# RADID 

BARGAIN

- NELVS

Dealers' \& service-
men's Buying Guide

## Features:

## - GHOST TUNING*

- Automatic Volume Control
- Built-In Antenna
- New Triple Grid Tubes
- Phonograph Jacks
- Illuminated Full Vision Dial
- Beautiful Walnut Cabinets
- 200 to 600 Meter Models
- 200 to 2000 Meter Models
- 75 to 600 Meter Models
- Radio-Phonograph Models
* Ii"hat Is Ghost Truning?

Howetolone every set, mon matter what in sod for, picked up all man-mate static, had a sizeling, swishing moise between stathons. witit With whot crackling and regenerative squeals
 hate eliminated these troubles $93 \%$. Compiete silence reighs betwern stations which came in like the shalp of a whilb. This new feature will be a revelation to your rares It raises ratlio recoption to the highest level of perfection.

Acratone Engineres have atso daveloped the lowest priceel atul most compact radion-phomograph combinat ©on, Hous"d in a beatuiful twotonce watnut (abinet, "!l"," high. is" niike ami 15 " deeld, with hiaged tol), 200 -foll bater or 2002000 meter ohassis. Whuipped with silent induetion motar of 78
 Whectric Pickup, radiophonograph switch, sebat-
sate volume rontrol for

Cat. No.
38
200-600 METERS
110 V. 50-60 CYCLES
Regular Broadcast Model
14.

ACRATONE Engineers have a new complete 1933 lines of receivers incorporating all the latest radio improvements, including "Ghost Tuning" and the use of the new type 57 and 58 Triple Grid tubes which entirely eliminate cross-talk and give a maximum of tonal quality. Automatic Volume Control, heretofore only found in the most expensive sets, is now made available to all. Of course the built-in aerial and phonograph jack features have been retained. All these features make ACRATONE the fastest selling high quality midget on the market. Sixteen models, covering every requirement, make it the most complete line of midget sets ever presented.

## Duo-Wave Models 200 to 2000 Meters

This Duo-Wave Acratone was designed primarily for foreign comntries where most stations broadcast on wave lengths above 600 and below 2000 meters. Of course it is also a splendid receiver for American stations sending on 200 and 600 meters. It is two receivers in one, but unlike so-called "short and long wave sets" the Acratone is not an ordinary receiver with a short-wave converter, but a real dual-wave recelver.
110 V., 60 cycle A. C. Model, Cat. No.
42, less tubes.
\$1 7.50

## Short and Long Wave Models

## 75 to 600 Meters

For those buyers who are interested in short wave reception down to 75 meters, we have designed the ACRATONE 75 to 600 meter set on which one can hear police calls, and short wave broadcast stations. By turning a knob, the set is ready to receive either 75 to 200 or 200 to 600 meter signals. No complicater changes necessary.
110V., 60 cycle Model, Cat. No. 91,
less tubes $\$ 15.25$

| Cat <br> No. | Receiving Range, | Voltage | Cycles | Ourrent | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | $\begin{aligned} & \text { BROADCAST } \\ & 200 \text { to } 600 \\ & \text { METERS } \end{aligned}$ | 110-120 | 50-60 | A.C. | 814.75 |
| 39 |  | 110-120 | 25 | A.C. | 16.25 |
| 41 |  | 220-250 | 50-60 | A.C. | 15.75 |
| 23 |  | 110-120 |  | D.C. | 14.75 |
| 24 |  | 220-240 |  | D.C. | 16.85 |
| 42 | $\begin{aligned} & \text { DUO-WA VE } \\ & 200 \text { to } 2000 \\ & \text { METERS } \end{aligned}$ | 110-120 | 50-60 | A.C. | 18.50 |
| 43 |  | 110-120 | 25 | A.C. | 21.50 |
| 46 |  | 220-250 | 50-60 | A.C. | 19.50 |
| 6 |  | 110-120 |  | D.C. | 18.50 |
| 32 |  | 220-240 |  | D.C. | 19.50 |
| 91 | 75 to 600 Short and Long Wave | 110-120 | 50-60 | A.C. | 15.25 |
| 92 |  | 110-120 | 25 | A.C. | 16.75 |
| RADIO-PHONOGRAPH COMBINATIONS |  |  |  |  |  |
| 47 | 200 to 600 METERS | 110-120 | 50-60 | A.C. | :38.50 |
| 48 |  | 110-120 | 25 | A.C. | 37.50 |
| 49 |  | 220-250 | 50-60 | A.C. | 11.(1) |
| 27 | $\begin{gathered} 200 \text { to } 2000 \\ \text { DUO-WAVE } \end{gathered}$ | 110-120 | 50-60 | A.C. | 39.50 |
| 33 |  | 110-120 | 25 | A.C. | 41.50 |
| 30 |  | 220-250 | 50-60 | A.C. | 42.50 |



