | 70.0 | 8.2 | 17.5 | 37.5 | Iuput |
| - $16-5983$ | $121-235$ $121-235$ | 175 | 17.0 70.0 | 8.4 9.5 | $1+8.4$ 26.3 | 4 | ${ }^{\text {l }}$ |
| 16-3731 | 121-235 | 175 | 75.0 | 7.8 | 21.5 | 32.4 | gutput C.I'. |
| 16-5704 | 220-360 | 262 | 43.4 | 7.1 | 20.7 | 31.1 | Input |
| 16-5991 | 215-440 | 262 | 15.0 | 6.0 | 17.0 | 24.0 | Interstape |
| 16-5706 | $190-325$ $190-325$ | -262 | 72.0 80 | 15.3 15.0 | 46.2 +1.8 | ${ }_{66.7}^{68.2}$ | Output C.T. |
| -5708 | 275-480 | 370 | 55 | 13.5 | 32.0 | 47.5 | Input |
| 16-6059 | 27-650 | 370 | 22.7 | 19.4 | 24.7 | 35.5 | 1nterstage |
| 16-5710 | 275-480 | $\begin{array}{r}370 \\ 370 \\ \hline\end{array}$ | 80.0 61.0 | 17.5 13.5 | 47.7 37 | 72.0 | Output Cutpul |
| 16-6091 | 275-480 | 370 | 61.0 |  |  |  |  |
| 16-5712 | 425-6.50 | 456 | 50.0 | 14.7 | 31.3 | 45.6 | Input |
| 16-6133 | +35-1000 | 456 | ${ }_{70}^{21.3}$ | 19.8 | 25.5 +3.0 | 36.8 885 88.7 |  |
| 18-5714 | $425-6.50$ $25-550$ | +568 | ${ }_{50}$ | 15.2 | 36.7 | 65.8 55 | $\begin{aligned} & \text { Output } \\ & \text { Output с.т. } \end{aligned}$ |
| 16-8092 | 1050-2000 | 1500 | 21.5 | 17.5 |  |  | Input Intatge |
| 16-8100 | $1050-2000$ $1050-2000$ | 1500 1500 | 40.0 40.0 | 24.0 24.0 | 65.5 65.5 |  | Output C.T. |
|  |  |  |  |  |  |  |  |
| 16-4250 | $2000-4000$ $2000-4000$ | 3000 3000 | 16.6 23.3 | 158 180 | 348 390 | $\begin{aligned} & 496 \\ & 750 \end{aligned}$ | lnput-intatge. Output |
| 18-4261 | 2000-4000 | 3000 | 23.3 |  |  |  |  |

# Neissmer <br> <br> SERVICE PARTS 

 <br> <br> SERVICE PARTS}
VARIABLE CONDENSERS STANDARD TUNING CONDENSERS
 Low loss; fow mindproved hakelite insulution: true tus-har
ronstructlon: spaciur deliberatoly: spacing apart for efticient perfirmance. . Ill coti-
 pu4tty cluek-wize. Find plates are $33 / 16^{\prime \prime}$ I ton $1,2 \mathrm{alti}$ las separate tempered rotor ground. the wiper


COMPACT VARIABLE CONDENSERS
 inexpensive contenspra gaptable to many uses, expectally Ac'-DC receivers and nuto-radios. Due to their combsart size ay great rifielag quality
All unhs suphlited In $v$ " slapt All units xupplled In $/ 40$ shapt


| No. | $\begin{aligned} & \text { Max. } \\ & \text { Cup. } \\ & \text { s. } \end{aligned}$ | List |  | Net |
| :---: | :---: | :---: | :---: | :---: |
| SINGLE GANG |  |  |  |  |
| 21-5200 ......... 1 | 35 | \$1.30 | 1 | \$0.90 |
| TWO GANG |  |  |  |  |
| 21-5210 | 171 | \$2.15 |  | \$1.29 |
| 21-5214 | 31 tio | 2.45 |  | 1.35 |
| 21-5216 | $+10$ | 2.85 |  | 1.35 |
| THREE GANG |  |  |  |  |
| 21-5211 | 140 | \$3.15 |  | \$1.89 |
| 21-5215 | 365 | 3.25 |  | 1.95 |
| 21-5217......... | 110 | 3.25 |  | 1.35 |

## MIDGET YARIABLE CONDENSER

 Liniversally applicable It hixh frequency apparatus. stagle hote mounting on panels up to $\% /$ thick in 登" dimmeter hole. Xiut provided for mounting.

| No. | Plat 18 | Capacity Kange | t.1st | Net |
| :---: | :---: | :---: | :---: | :---: |
| 21-5163 | 3 | 3.0 to 15 utat | 50.90 | S0.54 |
| 21.5164 | 5 | 3.2 to 30 mmp | . 95 |  |
| 21.5165 | 7 | ${ }^{3.5} \mathbf{3}$ to 45 matur | 1.00 | -60 |
| 21.5168 21.5167 | $11^{4}$ |  | 1.10 | . 72 |
| 21.5168 | 14 | 4.3 to 100 mms | 1.25 | . 75 |
| 21-5170 | 20 | 5.0) to 140 mmp | 1.45 | . 3 |

## CERAMIC MIDGET VARIABLE

 CONDENSERSFor unversal appitiation in recelvers, transinitters. test equipment, ete, as tuning. trimming or
neutralizing taparitors. Exception. noutraliziny wapacitors. Exception. plate measures only $1: 5 / 16^{\prime \prime} \times 1 / 4^{\prime \prime}$ over-all. singlehole mountIng; will tit limel up in $1 / 4$ "thick. Shaft is $1 / 4$ " diameter. Ilave long slepye-bearing to elindiaste all wohble.

| No. | Plates | Capacity Range | Lat | Net |  |
| :---: | :---: | :---: | :---: | :---: | ---: |
| $21-5173$ | 3 | 2.4 to | 10 | 31.35 | Se. 81 |
| $21-5174$ | 7 | 3.0 to | 25 | 1.40 | .84 |
| $21-5175$ | 14 | 3.5 to | 50 | 1.50 | .90 |
| $21-5176$ | 20 | 4.5 to | 75 | 1.55 | .33 |
| $21-5177$ | 27 | 5.0 to | 100 | 1.65 | .39 |
| $21-5178$ | 37 | 6.5 to | 140 | 1.75 | 1.85 |

DIALS
NEW STANDARD 'SLIDE RULE"DIALS


For 3/" condenser shuft. Dull-gold escutheon and 900" "SLIDE Hay RULE: type bulhs included.
FOR COUNTER-CLOCKWISE CONOENSERS
No. 23-8230. Calihrated I32 KC to 42.3 MC in
Ne. 23-8232. i'alihrated 540 KC to 42.3 MC in
FOR CLOCKWISE CONDENSERS
No. 23-8231. Callbrated 132 KC to 42.3 MC in
No. 23.8233. Calihrated 540 KC to te. 3 MC it List, hath $\$ 7.00$.
$5^{\circ}:$ SLiDERULE: BMAiNET $\$ 4.20$
FOR CLOCKWISE CONDENSER
No. 23-8227. Mrogleant Band only.

FOR COUNTER-CLOCKWISE CONDENSERS
No. 23-8207. Hroudestst 1 13and onls.
No. $23-8208$. B.C. 1 .n. W. und K.W:
No. $23-8210$. L.W.. IS, C . und s . W .
FOR CLOCKWISE CONDENSENER $\$ 3.30$
No. 23-8220. 13rwadrust Mand only.
No. 23-8221. 13.". and S.W. Band
No. $23-8222^{\circ}$ 13. und S.W. Bands
No. $23-8228$ i...... H.C. and S.W.
NET $\$ 3.30$
NEW ELECTRICAL BANDSPREAD 'SLIDE RULE" DIAL

 for bundapread acction. Specjally dezigned for use With Meissner elentrical bandepread \%80•mumf. 3gang tuning rondenser and b-bund multiwave coll ilfumination. rranch-ilesign excutelieon with top zold flotish No. 23-8211. List, $\$ 12.50$. MC . Baudu. . NET $\$ 7.50$ No. 23-8219. List. $\$ 12.50 \ldots \ldots . .$. NET $\$ 7.50$ No. 27.5743B. List. $\$ 7.50 . . .{ }^{3}$.........NET $\$ 4.50$

MEISSNER KIT CONDENSERS


No. 21.5i40. List, $\$ 4.00$
NET $\$ 2.40$ 36.5 mmf , Used in Battery Two Hand and $\ln 7$ tube LWW-BC'SW Kit: No. 21-5) NET $\$ 2.28$ 410 mmf. Used in 12 and 8 tube "Custom" Kits: No. 21-51418, List. $\$ 3.80$. 40 mmf . Used in \% tube AC. BC. Pol . NET $\$ 2.38$ counter-clockrilise close. AC. BC. Pol \& S.W. Kit: Ne. 51.51428 . List. $\$ 3.85$

SWITCHES


NEW CERAMIC ROTARY TYPE
A new type switch esperialty huilt for Amateur and

commercial application in transmitters. U.H.F re. commercial applleat lon in transmitters. U.H.F. re. high-grade, low-loss cerwnile. close-parked to reducc hunfidty effect to minionum. Wafer contacts silver mated for lowest contact-resisiance. Adjustable atom permits use of as many positions as retulured. Ar "angen for gingle-hole mounting; all are of the any purpose. If shorter sparing is retueen wafert for may be dis-assembledt and shacels riutred, switche able length. Arranged to mount lin a single ston hit in, any panel up to $\mathrm{z} / \mathrm{m}^{\prime}$ thick, Over-all diameter Th: earth bection measures upproximately $1 \% /$ "enter to remter. Soquipped uith a tlatted $u_{4}^{\prime \prime}$ shapt | No. | Ciangs | Poles | Positions | IIst | Not |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $24-8270$ | 1 | 1 | $\frac{2}{2}$ to | 12 | 82.75 | $\$ 1.65$ |
| $24-8271$ | $\frac{3}{3}$ | $\frac{2}{3}$ | 2 | to | 12 | 4.50 |
| $24-8272$ | 3 | 3.70 |  |  |  |  |

## ROTARY TAP SWITCHES



SHORTING AND NON-SHORTING TYPES Meet the demand of pracilically any rifrult totes use of as Have atlustable stop. Which pernita the oped positive contant mssurea nolseless receutlon at all times. Switches can le dis-assetmbled and aparels cut town to meet iesirent lengtho. Over-wll diarurtort thick: Fournished minfe on any manel uf for 1 them. Furnished trith lork-nut.
SHORTING

| $24-8251$ | , | , | 2 to 12 | 31.15 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 24-8253 | 1 | 2 | 2 to 5 | 1.25 | .75 |
| 24-8255 | 2 | 2 | 2 to 12 | 1.75 | 1.05 |
| 24-8257 | 2 | $\pm$ | (115 | 2.00 | 1.20 |
| 24-8259 | 3 | 3 | $\cdots$ | -3.35 | 1.41 |
| 24-8261 | 3 | 6 | $210 \%$ | 2.50 | 1.50 |
| 24-8263. | 1 | , | 2 | 1.25 | . 75 |


|  | NON-SHORTING |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 24-8252 | I | 1 | $\underline{112}$ | \$1.1 |  |
| 24-8254 | 1 | 2 | 2105 | 1.2\% | . 75 |
| 24-8256 | 2 | 2 | 2 to 12 | 1.75 | 1.05 |
| 24-8258 | 2 | 4 | 2 to 6 | 2.00 | 1.20 |
| 24-3260 | 3 | 3 | 2 to 12 | 2.35 | 1.41 |
| 24-8262 | 3 | 1 | 2 to 6 | 2.50 | 1.56 |

COIL SHORTING ROTARY SWITCHES WITH ADJUSTABLE STOP
Shorting feature redures absorption efferts of unused coils in lower freguency bunds. When operating os out. Adjusiable stop permits the use of as inans positions as desired.

Separate-Section Cokl-Sherting 8witehes separate Wafers for prinary and serondary switching wiring and simplifies tontinections Mates crowded coll

 No. $|$| Gangs | $\begin{array}{c}\text { Cir- } \\ \text { cults }\end{array}$ | $\begin{array}{c}\text { Posl } \\ \text { thons }\end{array}$ | Depth | Lhat |
| :--- | :--- | :--- | :--- | :--- |




PUSH-BUTTON SWITCHES


Cireuit Cloging Switeh Cireuit Trangfer Swlteh MFISNNER engineered for utlity, Melasner pushbution swiches are completely assembled and hav facts are suecially silver plated for low resistanies insulation is of noisture orsoof bakeltie with excep thonal low hoss qualities. Esiltcheon plate abod hisin hame inserts included with eneh switel,


# OThenen SERVICE Parts 

ANTENNA and R. F. COILS NEW COMPACT SERIES A new series of compact colls designed particularly for use where apuce is limited. Corer the Brosd cat buhd- $36 \% \cdot \mathrm{~mm}$ ? condenser. Ideal as replacements in servicing cotnpact midget and suto sets, as well as for new set construction. Colls are of the high-impedance primary. Iltz secondary type, woll impregnated against moisture, sad ure wound on trount ameter forms, 1\% lons. Shielded coilstar cans. y" high, with spade-lug mounting bolts.

SHIELDED No. 14-1024 Antenna Ho. 14-1025 R.F. Coll Coll Ho. $14=1025$ R.F. Coll
Litat $\$ 0.60$. Net $\$ 0.36$

No. 14-1022 Antenna No. 14-1022 Antenn No. 14.1023 R.F. Coil
List $\$ 0.4$. . Net 50.27


## STANDARD SERIES

beasigned to cover the lsroadcas bind- 190 to 550 meters--with 305 mm ? condenser. Constructed for quality. not built down to a rice. Shlelded colls are in ean 17" ${ }^{\prime \prime}$ diumeter, 24" high, wil $z_{s} / 1$ mountins centers. In thelded coils ure wound on "or diameter fortus $2 \mathrm{y} / \mathrm{Z}$ " long

$$
\frac{\text { Ne. Use | Deacription }}{\text { SHIELDED }}
$$

| $\begin{aligned} & 14-104 \\ & 14-1005 \end{aligned}$ | $\begin{aligned} & \text { Ant. } \\ & \text { R.F. } \end{aligned}$ | Fligh 1 mp . Pri.—Litz H Ligh 1 mpe Pri.-Litz Sec |
| :---: | :---: | :---: |
| List. \$0.90 |  | NET, Each, \$0.\$4 |

 SHIELDED

| No. | Description | Liat | Not |
| :---: | :---: | :---: | :---: |
| 14-7413 | Universal Ant. Coll. | 52.00 | 51.2 |
| 14-7558 | Universal R.F. Coll. | 2.00 | 1.20 |
| 14-7506 | Unlversal Osc. Coll. | 2.00 | 1.20 |

UNSHIELDED


FERROCART (Iron Core)

## Antenna and R. F. Coils

Latest development of Ferrocart Iron Cores adds substantial galo and increates selectivity of radio
frequency transformers by $i m$ proving " $Q$ " of windings. Highimpedance primary Antenna Coll designed for use with any type
of aetlal. l'so high gain unit as detector coll In ingle or multsstage $\mathbf{H}$. $F$, amplifiers, use lower gain coil in intermediate stages of multi-stuge H . F . mmplifier. Dealgned to cover brosucast band 1540 to 1600 ke) with a 385 mmf condenter. Will fubes, incluiling metal and bat-ery-operated 2-volt series. Furnished in nontoagnetic cans-black crackle-anished. Shields $1 \%{ }^{\prime \prime}$ square by $24^{\prime \prime}$ high-spade lug mounting cen era $1 \quad 11 / 18^{\prime \prime}$.
Ferroeart Ant. Coil | Ferrocart R.F. Coils
 Let, \$1.75.......................NET EACH \$1.0s

DUAL AND 3-BAND COILS Dual Band
Mame as used in MEIGSNER Kits ; will sive utmont in perbands wuont on satue bakelite
 dielectric irlmmurs mounted in cans of shitcleled colls, All coils Gosigned tuat. variabite colndenwer and for operntion whit y t38 ke. I. F. chammel, Wound on bake.
 1 Broudcast-and-Police colls corar 530 to 1500 kr and 1.5 to 4.48
 1860 kc and 5.8 to 19 mc .

BROADCAST AND POLICE COILS SHIELDED

UNSH IELDED
No. SHIELDED
Ne. DNSHIELDED
No. 4.74 Description 14.7467
14.771

$\mathrm{H}, \mathrm{F}, \mathrm{Coil}$ 14-7482 Antenna Co | 14-7475 Oarilhator | $14-7483$ |
| :--- | :--- |
| $14-7484$ | R.Filitator | List, $\$ 2.70$. NET $\$ 1.52$ List, $\$ 1 . \mathrm{B}^{2}$..NET $\$ 1.11$ 22-5204 Paddlug Condenser KIt for 24-s265 3-pang 2-position Switch: NET 50.75 List. $\$ 1.50$.............. NET $\$ 0.90$

BROADCAST AND_SHORT-WAVE COILS

## SHIELDED

Ne. Description
14-747 14-7476 Antemas Coll $14-7478$ 1t.F'Coll
$14-7480$
Osulilutur
 22-5203 Puldink Condenser Kit for 22-5203 Pudink Condenser ${ }^{2}$.......NET 50.75 24-8265 3-Rang 3-position Switch:

3-Band
Similar to abore, but offered only in thlelded types, with trimmers buiti in. Hrosdast-l'ultce-Short-Wuve colls are for uae with a 150 mmf . condenser and
cover 540 to $1: \% \mathrm{ke}, 1.75$ to 5.35 mc , j .2 to $18 . \mathrm{t}$ mev. Lonk- Ware-Broadcast-Short - Ware colls are for use with a 3 thit muf. condeaser and corer 13620 370 kc, 530 to $1350 \mathrm{kc},=.8$, 0 18.\% me. All colls
 BROADCAST, POLICE AND SHORT-WAVE

| No. | Descripition | List | กิャะ |
| :---: | :---: | :---: | :---: |
| 14-1012 | Shielded Antemus Coll | \$3.50 | \$2.10 |
| 14-1013 | Shielded 16.F Coil... | 3.50 | 2.10 |
| 14-1014 | Shielded (wathator. | 3.50 | 2.16 |
| $22-3202$ | Pradiog Cobidenser KIt... | $\underline{2.00}$ | 0.75 1.20 |
| LONG WAVE, BROADCAST AND SHORT WAVE COILS |  |  |  |
| No. | Descriptlon | Letat | Net |
| 14-1015 | Shlelded Antenns Coll... | \$3.50 | \$2.10 |
| 14-1016 | Shielded R.F. Coll | 3.50 | 2.10 |
| 14-1017 | Shielded Ospillatot. | 3.50 | 2.10 |
| $22-5202$ $24-8264$ | Prudioy Condenser Kit.: | 1.50 2.00 | .90 1.20 |

## OSCILLATOR COILS

For the Brosdcast batid- 190 to 850 meters. Tune with 36.5 ratuf TRF type oscillator circults.
Nlounted on special balellte base, with tinned solderlag lugs. Enshtelded colls mount by meuns of screw in ane end of dowel. Shlelded colls are in cans $13 /{ }^{\prime \prime}$ diameter. $1 \frac{1}{4}$ "high, with spade bol densers must be used.

| No. | I7t. Frea | Padder | Lest | Net |
| :---: | :---: | :---: | :---: | :---: |
| SHIELDED |  |  |  |  |
| 14-4242 | 175 kc | 900 mm . | \$0.95 | \$0.57 |
| 14-4243 | 456 ke | 350 mm ? | . 95 | . 57 |
| UNSHIELDED |  |  |  |  |
| 14-3732 | 175 kc | 900 mmp . |  |  |
| 14-6590 | 262 zc | 888 mm . | . 75 | . 45 |
| 14-6592 | 370 E0 | 600 mmp . | .75 | . 45 |
| 14-4034 | 456 kc | 350 mml . | . 75 | . 45 |

## Midget Aneennc and R. F. Coils



Catlraly new design. Spe cially built for compact T.R.F. Super-kiet and Aut Radio recelvers. Wound on Windings with Litz wire High Impedance primarlos. Shleld cans $13 y^{\prime \prime}$ y $1 \%^{\prime \prime}$ z
2" Spade bolt mountings. Cover 100 to 550 maters mith 385 mmf . rondenger. No. 14-2438. Antenna Coll Niet 81.00 . Net Eo. Sol $\$ 0.60$

INTERFERENCEFILTERS DE LUXE DUAL UNIVERSAL WAVE TRAP
Tunes $400-475$ to eliminate code signals, otc.: entering receiver it intermediate Prequency. Also
tunes 5.00 to 1950 fec for tunes 5.50 to 1950 hc or
interfering signals in Interfering signals in
Broadeast and low-fre. quency Police hands. IKnols makes adjustment easy, Hat Ferrocart (Iron core) for greater eflelency

$$
\text { No. } 15-8048
$$

List $\$ 2.65$....Net $\$ 1.59$


Dual Broadeast Model; a two-section trap destrned for maximum eficiency on Broadcat band only. 550 to 1950 se
No. 15-8478. List \$2.65
.Net $\$ 1.59$

## DUAL AMATEUR BAND WAVE TRAP

Eliminates interference simultaneously from elther 40 and 80, or to and 160 meter bands. Simalise is Hens ecrewdriver adjustment for both tands. Tunes 1.5 to 7.5 mc .

No. 15-8148. List. $\$ 2.65$
.Net \$1.59

## STANDARD SINGLE WAVE TRAPS

Fach trap designed for a speelfic frequency coverinterforing signal. Alr core design.
No. $15-8479-F$ or range 400 to 700 lc .
No. $15-8480-F$ For range 650 to 1000 ta.
No. $15-8481-$ For range 950 to 1600 kc.
No. 15.8485-160 Meter and Police Band.
No. 15.8484-s0 Meter Band.
Ne. 15-8483-40 Meter Band
No. $15.8482-20$ Seter Band.
Any Model. List $\$ 1.25 . . . . . . . .$. . Net Each $\$ 0.75$

## 456 I.F. WAVE TRAPS

Elimiaste I.F. Interference raused by code slenala No. 15.7518. Fully shielded. List, \$0.90. NET \$0.54 No. 15.8486 similar to above, but unyhielded.
1.ist. \$0.65.

NET $\$ 0.39$

## DE LUXE LINE FILTER



May be connected either to doterfering device or to radio. Receptacle at one end. line cord and plus 110 voiti. AC or DC. yt 200 watts maximum
No. 15.7519. List \$4.00.
.Net $\$ 2.40$

## TRIMMING AND PADDING CONDENSERS

Low-108s ceramic pase plates. Cadimluru plated steel adjusting tcrew; extra-thne hread. Accurately
threaded brass ins threaded brass insert. mlear dielectric.


 | Llst |
| ---: |
| $\$ 0.25$ |
| .30 |
| .35 |
| .40 |
| .45 |
| .85 |
| .70 |
| .85 |
| .80 |
| .80 |
| .30 |
| .40 |
| .85 |



# SERVICE PARTS 

## EXACT DUPLICATE MAJESTIC REPLACEMENT UNITS

Manufactured from the original Majestle blueprints, but Melssuer-improved to ellminate the cituses of fallure. New construction insures satho factory long ilfe-mechanically and electrically perfect. Exactly replaces old unit--requires practically noad Justing. Leads haveorlginal Majest ic color-code

## Cat. No.

$\qquad$ Application

Chassis No. 15-158-150
Model 161-153-154-156
20-2411 $28 t$ I.F. and Osc. Transf..... 82.50 $\begin{array}{ll}\text { 20-3854 } & \text { 2nd I.F. Transformer. } \\ \text { 20-4051 } & \text { 18t R.F. Coll less Can. }\end{array}$ $\begin{array}{ll}\text { 20-4051 } & \text { 18t R.F. Coll leas Can } \\ 20-4050 & \text { 2nd R.F. Coll less Can }\end{array}$ 20-4 Chassis 20-Mimel 21-22-23. 20-4052 1st 1.F. Transformer. 20-4053 2nd I.F. Transformer. 2 . Chassis 25-Model 251-253-254 20-4054 1st I.F. Trunsformer 20-4055 2nd 1.F. Transformer....... Chas.25-8. Model $251 \mathrm{~B}-253 \mathrm{~B}-254 \mathrm{~B}$ 20-4057 1at I.F. Transformer. 20-4058 2nd 1.F. Transformer. 20-4056 R.F.Choke. Chassis 35 Model $351-353$ 20-4435 18t L.F. Transformer. 20-4436 2nd i.F. Transformer. Chassis 55-Model 56-57-5s 20-3864 2nd I.F. Trunsformer. 20-4051 18t R.F. Coil less Can.... $20-4050$ ind $12 . F$. Coil legs ( mn
Chass is 60 \& 160 . Model $61-52-163$ 20-4059 18t I.F. Transformer. 20-4372 2nd i.F. Transf. Tapped..
20-4062 18t I.F. Transformer. 20-4060 Ant. Coll less Can 20-4051 Osc. Coll less Cun. - Model 110 20-40ce Isroad 13 ind Transformer.
20-4444 18t I.F. Thransformer. Model 118
20-4060 Ant. Coll less Can
Model 120-121
20-4439 Ist I.F. Transformer
$20-440$ 2nd I.F. Trinsformer
Chassls 120B—Model 123
20-4363 1st I.F. Transformer.
20-4389 2nd L.F. Transformer......
Chassls 200-Model 201-203-204
20-3816 2nd I.F. Transiormer.
20-4067 Ant. Coll leas Can.
$20-4319$ Osc. Coll less Can.
$20-3958$ R.F. Coil less Can.
Chassis 210-Model 211-214-215
20-3915 1st I.F. Transformer.
20-3944 2nd I.F. Transformer.
20-4454 Ant. Coil less Can.
20-4056 12.F. Choke. Chassis 220 Model $221-223$
$20-432$
$20-443$
1st II F.F. Transformer.
2nd I.F. Transformer. Chassis 290-300
Model 291-293-294-303-304-307
20-4070 1st I.F. Trunsformer.
$20-4071$ 2nd i.F. Transformer.
$20-4069$ Ant. Coull Less Can.
20-4430 18t I,F. Transformer. Chassls 310A-310B Model 311-314-315
Chassis 330-Modet 331-336-77 Chassis 390-Model 393
20-4427 Ant. Coll, lers Can.
20-4064 R.F. Choke leas Cun. 20-4429 2nd I.F. Transformer. 20-4427 Ant. Colt, less Cinn. 20-4427 hassis Coll Model 363 20-4427 Ant. Coll, Ress Can 1.373 20-4074 1st I.F. \& Osc. Transf. Chassis 400-Model $411-413$
$20-1076$ 1st I. F. Transformer
20-4064 R.F. Choke. deas Can.
Chassis 400-Model 44-49-194
20-1485 Osclisior Coll. less Ca
Chassis 460—Model 461-463
Chassis 520-Model 95
Chassis 490-Model 491-493
20-3499 18t I.F. Transformer
20-4012 R.F. Coll, less Can.
20-4078 Oacillator Coll. lema Can.