The Feature That Overcomes Competition and Breaks Down Sales Resistance
A special built in antema is an added feature. This unique device allows demonstration or permanent installation anywhere without the necessity of erecting an acrial or making a ground connection. Just plug in at any a vailable A. ©. outlet and tune in. This arrangement enables reception up to 10100 miles with the same splendid quality and good loud speaker volume.

## Automatic Volume Control

Heretofore this feature has been incorporated in only high priced receivers. Automatic volume control was a badge of quality to receivers for discriminating pe ople. And now ACRATONE leads again with this marvelous Superheterodyne recelver with real AUTOMATIC voldCME CONTROL!

## What Is Automatic Volume Control?

AUTOMATIC VOLUM M CONTIROL in radio is the sam-e as the sUl'ERCHARGER is in aviation, It maintains uniform volume over the entire wave band. When the signal strength of a station drops below good volume level, AuTOMATIC VOLUME CONTROL boosts it up to nornal.

## Superheterodyne Circuit

The 1932 A(XRATONE SIOPERHETERODYNE embraces the noss advanced design and is built for utmost selectivity, with the usual ACRATONE quality. The circuit is composed of one stage of band pass pre-selector, a Trionde oscillator: two stages of intermediate frequency amplification, one of which is the second detector; autoniatic volunte control: one stage of pentode audio anmplification and a full wave rectifier. One cannot visualize a nore modert receiver:

## Antonatic and Manual Tone Regulator

Choice of automatic tone control or regulated blend of tone is incorporated in this receiver, allowing a wide range of tone color, without blast or blare. Full true tone is attainel by matching each of the component parts of the receiver itself, while the accentuated bass or treble tones are brought out by the tone regulator.

## Large Dynamic Speaker

A full-sized really powerful dynamic speaker is housed behind a wall of sound insulating baffle. This speaker is designed so that it will efficiently handle even the tremendous output of the powerful receiver without blasting or distortion.

# Cat. No. 84 <br> for 220 V . A. C. <br> $\$ 20.50$ <br> <br> Tubes Used <br> <br> Tubes Used <br> 1-55, 1-56, 1-57, 1-58, 1-247 and 1-280 

Set of Universal Tubes, \$3.50
Set of Arciurus Tubes, \$4.5t


## Selectivity

The pre-selector stage of this receiver allows but $10 \mathrm{~K} \mathrm{c}^{-}$ to pass while its intermediates are tuned in hand pass fashion, insuring extremely fine tuning. Although this makes the circuit highly selective, it does not cut side banels, which tend to distort or ruin good reception. Every tage is carefully tuned and balanced at the factory, sio that no receiver which does not perform as above described passes inspection.

## Super Sensitivity

The owner of this receiver need not listen with marvel to his neighbor's boast of warld-wide rad:o reception. He too can enjoy the thrill with the powerful AClRATONE SU゙PERHETERODYNE, Distant stations conve in without fading and distortion, and sound like locals.

## Cabinet

This splendid recciver is housed in a carefully finished walnut cabinet of really enchanting design. The handsame Fleur d'tis srill has grace and beauty of lines as well as lending toward simplicity, rather than olaborateness 17 in . high, 15 in. Wide, $91 / 2$ in. deep.

## Spot Tuning

A full vision dial behint which travels a pointer and! light to give easy identification of the dial setting. The dial is geared to mow slowly so ihat no station: are passed in tuming and greater smasitivity is the result. Encircling this dial i.s a beatifully desigued escutcheon wàich lends character to the receiver.