Cat. No.

## Application

Mode1 55-59-75-195-560-566 20-4089
20-4081
2nd I.F. Transformer. Trisnsformer. 20-4881 2nd I.F. Trishsformer 20-1619 Anterna Cons, less Can 20-4079 Oschllator Coil. Low Freq 20-4080 Osc. Coll, II4kh Freq. ..

Chassis 800 -Model 85-86-998 $\begin{array}{ll}\text { 20-4012 R.F. Coll, less Can. } \\ 20-4064 & \text { R.F. Choke, less Cai }\end{array}$
...
$\ldots$
$\ldots$
$\ldots . .$.
$\ldots$


## PAPER SECTION

 REPLACEMENT COILS originel auplicates of Colls only, without ans or trimmers. Exactly replace defec-
tive burned-out units. ive burned-out units. cans with trimmers, ure Isted at laft.

|  | M8jestic No. | Use |
| :---: | :---: | :---: |
| 20-6070 | 4428 | 1st I.F |
| 20-5310 | $\left.\begin{array}{l}8384 \\ 4420\end{array}\right\}$ | 2nd I.F |
| 20-5311 | 5:326 | 1 st I. |
| 2)-5312 | 5337 | 2nd I.F |
| $23-5313$ | 5601 | 1st I.l |
| 20-5314 | 5602 | 2nd I.F |
| 23-5317 | 54306 | 181 |
| 25-5315 | $\left\{\begin{array}{l}10589 \\ 10078\end{array}\right.$ | Ist I.F |
| 23-5316 | $\left\{\begin{array}{l}10591 \\ 10098\end{array}\right\}$ | 2nd I.F |
| 25-4065 | (378 | Plite Choke |
| 20-4445 | 7643 | 2nd 1.F |
| 20-5318 | 9355 | $18 t$ I.F |
| 20-5319 | 9361 | 2nd I. |
| 20-5321 | 6250 | $18 t .1 .5$ |
| 20-5322 | 6254 | 2nd I.F |
| 2J-6071 | 6119 | 18t I.F |
| 2)-5323 | 6123 | 2nd I.F |
| 2)-6072 | 6127 | 3rd I.F |
| 23-5324 | 03888 | 18 st I. |
| 2)-5325 | 6572 | 2nd 1. |
| 20-5326 | 6502 | 3rd I.F |
| 2)-5327 | 7205 | 18 L I.P |
| 20-5328 | 7230 | 2nd I.F |
| 20-5329 | 7821 | Lst I.F |
| 20-3906 | 7812 | 2nd I.F |
| 20-4428 | 9094 | 2nd 1. |
| 20-4075 | $\left\{\begin{array}{l}1229 \\ 4688\end{array}\right\}$ | 2nd I.F |
| 20-5330. | ( $\begin{gathered}4688 \\ 9+69\end{gathered}$ |  |
| 20-4075 | +299 | 2 nd 1. |
| 20-1491 | 10528 | 2nd I. |
| 20-3500 | 101+8 | 1st I |
| 20-3500 | 10149? |  |
| 20-3457 | 10253 | 2nd 1. |
|  | 111014 1084 117 | $18 t$ |
| 20-5332 | 11705 | 2nd |
| 20-3457 | 10253 | 2nd I.F |
| 20-4204 | 7187 |  |
| Mold | Bak | life |


| Model |  |  |
| :---: | :---: | :---: |
| $\begin{array}{c}15-15 \mathrm{~B}- \\ 150\end{array}$ | $\frac{\text { Llst }}{\$ 0.60}$ | $\frac{\text { Net }}{\mathbf{5 0 . 3 6}}$ |
| $\frac{2}{2}$ |  |  |
| $\frac{2}{2}$ |  |  |


| No. | Model | Position | List | Net |
| :---: | :---: | :---: | :---: | :---: |
| 20-6938 | 480 | Compo | 81.75 | \$1.05 |
| 20-6936 | 320 | Compmsite. | 1.75 | 1.75 |
| 20-4284 | 260 | 2nd 1.F | 1.25 | . 75 |
| 20-4293 | 300 | $3 \mathrm{rd} 1 . \mathrm{F}$ | 1.50 | .90 |
| 20-4286 | 300 | 1st or 2nd | 1.00 | . 60 |
| Coll Sections Only |  |  |  |  |
| 20-3478 | 100 | 2nd I.F. | \$0.90 | \$0.54 |
| 20-6909 | 140 | 2nd | . 60 | . 36 |
| 20-3152 | 290 | 1st I.F | . 90 | . 54 |
| 20-3478 | $22)$ | 2nd I.F | . 90 | . 54 |
| 20-6307 | 260 | 1st If | . 60 | 36 |
| 2)-6309 | 260 | 2nd IF........ | .90 | . 54 |
| 20-3153 | 320 | 2nd I.F......... | . 60 | . 54 |
| 20-6313 | 360 | 1st I.F | .60 | . 36 |
| 2)-5317 | 360 | 2nd 1.F........ | .60 | . 36 |

Belmont Replacement Composite I. F.


CROSLEY UNTUNED I. F. COIL For Models 122. 123, 124, 125 , stork these spectal untuned ilf. placement for the many. celvers now on the market. This unit is an exact duphicratc both physical and electrically:


| 1. F. Transformer Replacement Colls |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Exact I.F. replacement colls for R.C.A.-Radlola-U.F.,-Westinghouse and Graybar ecelvers. |  |  | Lust | Net |
| N0. | R.C.A. | Model Position |  |  |
| 20-6301 | 8567 | 80-82-80 | \$0.90 | 30.54 |
|  | 8565 | RAE68.... 1 ist I.F. |  |  |
|  |  | PAE68 . . . .2nd I.F | . 90 | . 54 |
| 20-6297 | 8563 | 20-32-80- |  |  |
| 20-6289 | 2991 |  | . 90 | . 54 |
|  |  | R6-127-R7A-R7DC |  |  |
|  |  | R9DCiR9-RE 16- |  |  |
| 20-6281 | 2992 | RE16A | . 80 | . 54 |
|  |  | R6-R5-R5A-R7DC- |  |  |
|  |  | R9DC-R9-RE16 |  |  |
|  |  | RE16A . . . .2nd I.F. | . 90 | 54 |
| 20-6273 | 8342 | 60-82-64 . . . All I.F. | 90 | . 54 |

## SHIELDED PRE-SELECTOR COIL

Adds selectivity to any broadeast recelver' Three windings-a primary out 12. $F$ stage can be greatly improved in selectivity by addlion of a preselector stare using thls coll. Wo addlitonal tube required, Tunes 190 to 550 meters with a 365 ramf . 3 . Npade boit mountlog.

No. 14-6797 List $\$ 2.00$ Net $\$ 1.20$


## NEW "CART-WHEEL"

## I.F. REPLACEMENT

 A. new type of "Cart-Wheel"* mideret and compart in many Has molded nlastic trimmer base and gupporting dowel. Shis unit an ldeal replacement. This unit may be used 10 replace either the input or output I.F. transformer. Operstes at $4: 5 \mathrm{klc}$, and

# CARRON Cones 

Our Ne,
O.D. List

## ADMIRAL

1020-A-126. 5
AIRLJNE (Montgomery Ward \& Co.
, 1473-62-274. 62-288, 62-290, 62-350.


## ARVIN

$+1418-467,518, \ldots$.
ATWATER-KENT
$1000-1$ t. No. 15142. 43. 46. 15.60
 0. 67. speaker jont
$+1461-60 \div 0^{\prime} .88$
8ELMONT

## BOSCH

$+1325-500^{\circ}, 430 \mathrm{~J}, 430,430 \mathrm{~T}, 431,431 \mathrm{~J}$, $431 \mathrm{~T}, 434,434 \mathrm{~J}, 434 \mathrm{~T}, \mathrm{~J} 01,620$. eiz3A. 62\%. 634A. $640,565 \mathrm{~F}$, 565k, used in WestInghouse

## CHEVROLET

- 1563-Mulel $985-460$ (1tadio Speakers) $\begin{aligned} & \\ &+1570-\text { Model } 985-285 \text { (Magnarox) "is } \\ & 1552 \text {-Model } 985426 \text { (Magnarox in }\end{aligned}$ 1532-M001 1561-Model 985424 (Rola)

CROSLEY
, 1212-107, 103, 5A1, 353-3, 585 ..
 1494-717

## EMERSON

- 1505 - HA 199, HA201



## * GENERAL ELECTRIC

1378-A52, A55, A64, A65, A70, A8



## GRUNOW

$1254-650,651,661,670,750,8 \mathrm{~A} 3$, $8 A 4.8 c 4$ used 1n: Chevrolet
$800565,600249,985300$ $1255-450,460,623,600,662,4 A, 413$, $4 C^{\circ}, 6 C^{\circ}, 8 B 1,8152,8183,813 G 2-5$, $1183-61$. $1152.1162,10 \mathrm{~A} 1,10 \mathrm{A3}, 10 \mathrm{At}$. 10A5. 10A10, 61) … 1256-901, 902 , 1101. 15. 1541, 129


## JENSEN

1035-Di, D8, used in: 1layton Navlgator: Sparton 737. 921; Silver Marahall "C'", etc.: Alriline 29Alif. sK4: Gulbransen : lloward" "Green Diamond": Kenaedy 22. elc.; Sentinel $10 \dot{4} 11 \% 2.90$ 1037-Dy instde splder-used in: Airline 89, 24; Crosley 124, 1:5: Howard AY'H-1': Kennedy 50 , etc. : Milver Marshall A, B. C; Zenith AH, KH, CH, 090, 90, t 1286 -F5R. used in: Beimont 880


1371-X12, ("12K, $11 / 40$ v, © ......... used bi - 1138 -T1, T2, used in; Detrola sT: 1384-PM12C 275 ; Lstrle C4 ........
1429-PM8 E8K used in Motorols 1478-PM10C ${ }^{65}{ }^{70} \ldots \ldots \ldots \ldots .$.

# CARRON Cones (con) 



## UNIVERSAL FIELD



The Carton l'niversal Fienal coil has beeon developued fo permit semiofis countless spoakers for which there? is wo "xact duplicate revil listerl. The thirty-ont coils listert hers coner the majority of speaker sizas and resiatances.
In the design of andorssal field certain roguirments must be mot: 'The winding must be physically close to tho original. We haw allowed a maximum variation of $1 / 8$ incli spacing from coll to core, a variation in winlth of $1 / 4$ hich; and we suggest that the universal coil seleceled should have a diameter as close to the original as possible- $8 / 8$ inch smaller is the limit for safe operations. "I'wo empat windings are used ratheग" than taps which would reduce the bumber of ampen turns availabla" and also cause serious lometing. All of the wire in ('arron universal field coils is in use at all limes.

## COILS

Two resistance ranges are possible. One with the wintings in parallel and the other with the windings connected in series. Since a change of fleld registance will disturls the oprrating voltages in the circuit, we have chosen a working range that is conservatice, plus or minus $10 \%$. In some cases this range could be incruastd, hut for hest results it represents the safe limit. To allow the ranges stated, it is necessary that each Carron Lniversal fleld Coil be wound and tested for exactly the mean resistance for each range.

Carron Fiold Caits should be selecterl from the following table. Cloek maximum and minimum dimensions carefully: Spacing washers and tubes are furnished to permit fitting tho coils to the speaker. Complete directions furnished with each coil.

| Cat. No. | $\frac{\text { Pole Piere }}{\operatorname{Min} . \operatorname{Max}}$ | Inclues (1.1). | $\frac{\text { I.ength }}{\text { Min. Max. }}$ | Puralle! <br> Resimtance | Series Resistance | List Price | Cat. No. | $\frac{\text { Pole Piece }}{\text { Min. Max. }}$ | nches O.D. | $\frac{\text { Length }}{\operatorname{Min} . \operatorname{Max}}$ | P'arallel Resistance | Series <br> Resistance | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| U300 | $3 / 4-1$ | 2 | $3 / 4-1$ | * | 1000 | \$1.50 | U306C |  |  |  |  |  |  |
| U301 | 3/1 | 2 | 3/4-1 | * | 1500 | 1.50 | U306D | 4-1, | 21/4 | 15/8-17/8 | $675-825$ $900-1000$ | $2700-3300$ $3600-4400$ | 3.10 3.10 |
| U302 | 3/4 -1 | 2 | 1/4-1 | * | 2000 | 1.50 | U306E | 4m-1/10 | 21/4 | 158-17/8 | 1125-1375 | 4500-5500 | 3.10 |
| U303 | $3 / 4-1$ | 2 | $8 / 4$ | * | 2500 | 1.50 | U307A | $1^{\text {s }}$ | 21/2 | 17\%-21/8 | 375-460 | 1500-1800 | 3.10 |
| U304 | 3/4-1 | 2 | $3_{3}-1$ | * | 3000 | 1.50 | U307B | $1{ }^{\text {s }}$ | $21 / 2$ | 17\%-21/8 | 560-690 | 2250-2750 | 3.10 |
| U309 | 3/4-1 | 2 | ${ }_{3}-1$ | * | 450 | 1.50 | U307C | 1 s-1 | $21 / 2$ | 17/8-21/8 | 675-825 | 2700-3300 | 3.10 |
| U311 | 1/2-3/4 | 12 | 3/8-7/8 | * | 400 | 1.00 | U307D | $15 \%$ | $21 / 2$ | 17/8-21/8 | 900-1100 | 3600-4400 | 3.10 |
| U312 | 1/2-3/4 | $13 / 4$ | 5/8-7/6 | * | 1000 | 1.00 | U307E | $1{ }^{\text {s }}$ | $21 / 2$ | 17/8-21/8 | 1125-137i | 4500-5500 | 3.10 |
| U313 | 1, $1 / 3$ | 134 | 5/8-7/4 | * | 1200 | 1.00 | U308A | $4 \mathrm{H}-1$ \% | $2^{2}$ | 11/4-11\% | 375-46) | 1500-1800 | 3.10 |
| U314 | 1/2-3/4 | 13/4 | 5/7-7/8 | * | 2000 | 1.00 | U308B | $4{ }^{4}-1$ | 2 | 11/4-11/3 | $5130-690$ | 2250-2750 | 3.10 |
| U315 | 1/2-3/4 | 13 | $5 / 8-7 / 8$ | * | 2.500 | 1.00 | U308C | $4{ }^{4}$-1 | 2 | 11/4-11/2 | 675-825 | 2750-3300 | 3.10 |
| $\mathrm{U} 316$ | 1/2-3/4 | 13, | 5/8-7/18 | 275 | 3000 | 1.00 | U308D | 40, ${ }^{1}$ | 2 | 11/1-11/2 | 900-1100 | 3600-4400 | 3.10 |
| U305A | 1-11/6 | $21 / 2$ | $13 / 8-18 / 8$ | 375-4t0) | $1500-1800$ | 3.10 | U308E | 480 | 2 | 11/4-11/2 | 1125-1375 | 4500-5500 | 3.10 |
| U305B | 1-11/4 | $21 / 2$ | 13\%-18\% | $5 \mathrm{BrO-60}$ | 2250-2750 | 3.10 | U310A | 45 | $21 / 4$ | 11/8-13/8 | 375-460 | 1500-1800 | 3.10 |
| U305C | 1-11/4 | $21 / 1$ | 13/8-15/8 | 675-825 | 2700-3300 | 3.10 | U3108 | $45-12$ | 21/4 | 11\%-13\% | 560-690 | 2250-2750 | 3.10 |
| U305D | 1-11/1 | $21 / 2$ | $13 / 8-18 / 8$ | (00-110) | 3600-1400 | 3.10 | U310C | 4-150 | $21 / 4$ | 11\%-1\% | 675-825 | 2700-3300 | 3.10 |
| $\begin{aligned} & \text { U305E } \\ & \text { U306A } \end{aligned}$ | 1-11/4 | $21 / 1 / 2$ | 13/8-18/3 | $1125-1375$ $375-160$ | $4500-5.50$ $1500-1800$ | 3.10 3.10 | U310D | 4 m | $21 / 1$ | 11\%-1\% | 900-1100 | 3600-4400 | 3.10 |
| U3068 | $\mathrm{S}_{8}-1 \%$ | $21 / 4$ | 15/8-17/8 | 560-690 | 2250-2750 | 3.10 3.10 | U310E | 4-1580 | $21 / 4$ | 11/8-1\%/8 | 1125-1375 | 4500-5500 | 3.10 |

## Belden Clear Channel* Antenna System



## There is no Substitute for an Outside Antenna

Belden iron core transformer couplers and Belden low loss transmission lines are incorporated in these unusually effective antenna systems. This Belden engineered design produces clear channel reception with maximum effciency in all frequencies from 400 to 22,000 kilocycles with no dead spots.

Engineered to operate efficiently with lengths of transmission cable 8209 up to 200 feet.

## Belden Clear Channel Receiver Coupler

8101-Belden Clear Channel Double Iron Core Receiver Coupler as furnished with 8300 Antenna System. As many as four reccivers will operate off one of these systens without noticeable decrease in signal strength. One of the couplers should be used at each set. Connect with Belden 8209 shielded transmission line in parallel at incoming posts of original coupler.
8101
.List price $\$ 1.90$

* I.irensed under one or more of the following AAK, Ine., P'ats.: Re 198J.t, 1920162, 1938092, and 2002844 and Belden Pats. Pending. The couplers in these units are not licensed for use where a single antenna supplies more than one individual home.



## 8300 Twisted Pair Shielded Transmission Line Type

-"L" antenna plus additional half doublet antenna for maximum short wave response. Shielding on transmission line also provides ground for " $L$ " antenna and eliminates need forlightning arrester. Completely assembled -in display carton.

## Contents:

$1-60^{\prime}$ Coil $7 \times 22$ Beldenamel 1-Double Iron Core Receiver Acrial Wire 8005
1-25' Coil $7 \times 22$ Beldenamel Aerial Wire 8005
$1-50^{\prime}$ Coil Shielded Twisted Par Transmission Cable 8209
1-Double Jron Core Antema Coupler Transformer 8101
1-25' Coil 18 Stranded (iround Wire
2-Porcelain Nail-on Kinobs sioz
1-7" Ntand-off Insulator S104
2-Poredain Insulators
1-Ground Clamp 8897
1-Instruction Sheet
. Iist price each $\$ 8.35$
8300
8302 Standard Doublet Type
-with iron core receiver coupler. Completely assembled in attrac-
 tive display carton.

## Contents:

$2-30^{\prime}$ Coils $7 \times 24$ Bare Copper Aerial Wire 8002
1-45' Coil Twisted Pair Transmission Wire 8205
1-Antenna Junction Box
2-Porcelain Insulators 8103
1-Receiver Impedance Matching Coupler $1-25^{\prime}$ Coil 18 Stranded Ground Wire
1-7" Stand-off Insulator 8104
2-Porcelatin Nail-on Knobs 8102 1-Instruction Sheet
8302
. List price each $\mathbf{\$ 4 . 0 0}$

## Belden Underwriters' Approved <br> Power Line Filters

8100-Deluxe Power Line Filter-effectively prevents power line in-
 terference. Has two dual condenser sections and two dual high " $Q$ " choke coils. Eliminates man-made static on both broadcast and short wave bands. Efficient with all
types of receivers. Ground is provided by three-wire power supply cord climinating possihility of shock from case. Rating: 115 volts, 3 amperes. 8100 $\qquad$ List price each $\mathbf{\$ 9 . 5 0}$ $\star 8105$-Standard Power Line Filter-has dual special high capacity low inductance condenser section. (therwise similar to 8100. Effectively eliminates "hack door" interference in practically all installations. Rating: 115 volts, 3 amperes.

* 8105

List price each $\mathbf{\$ 5 . 0 0}$

# Belden * aerial kits-aERIAL wire-accessories 

Belden Broadcast Aerial Kits<br>Wire and accessories for complete installation<br>*8303-Contents:<br>$1-50^{\prime} 7 \times 26$ Bare Copper Aerial 8003<br>1-Type "C" Grounl<br>Clamp Ss97<br>8304-Contents:<br>$1-75 \prime 7 \times 22$ Beddenamel 80105<br>1-35' 16 sitranded Lead-in<br>1-Arrester sw!<br>1-Tyue "C" (irouml Clamp ssu7<br>8305-Contents:<br>List price each $\mathbf{\$ 0 . 7 0}$<br>$1-25^{\prime}$ is stranded Lead-in<br>2-Porcelain Nail-on Kinobs 8102<br>2-P'orcelain Insulators 8103<br>List price each $\$ 1.75$<br>1-12" Jeaul-in Strip 8890<br>2-3" Glans Insulators 8814 2-Porrelain Nail-on Kinols 8102<br>2-(ialvanized Sorew-eyes 1-Instrurtion Sheet<br>List price each \$1.60<br>1-75' Coil $7 \times 22$ Bare Copper Aeriall 8000 ; otherwise satme as 83304<br>8307-Contents:<br>List price each $\mathbf{\$ 1 . 1 5}$<br>1-75' $7 \times 2413$ are ( $: 0 p p e r$ Aerial sone<br>$1-25^{\prime} 18$ stranded Lead-in<br>1-Arrester $8 \mathbf{S}$ : $\mathbf{M}^{2}$<br>1-Tyюе "C" (iround Clamp 8897<br>8309-Contents:<br>List price each $\mathbf{\$ 0 . 8 5}$<br>1 -50' Coil $7 \times 26$ Bare Copper Aerial 8003; otherwise same ans S 3017

## Belden Indoor Aerial Wire

 Extra Flexible

## Belden Arresters-Ground Clamps



8950-Doublet air gap type porer lain arrester. List price each. . $\$ 0.35$
8896-Belden standard size bakelite resistor type arrester dissipates destructive charges induced in the ierial system. listed as standard by Underwriters'. Furnished with $\$ 100.00$ guarantee. List price each.
. $\$ 0.23$
8891 -Belden large size arrester; otherwise same as SSOK. List price cach . . . . . . . . . . . . . . . . . . . . $\$ 0.40$
8892-Biter type ground clamp$81 / 4$ " long. List price each . . . $\$ 0.115$ 8897 - "C" type ground clamp. Fits pipe up to $13 / 4$. List price each $\$ 0.10$


8104-6" Stand-off insulator. List price each

## Belden Aerial Wire Full Gauge and Weight


Stranded Bare Copper

| Number | $\begin{gathered} \text { Length } \\ \text { in } \\ \text { feet } \end{gathered}$ | Size and Unit | List <br> Price Esch |
| :---: | :---: | :---: | :---: |
| 8000 | 50 | $7 \times 22$ c | \$0.37 |
| 8000 | 75 | $7 \times 2 \% \mathrm{c}$ | . 54 |
| 8000 | 100) | $7 \times 22$ | . 71 |
| 8000 | 1(10) | $7 \times 22$ s | 7.10 |
| 8001 | 50 | $7 \times 23$ c | . 31 |
| 8001 | 75 | $7 \times 23$ c | . 44 |
| 8001 | 100) | $7 \times 23$ | . 58 |
| 8001 | 100) | $7 \times 23$ s | 5.80 |
| 8002 | 50 | $7 \times 24$ c | . 26 |
| 8002 | 75 | $7 \times 24$ | . 37 |
| 8002 | 101) | $7 \times 24 \mathrm{c}$ | . 48 |
| 8002 | 1000) | $7 \times 24$ s | 4.80 |
| 8003 | 50 | $7 \times 26$ | . 19 |
| 8003 | 75 | $7 \times 26$ | . 26 |
| 8003 | 100) | $7 \times 26$ s | 3.45 |
| 8004 | 500 | 7×20s | 5.50 |
| Stranded Tinned Copper |  |  |  |
| 8010 | 100 | $7 \times 22$ c | . 84 |
| 8010 | 1000) | $7 \times 22$ s | 8.40 |
| Stranded Beldenamel |  |  |  |
| 8005 | 75 | 7 x 22 d | . 74 |
| 8005 | 100) | $7 \times 2{ }^{\text {¢ }}$ | . 98 |
| 8005 | 150 | $7 \times 2 \%$ d | 1.45 |
| 8005 | 1000 | $7 \times 2 \times$ | 9.55 |
| 8006 | 100 | $7 \times 20 \mathrm{~d}$ | 1.65 |
| 8006 | 1000 | $7 \times 20$ | 16.00 |
| Solid Beldenamel |  |  |  |
| 8007 | 500 | 10 s | 8.75 |
| 8008 | 100 | 12 l | 1.18 |
| 8008 | 500) | 12 s | 5.70 |
| 8009 | 100 | 14 d | . 80 |
| 8009 | 500 | 14s | 3.75 |
| Solid Tinned Copper (Bus Bar Wire) |  |  |  |
| 8011 | 500 | 12 s | 5.80 |
| 8012 | 500 | 14 s | 3.75 |
| 8013 | 500 | 16 s | 2.75 |
| 8017 | 500 | 1 S | 1.65 |
| 8018 | 50, | 20 s | 1.15 |

Belden Lead-in Strips-Insulators


8890-12" single lead-in strip-rul) ber insulation-clips both ends. I ist price each
.50 .10 8811-15" Single lead-in strip-rul)her insulation-clips hoth ends. List price each . . . . . . . . . . . . . . . $\mathbf{\$ 0 . 1 2 5}$
$8812-12^{\prime \prime}$ Single leaul-in strip. Lacquered braid-celips both ends. Isist price each.
. \$0.075
8813 - $12^{\prime \prime}$ Double lead-in strip. Larquered braid-clips both ends. List price each. . . . . . . . . . . . . $\$ 0.165$ 8814-Class insulators $3^{\prime \prime}$ over-all length. List price pair . . . . . $\$ 0.175$ 8102-Porcelain Nail-on Ǩnohs. List price eath. . . . . . . . . . . . . . . $\mathbf{\$ 0 . 0 4}$ 8103-Porcelain insulators 23 " ${ }^{\prime \prime}$ over-all length. List price each $\mathbf{\$ 0 . 0 4 5}$

## Belden * transmission line cables

These 'Transmission Cables will meet the requirements for all the frequencies in the audio to and including the television or frequency modulation range.

## 72 Ohm Coaxial Cables



15 Solid tinned, low loss rubber compound, tinned copper shield, tough vulcanized rubber sheath.
O.D. $=.435^{\circ}$

i: Solid tinned, low loss insulating bead, tinned copper shield, vulcanized rubber sheath.
O.D. $=.485^{\prime \prime}$

18 stranded tinned, celanese braid, rubber "overed, color coded, twisted pair with fillers. relanese wrap, rubber sheath. O.D. $=.270^{*}$


I8 stranded timed, celanese braid, rubber 'overed, color coded, twisted pair with fillers, relanese wrup, timed copper shidh, cotton wrap, rubber sheath.
O.D. $=.350^{n}$

Designed for use as antenna receiving or transmitting cables; also for photoelectric or other circuits where characteristics fit the application.

| Number | $\begin{gathered} \text { Lengilit } \\ \text { fout } \\ \text { fout } \\ \text { spmol } \end{gathered}$ | $\begin{aligned} & \text { Lbt } \\ & \substack{\text { Prot } \\ \text { Exach }} \end{aligned}$ |  | $\begin{gathered} \text { Surge } \\ \text { Smpe } \\ \text { ance } \\ \text { (ollass) } \end{gathered}$ | $\begin{aligned} & \text { Power } \\ & \text { Pumer } \\ & \text { (Peor } \\ & \text { Cent) } \end{aligned}$ | Capartity Candrs. (manit | $\begin{gathered} 0.8 . \\ \text { Cis. } \\ \text { Posi } \\ 100 \mathrm{FL} \end{gathered}$ | Vahus |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8216 | 50ct\$0.13' |  | 100 | 67.8* | . 69 | 28.0 | . 031 | 145. | 40000 | 1000 |
|  | 500c $\dagger$ |  | 1500 | 69.3* | . 68 | 26.8 | . 225 | 148. |  |  |
| 8216 |  | .13' | 10000 | 70.0* | . 73 | 26.3 | 1.030 | 136. |  |  |
|  |  |  | 40000 | 70.2* | . 50 | 25.9 | 2.240 | 203. |  |  |
|  |  |  | 100000 | 71.1* | . 50 | 25.5 | 3.780 | 203. |  |  |
| 8217 | 50ct $\dagger$ | .50' | 100 | 73.6* | . 068 | 17.6 | . 057 | 1475. | 3000 | 2000 |
|  |  |  | 1500 | 73.9* | . 060 | 17.7 | . 134 | 1670. |  |  |
| 8217 | $100 \mathrm{c} \dagger$ | . $50{ }^{\prime}$ | 10000 | 75.8* | . 060 | 16.6 | . 377 | 1665. |  |  |
|  |  |  | 40000 | 77.0* | . 060 | 15.9 | . 620 | 1607. |  |  |
|  |  |  | 100000 | 77.8* | . 060 | 15.0 | 1.06 | 1607. |  |  |



## 100 Ohm Twisted Pair <br> For Teievision or Frequency Modulation (FM)

| *8218 500 $\dagger$ | .08' | 100 | 05.* | 1.51 | 18.5 | .04* | 16.3 | 10000 | 250 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1500 | 107.* | 1.73 | 18.0 | .270 | 37.8 |  |  |
|  |  | 10000 | 113.* | 1.80 | 16.0 | 1.399 | . 5.5 |  |  |
|  |  | 40000 | 106.* | 2.27 | 18.2 | 5.s00 | 45.0 |  |  |
|  |  | 100000 | 106.* | 2.27 | 18.5 | 13.100 | 45.0 |  |  |
| *8219 500 $\dagger$ | .14' | 100 | 90.* | 2.18 | 25.5 | . O (0) | 15.9 | 10000 | 250 |
|  |  | 1500 | 90.* | 1.75 | 25.5 | .326 | 57.1 |  |  |
|  |  | 10000 | 93.* | 1.77 | 23.5 | 1.367 | 56.5 |  |  |
|  |  | 40000 | 92.* | 2.01 | 24.5 | 6.180 | 30.3 |  |  |
|  |  | 100000 | 90.* | 2.05 | 25.5 | 14.530 | 49.3 |  |  | rubber weather-proofed.

## Transmitting Line Cable

| 8210100 c | $.055^{\prime}$ | $1(0)$ | $72.0^{*} 3.08$ | 31.3 | .045 | 32.5 | 200002000 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | $15(0)$ | $73.7^{*}$ | 2.16 | 29.7 | .463 | 46.3 |  |
| $8210500 \dagger$ | $.055^{\prime}$ | $1(000)$ | $73.7^{*}$ | 2.53 | 29.7 | 2.230 | 39.5 |  |
|  |  | 40000 | $73.0^{*}$ | 1.12 | 29.7 | 6.300 | 39.0 |  |
|  |  | 100000 | $73.0^{*}$ | 1.12 | 29.7 | 10.450 | 89.0 |  |



Fion the majority of all-wave receivers and of any. half-wave di-pole antenna. 1s stranded tinined, cotton wrap, low capacity rubber, rolor conded, twisted pair, over-all white cotfon braid, weather-proofed.

## 72 Ohm Twisted Pair

 For Broadcast and Short Wave| 8204 | $75 c$ | 1.93 | 100 | $66.4^{*}$ | 1.29 | 34.5 | .062 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  | 150 | $67.7^{*}$ | 1.42 | 33.5 | .357 |
| 8204 | $500 \dagger$ | $.025^{\prime}$ | 10000 | $68.4^{*}$ | 1.93 | 32.5 | 2.11 |
|  |  |  | 40000 | $68.9^{*}$ | 2.02 | 31.9 | 6.25 |
|  |  | 100000 | $69.6^{*}$ | 2.00 | 31.0 | 15.600 |  |

10000250
.


Recommended for lead-ins where interferance is great. 18 Stranded tinued, cotton wrap, rulber covered, color coded, twisted pair; puper wrap and tinned copper shield wer twisted pair - over-all white cotton liraid; weather-proofed.

Shielded Twisted Pair

| 8209 75c | 3.65 | 100 | 75.5* 1.29 | 24.2 | . 052 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1500 | 76.8* 1.42 | 23.4 | 270 |
| 8209 | .05' | 10000 | 77.7* 1.93 | 22.7 | 1.720 |
|  |  | 40000 | 77.7* 1.83 | 22.3 | 4.350 |
|  |  | 100000 | 79.2* 1.83 | 21.7 | 11.100 |

$10000 \quad 250$

## Commercial Type Twisted Pair

$8205500 \dagger \quad .017^{\prime} \quad 100 \quad 92.5 \quad 5.7 \pm \quad 23.8$

| 1000 | 92.5 | $5.7 \pm$ | 23.8 |
| ---: | ---: | ---: | ---: |
| 1500 | 95.5 | 3.88 | 22.3 |
| 10000 | 96.0 | 3.63 | 21.3 |

22 Stranded tinned, paper wrap, rubber covered, color coded, twisted pair, over-all black cotton lraid, weather-pronfed.

1. Stranded, low capacity rubber, rayon hraid, tinned copper shield, over-all glazed cotton braid lacquered.
O.D. $=.160^{\circ}$

## Signal Generator Cable

$821150 \quad .05 \quad 100 \quad 25.42 .2 \quad 93.5$
$\begin{array}{llll}1500 & 25.6 & 1.96 & 91.5\end{array}$
$\begin{array}{llll}10000 & 25.7 & 2.8 & 90.7\end{array}$

# Belden * * all-rubber lead-in wire 

## All-Rubber Lead-in Wire

( $\rightarrow \square$
Easy stripping-easy soldering. All made of 7 strands of tinned copper wire with extra thick rubber sheath as indicated. (. $031^{\prime \prime}=1 / 32^{\prime \prime}$ )

| Number | Lenglh In FI. on Speol | $\begin{aligned} & \begin{array}{l} \text { List } \\ \text { Price } \\ \text { ach } \end{array} \end{aligned}$ | Size | Rubber Thickess | Outside Diameler of Wire |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8213 | 500 | \$0.005' | 20 | . $031{ }^{\text {" }}$ | . 100 " |
| 8213 | 1000 | .005' | 20 | .031* | .100* |
| 8200 | 100 | . $007{ }^{\prime}$ | 18 | .040" | .129" |
| 8200 | 500 | .007' | 18 | .040" | .129" |
| 8200 | 1000 | .007' | 18 | .040* | 129** |
| 8201 | 50 | .009 | 16 | .040* | .140" |
| 8201 | 100 | .009' | 16 | .040" | .140" |
| 8201 | 250 | .009' | 16 | .040" | .140" |
| 8201 | 500 | .009' | 16 | .040" | .140" |
| 8201 | 1000 | .009' | 16 | .040" | $140^{*}$ |
| 8202 | 50 | .015' | 14 | .047" | .174" |
| 8202 | 250 | .015' | 14 | .047" | .174" |

## Belden Shielded Lead-in Wire



Size 16 Stranded, rubber thickness indicated, timed eopper shield. For any audio or radio frequency circuits.

| Number | Length in Fl . on Spool | $\begin{aligned} & \hline \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | Rubber Wall | Frequeney <br> (Kc.) | $\begin{gathered} \text { Surge } \\ \text { Impedance } \\ \text { (Ohms) } \end{gathered}$ | $\begin{gathered} \text { Power } \\ \text { Factur } \\ \text { (Per Ceat) } \end{gathered}$ | Mailmun Capacily memt. per Ft |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 8206 \\ & 8206 \end{aligned}$ | $\begin{array}{r} 50^{\prime} \\ 250^{\prime} \end{array}$ | $\begin{array}{r} 50.025^{\prime} \\ .025^{\prime} \end{array}$ | $1 / 32^{\prime \prime}$ | 100 | 33.0 | 2.0 | 64.5 |
|  |  |  |  | 1500 | 33.5 | 1.78 | 63.0 |
|  |  |  |  | 10000 | 33.8 | 1.52 | 62.0 |
| 8207 | $250^{\prime}$ | .03' | 4/64" | 100 | 68.9 | 2.88 | 57.5 |
|  |  |  |  | 1500 | 70.0 | 2.44 | 55.0 |
|  |  |  |  | 10000 | 73.2 | 2.12 | 50.5 |

Belden Terminals


Tinned-casy to solder-packed in clearview cartons that are easy to stock ind handle.

| Screw Size | 8 | 10 | 8 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number | 8995 | 8996 | 8997 | 8998 | 8999 |
| List Price | $\$ 0.40 \mathrm{C}$ | $\$ 0.40 \mathrm{C}$ | $\$ 0.63 \mathrm{C}$ | $\$ 0.40 \mathrm{C}$ | $\$ 0.40 \mathrm{C}$ |

## Belden Terminal Assortment



8994-100 Assorted Belden Terminals in clearview carton. Includes:

| $20-8995$ | $35-8999$ |
| :--- | ---: | :--- |
| $10-8996$ |  |
| 8994 LList price 50.63 C |  |

## Belden A-C-D-C Resistance Cords



Todetermine the proper it-c-ate line cord, add the filament voltages of the individual tubes in the reeceiver. From the chart lxlow, select the nearest figure under the heading SUN OF TUBE VOLTAGES in the column headed hy the available powersupply. Leingth 6 ft . Size 18 .

| Number | $\begin{aligned} & \text { List } \\ & \text { Prica } \\ & \text { exih } \end{aligned}$ | $\begin{aligned} & \text { Resist• } \\ & \text { ance } \\ & \text { (0hms) } \end{aligned}$ | Color Marker | Voltage Dropal 0.3 Amps. | Sum ol Tuba Vallages |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 110 V | 115 V | 12 V |
| 8920 | \$0.60 | 135 | Olive | 40.5 | 69.5 | 74.5 | 79.5 |
| 8921 | . 60 | 165 | Maroon | 49.5 | 60.5 | 65.5 | 70.5 |
| 8976 | . 60 | 180 | Orange | 54 | 56 | 61 | 66 |
| 8929 | . 60 | 220 | Blue | 60 | 44 | 49 | 54 |
| 8977 | . 60 | 250 | Grey | 75 | 35 | 40 | 45 |
| 8922 | . 60 | 290 | Blatek | 87 | 23 | 28 | 33 |
| 8923 | . 60 | 330 | Brown | 99 | 11 | 16 | 21 |

NOTE: Where other line voltages than thone shown above must be used, sultract sum of lube vollauses from available power supply. The nearest figure in vollaue drop culumn will indieate proper $n-r-1-c$ cord to use.

## Universal A-C-D-C Resistance Cord

Replaces any resistince line cord on $\mathrm{A}-\mathrm{C}-\mathrm{D}-\mathrm{C}$ receivers which employ tubes drawing 0.3 ampere. I'rovides resistances in steps from 22 to 330 ohms. Instructions with each cord. One cord servires all jobs.
$\star 8107$.
. List price ealch \$1.50

## Belden Replacement Cords for Radios, Lamps, Small Appliances

Consists of Bedden Extra Flexible . Nll-Rubber Lamp Cord with Belden Unbreakable Soft Rubber Plug; opposite end stripped and tinned ready for casy attachment.
1725-71/2 ft. brown only. List. price each $\$ 0.28$

## Belden Extension Cord with Belden Soft Rubber Service Block



Buth ends unbreakalole rubbercen't mar flowrs or furniture-safe for use on table tops. Underwriters. Huc Lathel.
$\star$ 1701-10 ft. brown only. List price each . . . . . . . . . . . . . . $\mathbf{~} \mathbf{5 0 . 7 0}$

## Belden Head Phone and Magnetic Speaker Cords

5 Foot cords of extra flexible moisture-proof rubher covered tinsel cord, over-all durable mercerized brown cotton braid. "Y" arm sections additional 15 ", coupled in series. 8872 -Head phone set pin tips all ends. List price cach . . . . . . . . $\$ 0.78$ 8873- IIead phone set spade tijs4 phone ends, pin tips plug end. List price each . . . . . . . . . . . . $\$ 0.78$ 8870-Magnetic spaker cord-pin tips both ends. List price each. $\$ 0.55$ 8871-Mugnetic speaker cord—pin tips 1 end, spade tips opposite rud. List price cuch . . . . . . . . . . . . $\$ 0.55$

# Belden * microphone cable, Shielded, Rubber Sheathed 



Use 8400 and 8401 for ribhon or crystal and single hutton carlon microphones--or low impendane transmission lines. Belden-developed low capacity rubber core and combination stranding of tinned copper and phosphor bronze wire give extra flexibilit: plus unusual tensile strength.
Use 8421 with heavier copper stranding where very low capacity is not essential.
8411-For lapel microphones.
8431-For phonograph pick-ups-(over-all cotton braid.)

| Number | $\begin{aligned} & \text { lengit } \\ & \text { inff. } \\ & \text { Spooel } \end{aligned}$ | $\begin{aligned} & \begin{array}{c} \text { List } \\ \text { Prike } \\ \text { Per Fit. } \end{array} . \end{aligned}$ | Number al | maximum capacity mmf Pen fi. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Size | Belwern Conductor and Shield | Belween Conductors |  |
| 8400 | 100 | \$0.065 | 1 | 26 | 29 |  | .215" |
| 8400 | 500 $\dagger$ | . 065 | 1 | 26 | 29 |  | .215* |
| 8401 | 100 | . 075 | 1 | $2 i$ | 25 |  | . $245^{\prime \prime}$ |
| 8401 | 500 $\dagger$ | . 075 | 1 | 26 | 25 |  | . $245^{\prime \prime}$ |
| 8421 | 100) | . 06 | 1 | 0 | 14 |  | . 260 * |
| 8421 | $500 \dagger$ | . 06 | 1 | $\because 0$ | 44 |  | . 260 " |
| 8411 | 100 | . 045 | 1 | 26 | 35 |  | .155" |
| * 8431 | 100 | . 03 | 1 | 20 | 55 |  | .160" |



For single or multiple cell microphone, photoelectric cells and dual carbon microphone circuits wherein the shield may be employed as a common conductor, usually at ground potential.

Two Conductor-Crystal Microphone

| 8402 | 100 | .10 | 2 | 26 | 32 | 16 | $.245^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 8402 | $500 \dagger$ | .10 | 2 | 26 | 32 | 16 | $.245^{\circ}$ |



For double-button carbon microphone circuits using the shicld as the grounded connection and for low impedance, 50 to 500 ohm transmission lines-or for coupling a pre-amplifier to a power amplifier, employing the shield as a ground.

| Two Conductor-Carbon Microphone |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8422 | 100 | . 07 | $\because$ | 20 | 70 | 37 | .280" |
| 8422 | $500 \dagger$ | . 07 | $\because$ | 20 | 70 | 37 | .280" |
| 8422 | $1000 \dagger$ | . 07 | $\because$ | 20 | 80 | 83 | .280 ${ }^{\circ}$ |



For clouble-button carbon microphones feeding a mixer panel or circuits in which the diaphragm of the microphone must be above ground potential, yet shielded from transient fields.
For clouble-button carbon microphone circuits in which the attenuation control is lorated at the microphone and employs two of the four conductors of the cable.
For condenser microphone transmission line and power supply to microphone head amplifier.
For condenser micropltone circuit with remote control switch or pilot light at microplone.
For anto-radio test instruments and acid rexisting analyzer cable.

## Three to Seven Conductor

| $\mathbf{8 4 2 3}$ | 100 | .075 | 3 | 20 | 65 | 37 | $.280^{\prime \prime}$ |
| ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{8 4 2 3}$ | $500 \dagger$ | .075 | 3 | 20 | 65 | 37 | $.280^{\circ}$ |
|  |  |  |  |  |  |  |  |
| 8424 | 100 | .10 | 4 | 20 | 67 | 35 | $.325^{\prime \prime}$ |
| $\star 8424$ | $500 \dagger$ | .10 | 4 | 20 | 67 | 35 | $.325^{\prime \prime}$ |
|  |  |  |  |  |  |  |  |
| $\mathbf{8 4 2 5}$ | 100 | .12 | 5 | 20 | 58 | 30 | $.380^{\prime \prime}$ |
| $\star 8425$ | $500 \dagger$ | .12 | 5 | 20 | 58 | 30 | $.380^{\prime \prime}$ |
| $\mathbf{8 4 2 6}$ | 100 | .14 | 6 | 20 | 60 | 27 | $.410^{\prime \prime}$ |
|  |  |  |  |  |  |  |  |
| $\mathbf{8 4 2 7}$ | $1(0)$ | .17 | 7 | 20 | 56 | 26 | $.430^{\prime \prime}$ |



For temporary indoor installations of low impedance or carbon microphone transmission circuits. 20 (Stranded tinned), paper wrap, $1 / 64^{\prime \prime}$ rubher, color coded treated cotton braid, cabled, with tinned copper shield over all.

## Shielded-Without Rubber Sheath

8432
8432
8433
8433
8434

[^16]All prices subject to change without notioe

# Belden * MULTIPLE CONDUCTOR CABLE 

## Rubber Sheathed

For use as " A " battery lead wire. Size 10 ( $105 \times 30$ timed) acid resisting rubber sheath. COLORS: red or black.

| Number | Lenith on Speol | $\begin{aligned} & \hline \text { List } \\ & \text { Price } \\ & \text { per fit. } \end{aligned}$ | $\begin{gathered} \text { No. } \\ \text { Coit: } \\ \text { ducters } \end{gathered}$ | Thichness Rubher Stwath | Outside <br> Diameter |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8451 | 100 | \$0.055 | 1 | .047" | $\therefore 80{ }^{*}$ |

For permanent magnet dynamic speakers and general power supply cable. 18 (41×34) cotton wrap, $1 / 64^{\prime \prime}$ rubber. color coded, cabled with fillers, cotton wrap-over-ali rubber sheath.


Brown parallel all-rubber lamp cord for test equipment requiring power line connection. 18 ( $41 \times 34$ ), cotton wrap, 1/64" rubber.
$8462 \quad 100 \quad .02 \quad \geq \quad 1 / 64^{\prime \prime} .120^{\prime \prime} \times .225^{\prime \prime}$


For electrodynamic speakers in which one audio circuit serves also as the return lead of the field supply and for speakers with a center-tapped injut transformer requiring a three rondurtor cable. Construction same as 8452.

| 8453 | 100 | .045 | 3 | $.040^{\prime \prime}$ | $.265^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 8453 | $500 \dagger$ | .045 | 3 | $.040^{\prime \prime}$ | $.265^{\prime \prime}$ |

## Rubber Sheathed (Cont'd)

For four-wire a-c or electro-dynamic speaker lines. Two 18 ( $41 \times 34$ ) balance 20 ( $10 \times 30$ ). Size 18 wires-for lower resist-ance-ideal for speaker field or other heavy applications.

| Number | $\begin{aligned} & \text { Leminit } \\ & \text { in } \mathrm{Sm} \end{aligned}$ |  |  | Thickness Rubluef Slualh | $\begin{aligned} & \text { Outricter } \\ & \text { Dianater } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8454 | 100 | \$0.06 | 4 | .040" | . $260{ }^{\text {s }}$ |
| 8454 | 500 $\dagger$ | . 06 | 4 | . 040 " | . $260^{\prime \prime}$ |

For center-tapped push-pull dynamic speakers requiring an independent field supply circuit. Construction same as 8454.

| 8455 | 100 | .075 | 5 | $.050^{\prime \prime}$ | $.320^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 8455 | $250 \dagger$ | .075 | 5 | $.050^{\prime \prime}$ | $.320^{\prime \prime}$ |

## Over-all Glazed Cotton Abrasion-proof "Basket-Weave" Braid <br> 

For permanent installation of speakers, remote control equipment, and multiple circuit, 500 -ohm transmission lines.

| Number | $\begin{aligned} & \text { Lempth } \\ & \text { inft. } \\ & \text { inf } S \text { mon } \end{aligned}$ | $\begin{aligned} & \text { Iisist } \\ & \text { Pries } \\ & \text { perft. } \end{aligned}$ | $\begin{aligned} & \text { No. } \\ & \text { Cair } \\ & \text { duclers } \end{aligned}$ | Dascription | $\begin{gathered} \text { Outside } \\ \text { Diamater } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8443 | 100 | \$0.03 | 3 | 20 (stranded tinned) | . $190{ }^{\prime \prime}$ |
| 8443 | $500 \dagger$ | . 03 | 3 | paper wrap . 020 rub- | . $190{ }^{\prime \prime}$ |
| 8444 | 100 | . 035 | 4 | her, color coded, ca- | .210" |
| 8444 | $500 \dagger$ | . 035 | 4 | bled, over-all brown | . 210 " |
| 8445 | 100 | . 045 | 5 | braid. | .230" |
| 8445 | $500 \dagger$ | . 045 | 5 |  | .230" |

For use where high eurrent rust be carried with a low potential drop.

| 8446 | 100 | . 06 | 6 | 2 - | .290" |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8447 | 100 | . 07 | 7 | tinned) $1 / 32^{\prime \prime}$ rubber | . $310{ }^{\prime \prime}$ |
| 8448 | 100 | . 09 | 8 | balance, 20 (stranded | . 370 " |
| 8449 | 100 | . 10 | 0 | tinned). Otherwise | .400" |

## PA AND COMMUNICATING SYSTEM CABLES

## Twisted Pair Type For Inside Use

## 8

ThC25:
Individual conductors, 22 concentric stranded tinned, rotton wrap, color coded cotton braid waxed, twisted pairs, cabled, over-all hraid coated with cable lacquer or paint.

| Numbur | Length in Ft . on Spoct | List Prict per it. | $\begin{gathered} \mathrm{Ne} \text {. } \\ \text { Canduciers } \end{gathered}$ | 0.0. |
| :---: | :---: | :---: | :---: | :---: |
| *8701 | inct | 50.025 | 2 (1 pr.) | .135" |
| +8705 | $500 \dagger$ | . 085 | 10 (5 pr.) | . $350^{\prime \prime}$ |
| +8707 | ic) $\dagger$ | . 115 | 14 (7 pr.) | .405" |
| +8713 | $500 \dagger$ | . 23 | 26 (13 pr.) | . $600{ }^{\prime \prime}$ |
| *8719 | 300 $\dagger$ | . 33 | 38 (19 pr.) | 1.2 " |

## Shielded Twisted Pair Type For Inside Use



19 Solid, double enameled, wrap cotton, color coded cotton braid waxell, twisted pair, over-all hare copper shicld.
8799
100
.035
$\stackrel{2}{2}$
.145"
8799 .30 $\dagger$. 035 2.

## Twisted Pair Type For Inside or Outside Use



19 Solid tinned, $1 / 32^{\prime \prime}$ rubber, color coded cotton braid. waxed, tinned copper shield on one conductor, cabled with fillers, cotton hraid, weather-proofed.

| Number |  | $\begin{aligned} & \hline \text { list } \\ & \text { Prive } \\ & \text { Priven fit } \end{aligned}$ | $\begin{gathered} \mathrm{No} . \\ \text { Condeters } \end{gathered}$ | 0.0 |
| :---: | :---: | :---: | :---: | :---: |
| 8773 | 500 $\dagger$ | \$0.055 | 2 (1 plain) | . $315{ }^{\prime \prime}$ |
|  |  |  | (1 shielded) |  |
| 8774 | 500† | . 07 | $\begin{aligned} & 3 \text { (2 plain) } \\ & \text { (1 shielded) } \end{aligned}$ | . 380 |

## Armored Speaker Cable



18 Stranded tinned color coded cotton wrap, 2-conductors parallel, $1 / 64^{\prime \prime}$ rublser, paper wrap, over-all tinned steel arnor.

| $\mathbf{8 2 1 2}$ | $\mathbf{2 5 0 \dagger}$ | $\mathbf{5 0 . 0 4 5}$ | 2 | $.155^{\prime \prime}$ |
| ---: | ---: | ---: | ---: | ---: |
| 8212 | $500 \dagger$ | .045 | $\frac{2}{2}$ | $x$ |
| $\star 8212$ | $1000 \dagger$ | .045 | 2 | $.260^{\prime \prime}$ |
| 8 |  |  |  |  |

8204-Unshielded Twisted Pair-See page 3.
8209-Shielded Twisted Pair-See page 3.
$\dagger$ Length muy vary $\pm 10 \%$ *New number . Ill prices sulject to change without notice

## Belden $\star$ MAGNET wIRE-LITZ WIRE-AUTO-RADIO WIRE

Belden Magnet Wire
Beldenamel

| Ski | $\begin{aligned} & \text { Turas pers } \\ & \text { Limezr } \\ & \text { inch } \end{aligned}$ | Turms per Spuarit leck | Appraximate Length in Feet |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\underset{\text { Spell }}{25 \mathrm{c} \text { List }}$ | $\text { Spmil }_{1 / 4}$ | $\begin{aligned} & \hline \text { List } \\ & \text { Prike } \\ & \text { Exacit } \end{aligned}$ | 1/2m. Spool | $\begin{aligned} & \text { List } \\ & \text { Prica } \\ & \text { Each } \end{aligned}$ |
| 14 | 14.7 | 217 | 20 |  |  | 39 | \$0.45 |
| 16 | 18.6 | 345 | 30 |  |  | 60 | . 45 |
| 18 | 23.2 | 540 | 50 |  |  | 100 | . 45 |
| 20 | 29.2 | 851 | 75 |  |  | 160 | . 48 |
| 22 | 36.5 | 1330 | 120 |  |  | 250 | . 48 |
| 24 | 45.7 | 2090 | 175 |  |  | 400) | . 50 |
| 26 | 57.8 | 3340 | 250 |  |  | 635 | . 55 |
| 28 | 71.9 | 5170 | 340 | 505 | \$0.34 | 1010 | . 60 |
| 30 | 89.0 | 7920 | 430 | 805 | . 38 | 1610 | .67 |
| 32 | 110.7 | 12260 | 600 | 1275 | . 41 | 2550 | . 72 |
| 34 | 140.2 | 19650 | 800 | 2030 | . 48 |  |  |
| 36 | 175.6 | 30840 | 900 | 3220 | . 55 |  |  |
| 38 | 219.0 | 47970 | 000 | 5120 | . 72 |  |  |
| 40 | 282.5 | 79810 | 900 | 8140 | 1.08 |  |  |
| Double Cotton Covered -White |  |  |  |  |  |  |  |
| 14 | 13.3 | 176 | 20 |  |  | 39 | \$0.48 |
| 16 | 16.2 | 262 | 30 |  |  | 60 | . 50 |
| 18 | 19.6 | 386 | 40 |  |  | 95 | .53 |
| 20 | 23.6 | 556 | 55 |  |  | 150 | . 55 |
| 22 | 29.0 | 840 | 75 |  |  | 235 | . 57 |
| 24 | 34.3 | 1175 | 100 |  |  | 360 | . 65 |
| 26 | 40.2 | 1620 | 150 | 280 | \$0.43 |  |  |
| 28 | 46.6 | 2170 | 175 | 430 | . 48 |  |  |
| 30 | 53.2 | 2835 | 200 | 645 | . 53 |  |  |
| 32 | 59.7 | 3570 | 220 | 965 | . 62 |  |  |
| 34 | 67.2 | 4510) | 250 | 1350 | . 81 |  |  |
| 36 | 76.1 | 5790 | 275 | 1675 | 1.00 |  |  |
| Double Silk Covered -White |  |  |  |  |  |  |  |
| 18 | 22.1 | 490 | 25 | 50 | \$0.41 | 100 | \$0.69 |
| 20 | 27.3 | 74.5 | 35 | S0 | . 43 | 160 | . 79 |
| 22 | 34.0 | 1153 | 55 | 125 | . 46 | 250 | . 79 |
| 24 | 41.5 | 1719 | 75 | 195 | . 50 | 395 | . 88 |
| 26 | 50.8 | 2576 | 100 | 310 | . 57 | 620 | 1.03 |
| 28 | 62.1 | 3853 | 120 | 490) | . 67 |  |  |
| 30 | 75.0 | 5620 | 140 | 765 | . 81 |  |  |
| 32 | 87.8 | 7710 | 165 | 1190 | 1.07 |  |  |
| 34 | 100.5 | 10095 | 175 | 1785 | 1.60 |  |  |
| 36 | 113.3 | 12842 | 200 | 2685 | 2.10 |  |  |

## Belden Litz Wire

For rewinding antenna primaries and for hand wound amateur r-f coils up to 30 megacycles.
$8817-100 \mathrm{Ft}$. spool $7 \times 41$ Beldenamel with 2 wraps of tram silk. List price . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$0.004' 8818-100 Ft. spool $10 \times 41$ Beldenamel with 2 wraps of tram silk. List price.
. $\$ 0.004^{\prime}$

## Replacement Wires for Test Prods

The outstanding feature of this wire is its limpness. 18 Stranded, tinned, $3 / 64^{\prime \prime}$ rubiser.
8899-100 Feet, red or black on spool. List price . . . \$0.02' 8899-14 Fect - Seven feet each color, red and black wound parallel on spool. List price each.
50.40

## Shielded Fabric Loom


$8657-50 \mathrm{ft} .3 / 16^{\prime \prime}$ I.D. in carton. List price . . . . . . $\$ 0.065^{\prime}$
$8658-50 \mathrm{ft} .5 / 16^{\prime \prime}$ I.D. in carton. List price . . . . $\$ 0.08^{\prime}$

## Belden Auto-Radio Wires

 Shielding

Tinned Copper-8661 fits 7 mm . spark plug wires.

| Number | $\begin{aligned} & \text { Lemeth in } \mathrm{Ft} \text {. } \\ & \text { on smal } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { crice } \end{aligned}$ | $\begin{gathered} \text { Insile } \\ \text { Diametor } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 8661 | 50 | \$0.045 ${ }^{\prime}$ | 388 |
| 8661 | 250 | .045 ${ }^{\prime}$ | ${ }^{1 / 10}$ |
| 8660 | 50 | .025' | 13/64" |
| 8660 | 250 | . $025{ }^{\prime}$ | 13/64" |
| 8662 | 50 | .125' | 25/32* |
| 8662 | 250 | .125' | 25/32 ${ }^{\prime \prime}$ |

## Motor Grounding Cable

8659-14" Extra flexible braided copper strap. List price each.
$\$ 0.25$

## Auto-Radio Shielded Low Capacitance Lead-In Wire <br> 

8663-100 Ft. 20 stranded tinned, entton wrap, low capacity rubher, rayon braid, tinned copper shield over all. Maximum caparity between conductor and shicld 33 mmf . O.D.-.225". List price . . . . . . . . . . . . . . . . . . . . . . . . . \$0.05'

8664-100 Ft. same as 8663 with rubber sheath over-all. O.D.-. $200^{\prime \prime}$. List price .
. $\$ 0.07$ '

## Spark Plug Wires on 100-Ft. Spools Plain

*8667-7 mm. Belden Pyro-Glaze spark plug wire. List price. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $50.10^{\prime}$

## Shielded



8665-7 mm. Belden Pyro-Glaze spark plug wire with tinned copper shield. List price . . . . . . . . . . . . . . . . . s0.12 $^{\prime}$
$8666-7 \mathrm{~mm}$. commercial grale spark plug wire with tinned copper shield. List price.
. $50.085^{\prime}$

## Automotive Primary Wires

Stranded tinned copper, wrap colored Cellophane, rubber wall, over-all glazed cotton braid lacquered. Colors: 8650 and 8653 , orange; 8651 and 8652, red or black.

| Nunbur | Lengthinith. an Spuol | List Price men t. | Slze | $\begin{aligned} & \text { Pubber } \\ & \text { Thickiess } \end{aligned}$ | 0.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Plain |  |  |  |  |  |
| 8650 | 100 | \$0.05 | 12 | .031" | .195" |
| 8651 | 100 | . 04 | 14 | .027" | .165" |
| 8652 | 100 | . 03 | 16 | .022" | $.140^{\prime \prime}$ |
| 8653 | 100 | . 025 | 18 | .015" | $.120^{\prime \prime}$ |
| Shielded |  |  |  |  |  |

Construction same as above, with over-all fine copper shiell.

| 8654 | 100 | $\$ 0.055$ | 12 | $.031^{\prime \prime}$ | $.225^{\prime \prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 8655 | 100 | .045 | 14 | $.027^{\prime \prime}$ | $.195^{\prime \prime}$ |
| 8656 | 100 | .04 | 16 | $.022^{\prime \prime}$ | $.170^{\prime \prime}$ |

## $\star$ New number

All pricess subjeet. to whange withmut notica

Size 20 special stranded tinned conductors have true concentric lay-giving desirable features of solid wire-yet retaining flexibility. Other stranded constructions are 18 (16x30); 14 (11x30).

## Push-Back—Double Braid-Waxed

For filament, phate, screen rectifier, and "B" supply circuits where working voltage does not exceed 500 volts. Tinned copper-Colors: green, blue, red, yellow, and black.

| Number | Lenth <br> in fl. <br> en Speol | tist Price each | Size | At Room Tenperature and Humidity |  |  |  | Insulation** Resistance Megohms |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Frequency (K.) | Pawn Factor (Per Cent) | value | Punct. Vollage at 60 Cycles |  |
| SOLID |  |  |  |  |  |  |  |  |
| 8830 | 256. | \$0.205 |  |  |  |  | 1400. | 0.0 |
| 8830 | 1000 | . $000{ }^{\prime}$ |  |  |  |  |  |  |
| 8866 | $25 C^{\circ}$ | . 26 | 18 |  |  |  | 1400. | 9.0 |
| 8866 | ( KH ) | .01' | IN |  |  |  |  |  |
| STRANDED |  |  |  |  |  |  |  |  |
| 8831 | $20^{\circ}$ | . 24 | 20 |  |  |  | 1400. | 9.0 |
| 8831 | 1(XV) | . 009 |  |  |  |  |  |  |
| 8867 | $25^{\circ}$ | . 29 | 1s |  |  |  | $14(0)$. | 9.0 |
| 8867 | 1(KX) | .01' |  |  |  |  |  |  |

## Rubber Push-Back "Basket-Weave" Rayon Braid

"Timed copperr, cotton wrap, 010 " rulser, "basket-weave" abrasion-proof ravon braid lacepuered. Colors: green, blue, red, yellow, and black.

## SOLID



## Cellulose Acetate Push-Back "Basket-Weave" Rayon Braid

Thmed ropper, heavy wrap cellulose acetate, "basketweave" abrasion-proof rayon braid lacenered. Colors: green, blue, red, yellow, and black. \$93\$-500' furnished in real and black only.

| So |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8941 | 25 | . 29 | 20 | 100 | 5.35 | -10. |  |  |
| 8941 | 100) | .01' |  | 15(X) | 5.29 | 19.4 | 1550. | 280. |
| 8941 | 1(00) | . $01{ }^{\prime}$ |  | Н¢¢) | 6.12 | 16.4 |  |  |
| 8945 | 25 | . 31 | is | 100 | 5.35 | 20. |  |  |
| 8945 | ( $(\mathrm{x})$ | . 01 |  | 150) | 5.29 | 19.4 | 1550. | 280. |
| 8945 | 10(6) | . 01 |  | 1000 | (6.12 | 16.4 |  |  |
|  |  |  | STRANDED |  |  |  |  |  |
| 8943 | 25 | . 31 | 20 | 100 | 5.35 | 20. |  |  |
| 8943 | 10) | . 01 |  | 1500 | 5.29 | 19.4 | 1550. | 280. |
| 8943 | (1MK) | . 01 |  | $10 \% 00$ | 6.12 | 16.4 |  |  |
| 8947 | 25 | . 36 | is | 100 | 5.35 | $\because 0$. |  |  |
| 8947 | (10) | .015 ${ }^{\prime}$ |  | 1500 | 5.29 | 19.4 | 1550. | 280. |
| 8947 | HMO) | .015 ${ }^{\prime}$ |  | 10 HOO | 6.12 | 16.4 |  |  |
| 8938 | 25 | . 53 | 1.1 | 100) | 5.35 | 20. |  |  |
| 8938 | 100 | . $02{ }^{\prime}$ |  | 1500 | 5.29 | 19.4 | 15500. | 2 L 0. |
| 8938 | (0) | . $02{ }^{\prime}$ |  | 10000 | 6.12 | 16.4 |  |  |

## Special Combinations

Combination packed in tramsparent
dust-proof container includes four $25^{\prime}$ roils, 8941 or 8943 . Colors: hlack, red, yellow, green.

SOLID
$8864100 \quad 1.15 \quad 20$ ( $4-25^{\prime}$ coils) STRANDED
$88651001.25 \quad 20\left(4-25^{\prime}\right.$ coils)


[^17]
## Heavy Rubber Push-Back "BasketWeave" Rayon Braid

Stranded tinned copper. $\frac{1}{32}$ " rubber, "hasket-weave" abrasion proof rayon braid, lacquered. Colors: green, blue, red. yellow, black.

| Number | At Reom Temperalure and Humidity |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Leneth in fl. on Spool | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { exch } \end{aligned}$ | Size | Frequancy <br> (Kc.) | Power Facloy (Per Cemi) | $\underset{\text { value }}{a}$ | Puact. Voltage at 68 Cycles | Imsulation* Resistance Megohins |
| *8833 | 25 | 0.63 | 18 |  |  |  | 10000. | 500. |
| *8833 | 100 | . 025 | , 18 |  |  |  |  |  |
| *8833 | 1000 | . 025 | ' 18 |  |  |  |  |  |
| R-F Hook-Up Wire |  |  |  |  |  |  |  |  |
| Tinned (opper with two specially treated cellulose acetate braids Colon: green, bhe, red. vellow, hark, white. |  |  |  |  |  |  |  | acetate white. | brown and orange.


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8834 | 25 | . 48 22 | 100 | $1.7!$ | iri. | 3s(\%). 960000 |
| 8834 | 100 | .015' | 1500 | 2.37 | 42. |  |
| 8841 | 25 | . 43 , 20 | 10000 | 2.71 | 3. |  |
| 8841 | 100 | . $015{ }^{\prime}$ | After 24 | 100 | and 9 | relative humidity |
| 8861 | 25 | . 46.18 | 100 | 1.92 | 55. |  |
| 8861 | (1) | .015' | 150) | 2.47 | 11. |  |
| $\begin{aligned} & 8863 \\ & 8863 \end{aligned}$ | 2.5 | . $53{ }^{\prime} 16$ | 10000) | 3.07 | 333. |  |
|  | 10) |  | After 2 ho | in wat | at 1 | 660. |
|  |  |  | STRANDED |  |  |  |
| 8810 | 2\% | . $50 \quad 22$ | 10) | 1.79 | in. | 3800. 96(0) |
| 8810 | 1(x) | .02' | 1500 | 2.37 | 12. |  |
| 8839 | 25 | . 45 20 | $1008 x$ | 2.71 | 34. |  |
| 8839 | 100 | . $015{ }^{\prime}$ | After 24 | at $100^{\circ}$ | and 90 | elative humid |
| 8844 | 25 | . 50 18) | ( K$)$ | 1.92 | 5.5. |  |
| 8844 | 100 | .018 ${ }^{\prime}$ | 150) | 2.47 | 41. |  |
| 8862 | 25 | . 5716 | 1000) | 3.07 | 33. |  |
| 8862 | 100 | .02' | After 2 | in wa | at 121 | F. 9600. |

## Colorubber

Stranded timed copper, $025^{\prime \prime}$ rubber, waved. Colors: green, blue, red, yellow, batack and brown. I(MX) Ft. sipools in back, brown, and red only.

| 8880 | 25 | .25 | 20 | $9(X)$ | 100. |
| :--- | :---: | :--- | :--- | :--- | :--- |
| 8880 | $1(X)$ | $.007^{\prime}$ |  |  |  |
| 8880 | $1(X X)$ | $.007^{\prime}$ |  |  |  |

## Varnished Cambric "Basket-Weave" Rayon Braid

Stramded timmed eoper, two waths vamishend cambric tape, "hasket-weave" abrasion-proof ravon brad lacquered. Colom: green, blue, rea, yellow, and hilack. \$s69 Furnished in reat and black only.

| 8982 | 25 | .45 | 20 | 4650. | 425. |
| ---: | ---: | :--- | :--- | :--- | :--- |
| 8982 | 100 | $.005^{\prime}$ |  |  |  |
| 8982 | 1000 | $.015^{\prime}$ |  |  |  |
| 8869 | 25 | .76 | 12 | 1650. | 425. |

## Shielded Grid Wire

"limned copper, $1 / 64^{\prime \prime}$ rubber, raym braid latequered, overall fine timed copper shiold of " $\mathrm{N} \% \%$ (roverage. ()D $=.120^{\circ}$ 8885100 . $025^{\prime} 20$ $\star 8885$ 500† . 025

## High Tension Corona Resistant for Cathode-Ray Television Tube Leads

Special rubber compound, high heat mesisting l'yor-Glaze seal and braid of Belden Fiberglas (pure glasi) protect this wire against corona and heat-make it suitahle for the high voltages carried in cathonde-ray tube television circuits. Color: white. O.D. $=.200^{\prime \prime}$
$8868 \quad 25 \quad 2.30 \quad 18$
15000.

All priees subject to change without notice

## AMERICAN RADIO HARDWARE CO., Inc..



INSUIATED PHONE TIP JACK

The head is made of insulated material and is supplied with a shoulder washer for a complete insulation. Sap. plied in three different size heads and available in all colors.
No. $18663 / 8^{\prime \prime}$ Head $\$ .10$ each No. $1387 / 16^{\prime \prime}$ Head . . 10 each No. 1860 9/16" Head .... 15 each

## BANANA IPIUG OK TIP JAC:K

Made to take standard phone fips in banana type plugs. Plugs will tit interchangeably. Mounts in a $1 / 4^{\prime \prime}$ " hole in panals up to $1 / 2^{\prime \prime}$ thick. Cverall length $13 / 8{ }^{\prime \prime}$. Supplied complate with shoulder washer and nut.

$\$ .15$ each


HEXAGON HEAI) 'IIP JACK
The head is made of hexagon material and is forced into the tip jack to prevent the ho ad from turning lcose. Size of head is 7/16" across the flats and is available in all colors.
No. 1828 \$. 12 each


## COMBINATION <br> INSULATEED

 BINDING POSTSThis insulafed binding post is of new design which accommodate standard banana plugs through the top of the post. a standard phone tip through the side, or as more ordinarily used with wire through the side. The ron removable head is heavily knurled for a firm grip. knurled for a firm grip

## MIDGET JACKS

ARHCO Midget Phone Jacks are made of the finest quality brass and are nickel plated with an enduring nickel finish. Noiseless contact is provided by phosphor bronze spring confacts. Mounts in $3 / 8^{\prime \prime}$ diameter hoie, in panels up to 5/16" thick.
No. 89 Open Circuit Jack
No. 1789 Closed Circuit Jack $\$ .25$ each

## B.IBY PLUCS AND JACKS

Thase plugs and jacks are excellent for use in all high frequency transmitters and receivers. Their small size allows them a wide range of uses. The No. 392 plug has a $10 / 32$ thredded shank, a $3 / 16^{\prime \prime}$ hexagon shank and is $\%$ " overall. Also available with $7 / /^{\prime \prime}$ Ameroid Handle in any standard color. The mate to this plug is the No. 394 Jack. It has a hax agon head and a $19 / 32$ threaded shank which will fit in panels up to $1 / 4^{\prime \prime}$ in thicknass. Also available with an insulated ameroid head in any standard color. No. 392 Threaded Shank Plug No. 343 Plug and Ameroid Handle $\quad 10.00$ No. 394 Non-Insnlated Jack No. 395 Insulated Jack

Banana 'Type Plugs
This type Plug is exton. sively used on coils and on other plug.in trare. mitting and laboratory equipment.
No. 1764-6/32 Thread $I^{\prime \prime}$ Long . $\$ 9.50$ per 100 No. 120-6/32 Thread $1 / 2^{\prime \prime}$ Long ... $\$ 7.00$ per 100 No. 122-8/32 Thread $1 / 2^{\prime \prime}$ Long $\$ 7.00$ per 100


Sr. Solderless

## Phone Tip

May be used with all our standard typa phone tip jacks. Entirely constructed of high grade brass with nickel plated finish. Overnill rength is $15 / \mathrm{m}^{\prime \prime}$.

No. 10 Tip $\$ 8.00$ per 100

## Jr. Solderless

 Plone TipFits all standard phone tip lacks such as our No. 137 lacks such as our No. 137 , and No. brely of brass with nickel tirely of brass with nickel
plated finish. Length overplated finish. Length over-
all is $11 / \mathrm{s}^{\prime \prime}$. The tip is $5 / \mathrm{s}^{\prime \prime}$. No. 9 Tip $\$ 5.00$ per 100

Per 100
$\$ 6.50$
$\qquad$ $\$ 6.50$
-10.00


Split 'rype
Banana Plug
The strong action of the contact prongs eliminates faulty electrical continuity. The hexagonal shape of the body be. tween the tip and the threaded shank facilitates holding of plug while tightening. The plug fits our iacks Nos. 136, 125 148, and 336. The overall length is $11 / 4^{\prime \prime}$.
No. 124
$\ldots \quad \$ 7.00$ per 100
Insulated solderless Phone Tip

This type Phone Tip is highly recommended on set analyzers., tube testars and all types of lab. oratory test equipment. Fits all standard tip iacks. A knurled collar is provided which when tightened after inserting the wire thru the tarrel. securaly clamps the wire and makes soldering un and makes soldering unnecessary. The overalt
length of the plug is $2^{\prime \prime}$. length of the plug is $2^{\prime \prime}$ No. 141
-

年
$\qquad$ lic eac



INSULATED BANANA PIUG J.ACK Will fit all our standard $b$ a $n$ ana size plugs. Mounts in a 5/16" diameter hole and can be used up to panels /h" thick. Overall langth $7 / \mathrm{sp}^{\prime \prime}$. Available in all colors. No. 336
INSULATED BINDING POST
This type binding post is available in two sizes. Easy identifica. fion is made possible by the bright colored head.

$$
\begin{array}{lllr}
146 & 1 / 2^{\prime \prime} & \text { Head } & \text { Ea. } \\
147 & 1 /{ }^{\prime \prime} & \text { Head } & .08 \\
&
\end{array}
$$

HEAVY DETY
MFTAL IBINDING POST this type of binding post is es pacially designed for high amperage work or for use on test equipment where low resistance connections are imperative. No. 32 \$ $\$ 10.00$ par C

Solderless Insulated Banana Ploy


A complately insulated Banana Type Plug to fit Jacks. A one-piece Phosphor Bronze Spring and full length center pin assure good contact and long life. Ameroid barrel is $1 / 4$ " long. $3 / 4$ diameter. Available in alt colors.
No. $332 \quad 12 c$ each

## Split Type

Banana Plug


Designed to snugly fit a standard type banana jack. Spring action is positive and durable. A set screw is provided in the side of the barrel to secure the wire to the plug without soldering. Length $1.7 / 16^{\prime \prime}$. The plug is $1 / 2^{\prime \prime}$ long. Available in all colors.
No. 331 each


## Insulated Banana Plug

A set screw in the side of the barrel secures the wire within the plug without the necessity of soldering. A full length center pin prevents the spring from collapsing. Ameroid sleeves available in all colors. No. $131-7 /{ }^{\prime \prime}$ Sleeve

Overall Length
$\begin{array}{ll}15 / "^{\prime \prime} \\ 11 / 2^{\prime \prime} & \text { Sleeve. }\end{array}$
No. 131A-11/2" Sleeve.
Overall Length $21 / 4^{\prime \prime}$.... $15 c$ ea.

## PHONE TIP PLUG

This solderless phone tip is made to fit our No. 137. and No. 138 Jacks and No. 143 Binding Posts. Tightening the knurled collar produces a perfect electrical connection without the necessity of sol. dering. The Ameroid sleeve is available in all colors. Length is $1 / 2^{\prime \prime}$.
No. 142 Plug

## INSLIATED

## BANANA JACK

This insulated Banana Jack is used with the Banana Type Plugs $1 / 4$ " long and mounts in a $1 / 4^{\prime \prime}$ hole in Danels up to $7^{\prime \prime}$ thick. Available in all colors.
No. 136 ..... $\$ .10$ ach

## NEW IBANANA

JACK


PHONE TIP JACKS' The outstanding fes ture of this jack is the specially designed springs within the body that hold the phone tips straight and grip firmly at all times. Mounts in a $1 / 4^{\prime \prime}$ hole in panels up to $1 / \mathbf{E}^{\prime \prime}$ thick.
No. $137 \quad \$ 6.00$ per 100

## NEW BANANA

## TYPE PLUG

Equipped with a/32 Female thread and supplied with a 6/32 screw and soldering lug. A one piece phosphor bronze spring assures positive and long lasting contact. The full length centur
pin prevents the plug from collapsing when misaligned with the jack. $\qquad$


Streamlined Phone Tip Plug
The highly polis hed ameroid handies are made so that they will fit standard non-insulated or in sulated phone lip jack. By inserting the wire in the hole and screwing the tip in securely, a solid solderiess connection is made Available in all colors. Plug it/e" long, $1 / 2^{\prime \prime}$ high.
No. 1855

## PHONE PIUGS



The AHRCO Phone Plug designed for use with all standard size jacks, is available in a variety of colors. and a brass nickel polished sleeve. A shielded sleeve of this type is imperative in mary microphone circuits.
Overall length is $2 \frac{1}{4}$ "
No. 128 Plug with Ameroid

No. 218 Plug with Pol Nickel
Midget Phone Plugs
This Midget Phone Plug fulfills a pressing need for a small but proctical plug to fit all standard phone iacks.

## AMERICAN RADIO HARDẄARE CO., Inc.,

SPIN TYPE SOCKET WRENCHES STRAIGHT AND OFFSET TYPES
Wrenches are made with a deap hollow hole in ends of shanks that will take long scraws up to No. 10 Straight Types six and nine inches long: offset type seven iriches long.

wrenches
$\qquad$ No.
58
54
55
56
57
59
690
$9^{\prime \prime}$ LONG

ANTENNA AND FUSE CONVECTORS
These Connectors are made
in wto types; one that is
plain and the second with
a reinforced ring around
the connecting part of the
Connector. The Connectors

## Unheahable Handle Spin Type Suckel Wrenclses

The ARHCO A.nber Handle Socket Wrenches are made with amber color plastic unbreakable handles which are absolutely shockproof and unbreakable. The socket wrenches are constructed with a deep hollow hole in the end of the socket and will take a screw up to a No. 10 diameter. The shank is made of steel and cadmium plated. The socket is made of fine steel and case hardened for service and durability. The handle is $1^{\prime \prime \prime}$ in diameter and is ribbed for a tight and firm grip and can easily be spun around. The overall length is $71 / 2^{\prime \prime}$. No. for Ea. No. for Ea. $3!00$ 3/16" Hex Nut .r. $\quad 5.60 \mid 31043^{3 / 8^{\prime \prime}}$ Hex Nut … $1 / 4^{\prime \prime}$ Hex Nut $\quad .60$ 3105 7/16" Hex Nut 3103 11/32" Hex Nut $\qquad$ . 603107 Complete set of
seven wrenches

## PARKER KALON TYPE SOCKET WRENCHES

 3110 for No. 4 Screw 3112 for No. \& Screw. 113 Nor No. 10 Screw $\stackrel{114}{\text { DUAL ( Nor No. } 12 \text { Screw (A?' }}$$\$ 2.00$ each 2.00 each 2.00 each
2.00 each This cap may be used with the standard glass fube cap ur the small metal tube grid with a $12^{\prime \prime}$ wire with d standard phone tip. Cap phone tip. Cap ameroid and is available in various colors.
No. 412
Insulated Grid (aps: The 418 fits the stand. ard glass qube Cap and the 419 fits the 866 fube cap, as well as many types of transmitting tubes. Cap is provided with a $12^{\prime \prime}$ wira.
No. 418 Glass Tube Cap $\$ .20$ each No. 419886 Type Cup .30 each

## Beaded Edge Grid Caps

 A Beaded edge is formed around the lower edge of the cap to produce a wiping grip and ease of soldering is assured by a bridge in the tail.
No. 102 _ \$4.00 per M 202 (Metal Tube Caps) 2.50 per M

New Metal Tube Grid Caps

Made in two types-one without a hole and
one with a hulo
 in the tail of the cap to facilitate the soldering of the wire. No. 114 M $\quad \$ 4.00$ per No. 121 with Hole 1.00 per M Metal Tube Grid Cap to fit Inside of Grid Shield.
No. 115

Candelalra Bulb Socket These candelabra type sockets are designed to be used wherever a heavy dufy infermediafe base socket is required. Two tinned evelets provide asy soldering connections 1542 (Up Bractet) $\$ 700$ par C No. 1543 (Down Brkt.) 7.00 per C

Clip-on Bracket Type Sockets
Will accommodate all standard miniature base bulbs. The height of the shell and washer is $1 / 2^{\prime \prime}$ and the length of the bracket is 5/月". No. 34 UP Clip type $3 / 4$ long 10 DOWN Clip type $\begin{aligned} & 57.00 \\ & 35\end{aligned}$ $11 / s^{\prime \prime}$ long..... 7.00 per $C$

## Horizontal Pamel

Indicator Assembly


This departure in design of panel indicators has many outstanding features. The bulb fits into the jewel so the maximum light is concentrafed thru the jewel. The bulb is instantly removable. Due to its design this indicstor requires less space than ordinary types The ypace than ardinary thpes. The jewels are upplied in Red, Green, Amber, Blue, and White.

2
7
$i$

## Grid Cap Shield

Cadmium plated or black finish
92 Cad. Plated $\$ .10$ a. 94 Black


Volume Control Wrenth

The handles of the volume control wrench are made of amber colo plestic unbreakable material which will withstand the severest siadge hammer blows. The handie is $1^{\prime \prime}$ diameter $31 / 2^{\prime \prime}$ long and is ribbed so that a firm and secure grip necessary to tighten the nuts is assured. The shank is made of fine steel, cadmium plated and will take shafts up to $41 / 4^{\prime \prime}$ long $x 1 / 4$ O. D. The socket is of case harduned stee accurately furned and broached and securely fastened to the shank No. 3116
$\$ 1.04$


These alligator clips are available in two sizes and can be supplied either in cadmium or bright nickel.
45AT $\mathbf{2 " \prime}^{\prime \prime}$ Long $\qquad$ 57.07 C 742 2 $1 / 4$ " Long 8.00 C

## Approved Type

Bayonet Dial suchets


These sockets are complefely insulated and made in four types, all meeting the Under writers Laboratories approval.
1721 Straight UP Bracket $\$ 15.00 \mathrm{C}$ 1722 Straight DOWN br, 15.00 C 1723 UP clip-on bracket ... 15.00 C 1724 DOWN elip-on br.-... 15.00 C

Bayonet Type Dial Sowkets The shell is securely eyeleted to the brocket proper. The center contact is of new design permit. ting a constant and positive pressure on the bulb contact.
1538 Straight UP bracket $\$ 7.00 \mathrm{C}$ 1539 Straight DOWN br. 7.00 C 1540 UP clip-on bracket. 7.00 C 1541 DOWN ellp-on br. 7.00 C


Approved Type Panel Indicator Bayonet Type This socket conformis to Underwriters Laboratories specifications. Constructed so that accidental short circuits are prevented. Each socket furnished with a red, green, lass "Bull's eye." Mounts in panels up to $5 / 16^{\prime \prime}$ thick.
No. 1725 $\qquad$ ck. $\quad \$ .30$
Panel Indicator Bracket The indicafor mounts in a single hole 7/16" in diametar and SAn be used on panats up to $5 / 16^{\prime \prime}$ in thickness. The jewels are trans lucent Ameroid in various colors. Available in Red, Blue, White, Green, and Amber jewels. No. 39 Miniafure Socket .25 each No. 93 Candelabra Type Sockef

Insulated Alligator Clips
nsulated Aliigator Clips Nos. 29 and 130 consist of the Na 45AT c'ip with Amervid Handle attached. The No. 152 Insulated Alligator Clip utilizes the No 24 size clip. All clips are fur nished with a loop around which the connecting wire can be twist d for soldering.
29 Cilp, Overall $2 \frac{1}{4}$ ".
Handle $11 / 4 "$ long 5.15 each
Handle $11 / 2$ " long . 15 each 52 Clip. Overall $31 / 4^{\prime \prime} .17 \%$ each

Approved Type
( lip-In Suckels A Pilot Light Socket requirements of the Underwriters Labor tories. Connection to the shell is made by a lug which is lanced diectly from the shell body and connection to the center of the contact of the bulb is misde with a specially moulded rubber sleeve which embodies a spring and confact.
No. 1718 $\qquad$ 18c each

## Clip-In Suchets

It is so constructed that it may be clipped into a dial directly It requires a mounting slot $1 / 4 / 2$ long and $1 / 2^{\prime \prime}$ wide.
No. 1757 Clip-in socket screw shall type $\$ 8.00$ per No. 1760 Clip-in socket
bayonet type 8.50 per $C$

Giant Panel Indicators Each pilot light indicator $c$ an be individually marked, by writing in the desired copy on the card dise which is supplied with ach unit. Mounts in $3 / 4$ " hole in panals up to kN thichnole Indicator $I^{\prime \prime}$ in diameter and axtends $13 /{ }^{\prime \prime}$ behind the panel. Available in green, red, blue. | 1872 Bavonet Type |
| :--- |
| 1873 Miniafure Screw She!! .75 |
| ea. |

## AMERICAN RADIO HARDWARE CO., Inc.,

Fibre Neutralizing Tools
 Made of hard fikre and are a 3 in 1 combination. A $1 / 4 "$ diameter scraw driver on
the inside and $1 / 4^{\prime \prime}$ and $5 / 16^{\prime \prime}$ sockets at each ind of the tool. A complately insulated
neutralizing tool for neutralizing
servicemen.
No. 2501. Eeach... 50c Ameroid
Neutralizing Tools
Made of ameroid and are 3 in 1 combindfion $1 / 4^{\prime \prime}$ diamater serew driver on the inside and $1 / 4^{\prime \prime}$ and $5 / 16^{\prime \prime}$ Sockets at each and of the tool. 700 Neutralizing Tool $\$ .45$ esch 720 Majsstic Attachments . 15 each 730 Crosley Attachments . 15 each

Fibre Neutralizing Tubes

These tubes are ideal, for when the hexagon wears out it can be cut off and used again. It may be had in the $1 / 4^{\prime \prime}$ or $5 / 16^{\prime \prime}$ hexagon nut size as listed.
2502 6" long _-.............20 each $25038^{\prime \prime}$ Long $-\quad . \quad . \quad . \quad . \quad . \quad$ each 2504 10" Long …........... 30 each
2505 12" Long -.35 each



- WANDS

This is a snft rubber Tuning Wand. Made of soft rubber so that it can be bent into any
desired shape. desired sha Pe. ing wands have a pulverized iron core at one end and a brass insert at the other. Wand is $6^{\prime \prime}$ Long. Straight tuning Wand also available.

Each
340 Flexible Tuning Wands $\$ 1.00$ 825 Straight Tuning Wand...

## PROD HANDIES

Prod Handles and 8anana Tast Prods to fit all needs. Available in all standard colors.

SOLDERLESS TEST PRODS:
145 Handle $7^{1 / 2^{\prime \prime}}$. $\qquad$ $\$ .25$ each
.30 each 149 Handle 7" $\qquad$
PHONO NEEDLE PROD HANDLES:
153 Handle $41 / 2^{\prime \prime \prime}$
155 Handle $51 / 2^{\prime \prime}$ $\qquad$ .25 ach

## BANANA TEST PRODS

151 Hande $5^{\prime \prime}$ $\qquad$ . 40 each
134 Handle .25 each

## Alligator Alignment

 WrenchMade to fit various sizes both
knurled and hexagon nuts up to
y" diameter. The alligator iaws
are fastened to the insulating rod
with a rivet to prevent turning.
Overall length is $6^{\prime \prime}$ and diam.
eter of shaft is $1 / 4 "$. Available in
assorted colors.
No. 805 \$.35 each
An attractive display consisting of soventy-two transparent cellophane envelopes-eighteen different items and four envelopes of each item. Replacement envelopes of all the items may be ordered separatuly from catalog numbers listed below.
 233C Display Card of 2347 No. 8 Shakeproof Lock Washers Hardware $\$ 7.20 \quad 2348$ No. 6 Kantlink Washers
IMIBER BAKELITE HANDI.E SCREW DRIVERS


These fuse bases are dosigned for the auto type fuse. Available in two types, one for breadboard mounting and the other for pastel mounting.
103 Single, Baseboard Mount $\$ .15$ 127 Double, Baseboard Mount . 25 104 Single, 'Panel Mount _-.... . 15 126 Double, Panel Moun

## Alignment Screw Driver

This screw driver is made of ANEROID, $6^{\prime \prime}$ long and $7 / 32^{\prime \prime}$ in diameter, and is so fabricated that the amount of metal in the screw driver nib will negligibly affect the inductance of the ceil. This is of prime importance in the olignment of modern all-wave recaivers. Available in various colors.
No. 860 $\qquad$

Low Capacity Alignnent Screw Driver
The screw Jriver is made of $1 / 4^{\prime \prime}$ Ameroid Rod Silver Finish, provided with two screw driver knibs. The knit extending from the lower end of the handle extends $1 / 2^{\prime \prime}$ and can be used for ordinary padding condensers. There is another recessed screw driver knib in the upper end of the handle which may be used for aligning permeability tuned circuits.
No. 2370 _ $\$ 50$
Fuse Mounting Bases


## Dual Duty

## Alignment Tool

Handle is $\%^{\prime \prime}$ diamater $21 / 2^{\prime \prime}$ long. From ons end of the handle there is a sturdy $11 / 4^{\prime \prime}$ screw driver sturdy
blade. This screw drew driver blade. This screw driver
b'ade may be used for b'ade may be used for
aligning padding condensers. From the opposite and a socket screw driver picjects which may be used for adiustable iron core tuning systems. Overall No. $2371 \quad \$ .50$

The contents are easily identified as ach envelope is stamped as to the item it contains. The following articles are furnished as an integral part of the display. 2331 RHICPMS $6 / 32^{\prime \prime} \times 1 / 4^{\prime \prime}$
2332 RHICPMS $6 / 32^{\prime \prime} \times 1 /{ }^{\prime \prime}{ }^{\prime \prime}$
2333 RHICPMS $6 / 32^{\prime \prime} \times 1 / 2^{\prime \prime}$
2334 RHICPMS $6 / 32^{\prime \prime} \times 3 / 4$
2335 RHICPMS 6/32" $\times{ }^{\prime \prime}{ }^{\prime \prime}$
2336 RHICPMS 8/32" $\times 1 / 4^{\prime \prime}$
2337 RHICPMS $8 / 32^{\prime \prime} \times 3^{\prime \prime}$
2338 RHICPMS $8 / 32^{\prime \prime} \times 1 / 2^{\prime \prime}$
2339 RHICPMS $8 / 32^{\prime \prime} \times 12^{\prime \prime}$

2340 RHICPMS 8/32"
2341 Steel Hex Nuts C.P. $6 / 32^{\prime \prime} \times 1 / 4^{\prime \prime}$
2342 Steel Hax Nuts C. P. $6 / 32^{\prime \prime} \times 5 / 16.10$
2343 Steel Hex Nuts C. P. 8/32" $\times 5 / 16^{\prime \prime} .10$ 2344 No. 6 Nickel Plated Washers 2345 No. 9 Nickel Plated Washers
2346 No. 6 Shakeproof Lock Washers - . 10

The ARHCO No. 2356 Display Card consists of twelve Handle Serew Drivers. The top of the handles are machined out of Amber Colored Bokelite in both convex and concave shapes-and ribbed for solid grip. 2350 Convex Handle 21/4" Blade $\$ .15$ 2351 Convex Handle 31/2" Blade .20 2352 Corvax Handle 41/2" Blade . 25 2353 Concave Handle $21 / 4^{\prime \prime}$ Blade 2354 Concave Handle $31 / 2^{\prime \prime}$ Blade 20 2355 Concave Handle 41/2" Rlado . 25 2356 Display Card
The different styles and sizes of sernw drivers shown on the Display Card ara also supplied separataly.


Made of ameroid. The compensating screw driver has o special shape blads at one end for adiusting trimmer scraws. The other end is knurled for a non-slip grip. Supplied with pocket clip. 6" overall.
No. 710

Pencil Type Test Prods
With Interchangeable
Tips Ends


Spring prongs located of flexible end of test prods allows to in terchange spade lugs, phone tips and alligator spring clips. New type needle point phone tip for piercing through insulated wire for a good contact. Equipped with black and red flexible wires measuring 5 feet and same col. ored handles. Each set complete with two Alligator Clips, two Needle Point Phone Tips, and two American Type Tapered Lugs. $\underset{500}{\text { American Type Tapered Lugs. }}$

Socket Head Alignment Wrench

This is an Alignment Tool $5^{\prime \prime}$ long This is an Alignment Tool $\mathrm{g}^{\prime}$ long
with a brass $1 / 4^{" ~ s o c k e t ~ h e a d ~ t h a t ~}$ with brass $1 / 4^{\prime \prime}$ socket head that
fits over trimmer screws on ve. fits over trimmer screws on ve:
rious fypes of receivers. Outside diametar of this Hexagon Wrench is $y^{\prime \prime}$. An insulating shaft is soresed into wrench and riveted to prevent shaft from turning. The other end has a hardened serew driver bit for adjusting trimmer screws. Diameter of the insulation screws. Diameter of the insulation is $7 / 32$ " and will fit into a $1 / 4$ hole where the wrench has to go
thru the top of a coil available thru the top of coil available in assorted colors.
No. 820 _-...... $\$ .50$ each
Heavy Duty Test Prods
 Ameroid prod handles are $7 / 16^{\prime \prime}$ diameter and 5" long. Prods equipped with 60" long henvy duty flexible wire. sharp, suitable for sepaping and piercing corrosion. Handles and leads are colored red and black.
300 with Taper Lugs $\rightarrow \$ .80$ pair 310 with Phone Tips -.... 90 pair 320 with Alligator Clips - . 90 pair

## TEST ILEADS



SOLDERLESS TIP TEST LEADS
200 with Phone
ips $\quad \$ .60$ pr.
210 with Spade .60 pr
Lugs 260 with Alligntor
PHONO NEEDLE TEST LEADS 230 with Phone Tips $\quad \$ .60$ pr. 240 with Spade Lugs._-. 60 pr. 259 with Alligator Clips -.70 pr.

TEST LEAD SPECIAL
Ameroid Handies with 3 leet of kinkless rubber covered wire. Standard Phone Tip on one end; spade lugs on the other end. No. 439

## AMEBICAN BADIO HABDWARE CO., Inc..

SHAFT COUPLINGS EXTENDERS \& REDUCERS


These accurately ma chined brass fittings can be used for coupling shafts of the same or different diameter. for straight extension or for extension with smaller or larger thaf diameter.



Special Angle Brackets with Tapped Holes

Per 100 No. $16271 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}$ Bracket $\mathbf{\$ 3 . 0 0}$ No. $16281 / 2^{\prime \prime} \times 8 /{ }^{\prime \prime} \times$ Bracket $\quad 3.50$ No. $16291 / 2^{\prime \prime} \times 1 / 4^{\prime \prime}$ Bracket 4.00 2 Bracket Type with no clearance hale-one tapped hole, $1 / 2^{\prime \prime} \times 1 / "^{\prime \prime}$


RACK SCREWS Particularly suitable for mounting panels in racks and cabinets. Enhances appearance of any pancl. Screws, steal nickel plated. NO. SIZE


ANGLE AND BRACKET ASSORTMENT


28 popular size angles and brackats made of brass and nickel brackets and perforated strips are included. Indispensable for mounting radio parts.
No. 488-10 _....... 5.50


Self-Tupping

Assortnient

Parker Kalon self.tapping serew assortment of most Fopular sizes.
Genuine peplace.nents for ALL standard brand receivers. No. 1078



Twin Phone Tip Jacks Jacks in this asNo. 138 are type mounted type mounted on strip $1 /$ ºl $^{\text {a }}$ wideand $2^{\prime \prime}$ long.
Coded red and black for identifi cation. Mounting strips may be had unmarked or with the follow ing identification: SPEAKER. IN PUT, OUTPUT, I-2, and A-G. No. 405 Unmarked ....... 20 each Bracket Type Ilıg Stripa

Price per 100
 1841 Special Mounting Bkt. 1.25 1839 Mounting Bracket and Iug Comkination …..... 1.50 Availoble with No. 1841 Brackel as illustrated or with No. 1839 Bracket, which is a combination bracket and mounting lug or with No. 1847 Bracket which is similar to No. 1839 but with a tapped 6/32 hole.
16603 Lug with 1839 Br. $\$ 12.00$ 16614 Lug with 1839 Br... 14.00 $\begin{array}{lllll}1662 & 5 & \text { Lug with } 1839 & \text { Br. } 17.00 \\ 1663 & 6 & \text { lug with } 1839 & \mathrm{Br} & 20.00\end{array}$ $\begin{array}{llllll}1663 & 6 & \text { Lug with } 1839 & \text { Br. } & 20.00 \\ 1664 & 3 & \text { Lug with } & 1847 & \text { Br.... } & 14.00\end{array}$ 1665 4 Lug with 1847 Br. 16.00 $\begin{array}{lllll}1666 & 5 & \text { Lug with } 1847 & \text { Br. } & 19.00 \\ 1667 & 5 & \text { Lug with } & 1847 & \mathrm{Br}_{2} . . . \\ 22.00\end{array}$ 1847 Bracket and Lug with tapped $6 / 32$ Hole 3.00 Rubber Grommet Ass'ni't


An assortment of 5 sizes of pure gum and black rubber grommets.
No. 68 Assortment
of 12 Rubber Grommets -.$\$ .25$ No. 69 Assortment
of 30 Rubber Grommets ...-. .50
No. 70 Assortment
of 100 Rubber Gromm
Copyright by U. C. P., Inc.

# =(G) ma Radia Cements-Paints 

## RADIO SERVICE SOLVENT

Specially prepared for loosening cement on speaker cones, etc. Is also used as a thinner for G.C Service Cement.
No.
312-2 oz. bottle
Net Price
314-4 oz. bottle
314 oz. bottle. . . . . . . . . . . . . . . . . . . . 30
316-6 oz. economy bottle
bottle

## FILM SPLICING CEMENT

High quality fast drying Cement specially prepared splicing era film.

No. oz. size \$0.15 332-2 oz. size .27


## BAKELITE CEMENT

Prepared for cementing Bake Iite to bakitit or batilite to other materials. Useful for broken knobs, mold ed cabinets, etc.


## CEMENT \& SOLVENT KIT

Kit consists of $\mid$ bottle of our famous Service Cement and bottle of Service Solvent. Handy Kit to carry with you.

## No. Net Price

$343 \ldots . .30 .30$

## RADIO SERVICE CEMENT

The Best Cement for Speaker and Radio Work. Especially suitable for cenienting replacement cones and repairing ratting and torn cones. Also used on glass, to seal adjustments, hold wires in place, etc. Dependible, Vibration-Proof, Water proof, and Fast-Drying. Nroo.

302 - 2 ar betPrice
304-4 oz. economy bottle
306--6 oz. economy bottle
308-8 oz. economy bottle


## SPEAKER REPAIR CEMENT IN TUBES

This is our remular in ice cement put up Makes a good, yener. al-purpose, waterproof glue. Also useful for speakers, cones, coils
etc.
NO.
342
Net Price


## TOUCH-UP COLOR CODING

 KITKit of brilliant enamels for coding parts, resistors, coils, etc. Also for touching up and improving appearance of equip. ment Colors: Red. Grent. Colors: Red, Green. Blue, and Yel. brushes included.
$\begin{array}{lrl}\text { No. } & \text { Net Price } \\ 675 & \ldots . . . & \$ 0.30\end{array}$


## KROME KOAT ALUMINUM PAINT

Fast drying ready mixed Aluminum Paint. Leaves Chromelike finish. For P. A. equipment, speakera, poles, chassis. towers, etc

| No. | Net Price |
| :---: | :---: |
| 612-1/8 pt. | \$0.15 |
| 614-1/ pt. | . 27 |
| 618-1/2 pt. | . 48 |
| 6116 -Pint | . 90 |
| 6132 -Quart | 1.35 |
| 61 -G-Callon | 3.90 |



6132 - Quart 1.35

## DECORATIVE ENAMELS

High quality Enamels for all purposes. High Closs. Supplied in Black, Red, High Gown, Green, Blue, Yellow, lvory and White. Specify color desired.


No.
Net Price
652—1/8 pt. All colors \$0.15
652 - $1 / 8 \mathrm{pt}$. All colors $\$ 0.15$ 654 - pt. All colors .27 6516-Pint. All colors. . 96 6532-Quart. All colors 1.80

## HANDY POCKET TOOL CASE



Wallet type pocket tool case; fits in the hip pocket. Will hold necessary tools required on job. Saves your pockets and the tools. Made of Genuine Leather.

No.
703
Net Price
$\$ 0.60$
R.M.A. COLOR CODING KIT

Complete Kit of all of the standard
RMA colors: Black, Brown,Red, Orange, Yellow, Green, Blue Purple, Grey and
 White. All colors and RMA color chart isshes furnished necessary for complete color coding of parts. No.
677

## FROST-X

Provides a frost-like finish that is used for covering win-dow-glass for privacy and to eliminate sun glare. Also is a desirable decorative finish for test equipment, mirrors vases, etc. Easy to apply.
No.
Net $\$ 0.54$

Net Price
682-1/6 pt. bottle
$684-1 / 9 \mathrm{pt}$. can
688-1/2 pt. can
6816-Pint can
6832 -Quart can


## KRYSTAL KOAT

 CRYSTALLIZING LACQUERThe famous GC Krystal Koat lacquer Strictly Air-Drying; forms beautiful foral pattern when dry. For chassis, panels, etc. Can be used on metal, wood or paper. Colors: Black, Gray, Brown, Green, Blue, Red. Specify color.
No. $\begin{array}{ll}632-1 / 6 & \text { pt. } \\ 634-1 / 4 & \text { pt. }\end{array}$
Net Price

$634-1 / 1 / 2 p t$
$638-1 / 2$
6316 - Pint
$\underset{\mathrm{pt}}{\mathrm{pt}}$. $\begin{array}{r}\$ 0.21 \\ \hline 39\end{array}$
6316—Pint … ..... . 63
NOTE: Impenetro Sealer must be used for undercoat when Krystal Koat is applied over other finishes. Same price as black.

## FIBRELOID SPEAKER SHIMS



Handy tool for center. ing voice coils. Kit consists of 5 sizes of specially flexible and tough celluloid shims put up in gold-lettered snap caae. Sizes marked - 20 shims to kit.
No.
702

## DIAL LITE COLORING

Long lasting coloring for multicolored dials. Instant drying. Bright colors of Red. Creen, Blue, Amber. Purple, and Solvent. Earn extra money by selling colored dial lites. Dress up those old sets.


## RUF KOAT

## AIR DRY WRINKLE VARNISH

The only finish that will Air Dry and give you a professional wrinkle job without baking. It is the same fin. ish as is employed by manufacturers on $P$. A. Equipment, Chassis, Pan. els, and Racks. Easy to use. Don't experiment use the best.
Colors: Black. Gray, Brown, Green, Red and Blue- (Specify Color) No. Net Price $602-1 / 3 \mathrm{pt} . . . . . . \$ 0.24$ $604-1 / 4$ pt. . . . . . . . $\quad .66$

## TELEPHONE BLĀ̄X $\hat{\mathbf{~ B}}$ GRAY

High grade enamel that covers well and dries fast. Black will produce an ebony black finish that is so familiar on telephone devices. Gray is a pleasing shade. Excellent for panel work and parts. Specify color. No. Net Price 622-1/6 pt. . . . . . . . . $\$ .21$ 628-1/2 pt
.63
1.20
SWEDISH STEEL SPEAKER SHIMS

The best shims for cen tering voice coils. With steel shims adjust. ments can be made in a few minutes. Made of a few minutes. Made of Swedish Steel, these are very flexible ——a permanent tool. Kit consists of 4 sizes. put up in gold-lettered snap case. 16 shims to kit.
No.
701
Net Price
$\$ 0.39$

# Gaveral <br> mervice Aids-Toals 

## Sky-Ranger Indoor Aerial



A New Aerial Eliminator that really works. Can be used with any radio. Very high grade in appearance and performance.
Sells on sight. Improves recep. tion. It can be quickly installed by anyonc.

No.
1400 1400

## RADIO CLAMP LAMP

Good light is important and the Clamp Lamp is just the thing. You can clamp it onto chassis or radio cabinet and yet light wher
with you.
No.
708

## Net Price



## RUER-SHIM

Made of Sponge Rubber, adhesive one side, sticks to anything. For rims of radio speakers, chassis, vibrators, condensers, refrigerators, etc. Prevents rattles and vibration.
No.

Net Price

## 11-PIECE RADIO SOCKET SET

Eleven pieces. $1,{ }^{\prime \prime \prime}$ hexason drive, put up in collows: $61 /{ }^{2}$ " Wood Crip Screw Driver IJandle, 4" 2 Handle, $31 / 1^{\prime \prime}$ Extension adapter.
 Square Sockets.

## No. 713

## 8-PIECE VEST POCKET SOCKET SET

The smallest. though most complete, and practical 8-Piece Socket Wrench set on the market. An outstanding value, Seven sockets,
 Knurled, $1 / 4 "$ 'Square and 4" ${ }^{10}$ Handle with two friction balla, in Baked Enamel Box No. 712

No-Metal Hex-Wrench


Hard, black fibre trimmer wrench with $1 ; "$ hex broaching through it. If ends wear, they can be easily cut to provide a good-as-new wrench. No.
730 730-6" Net Price 731 - $8^{\prime \prime}$ long 732-12" lonk

## Escutcheon Plate Screws

 Bronze plated wood screws such as are used for attaching escutcheon plates to cabinets. 1091-No. 1-11" lengeth, ber doz. 1092-Nien (biw

1093 enselope

## Insulated Bell Staples

saddle twe iseulatell staples for holl in: wires in place and out of the way.

No
170
17
170
170
\& SCREW DRIVER

Combination hex wrench and insulated screw driver. The screwdriver may be extended from handle to provide extra long length.
No. Net Price 735 extends from 7.13" \$0.39

Ornamental Head Screws A Rosette head, statuary Bronze head screw. i"" head with a 6.32 thread.

No. Net Price
 295-Asortment of 1096 in a jar....... $\$ 30$ 1097 - $\operatorname{Hin}_{1}$ " lenarih. . 45 1098

Solder Lug Assortment 100 of thic mose nervsary solder. ing lugs needed 3 11
 timnerd, and
ly stamjed ly. stam

## RADIO REPAIR LITE


ight where you want it$110 v . A C$ or DC
Just the light for Service work in the field. Lights up those hard-to-see corners in Chassis and Refrigerators. Handy for coloring dial lite bulbs. Dip bulb in coloring and job is done.

Net Price
.$\$ 0.75$

## NE-O-LITE TESTER

Handy, inexpensive Ne . arow ano of maner
O -Litetester that every O-Lite tester that every or testing AC. Lines. polarity of A.C. or D.C. esting for blown fuses tracing ground line in A.C as a RF indica or Spark Plug deater and Spark Plug tester Can be used on 60 V A.C. to 500 V . ${ }^{-}$ A.C. to 500 V. A.C. or D.C.
No.

Net Price
$\$ 0.60$

## RADIO BENCH LAMP

Practical Bench Lamp specially made for Radio Work. Flexible arm can be adjusted to any position. Lamp is high enough so it can be used over radio chassis. Base hes compartments for screws, knobs, and parts-a special feature in itself! This lamp will save your light bill and your eyes. Eliminates glare-a 25 -watt lamp will give better light than a 100 -watt over head.
No.
707
Net Price . $\$ 1.95$


## SERVICE BENCH STOOLS

## Comfortable Chairs for Radio Repairs

 A practical chair or stool has a definite place in the service shop. Every bench should have a good stool for comfortable seating. Stools are made extratrong and will last a life time. They are all double riveted, have wood seats, and 403 Series have mood back rests.No.
401 -Steel Stool-wood seat 24 m het Price 401-A Steel Stool-wood seat, 24 high... $\$ 4.05$ 401-C-Ster 5rool-wood seat. 26" high ... 4.35 403 - Wood seat. 30 high. 403 24 high
403-A -Chair same as 402 but with back rest, 403-C-Chair sam

### 6.05

6.35 30" high
( $30^{\prime \prime}$ stools have turned out foot rest)


Brass \& Fibre Shafting Rods


716 _1/"x1" Fibre...... $\$ 0.12$
$717-1 / 4 \times 6$ " Fibre ........ $\quad .15$
$718-3 /{ }^{719}$ "x1" Fibre....... $\quad .30$

No-metal Insul. Adjustment Screw Driver

Made of Black Bone fibre. Indispensable for aligning all. wave sets. Will give long service. Ends can be re-pround. No.
$714-7$ " long
$\$ 0.21$

## Screw Type Chassis Felt Feet



Net Price No. Diam. per doz. $\begin{array}{ll}1087-1 / 2 ", 6.32 & \text { screw } \\ 1088-1.27 \\ 1089-m o o d ~ s c r e w . ~ & .30\end{array}$ 1089-1 , 10.32 screw. . . 30

## Snap Button Hole Plugs

The plun so popular on many scts seal adjustments, cover holes. ete. Wilt fit in any material up to $1 / 1 \mathrm{~g}^{\prime \prime}$ thick. No. Net Price 1710-..0 assorted plugs
in box ............... $\$ 1.20$ 1711--": nole dia.

Felt \& Rubber Bumpers

sed on the bottoms of radios and appliances. Felt Peds No. Net Price 070- 50 in env. $\$ .18$ 1071-100 in env. 30 Rubber Tack Bumpers 1075- 10 in env. 09 1076-25 in env. . 21 1077 -Per hund... . 66

## Snap-in Trimounts


"Take the Place of Screws"
The new fastenur used on all of the latest sets. Tidmonints are used in fastem ding spales, elf. Wh lhe ralio rhassis and also to hotil the ouw bulte in anc it bnas to the rhatsis or phastite rablio
inf. Thean ale oftern jost while worklige oft the sel. Have atork of replace ments on hand.
No. Net Price
1720-100 assorted types ( 4 sizes). $\$ .45$
$1721-1111$ $1721-11111$
1722 -1111 Sill Medium
1723-100 1.argium
1724-100 Exirt

## $-60$ <br> caman <br> Radic Dial Cables Waven Tabric Dial Betts



LIGHT LINEN CABLE LIGHT LINEN CAB Core l'sed for pradu innor ralle. ont manys of the older tupe sets On many of the older type sets.
1 las a strong linen core witi a closely braideal and treateal worimg to mintulaze wear




$\qquad$ BRONZE CABLE Highest Grade cable made of 42 strands and constructed over a
linen thread center. No. Spool Net 71 -25- 25 ft . $\$ .69$ 71-50- 50 ft .1 .35
$71.1 \mathrm{C}-100 \mathrm{ft} .2 .40$
-BRAIDED BRONZE CABLE
A lower quality cable than the No. 71 , but a cable that will give good ser. vice. Braided Phos. phor Bronze Cable.
No. Spool Net
72-25- $25 \mathrm{ft} . \$ .39$ $72-50-50 \mathrm{ft}$..75
$71-1 \mathrm{C}-100 \mathrm{ft}$.1.47
HEAVY LINEN
CABLE
Best Quality cord.
same as used in
Philco. Silver Mar-
shall. Brunswick
and others. Made
of finest Black Lin-
en Braided.
No. Spool Net
73-25- $25 \mathrm{ft} \$$..78
$730-50$
7t. 1.50
73-1C- $100 \mathrm{ft}$.2.70


LIGB:T LINEN CABLE Blaek Silk Core
Malust whatits Jisht Hphest qualits Jolyht
Gorde exuctly as used
In Hi'A. Wedla -Garduer In Hi A. Wedla - Crarduer,
Majestle, Sonora and Majestle: sonorat athy
uthers. Made of tinest othris. Made of tinest Thack silk ifrudet. Thailable. No. Spool Net 74-25-- $25 \mathrm{ft} . \$ .69$ $74-50-50 \mathrm{ft} .1 .35$
$74.1 \mathrm{C}-100 \mathrm{ft} .2 .40$


| MONEL METAL DIAL CABLE |
| :---: |
| very high grade monel metul |
| ble. It will not ravel, is |
| very strong, won't stretch, an it |
| very easils. lireferreid |
| the popular plus. |
|  |
| 0. 0 Net Prieg |
| 50 ft. spools.....s.45 |
| 50 ft apools..... . 84 |
|  |


| SPECIAL LIGHT BRONZE CABLE <br> A flakh cluality sperial Thin \|"hosphor Itronze liralded ('a ble exactly the same as used on Itt'A and GE sets. |
| :---: |
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## EXTRA.THIN METAL CABLE

strong extra - thin metal
bum becoming popular. Cuble, now becomilng popular. "'sil! egueclatly in the forclign
market. Thinner than our No. market. Thinner than our No.



LATEX RUBBER TREATED
LATEX RUBBER TREATED MEDIUM HEAVY CABLE A new tybe allal cord, treated
with rubher for extra friction and strength. W'ill not slretch or ravel. Sliould be uned on
dlats to prevent slipping on Whals to prevent
troublesome dial


## DIAL DRIVE SPRING ASSORTMENT

kilt of lial 1rive Tension springs. Six sizes supphed to hundic all sets.


SERVICE MEN'S DIAL CABLE KIT No. I


KAlt contalns: Four 25 ft. spools of popular
type Dia) Cable- 42
strand strand lisonze Spe-
(ial thin GFi. lles Clal thin (if. ItcA
Cuhle, Laght and
lase Heayy Linen cable. Fiyelets assortment of Fiyelets
with
a No. 77-SK-Cuble kit. . . Not Price $\$ 2.35$

## GC RUBBER DRIVES

Specially made for Atwater Kent. RCA. Stew others. Best qually live rulber drives.


## DIAL DRIVE CEMENT

 ber fiel drives to metal sliafts, ruibher mountings to chat ing any ror rement teriai to meta No. Not Prit 35I-Dial Drive
Cement in tube. $\$ 2$ Cement in tobe. $\$ .27$ 352-Dlal Drive
Cement.
the with
brush.
b.
oz
NON-SLIP COMPOUND
FOR RADIO DIALS FOR RADIO DIALS
A hanty romblination

 Each ispe in a vepa. rate envelope, and a flte box. Kit. . Not Prite $\$ 2.55$
 Powder Compound for treatiag frir-
tyon
type drives. such as drives, subch as
coris, cables, an belts. Jasy use! Just apply
frecely to slipoins parts.
No. 1210
Not Price $\$ .18$

DIAL BELTS SERVICEMEN'S KITS
Ceneral Cement Belts
ments for all sets. They are made of best quality material and will not stretch. They are spec ially treated to prevent slipping. Buy the G-C Red Belt! Net Price Each ... $\$ .15$


No. G-25 -Kit of $2 \pi$ popular belts..

INSTRUCTIONS - FOR MEASURING BELTS
in thread or cord When determining the size of belt required. streteh a thin thread or eord
around the belt pulleys. (A thick eord will provide an imaecurate reading.) When taking stretehed out measurement of old belts, subtratet $3 / 16^{\prime \prime}$ from

FREE
80×ES
SUPPLIED WITH KITS
over all lenoth of atretehed out belt to arrive at the correct eircumference of belt. Note the stretehed out length is not the aecurate eireumferenee of

PHOSPHOR BRONZE Same heltlag as used on At water Kiblts, "olonlal. Netn while $x$ allos" thitk.
No. Net Prize 61.25-26 ft, spool . . . . . . 5.7 1sronze Beltink same as used on IBrunswitk and sllver Ma
shall. $5 / 16^{\prime \prime} x$ flog shall. $5 / 16^{\prime \prime} \times$. .not" thlek.
$62-25-25 \mathrm{ft}$. spool. .....\$1.I।

READY MADE DIAL CABLES

Mako of Set Not
and Model No. Price Alwater Kient. 3in. 3î..... $\$ .15$ Atwater Kent. 11
Atwater Kint, to Atwater Kebt. 1 losch. Bosch, 18. 60 Brunswick. 15. 'V F゙ront 1krunawick, 15 , e2 1tear Gren. Elece. Ahedestic.
Majestic. Majesthe.
Now Majestic, Gu, $6 \mathfrak{y} 0$
1•hilco, 71
ItCA 11 is 11CA, 16, 17, 18, $33, \ldots, \ldots, .18$ Cables arallable for other mort els also; state Make and Model when ordering or send In old
cable, cable.

## EYELET AND CLAMP

 ASSORTMENT The sam
"AIBTALs, Jinke your own cables and belts-ANI) sal'f:
No.
Net Prie:


## CABLE EYELET TOOL



Incspensis ri.
reting tool for reting tool for
riveling jarts riveting parts
to chassis anal for chassis anal
forning eyelets on dial cahles and as semblies. Klt consists of a
mase which can he inserted in Mriser punch for turning the rivets. No. 740

SSIDE CIRCUMFERENCE OF GC BELTS

| $\begin{gathered} \text { GC } \\ \text { Belt Size } \end{gathered}$ | GC <br> Belt <br> No. | $\begin{gathered} \text { GC } \\ \text { Belt Size } \end{gathered}$ | GC Belt No. | $\stackrel{\text { GC }}{\text { Belt Size }}$ | $\begin{aligned} & \text { GC } \\ & \text { Belt } \\ & \text { No. } \end{aligned}$ | $\stackrel{\text { GC }}{\text { Belt Size }}$ | $\begin{aligned} & \text { GC } \\ & \text { Belt } \\ & \text { No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11-25/64" | 138 | 12-7/16" | 193 | 15-1/64" | 145 | 17-13/32" | 169 |
| 11-7/16" | 173 | 12-13/16" | 168 | 15.17/64*. | 187 | 17-37/64" | 179 |
| 11-21/32" | 194 | 12-15'32" | 144 | 15-1/2 ${ }^{\prime \prime}$ | 183 | 17-5/8" | 190 |
| 11-3/4" | 141 | 1-1/2' | 178 | 1.7-13/16" | 182 | $18 \cdot 1 / 2^{\prime \prime}$ | 189 |
| 11-13/16" | 143 | 12-30/64" | 145 | 15-61/64" | 1.00 | 18-21/32" | 181 |
| 13-1/3*" | 15.4 | 13-3/16"' | 146 | $16^{\prime \prime}$ | 192 | 19-7/16" | 166 |
| 12-1/16" | 13N | 14-97 ${ }^{\text {c } 64 \prime}$ | 147 | 16-19/64" | 170 | 16-47/64" | 188 |
| 12-3/32" | 14: | 14-7/39" | 186 | $16-11^{\prime} 16^{\prime \prime}$ | 184 | $01.516^{\prime \prime}$ | 175 |
| 12-7'32" | 140 | 14-11/16" | 148 | $16 \cdot 15 / 16^{\prime \prime}$ | 185 | 32-85/64" | 176 |
| 12.9/32" | 139 | 14-37/64" | 151 | 17-1/16" | 165 | 299-19/64" | 191 |

## REK-O-DOPE

## "New All-Purpose Record

 Compound"Cleans - Lubricates - Hardens - Renews old records and preserves new records and recordings. It improves reproduction as it removes all dirt and loose particles. lubricates the surface and hardens the grooves. Records treated with G.C REK.O.DOPE will give better tone, and will last longer.
No.
Net Price
1261-1 oz. bottle
1262-2 oz. bottle
1264-4 oz. bottle

## RECORD-TURNTABLE FELT


"Ready Cut Pieces" Replace worn out and friction-less felt on record turntables. You or your customers can. not obtain good re. cordings or reproduc.
tions unless the record is held firmly in place on the turntable. Keep a supply of this special felt on hand for that extra. profit job. Pieces cut round, center hole punched.

No.
Net Price
1292-776" diam.
$1293-97 /{ }^{\prime \prime}$ diam. 1294-117" .............. . . . 30 (Use grille cloth cement as an adhesive.)

## G-C RADIO HOOK-U'P WIRE

C.C Hook-up Wire is constructed of quality material and is particularly intended for Radio Repair and Constructiva Work. Avallable in either Solid or Stranded tinned co


SOLID PUSH BACK


## VACUUM CLEANER BELTS



Profit by displaying a card of Vacuum Cleaner Belts. Every Home ia a potential customer. Belts made of the very finest grade of live rubber.

No.
1010-24 assorted belts on a wire display
1011 -lHamilton Beach Belt. C.E. Premier, etc.
1012 -Hoover Flat Belt
.06

1013-Hoover Rubber round type
.15

## Window Cleaner Concentrate

"Make your own window cleaner and save"

Here's exactly the same compound as is used in the popular window cleaners - make your own and save. You simply add the concentrate to water and have a first grade window cleaner. Concentrate is colored blue. Regular size bottle will make a quart of cleaner.

## RECORD LUBRICANT

Reduces the surface noise and prevents excessive wear on the precord or needles Can also be used for a pre-recording lubri used for a pre-recording lubri. cant. Records will last longer when you use No. Net Price
$1252-2$ oz. bottle. ...... $\$ .21$ 1252-2 oz. bottle. . . . . . . $\$$. 21 1256-6 oz. bottle.

## RECORD CLEANING PAD



For all who use records this specially treated pad is necessary to clean and remove dust and accumu lation from records, with out harming them. You can sell record users one of these pads.
No.
1290-Size $4^{\prime \prime} x 4^{\prime \prime}$
Net Price
$\$ 0.12$
$290-$ Size $6^{\circ} \times 6^{\prime \prime}$

## TEN TIME PHONOGRAPH NEEDLES

 Better quality needles that will play 10 records. Specially heat-treated to give records. Specially heat-treated to give better service and lastneedles save your records.
needies save your records.
Available in extra loud, loud. medium and soft tones.
$1421-30$ to pkg.0 specify tone.
$\qquad$
1422-100 to pkg., spectly tons........................ .09
1423-Carton of 50 pkgs . of 100, sssoricd iones 7.15
1424 -Carton of 50 pk gs. of 100. specify tone. 7.20
1425 -Carton of 50 pkgse of 30 . assorted tones 4.35
1426 -Carton of 50 pkes. of 50 . specify tone. . 4.35


STRANDED PUSH BACK

| Cat. |  |  |
| :---: | :---: | :---: |
| No. | Size | Length |
| 825 | 22 | 25 ft. |
| 826 | 22 | $100 \mathrm{ft}$. |
| 830 | 20 | $25 \mathrm{ft}$. |
| 831 | 20 | $100 \mathrm{ft}$. |
| 835 | 18 | $25 \mathrm{ft}$. |
| 836 | 18 | 100 ft. | Nit

.60
.23

## AC RUBBER CORD

"Approved by Underwriters' Labs" This high grade cord is one of the most popular items in the Electrical and Radio field for a general purpose cord It can be aser purpios clocks. lamps, and appliances. No. 18 conductors completely covered with rubber.

No. Net Price



845-Brown color, 100 ft . spool. per C ft .
845-Brown color, 250 ft . spool, per $C$ ft.
GLASS DIAL CRYSTALS
Round Convex dial crystals. Now you can replace those cracked or broken dial crystals and Profiti Can also be used for clock crys. tals, instrument pancls. etc. Available in al





| No |
| :--- |
| 67 |
| 58 |
| 59 |
| 60 |
| 61 |
| 62 |
| 63 |
| 64 |
| 66 |
| 74 | (") Price $\begin{array}{ll}78 & 5 y \\ 38 & 6 \\ 59 & 61 / 2 \\ 60 & 61 / 4 \\ 61 & 6 \\ 62 & 61 / \\ 63 & 6 y \\ 64 & 6 \\ 66 & 7 \\ 74 & 8\end{array}$



[^18]No.
140







Phono-Turntable Lubricant
"A Stainless Lubricant"
A new special lubricant for phonographs. Other lubricants will thin and run to on the mechanism but this is specially formulated so that secially 80 that the lubricant clings to Eliminate trouble parts. repairs by using the best.
No. Net Price


1222-2 oz. bottle. . . \$0.21

## Play Back Phonograph Needies

C.C Phonograph needles are made of the very fin. st grade tool steel. The ground, and are accu. rately cut. They are spe. cially heat troated to give good service Cood needles ave the cost of record replace. needle

Available in extra loud. loud, medium



## Porcelain Patch Stick <br> Specially made for white Porcelain Refrigerators. Simply melt into nick and smooth off. Makes <br> a perfect patch. <br> No. <br> Net Price

## ALUMINUM FOIL

The ideal shielding material now available in straight lengths. Can be used to form your own shields. Suit able for use as an in side aerial - can be tacked on the back or the bottom of the set, and through a lead. connected to the aerial post. Has a 100.1 various uses for the Radio Experimenter or Serviceman. Aluminum .0025" thick and supplied in roll lengths.
No.
Net Price


## 2uality XceLITE Toals

## XCELITE Shockless SCREWDRIVERS

－XCELITE is the original shock－proof，transparent handle screwdriver－introduced by as over FOUR－ TREN years ago．
Its attractive amber handle is both shock－proot and break－proof．It is specially designed to give the best possible grip－and is extremely easy on the hands． Blades are made of the finest Chrome Vanadinm alloy steel，properly heat－treated，gromnd，and tested before assembly．Gnaranteed not to burr．


## R \＆E DISPLAY

This compact，att ractive metal display contains un assortment of NCELATEA нincialls de－ signed for electric and radiu repluirnmonts．C＇matains bit serewalrivers in og sizns，int cluding Phillifs Jrivars．List $\$ 26.30$ ．Witight 17 IIs．

NOTH：F＇irst two（or threa） numbers rive diammeters in blade．last numbers the lemath． as：$R=144=1 / 4{ }^{\prime \prime}$ dianneter roumd lilade $t^{\prime \prime}$ longe，or s－3 $=$ A $^{3}$＂diameter square blatic ber means round blade；＂s＂ means square blade．

| Contains the following＂XCELITES＂ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 R－ちゃ3ざロ | 1 | $1 \mathrm{P} \cdot 1 \times 11$ | $\because$ | s－3／titi | 1 | 18－：3160 |
| 1 R－\％）324 | 1 | 1－3161H | 1 | N－14ti | $\underline{\square}$ | N－14＊ |
| ｜｜k－6325 | 3 | X．101 | 1 | K－14＊ | $\because$ | 18．14．1 |
| 1 1－\％\％2． | $\stackrel{\square}{2}$ | $\mathrm{k} \cdot 146$ | 2 | X－10릉 | $\underline{\square}$ | －144 |
| 1 N．1s！， | 1 | N－31611 | 3 | 11－14t | 3 | N－141 |
| $1 \mathrm{~S}-1 \mathrm{st}$ | 1 | S－3168 | $\because$ | R－3163 | $\because$ | ssX－10\％ |
| 3 K－184 | 2 | S－316i | $\stackrel{3}{2}$ | S－316： | 1 | N゙N゙－16！ |
| 1 $\mathrm{H}-18 \mathrm{~K}$ | $\stackrel{1}{2}$ | N－81tit | 3 | R－3164 |  |  |



 whor have long seardied．It is a genmitus Nerdite prodaret willa andigue attachment that justantly and rigidly lubls and starts any serow，＂ven one without a head．Spring holder remains in llacer eilher alowe． below or examply at the driver pmint．Crampe the sectow at the heas ar a／x below giving lhree print sumper doll for wreater rigidity．Cath also the used for remove
 $\%^{\prime \prime}$ ．l＇ack＇d 12 assorted lengths on metal display．

Display，complete
Esch
Lisl Net
$6.00 \quad \$ 4.00$
$.50 \quad .33$

## Complete XCELITE Price List



PHILLIPS SCREWDRIVERS
XceLite Handles－Alloy Steel Blades

| Cat． No． | 1 Sescription | No．in lsox | Weight per Hox | J．int Price | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| X－101 | length is＂ | 1 | 7／13 16. | \＄0．75 |  |
| $x-102$ | Jength i" | ， | 1515 ． | 1．20 | \＄0．50 |
| $x-103$ | lengtlı ti＊ | 1 | $21 / 41$ | $\begin{aligned} & 1.20 \\ & 1.80 \end{aligned}$ | 1.00 |
| $S S X-101$ | lengts 11／＂Nhort wubling tive | 1 | 1／2 16. | ． 70 | ． 4.47 |
| SSX－102 | I．ength 1＇／3＂short stublin tyrue | $1 ;$ | 1 ydh ． | ． 81 | ． 47 |

## PHILLIPS SCREWDRIVERS—Wooden Handles

| Cat． No． | Dewription | $\begin{gathered} \text { No. in } \\ \text { Hox } \end{gathered}$ | Weight per fiox | $\begin{aligned} & \text { Jist } \\ & \text { l'rice } \end{aligned}$ | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P－101 | length ${ }^{\prime \prime}$ | 1 |  | 80．50 | \＄0．33 |
| P－102 | length $4^{\text {＂}}$ | i | 1年16． | 80．50 | 10.33 .33 |
| P－103 | lendth $\mathbf{i}^{\prime \prime}$ ．．．．．．．．．．．．．．．．．．． | （i） | ${ }^{1} \mathrm{ll}$ | ． 415 | ． 43 |
|  |  | 12 | $=$ | ． 45 | ． 30 |
| SP－102 |  | 12 | $1,1 \mathrm{~b}$ ． | ． 0 | ． 33 |

No． 10 DISPLAY－Thi－


No． 332 Display－Sam，as No． 12 except diameter of blades is 3／532＂．Fits merwe on knols of midget sets：also for fine instru． ment work．List l＇rica，（＇omplen（a．．．．33．1．［．ist l＇rison，ad．S．I）．． 25 Net Price，Complete $\$ 2.10 \quad$ Net Price，each．．．．．．．．．$\$ 0.17$ No． 24 DISPLAY－The bupular Xeclite pocket serewdriver（another uriginal Xcelaite introductivn）has a $1 /{ }^{\prime \prime}$ diameter chrome platm blade $2^{\prime \prime}$ in lengih．（＂omus $\because+0$ an attractive metal display
List Price，Complntu．．．．．．．． 6.20 List Price，ea．s．D．．．．．．．$\$ 0.25$ Net Price，Complete 4.13 Net Price，ea．S．D．

## 2uchity XCELITE Tools

## XCELITE NUT DRIVERS

Deep hex. sockets capable of handing two nuts are truly formed and entirely free from burrstempered and finished, handles of genuine amber XceLite are shockproof, breakproof and comfortable. Can be furnished with fully insulated shank if desired. Display stand holds 7 popular sizes etther $6^{\prime \prime}$ or $9^{\prime \prime}$ long overall. Can also be furnished with 5 wrenches.

| $\begin{aligned} & \text { Nut } \\ & \text { Nize } \end{aligned}$ | No. und l.ength | List Price | Net Price | No. and l.engelis | List Price | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3/16" | No. 6-4" | \$0.65 | 30.39 | No. A 6-9* | \$0.75 | \$0.45 |
| 7/32" | No. 7-6" | . 6.5 | . 39 | No. A 7- ${ }^{\circ}$ | .7.i | . 45 |
| 1/4* | No. 8-13" | . 65 | . 39 | No. A 8-\% | . 75 | . 45 |
| 4/32 ${ }^{\text {\% }}$ | No. 9-6" | .th5 | . 39 | No. A 9-4* | . 75 | . 45 |
| 5/16" | No. 10-6" | (tis) | . 39 | No. A10 -9" | . 75 | . 45 |
| 11/82" | No. $11-6{ }^{\prime \prime}$ | . 6.5 | . 39 | No. A11--"' | . 75 | . 45 |
| 3/8" | No. 12- $\mathrm{i}^{\prime \prime}$ | . 63 | . 39 | No. A12-9* | . 75 | . 45 |
| "/16" | No. 14--6" | .85 | . 51 | No. A14- ${ }^{\prime \prime}$ | . 95 | . 57 |
| 1/2" | No. $16 \rightarrow i^{\prime \prime}$ | .xi | . 51 | No. A16-9* | .9\% | . 57 |

Average weight 2 bs. per dozen NOTE

For insulated shanks on No. 6 thru 16
For insulated shanks on A6 thru A16
NUT DAIVER DISPLAYS

| No. NUT DRIVER DISPLAYS |  |  |
| :---: | :---: | :---: |
|  | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net Price |
| 15-Nut Driver Display complelo will fo wrom lion Now. ti, A. 16, 11, 10 | s3.4.7 | \$2.07 |
| 17-Nut Driver Display complete with \% wrene hes <br> No. 3 to No. 12. | 4.81 | 2.88 |
| 15-Display Rack only (hulde \% wropulage)........ | . 20 | . 12 |
| 17-Display Rack only (holds \% wrenches) | .2「 | . 15 |

$\$ 0.15$ list extra 0.15 list extra
.15 list extra

No. 17-Nut Driver Display


## HOLLOW SHAFT NUT DRIVERS



This unique, time-saving tool was especially designed for general electrical and radio work. In radio, it is primarily useful in installing and removing volume control and other panel equip. ment. The nut is readily tightened or loosened without damage to the panel. On telephone or power switchboards. the Hollow Shaft Nut lriver is especially useful where nuts must be installed or removed over long protruding bolts or studs - made with or withont insulated shafts. The former for use with high voltage work. Shafts insulated for protection up to 1000 volts; landles to 5000 volts.

| $\begin{aligned} & \text { Nut } \\ & \text { Size } \end{aligned}$ | Lepth of Ilole | No. and length ()verall |  | Weight per Box |  | 1.ist | Net | Innul | ated <br> Net |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3{ }^{3}$ | $21 / 3$ | HS-10 | $8^{\prime \prime}$ | 2 | lbs. | \$0.90 | \$0.54 | \$1.05 | \$0.63 |
| 圽" | $214^{\prime \prime}$ | HS-11 | ${ }^{\text {tis }}$ | 2 | lha. | . 90 | . 54 | 1.05 | . 63 |
| "\% | \% | HS-12 | ${ }_{\text {if }}$ | $\stackrel{2}{3}$ | thw, | 1.00 | . 60 | 1.15 | . 69 |
| 1\%" | 5" | $\mathrm{HS}-14$ $\mathrm{HS}-16$ | 8i* | 3 | lbs. | 1.00 | . 60 | 1.15 | . 69 |
| "3" | 5" | HS-18 | $6^{\prime \prime}$ | 31 | lbs. | 1.20 | .72 | 1.35 | . 81 |
| 10" | 5" | HS-20 | 7" | $31 / 2$ | lbs. | 1.40 | .84 | 1.55 | . 93 |

## STUBBY NUT DRIVERS

These tools have all the features of the regular XCELITE Nut Drivers. plas the advantage of al short shank for working in close or difficult quarters where a powerful grip is required. The Stubloy Nut Driver is a mighty practical tool for installing car radios. working aromod carburetors, fuel pumps, shock absorbers. etc. Made in $1 / 4$ ", "", and $3 /$ " $^{\prime \prime}$ sizes. with extra-deep hexagon sockets to handle two nuts at once.
Sockets are truly formed and rree of burrs. They are tempered and fully finislied. Handles are genuine shock. proof XceLite.
Handle, $11 / 4^{\prime \prime}$ diameter
Overall Length 31/4"
Shaft, $11 /{ }^{\prime \prime}$ hollow
Weight per doz., $11 / 2 \mathrm{lbs}$

> List Price
> $\$ 0.75$
> Net Price
> $\$ 0.45$


## 2uality XCELITE Tools

## XCELITE "Combination Detachable" SCREWDRIVER



BALL FASTENER

STUBBY TYPE


Here's convenience-and saving-combined in a mighty unique and uséful tool. The XCELITE Combination Detachable Screwdriver has a genuine XceLite Shockless Handle, hollow to receive thedual-blade screwdriver units listed below. With this practical XceLite handle and, for example, a No. 2 Phillips blade on one end and a $1 / 1^{\prime \prime}$ XceLite blade on, the other, you have two screwdrivers for just about the price of one! What's more, you can buy blades of other sizes to fit the same handle. Note the unique ball fastener on the blade. This holds the screwdriver unit securely in placeyet readily slips out when desired.

## BLADE COMBINATIONS (Order by Number)

No. 1 - No. 1 Phillips and $1 / 8^{\prime \prime}$ XceLite No. 2 - No. 2 Phillips and 7/4" XceLite No. 3 - $i_{16}^{3 \prime}$ "XceLite and $1 /{ }^{\prime \prime}$ XceLite

## STUBBY TYPE (overall length $3^{\prime \prime}$ )

No. S-1 Stubby - No. 1 Phillips and $1 / /^{\prime \prime}$ XceLite No. S-2 Stubby - No. 2 Phillips and $1 /{ }^{" 0}$ XceLite No. S-3 Stubby - $\frac{1}{10}^{\prime \prime}$ XceLite and $1 / 4^{\prime \prime}$ XceLite

|  | PRICES |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Regular |  | Stubby |  |
|  | List | Net | List | Net |
| Complete | \$1.45 | \$0.97 | \$1.10 | \$0.73 |
| Extra Handles | . 75 | . 50 | . 65 | . 43 |
| Extra Blades | . 75 | . 50 | . 50 | . 33 |

## 6" XCEL Adjustable SOCKET WRENCH (with Attachments)

A whole set of tools in one! Easy, light-weight tool to handle: yet super tough due to its drop-forged construction of special chrome nickel steel. Chrome finished. Fits any size nut, hexagon or square, round or odd shaped, from $1 / 4^{\prime \prime}$ to $1^{\prime \prime}$. Has two mighty useful attachments-hammer head of unbreakable XCELITE and an alloy steel screwdriver to insert in small end of wrench to form offset screwdriver.


## 2uality XCELITE Tools

## XCEL PLIERS

XCEL pliers are made for radio and electrical work. They embody in their design suggestions from radio and electrical engineers and technicians. Recent advances in the manufacture of alloy steel have enabled us to still further improve the quality. From drop forging to final inspection, the best methods and highest standards prevail. Xcel pliers are fully guaranteed against defects of material or workmanship
and any plier showing such defects will be cheerfully replaced if returned to us.
Please do not ask us to replace cutting pliers which have been abused by attempting to cut metal which has been case hardened or otherwise hardened. Pliers which have been filed or reground or burnt from a live wire are not replaceable. If pliers break, return ALL broken parts. Remember, pliers wear out. When they do, don't expect free replacement.


No. 60-Xcel Side Cutting Plier 6"
I.ist, \%1.is Net, \$1.17

The lambles of this pline are ilesignat to atford the areat est levermare. The fliou is lighter in weipht than the regular limeman's side cuttor and is designed for radios and light eboetrical work. 1)rog forged from timest allog stecel and skillfully tenoured, its cutting (qualities are unsuṛassed by uny side cutting plier. Knive•s are hand honed.


No. 59-Xcel Chain Nose Electricians Plier $7 \frac{3}{4 \prime \prime}$
1int. *2.25
Net. $\$ 1.50$
A blier that should lw in every Radin and Fifectrical workor's kit. It has literally a dowen special user. It is of very sturdy conatruction yet is so streaminem that it casily kets into plirem no other pliur can. A very popmlar number. Drop fomed from fimest alloy steel.


No. 57-Xcel extra Long Duck Bill 7" List, $\$ 2.00$ Net, $\$ 1.33$
This duck bill plier has that extra long reach for the hard to fret at place. It is sturly, being made from a special alloy steel. Made to tit the hand. A superior plier of this type.


No. 51—Xcel Long Needle Nose and Side Cutter Plier 7" I.ist, 2.00 Net, $\$ 1.33$

[^19]

No. 58-Xcel Radio Special 7"
List, $\$ 2.75$ Net, $\$ 1.83$
This plior must be seen to be apprecjated. it combines the usefulness of a diagonal and mewhe mose. Fixcellent for crushing and stripping insulated wire Knives are haml boned and useful in the "hard to met if" places.

NOTE: Sut guarantemd ugainst breakage.


No. 55-Xcel Diagonal 5"
List, \$2.00 Net, \$1.33
This plier has sprorial foatures not found in any other diamonal on the makert athd "mborlies sugrentions made ly, Rarlio and Flectrical manimers. The throat of the jaws is flat temal for crushing insulation on wires hofore remosal and for takink wit "kinks" in the wire. These pliers are drop forged from a special aualysis alloy steel and the most exacting rare is used in their loat treatment. The juws are hami homed amb will cut clean amd stand up. This is a kipecial diagonal plier degigned for ladio tilectrical use exclusively. Not recommended for general use.


Fiere is the handiest battery plier you ever used. It is so designed that gripping the handle forres the object in against the jaws instead of out amd away. Will handle anythink round, equare or hexagon, a wonderful all around keneral purpose plier. Has jaws milled with pipe wrench teeth. Drop forged from tough njekel molyhdeuum steel, expertly heat treated. Range of jaws 7/8". Three adjustments.

No, 62-Xcel Ignition Plier 5"
List, $\$ 0.90$ Net, $\$ 0.60$
This plier is of the same general construction as the No. 56 except it is much smaller, being $5^{\prime \prime}$ long. Extremely useful both for Radio and ignition work.


COMPLETE PRICE LIST - RADIART VIBRATORS
CONSULT FADIART MANUAL FOR DIMENSIONS AND COMPLETE TECHNICAI. DATA

| No. | Price | No. | Price | No. | Price | No. | Price | No. | Price | No. | Priee | No. | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2819 | . 33.45 | 3318 | 57.50 |  |  |  |  |  |  |  |  |  |  |
| 2967 | - 3.45 | 3319 | 5.95 | 3789 | 4.95 | $4280{ }^{4}$ | 58.50 2.25 | 4603 | $\$ 7.50$ 5.50 | ${ }^{5327 P}$ \$331. | 33.00 3.95 | 5411 | \$4.93 |
| 3200 | - $\begin{aligned} & 3.45 \\ & -2.85\end{aligned}$ | 3320 3356 | 2.50 | 3815 | 3.98 | 4308 | 3.95 | 4613 | 5.50 | 5333 | 2.95 | 5415 | 4.95 |
| 3225 | -2.45 | 3336 3375 | 3.95 | 3849 | 5.95 5 | 4306.12 | 3.95 | 4614 | 5.50 | 5334. | 2.95 | 5420p | 9.25 |
| 3226 | -3.96 | 3395 | 4.45 | 3883 | 5.93 5.90 | +4314 | 4.95 | 5300 | 2.95 | 5335 | 2.95 | 5421. | 4.\% |
| 3227. | - 3.95 | 3417 | 3.95 | 3983-12 | 7.50 | 4319 | 3.95 <br> .95 | 5301 5303 | 2.05 | 5339 5340 M | 2.93 | 5422. | 3.50 |
| 3263 | $\begin{array}{r}2.95 \\ \hline 5.95\end{array}$ | 3442 3443 | 3.95 | 4233 | 4.50 | 4320 | 3.85 | 5304 | ${ }_{3.95}^{2.85}$ | 5341M | 2.50 | 5428 | 4.98 |
| 3230 | $\begin{array}{r}\text { - } \\ \hline\end{array}$ | 3443 3444 | 6.50 6.50 | +283.12 | 4.95 | 4332 | 3.95 | 5308 | 3.45 | 5342 M | 2.50 | 5428 | 4.85 |
| 3308 | - 3.85 | 3445 | ${ }^{6.50}$ | 4233-32 | 4.95 | 4404 | 5.50 | 5312 | 3.95 | 5365 | 3.95 | 5431 | S.30 |
| 3310 | - 8.00 | 3460 | 4.95 | 4254.12 | 5.50 | 4414 | 4.95 7.00 | ${ }_{5390}$ | 2.95 | 5400 | 4.95 | 5433 | 4.95 |
| 3311 | - 9.00 | 3461 | 5.50 | 4254-32 | 5.50 | 4145.12 | 7.50 | 5320 | 2.50 | 5404 5406 | 4.95 | 5434 | 4.95 |
| 3313 | 10.00 .3 .95 | 3462 3463 | 6.75 7.50 | 4255 | 5.90 | 4500 | 5.95 | 5321 5322 | 2.95 2.85 | ${ }_{5408} 54.12$ | 4.95 5.90 | 5435 | 4.95 |
| 3314 | - 8.00 | 3503 | 4.95 | 4255.12 4255.32 | 6.50 6.50 | 4501 | 5.95 | 5323 | 2.85 2.50 | 5407-12 | 5.90 4.85 | 5436 5437 | 4.95 |
| 3315 | - 5.50 | 3007 | 5.95 | 4255 H | 5.50 | 4504 | 5.95 | 5324 | 3.95 | 5409 | 4.95 | 54378 | 4.95 |
| 3316 | 10.00 | 3000 | 4.45 | 4257 | 5.90 | 4505 | 5.5 | S323P | 2.50 | 5409.32 | 5.50 | 54.30 | 4.98 |
| 3317 | S. 95 | 3651 | 5.45 | 4257-12 | 6.50 | 4807 | 7.25 | \$328P | 2.50 | 5410 | 4.95 | 5479.12 | S.s0 |








# RADIART AERIALS ALWAYS A YEAR AHEAD 

## 9 DE LUXE <br> 2.bolt Mount SINGLE INSULATOR

Standard Equipment on popular and luxury cars (U. S. Patent D118,627). Modern etreamline beauty in a single (2. bolt) insulator featur. ing the rich harmony of black plastic and Ilash. ing chrome-42" lead included.
CD-31 $\$ 3.95 \quad 3$ section 24.63' CD. 101
$24-80^{\prime}$
4.95 4 section F-201\$.15 5 deg. Rub. ber Wedge for Torpedo Bodien.

ILLUSTRATING CD. 101

MIRROR COMBINATIONS
TYPE CM-2
Reveraible. for use either on left or right side of car. Excel. lent in matched pairs. Mirror is non-glare, emoked glase. 42' Lead ineluded. CM-2 Length 20.50'
F-201 5 deg. Rubber Wedgefor Torpedo Bodies


INSTALL TYPE CM-2
-IN MATCHED PAIRS

TYPE CM-1

Available for mounting on left eide only. Clear glaes mirror. 42" Lead included.
CM-1 Length 29-59'* . . . . . . . . . . . . . . . . . . . . . . . $\$ 4.95$ Fool-proof aerial operation from inside the car.
SEE COMPLETE DESCRIPTION ON OTHER SIDE


ILLUSTRATING C. 31

## CONCEALED COWL

Popular because of their neat appearance, only 4 inches projecting above the cowl when fully collapsed. 42" lead. CC-2 $\quad 52.95 \quad 2$ nection $4-42^{\prime \prime}$
CC-3 $3.95 \quad 3$ section $5-63^{\prime \prime}$

ILLUSTRATING CBH-2

## ALL LEADS-Universal-Fit Pin type or Bayonet

## Ro-TENNA - Radiart's New Wind-up Aerial

## Just Turn the Knob to Raise or Lower Aerial to Right Height

 sW-1 ${ }^{5.95}$ 21-53" Sid- Windshield


## RADIART AERIALS



## VERTICAL MAST

The modern antenna for perfected home reception. More easily installed and less conspicuous than old horizontal aerials. Minimizes interference. Sectional admiralty complete with low loss ceramic insulators and special fittings for quick mounting to side of any structure, or clamping around soil pipe.
VM-3 ${ }^{(1)} \$ 5.95$ 5-section $14^{\prime}$ to $16^{\prime} 4^{\prime \prime}$ Ccmplete with Universal Angle bracket. Chrome plated rustprool admiralty rod. 40 feet lead wire.

VM-2 \$4.45 5-section $14^{\prime}$ to $16^{\prime} 4^{\prime \prime}$ Complete as illustrated at left. Has no angle bracket, but soil pipe fittings will also hold rod against any vertical structure. 40 ft . lead.
VM-4 \$2.95 4-section 12' Steel, cadmium plated. NOTE: despite the best of plating, steel cannot be guaranteed aaainst rust. Soil pipe fittings only.
NOTE: VM- 2 and VM. 3 adjustable 14 feet to 16 feet, 4 inches.
IHLUSTRAT ING VM-2

## RADIART LEADS




## BUMPER TYPE

A husky clamp mounts the sectional telescoping rod securely A husky clamp mounts the sectional telescoping rod securely to the
B-21 \$2.95 3-section 43.92

## UNDERCAR TYPE

A twin running board assembly one unit under each running board. Made of heavy rod with thick rubber covering. Welded connections. With its extra-strong brackets, this aerial stands up under rough usage. U.6 \$3.95 DUOBOARD $49^{\circ}$ long.
 6.* Shielded Lead included.

## RADIART MATCHING RESONATOR

Type Ml-Price $\$ 1.50$

with male and female bavonet
connectors.
Type M2-Price $\$ 1.50$
with male and female pin connecture.


LEADS


## MOBILE COMMUNICATIONS ANTENNAE POLICE TYPES

Except for Model PS-4, antennae for this service are available in two distinct styles: (a) 2-section steel, (b) 3 -section admiralty. Brackets and fittings are identical for both styles, black nickeled for low visibility. Insulators are ceramic. Leads not included. PS-4 is the new "Unimount" requiring but one sturdy bracket which can be mounted on any body surface. Special types are being continually engineered for unique applications. Our engineering department invites consultation.


Illustrating locking device, permitting topered steel rod to be instantly re. moved or replaced without re-adjust. ment.

# SUGGESTED PRICE SHEET <br> and <br> <br> SPECIFICATIONS 

 <br> <br> SPECIFICATIONS}

No. C-1280 Effective February 1, 1940
Superseding No. C-1268

# EVEREADY Radio Batteries <br> ${ }^{6} A^{\prime}{ }^{6}$ ' and ' $C$ ' 



Manufactured by
NATIONAL CARBON COMPANY, INC.
General Offices: NEW YORK, N. Y.
Branches: Atlanta, Boston, Chicago, Cleveland, Dallas, Kansas City, Louisville, Minneapolis, New York, Philadelphia, Pittsburgh

## The Batteries Listed on This Page Are for 1.4 Volt Receivers

| "AIR CELL" ${ }^{66}{ }^{\text {a }}$ " BATTERY |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catalog <br> Number | Batterie: | Overall Dimensions | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Fach } \end{aligned}$ | Suggested Prices to Dealers |  |  |  |
|  |  |  |  | Unit Package Quantity | W'eight of Unit Package in Pounds | In Less Than Unit Package Quantities | In Unit Package Quantitics |
| A-1300* | - | $51 / 4^{\prime \prime} \times 45^{5 \prime \prime} \times 83^{\prime \prime \prime}$ | \$2.45 | 1 | 7 | - | 81.72 |
| DRY ${ }^{6} \mathrm{~A}^{\prime \prime}$ BATYTERIES |  |  |  |  |  |  |  |
| 740* | $11 / 2$ V Dry |  | 1.80 | 1 | 7 | - | 1.26 |

## DRY "A" BATTERIES FOR PORTABLE RECEIVERS

| 741* | 11/2 Volt. | $343^{\prime \prime} \times 29^{\prime \prime} \times 5$ 年" | 0.95 | 1 | $31 / 4$ |  | 0.67 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 743* | $11 / 2$ Volt | $33 / 4{ }^{\prime \prime} \times 2$ 根" $\times 33^{\prime \prime}$ | 0.75 | 1 | 21 | - | 0.52 |
| 742* | $11 / 2$ Volt. |  | 0.50 | 1 | $13 / 4$ | - | 0.35 |
| 745* | $11 / 2$ Volt |  | 0.95 | 1 | 314 |  | 0.67 |
| 746* | 41/2 Volt. |  | 0.45 | 2 | 21.2 | 0.35 | 0.32 |
| 718* | 6 Volt |  | 1.00 | 1 | $3{ }^{1 / 4}$ |  | 0.70 |
| 747* | 6 Volt |  | 1.00 | 1 | $3^{1 / 2}$ | - | 0.70 |

"A-B" PACK BATTERY

| 748* | $11 / 2 \mathrm{~V}$ "A" 90 V "B". | $153 / 4{ }^{\prime \prime} \times 43 \mathrm{~s} 8^{\prime \prime} \times 678^{\prime \prime}$ | 5.00 | 1 | 25 | - | 3.45 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| "B") BATTERY PACK |  |  |  |  |  |  |  |
| 749* | 90 Volt. | $153 / 4{ }^{\prime \prime} \times 31 / 8{ }^{\prime \prime} \times 738^{\prime \prime}$ | 3.20 | 1 | 18 | - | 2.21 |

"B" BATTERIES FOR PORTABLE RECEIVERS

| 482* | 45 Volt "Mini-Max". | $31 / 2^{\prime \prime} \times 13 / 4 \times 5$ | 1.50 | 2 | 4 lbs .3 oz . | 1.15 | 1.05 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 762* | 45 Volt. |  | 1.50 | 2 | 6 | - | 1.05 |
| 738 | 45 Volt. |  | 1.50 | 1 | $11 / 2$ | - | 1.05 |

*Pluar-in Type Terminal
"SUPER-LAYER-BILT" AND "LAYER-BILT" "B" BATTERIES

| Catalog <br> Number | Batterie : | Overall <br> Dimensions |  |  | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | Suggested Prices to Dealers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Unit Package Quantity |  | In Less Than Unit Puckage Quantitics | In Unit Package Quantitics |
| 386 | 45 Volt |  |  |  |  | 2.45 | 6 | $911 / 2$ | 1.91 | 1.74 |
| 485* | 45 Volt. | $83^{\prime} 2^{\prime \prime} \times 31 / 8^{\prime \prime} \times 71_{8^{\prime \prime \prime}}^{\prime \prime}$ |  |  | 1.69 | 6 | 57 | 1.32 | 1.20 |
| 486 ${ }^{\text {* }}$ | 45 Volt |  |  |  | 2.10 | 6 | 841/2 | 1.64 | 1.49 |
| 585 | 45 Volt | $83^{12 \prime \prime} \times 31 / 8^{\prime \prime} \times 79^{\prime \prime}$ |  |  | 1.39 | 6 | 55 | 1.14 | 1.04 |
| 586* | 45 Volt |  |  |  | 1.85 | 6 | 80 | 1.53 | 1.39 |

## "C" BATTERIES

| 768 | 221/2 Volt | $41 / 8{ }^{\prime \prime} \times 2{ }_{3}^{17 \prime \prime} \times 23{ }^{\prime \prime}$ | 0.98 | 1 | 2 | - | 0.69 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 771* | $41 / 2$ Volt |  | 0.35 | 5 | 21/2 | 0.27 | 0.245 |
| X771* | 41/2 Volt |  | 0.40 | 5 | 5 | 0.31 | 0.28 |
| 773 | $71 / 2$ Volt | $43^{\prime \prime} \times 7 / 8^{\prime \prime} \times 31 / 4^{\prime \prime}$ | 0.65 | 5 | $31 / 2$ | 0.49 | 0.44 |
| 774* | 71/2 Volt. | $43^{\prime \prime}$ " $\times 1 \int_{2}^{\prime \prime}$ x 3 32" | 0.65 | 5 | $31 / 2$ | 0.49 | 0.44 |
| 781 | $41 / 2$ Volt | $23^{\prime \prime \prime} \times 3 \underline{3}^{\prime \prime} \times 31 / 8 "$ | 0.40 | 5 | 2 | 0.31 | 0.28 |
| 783 | 15 Volt |  | 1.25 | 5 | 7 | 0.97 | 0.88 |

## COMBINATION "B" AND "C"

| K.P7* | 7 prong | $9^{\prime \prime} \times 71 / 夕^{\prime \prime} \times 13 \mathrm{t}^{\prime \prime}$ | 7.50 | 1 | 471/2 | - | 5.17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| X-P8* | 8 prong | $9^{\prime \prime} \times 71 / 8^{\prime \prime} \times 134{ }^{\prime \prime}$ | 7.50 | 1 | $461 / 2$ |  | 5.17 |

## GENERAL PURPOSE

| 761 | 4 $1 / 2$ Volt | $43^{\frac{1}{2}}{ }^{\prime \prime} \times 143^{\prime \prime} \times 358^{\prime \prime}$ | 0.35 | 5 | 5 | 0.27 | 0.245 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7617 | 4120 Volt | $43^{\frac{1}{2} \prime \prime} \times 1{ }^{13} 3^{\prime \prime} \times 31 \frac{1}{2 \prime \prime}$ | 0.55 | 5 | 5 | 0.42 | 0.38 |
| 7625 | 45 V insulated screw term. |  | 1.65 | 5 | 18 | 1.28 | 1.16 |
| 778 | $221 / 2$ Volt | $41 / 8{ }^{\prime \prime} \times 2 h^{\prime \prime} \times 3 \times 3{ }^{\text {² }}$ " | 0.98 | 5 | 9 | 0.76 | 0.69 |
| 763 | $221 / 2$ Volt | $31^{7} 6^{\prime \prime} \times 2{ }^{16 \prime \prime} \times 2 \times 2{ }_{3}^{\prime \prime}{ }^{\prime \prime}$ | 1.20 | 5 | 6 | 0.92 | 0.84 |

## "AIR CELL" "A" BATTERIES FOR 2 VOLT TUBES

| A-2600 | Screw Terminals | $915{ }^{\prime \prime} \times 65 /{ }^{\prime \prime} \times 107 / 8^{\prime \prime}$ | 6.70 | 1 | 24 | - | 4.62 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SA-2600 | Screw Terminals | $915{ }^{5 \prime \prime} \times 65 / 8$ " $\times 107 / 8{ }^{\prime \prime}$ | 8.00 | 1 | 24 | - | 5.51 |
| A-2300 | Screw Terminals | $83^{7}{ }^{7 \prime \prime} \times 51 / 6^{\prime \prime} \times 83^{7 \prime \prime}$ | 4.25 | 1 | $121 / 2$ | $\square$ | 2.98 |

## DRY "A" BATTERIES FOR 2 VOLT RECEIVERS

| X124 | 3 Volt | $101 / 2^{\prime \prime} \times 103 / 2^{\prime \prime} \times 65 /{ }^{\prime \prime}$ | 8.70 | 1 | 36 |  | 5.99 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| X125 | 3 Volt | $111 / 4^{\prime \prime} \times 41^{3 \prime \prime} \times 73 / 4 "$ | 3.50 | 1 | 20 |  | 2.33 |
| 7111 | 11/2 Volt 6" Dry Cell | $25 / 8{ }^{\prime \prime}$ diameter $65 / 8^{\prime \prime}$ | 0.45 | 12 | 27 | 0.34 | 0.31 |

[^20]"EVEREADY" "AIR CELL" RESISTORS

| Catalog <br> Number | Brand and Type | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | Suggested Prices to Dealers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { Unit } \\ & \text { package } \\ & \text { Quantity } \end{aligned}$ | Weight of <br> Unit Packare in Pounds | In Less Than Unit Package Quantities | $\begin{gathered} \text { In Unit } \\ \text { Package } \\ \text { Quantities } \end{gathered}$ |
| ACR | Display Card Containing 5 Resistors, 1 Each Listed Below | 81.25 | 1 | - | - | \$0.80 |
| $480-500$ | "Air Cell", Resistor... | 0.25 | 12 |  | - | 0.16 |
| 540-560 | "Air Cell", Resistor | 0.25 | 12 |  | $\square$ | 0.16 |
| 600.620 | "Air Cell" Resistor. | 0.25 | 12 |  | - | 0.16 |
| 660-680 | "Air Cell" Resistor.......... | 0.25 | 12 |  | - | 0.16 |
| 740 | "Air Cell" Resistor. | 0.25 | 12 |  |  | 0.16 |

Minimum shipment one card or one unit package, tramsportation prepaid to distributors cities $10 \%$ service charge for direct ship.
ments to dealers.
"B-C" BATTERY PACKAGE

| 1367 | "B-C" Battery Package Less Batteries...... | 0.25 | 12 | 15 | - | 0.16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## "EVEREADY" "B-C" BATTERY CONNECTORS



## ADAPTERS FOR PLUG-IN BATTERIES

| 626 | For all 45 Volt Plug-in Type Batteries...... | 0.05 | 1 |  |  | 0.035 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 596 | For Type No. 768 ............... | 0.05 | 1 |  |  | 0.035 |
| 612 | For Type Nos. 771 and X771 | 0.05 | 1 |  |  | 0.035 |
| 1072 | For A-2600, SA-2600 and A-2300 "Air Cell" Batteries. These batteries now |  |  |  |  |  |
|  | equipped with insulated screw terminals | 0.05 | 1 |  |  | 0.035 |
| 1024 | For Type Nos. 740, 741, 742, 743 and A-1300 | 0.05 | 1 |  |  | 0.035 |

The words "EVEREADY," "AIR CELL," "LAYER-BILT," "SUPER-LAYER-BILT" and "MINI-MAX" are trade-marks identifying products of National Carbon Co., Inc.

LOOK AT THESE "EVEREADY" "LAYER-BILT" PERFORMANCE CURVES!
They Show Why It Pays to Buy the Higher-Quality Batteries

*Obtained by discharging batteries on the standard $\mathbf{1 2 5 0}$-Ohm Intermittent Test until their vollage reached the poinl below which radio receivers MAY not operate satisfactorily.

## CLEVELAND. OHIO

## MUELLER BATTERY AND TEST CLIPS

For use in making quick, temporary electrical connections, Paked 10 i, 0,$151 ; 1.991 .201 ; 1,999,613$



A high grade test clip tith arwo tma cip with merhiling terth on three sidies of jaws. For luthoratory and shof, test work. 2 2/2" Iong. Jaw epread \%o. steel, bright thish.
EACH NET $\$ 0.10$ LOTS OF 10

10 No. 27
No. $27 . C-$ Solid copper. Nume nize a
LOTS OF 10
Use No. 29 Insulator for clips 27 and 27 -C.
$\$ 0.07$
EACH NET
$\$ 0.12$


## No. 24-A

A menlium rized hattery clip. Stands prome on luttery post. I.rand coaterd. copurer whut pro terts spring. $27 /{ }^{3}$ " long. Jaw nurad $1^{\prime \prime}$ siteel, lead plated.
EACH
EACH NET
$\$ 0.10$
LOTS OF 10
$24 \cdot \mathrm{~A}$.
LOTS OF 10
$\$ 0.06$
EACH NET No. No. 26 Insulator for Clip: 24 - 10 and 24.
$\$ 0.14$

## LARGER SIZES OF CLIPS

$$
\text { Each Net Lots of } 10
$$

No. 21-A-H Pavy Duty sitel, leall plated, $4^{\prime \prime}$ lone $\$ 0.16$ Nots $\$ 0.11$
 No. 11 -200 Amp. Solld copper. $8^{\prime \prime}$ long......... 1.00 No. 33-300 Anp. solid copper. $7 \%$ " long...... 1.80
(.Dbore furnishid with lug rominectlons.)

## RUBBER INSULATORS FOR CLIPS



I convenient protection against short circuit and electric shock. l'recked 10 in a box, 5 red and 5 black to indicate polarity. Long lail prewints lmakage of wire. Constructed so that clip is held in firml:
Insulator No. For Use with Clip No. Each Not
Lots of 10

| Insulator No. | For Use with Clip No. | Each Not | Lots of 10 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | $11.11-\mathrm{A}$ | $\$ 0.52$ | $\$ 0.36$ |  |  |  |
| 23 | $21.21-\mathrm{A}$ | 0.33 | 0.23 |  |  |  |
| 26 | $24.24 \cdot \mathrm{~A}$ | 0.18 | 0.12 |  |  |  |
| 29 | $27.27-\mathrm{C}$ | 0.12 | 0.082 |  |  |  |
| 35 | $45.45-\mathrm{O}$ | 0.80 | 0.56 |  |  |  |
| 47 | $48 . \mathrm{B}, 48-\mathrm{C}$ | 0.08 | 0.0525 |  |  |  |
| 49 | 85 | 0.09 | 0.06 |  |  |  |
| 87 |  |  |  |  | 0.05 | 0.03 |
| CROCODILE CLIPS |  |  |  |  |  |  |

## CROCODILE CLIPS <br> U.S. Patent No. 1,999,613



No. 85 Clip with
No. 87 Insulator
No. 85-A very amall clip with slenter, clongated juws for getting into tight places in radio or electrical test work. Tereth reully mesh. Screw connection. 2\% \%" lonr
EACH NET
EACH NET................... $\$ 0.06$ LOTS OF 10 No. 85-T-Now Crocodile "Tip-Clip" equipped with standard phone tip on one jaw, otherwine same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to inkulated binding posts laving non-rmuwable headk.
EACH NET
EACH NET............. $\$ 0.13$ LOTS OF $10 \ldots . . . . . . . . . . . . . .09$ 1se No. 87 lukulatorn for elther clip. Red and Black. Cover entire clip except nows. Pmotecta against short and shock. Helps to distinguish leads.

## ALLIGATOR CLIPS

No. 60-CONVENTIONAL TYPE Aceruralely math, silim jans, theme moming leeth. Comwenien, romil thumb grip, bar med commertion for hathathal pher Equigped with sthall koldering lig. Sitens sprime with a hami hite. lifight, moltorrosive tinish. 2" lomg.


No. 60-S-SCREW CONNECTION Filiminates necemsity for mhlutering. Other. Wise same as No. 60
EACH NET $\$ 0.06$ $\qquad$


No. 60-CS-NEW COPPER R.F.
ALLIGATOR CLIP coppor. Has. 60 except mude of solld copper. llas phosphor bronze spiring and
 work. Will not heat up in M.F. circuits. Brig wirk. Will not heat up in H.F. circuits. Bright, natural copper finish. EACH NET

$$
\$ 0.10 \text { LoTs OF 10....................... } \$ 0.07
$$

No. 60-HS-STEEL ALLIGA TOR CLIP
WITH INSULATED HANDLE Name as No, fio rxcept equipped with hal and hlack insulating sieests on fag leuti Has screw comurtion alm Bright, attractive finikh. $21 / 4$ " long. EACH NET.
. $\$ 0.10$ LOTS OF 10....................... $\$ 0.07$
No. 60-CHS-COPPER ALLIGATOR
CLIP WITH INSULATED HANDLE Same as No. fil-C's except equipped with red and black insulating wlepves on end. Eintirely not-ferrous with hrass merew conmection, for R.F. work. $21 / 4$ " loug. EACH NET................... $\$ 0.17$ LOTS OF 10.
0.17

## WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever! An extremely wiriall rlip for fine testing in radio and electrical work. Light-Weight; thin-nosed: nyringetemper phosphor bronze. Ideal for close-wound coils. 1 ft long; jaw sprean $1 / 4$
EACH NET................... $\$ 0.09$ LOTS OF 10.................... $\$ 0.06$

## No. 45-C <br> SOLID COPPER TEST CLIP

Solid copper radio frequency test clip. Phosphor bronze spring, brass serew. Wifl not heat up in high frequency test work, entirely non-
 ferrous.
EACH NET
No. 47 Insulator I'se No. 47 Innulator. 10.
$\$ 0.055$

## CLAMPIPE GROUND CLAMP

The exclunive patented feature of a l'shaped cross section in comhination with a U-shaped clamp given a rigidity and effectiveness to the Clampipe that cannot be found in uny other not be
The ClamPipe will not bend or lop over when upplied to a pipe. The moint of the large came harlennd screw, cuts through must, paint or corrosion into cleath, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.
The beat ground clump value on the market. Applicable to pipe \%/8" to $1 \%{ }^{\prime \prime}$ outnide diameter.

Packed 10 in a box
EACH NET $\qquad$

THE SNAPPER
A Long Insulated Test Cllp and A "Triple Threaf" Radlo Tool
U. S. Patent Nu. 2, U74,824 No. 99-7" Long Insulated

The long tube is of insulating material and is ritted with spring contact jaws on the far end.
The jaws are operated by a push of the thumb on
the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end.
May be used as (1) A "Deep Sea" Electric Test Clip-test contacts with ease, deep in the recesses of radio chassis with no danger of sbort circuits; (2) An Electric Contact Prod-clip jawn may be used to make quick prod contacts, or clin one Snapper on kround circuit und prod with another: (3) A Retriever-start small screws and nuts or pick up odds and ends that may accidentally be droppet into inaccessible places.
PRICE ... $\mathbf{\$ 0 . 6 5}$ EACH Deaten Wholesale Price, cuch... $\mathbf{\$ 0 . 3 9}$ Net suappers are generally used in pairs- 1 red and 1 black.

U. S. Prutenta Nos. 1,779,442•1,965,151

## INSULATED GRID CLIP ASSEMBLY

One Universal Clip Thot Fits Them All This ussembly is made up of a Pee-lvee Clip with jaws specially constructed to give a firm grip on all sizes of grid cups, a rubber insulator over the clip, 10 inches af fubexible, rubber-covered wire and a of flexible, rubber-
standard phone tip.
FEATURES: Will Never Weaken or Break Bull-Dog Grip-in either vertical Break Bull-Dog Grip-in either vertical or horizontal misition, will not come off cup no matter how hard tulne is pounded. - Will Not Injure or Break Grid Cap-If (elip itself is atruck uccidentally it will pull loose without damaging cap. Wire Will Not Pull Loose from Clip soldered connection at both ends. Quick and Easy Application-tits all sizes of crid caps. No. 106 Insulated Grid Clip Assembly EACH NET $\$ 0.20$ LOTS OF $10 . \$ 0.13$


No. 104
A handy and useful assortment of clips, kround clamps, insulators, etc. for tbe radio shop.
Have what you want when you want it. A real value in a convenient package. The 77 items cost much less when purchased in this kit than they would separately.
PRICE PER KIT
Dealers wholegale price.
\$4.00 Net

## BATTERY POST ADAPTER

For Making Non-Corrosive, Seml-Permanent

Connections to Storage Batteries

No. 103-ls slmply pressed, not burned, on to battery post. The wire is quickly and easily connected under the thumb nut.
Made of non-corrosive antimonial lead. Ideal for use on battery operated home appliances.


No. 103
Packed 10 in a box
EACH NET....... $\$ 0.15$ LOTS OF 10
$\$ 0.10$

## BATTERY CHARGING JUMPERS



No. 89-MUELLER CLIP JUMPER
A complete jumper, ready to use. Two No. $24-\mathrm{A}$ clip and $14^{\prime \prime}$ of rubber covered copper wire.

Packed 10 in a box
. $\$ 0.15$


NO. S7-MUELLER TAP-TITE SPIKE JUMPER
Hand, pointed steel pins solderod to ends of wire and hell flirmly in lead eoated stecl jackets. I)rive intu battery posts.



No. 38-MUELLER PRES-TITE JUMPER
fa aimply prensed over battery posts. Made of non-corrosive, antimonial lead.

Packed 10 in a box
EACH NET .................. $\mathbf{\$ 0 . 2 0}$ LOTS OF 10.................... $\mathbf{\$ 0 . 1 5}$

## BATTERY CARRIERS



## No. 73-MUELLER "COCKEYED CARRIER"

No. 73-A rugger carrier with heavg, rubher covered strap which will stand plenty of abuse. To use, drop the end pieces over the hattery posts and lift up. This cocks the eyen anil they grab hold. The heavier the battery the tighter the grip. 12" long. l'ackm 10 in a box.
EACH NET
$\$ 0.35$ LOTS OF 10
$\$ 0.25$

## NEW EXTRA LONG CARRIER

No. 73-EL-19" long. Ample length to take the new long batterien in some latent model cars. Same construction as No. 73. Packed 10 in a carton.
EACH NET ........ $\$ 0.45$ LOTS OF 10


Take advantage of the high lines - $\mathbf{X}$ necessity wherever rural electrification has come, or portable radios are owned. Convert Battery Radios to 105-125 volt, 50-60 cycle lines


FOR 6 volt radios "TWIN.POWEREE"


CONVERTS 98\% CF ALL E VOLT RADIOS
Vibrator disturbance is eliminated and high fidelity performance assured by sensational new design having two separate sources; one for the vibrator and one for the filaments.

Provides two sources of 6 volts at $11 / 2 \mathrm{amps}$. or connected in parallel 3 amps-Screw type terminals.

List. $\qquad$ $\$ 13{ }^{95}$



## Model <br> 

## for 2 VOLT RADIOS

Supplies " $\AA$ ". "B" and "C" Power to 4 to 8 tube sets designed for 3 volt Dry Battery, 2.5 volt Air Cell. or 2 volt Storage Cell " A " Power. PROVIDES:
" ${ }^{\text {n"-2 }} \mathbf{2 v}$, D.C.
" $\mathrm{B}^{\prime \prime}-671 / 2,90,112 \frac{1}{2}, 135 \mathrm{v}$ (Can be adapted for 45 volts)
"C"-11/2 to $221 / 2 v$. ( 2 or 3 " $C$ "
List.
ist... $\qquad$ $\$ 9^{95}$ voltages if necessary.)
Screw Type Terminals
Shipping weight approximately 6 lbs . (Size: $61 / 16^{\prime \prime} \times 4^{\prime \prime} \times 51 / 6^{\prime \prime}$ )

Models "P" \& "L" Easily Installed by any Serviceman

## Model

FOR $11 / 2$ VOLT PORTABLE OR FABM RADIOS of 4 or 5 TUBES

Supply all needed power
to convert radios to ALL-
ELECTRIC operation. Provide
constant peak source of complete-
ly filtered. hum-free power at
a small fraction of the cost of batteries

Universal sockets for all types of battery plugs. May be used in any position. Will fit the battery compartment of $99 \%$ of all portables.

Small enough to be installed permanently in many, in addition to the batteries.
Light weight for portable operation. Great economy for home use.


Shipping weight approximately 4 lbs . (Size: $2^{\prime \prime} \times 31 / 2^{\prime \prime} \times 6^{\prime \prime}$ )

" $A$ "-1.5v at 200 m.a.
l.35v at 250 m.a. Shipping weight approx:

" ${ }^{\prime}$ "-90v at 13 ma.
$\left.61 / 16^{\prime \prime} \times 413 / 16^{\prime \prime}\right)$
101v at 8.5 m.a.

It's PLUG IN and PLAY with MODELS "U" \& "G"

## IIO TOLT AC AITIIIIERR IITTII KTTOLLGIIT!

CONTINUOUS DUTY RUGGEDLY CONSRUCTED ECONOMICAL PORTABLE
berished for sonul trucks, lomes, cottages, trailens, farms or any phare where plant is desired for ranning many hours daily and expected to give years of troublo ofree service.
KATOLIGHT PLANTS are the result of vears of actual exporience in the light plant field; the result of much laboratory and uctual field tests. The engrine that will give the bext perormance is selecteal for each model. Eangine matmfacturers are known internationally and maintain sorvice siations in key cities in t.S., ('anala and forcikn countrios. The user is assured of serviec unt parts from authorigerl service stations,
NOTE: All Katolight plants are completely filtered and shielded for radio operation.
KATOLIGHT PLANTS are alroady to go be simply adfling a fittle gasoline and oil and
 hand cramk (with rexeption of 10 A \& 23 A which come fumished will push button start on plant and convenient ronn crank), nothing else rmpired.

## Light Weight Portable High Speed Kotolight Jr. Plont for Intermittent Service Operation

JRA3, JR35, JR55, JR10-These plants may be man 24 hours at a time hut they are not remommenderd for home lighting. Jdeal for epreratims ladio Amatenr equipmont, flomdights. portable mectric drills, salws, etc. Select models $19 \mathrm{~A}, 23 \mathrm{~A}$, etc, for homir liphting, sound trucks, ete.

## BATTERY CHARGERS

JR32, JDS12 \& JDS6-ldeal for booking on to athomobile, truck. ratio of tractor hattory

 lattery Jgnition engines but can be emuiped with Magneto Ignition finpine at $\$ 6.00$ list extra,

## CONTROLS \& ACCESSORIES FOR KATOLIOHT PLANTS

IMPORTANT FEATURE:-Any of the stamelarid contmols can be attacheal or changex an Katolight lolants up to aml including 3 ano watts ciapacity-do not have te her orlorent witl pant. Fach control inchadss battory, cutout, IXC ammetars showing amount of hattory charke battry charge control resistor which permits adjusting chargimg curront to shit meeds, ejoft. Wirw and rom lush lunton control station! furnisheal with remoto cemerol.
$19 A$ \& $23 A$ \& Battery Chargers only furnisherd completie with pisin futton startor right emt plant including cutout, battery charge control resistor, start push button and hattory cables,
 must twe andud an shown. ELECTRIC CRANKING ONLY is avalable on the JnfEREI, plants: canmot lan furnishod with full athomatic or remote robitrol.
Writo for information on siges up through 10,000 watts capacity. Avalahlo for 32, and 111 -volts 1).C.

110 VOLTS A.C. - 1800 R.P.M.

| $\begin{aligned} & \text { Wheta } \\ & \text { (:ᄂuncle } \end{aligned}$ | Mooel No. | Tyme if (xk)link | Makenf Fingine | ('sis. | $\begin{aligned} & \text { Figine } \\ & \text { If.P. } \end{aligned}$ | $\underset{\substack{\text { ranking } \\ \text { volt } \\ \hline}}{ }$ | $\begin{aligned} & \text { Ship } \\ & \text { Wikt. } \end{aligned}$ | Code Woril | $\begin{aligned} & \text { List } \\ & \text { Prise } \end{aligned}$ | $\begin{aligned} & \text { DEALER's } \\ & \text { NET } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. $\%$ |  |  |  |  |  |  |  |  |  |  |
| 3.50 | 19A | Air | Johnswor | 1 | 36 | 6 | 125 | Abolif: | 897.60 | 572.65 |
| $5(10)$ | 23A |  | Johnam | 1 |  | ${ }_{6}^{6}$ | 133 | A1sTOI. | 1510.00 | 112.50 |
| ${ }^{8180}$ | 14A | Air | - 188 | 1 | 1.4 | 12 | 170 | AI.FRT | 200.00 | 150.00 |
| 1.601 | 26A | Air | 138 | 1 | 2 | 12 | $29 \%$ | ABBCT | 290.60 | 217.50 |
| 1,501 | 28A | Air | 138 | 1 | 3 | 12 | 340 | ABEAR | 350.61 | 262.50 |
| 2.60) | 30A | Ar | H88 | 1 | 4 | 12 | 360 | A1siDF | 430.16 | 322.50 |
| 2,1001 | 314 | ${ }_{\text {Al }}$ | Stovar | 2 | \% | 12 | 300 | A TISNS | f60. Cl | 345.00 |
| 2.250 | 35A | Whater | Stover | 2 | 5 | 12 | 510 | Al.AN | 520.60 | 390.00 |
| 3.509 | 43A | Water | stovor | 2 | 10 | ${ }_{6}$ | xim | Alas | 019\%.00 | 521.25 |
| 5.000 | 45A | Water | lerinol | 4 | 16 | 6 | SNO | AI.B10 ${ }^{\text {a }}$ | \$48.01 | 636.00 |
| 7,5(6) | 47A | Whatar | Iarnd | 4 | 19 | 6 | 12! 64 | AIMOS: | 1216.61 | 912.00 |
| 10,(6)0 | 49A | Wrater | lertot | , | 26 | 6 | 1680 | AIMUN: | 1316.6) | 987.00 |
| - BrIREN \& Meration. |  |  |  |  |  |  |  |  |  |  |


| A. ${ }^{\text {d }}$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 300 | JR35 | Alr | I.atumon | 1 | $3:$ | 6 | 80 | Kolkt | \$98,00 | 78.50 |
| 400 | JRA3 | Alr | I.tuson | 1 | ${ }_{4}$ | roper | 40 | Kltost | 80.60 | 67.20 |
| 1) ${ }^{1 / 50}$ | JR55 | Alr | I.atason | 1 | 1 | rown | 11.5 | KATE: | 130,00 | 97.50 |
| 400 | JR10 | Alr | I, atuson | 1 | 暏 | roje | 40) | Kll)f: | 78.0) | 58.50 |


| 300 | JR32 | Air | Litukn \| | 1 | 3 | 32 | t10 | K(DD) | S71 01 | 56167 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2501 | JDS12 | Alr | t,ituson | I | 3, | 12 | 6n) | KARE: | Bix. 51 | 44.50 |
| 244 | J0S6 | Air | Liaman | 1 | 4 | 6 | 60 | KARS | 68.5) | 44.50 |


| 2.000 | 82A | Water | Stover | , | 5 | 30 | 1225 | K.AsT | 8542.00 | \$673.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.5001 | 83A | Water | Stover | 1 | $71 / 2$ | \% 10 | 1400 | KASTO | 944, (10) | 787.72 |
| 5,000 | 85A | Water | sluster | 1 | 10 | 311 | 1775 | Kantor | 1260.m | 1008.00 |
| 8.060 | B8A | Wuter | Stover | 1 | 1.5 | 30 | 2100 | KAs'TON | 181:0.00 | 1452.00 |

## CONTROLS AND ACCESSORIES FOR PLANTS

40-FT. Remote Contwor for stopplige and starting f0-ft. or lexk nway from plan
500-FT. REMOTE CONTHOL for stapping and startink 500 -ft, or leas away from plant SPECIAL MUFFLER FOR SOUND TRUCKS
START AND STOP COnTROL STATIONS-Fiach
SPECIAL THREE-WIRE CONDUCTOR CABLE-PGY finot
TWO-COMPARTMENT TANK for startting on gasoline and running on kerosene

| \$20.00 | \$15.00 |
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| - 3 B (6) | 26.25 |
| . 00.00 | 67.50 |
| 9.00 | 6.75 |
| 1.10) | . 83 |
| 031 | NET |
| 8.00 | 6.00 |
| 27.50) | 22.00 |

KATO ROTARY KONVERTERS-3600 R.P. M.-sall Bearing




The 19A is a vennbination 3R0 watt 110 -volt 60-(yche A.C. or 200 watt 6 -vol Dattery charger, ('ompleto with start and stop push bution, battery mblis, b.C. ammeter, charge control resistor, cutout, cast alumilulun (1hl" Lallon Mas tank base, consenient callying handle, four rycl
 r.b.m. aircloather, ignition shielded and generator filtered. Runs 8 to 12 hemrs ol at mallon of sasalinc. IRemuines fevolt bato tery only if selformakifur is desirul. The $23 A, 500$ watts A.C. or 200 watts at 6 -volts 1,C. has same specifications an tho 19 A and is povered with a Johnson 1 h.p. engine.

 am! enon wht mokbls. The 14A has a capacits of tillo watts. 110 volts, tio. "Greme A.C. It is apploximatoly $19^{\text {" }}$ wide



 bug. sound theks. Falms, calbin campe, rewarts, filling stat ions, and for innumer. abla othar jurpmos. These momels will

 JRA3
Junior menlols are light weight, portable, idral for malio amateur aperation and otler intermittont daty morviee. Jowered with single revlimber four rycle airemoled -thine, vertical ongine willi l, lwad, sen. sitive flyball type rovermir, silaskl lubrio ration. Hoat fied Zathith earlmrator. Generator filtered and ignition shielded. Complete with ranrying haimdle, muttrol. instruction manual.
The JRA3, 4100 wati, 110 -volt A.C., plant. is the: Mint that has mille hits with "latms"-mexcelleght volfage amal frombiney regulation, casy lo carry aroblat, will rua if hours of at sullon of wisclion.

# HARRY REED RADIO SUPPLY 

## formerly

RADIO ENGINEERING SUPPLY

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Phone: 2696

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TERMS:

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## Index

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# Everyithing ill radio for the - SERVICEMAN <br> - AMATEUR <br> - INDUSTRIAL <br> - LABORATORY <br> - BROADCAST STATION 



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[^0]:    The color of the bead inside the lamp hulh may he used to identify the more common Raytheon types. This information is shown in the colunin headed "Bead Color."
    Raytheon Miniature lampe are packed in unit boxes of ten (10) of a type.
    All orders for theme lamps must be for unit quantities, or multiples, of each type.

[^1]:    
    
    ＋fay finmpy exprossed hore in millions of ergs；indicates relative atticioncey of wheakeres
    
    Model＂Y＂（I．in＂Type）Adjutable transformer gives these values： $500,1,000,1,500$ and 2,000 ohms．
    

[^2]:    Suitable For HighPowered Installations

    The characteristics of ihis projector make it particularly suitable for large stadiums, chime systems. industrial yards, airports, rate tracks. armonies, sound trucks
    power and sumud liree forn ate the principal "Hinernents.
    Construction . . . Dimensions . . . The air chamm is spun from heary rauge alumi-
    num. The speaker
     homs. The speaker housing is at heary strel pressed pot. Finnished in hatteship gray weathWright 9 lbs. (ibith biammer $24^{\prime \prime}$, Total Iorngth $36^{\prime \prime}$. Shipping
    right 9 lhes. (With unit 17 the.).
    Horn with Speaker Unit . . The Permanent Magnet speaker sumplie! will perform with the hishest efficioncy in connection with the (ix Audio puwer rating 1t watts, voice coil 8 ohms.
    Model G. 8 Air Column Horn.
    .List Price \$22.00
    Model G-8HI Horn and Unit
    List Price 33.50
    Mounting Fixture . . . and Base

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    Price
    490-Transmitting. 10 in pkg. Fach.... $\$ 0.05$
    107-(Alass. 100 in pkg. Per C........... 09 108-Mital. 100 in jkg. Per C....

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[^6]:    We can supply all Thordarson products. Ask for complete Thordarson catalog.

[^7]:    We can supply all Thordarson products．Ask for complete Thordarson catalog．

[^8]:    Type Container-(1) Cardboard Box; (3) Rectangular Can; (2) ('niversal Can; (9) Inverted Can; © Inverted Can (Wet); (9) Cartridge; (1) Inverted Can (Insulated

[^9]:    Type Container-(1) Cardboard Box; (3) Rectangular Can; (3) 「"niversal Can; (3) Inverted Can; (3) Inverted Can (Wet); © Cartridge; (7) Inverted Can (Insulated

[^10]:    OVER 350 SPECIAL REPLACEMENT CONTROLS ARE LISTED IN THE CENTRALAB VOLUME CONTROL GUIDE

[^11]:    OVER 350 SPECIAL REPLACEMENT CONTROLS ARE LISTED IN THE CENTRALAB VOLUME CONTROL GUIDE

[^12]:    - Unused contacts shorted out on one side of common.
    ...All unused contacts shorted out.
    ... Isolantite Insulation.

[^13]:    * All unused contacts shorted out.

[^14]:    Shows most popular sizes.

[^15]:    Products of American Phenolic Corporation

[^16]:    * New Number †Length may vary $\ddagger 10 \%$

[^17]:    * New number C-Coil *D.C. Insuiation per ft. Immersed in Nercury (Negolıms) flength may vary $\$ 10 \%$

[^18]:    

[^19]:    Xeel long nemile nose side cutting plier is drop forged from the finest alloy stee]. The nose is spring tempercd and the cutting knives are hand honed. Every radio repair man knows how handy this plier is.

[^20]:    *Plug-in Type Terminal