## Construction

All the parts going into the manuracture of this receiver are of the highest quality ubtainable. Only the best of standard equipment is used. assuring durability and longevity. All component: are securely mounted on a heary steel chassis. 12" Jensen Dynamic Speaker

Size of chassis: $21 \frac{1 / 2 "}{}{ }^{\prime \prime}$ long. $11^{\prime \prime}$ deep and $101 / 2^{\prime \prime}$ high. Employs: 2-58, 2-57, 4-56, 2-247 and 2-280 Tubes. Set of Universal Tubes ..... $\$ 7.00$ Set of Arcturus 8.80 This marvelous new SUPERHETERODYNE chassis is the latest product of the ACRATEST Laboratories and is truly the Llimate in Radio.
This receiver has been designed and huilt, from the ground up, for maximum results on both short and broadcast wave hands. It does not reguire operation by an "expert." All wave bands are covered by the single dial, and the change from one band to another is accomplished by simple, convenient switches. There are no "phig-in" coils to be changed.


Visual Tuning - Dual Rectification

Superheterodyne Circuit for Transcontinental Reception. Using Push-Pull Pentode and Variable Mu Tube.... with all Modern Radio Improvements. ( 12 Tubes in all-two 58 's, two 57 's, four 56 's, two 247's and two 280's.)

Short-Wave Circuit from 15 to 200 Meters-for International and-Other Short Wave Reception. Simply Switch Knob for Short Wave or Regular Broadcast.
Tubes....

Simplified single dial sor all waves. full vision, illuminated. Broadcast band calibrated in | kilocycles. Smooth, positive friction vernier drive with no backlash. Visual indicator for "silent tuning." This means that you can tune in any station accurately before turning the volume on Dualite range indicator on both models. Illuminated band indicator on Model 35 with dial numerically calibrated for short waves.

## TONE CONTROL

A special feature is the continuously variable "selectone" which allows the operator to choose any tone from high
treble to low base.

## POWER

In this receiver you have a reservoir of power for any occasion. Local stations come in with auditorium-flling volume and distant stations come in like locals by the use of automatic volume control in the Model 35. The tremendous power of this set, always in reserve, is rarely put into full use.

## CHASSIS

The carefully designed chassis of this receiver is made of the $b$ es $t$ grade No. 18 gauge cold rolled auto body steel. Electroplated in gold bronze finish. Each component is carefully and securely fastened and so spaced as to evenly distribute the weight.

## Terms:

20\% CASH MUST ACCOMPANY ALL ORDERS.
Our terms are strictly NET CASH. Remarkable values and extreme discounts given by us make it worth your while to buy that way

Where full cash remittance accompanies the order, $2 \%$ discount may be deducted, otherwise a $20 \%$ deposit is required with all orders, balance C.O.D.

All goods are shipped 1. o. b. New York.
WE SELL WHOLESALE ONLY.
RETURNING GOODS-A "Return Merchandise Tag" must be secured' from us before any goods are returred. Returned goods must be shipped back in original contalners. Write fully reason for return and give us complete instructions regarding adjustment. Merchandise that is defective within the limits of the manufacturer's guarantee will be repaired or replaced FREE OF CHARGE. Items misused will be repaired or replaced and a reasonable charge made for such repairs.
HOW TO ORDER-Write plainly, order by catalog number and mention items desired, quantity and price. Be sure to include sufficient postage when ordering via Parcel Post, otherwise shipment will be made by express, charges collect.

## EXPORT ORDERS

Orders to be shipped outside of the United States must have full remittance plus postage as the majority of countries do not have C. O. D. service. Large orders for shipment by rallroad or steamer, must be pald in full, plus shlpping charges by means of Irrevocable Letter of Credit or New York draft.

All our foreign shlpments are understood to be delivered Ex-Warehouse or Railroad Terminal, New

## RATE OF EXCHANGE

Wherever the rate of exchange on forelgn money is conslderable, we reserve the right to add an amount sufficient to cover this difference to merchandise shippea.

## © Our Guarantee

WE POSITIVELY G\&ARANTEE each and every Item in this book to befexactly as illustrated and described. We further guarantee all merchandise to be free from defects in workmanship and material. Any part or parts. proving defective will be repalred or replaced promptly.

WE GUARANTEE to give you the beneft of any reductions which may take'place during the month; this assures you of rock bottom prices at all times.

Due to the tremendous volume of merchandise we handle and the small margin of proflt we work on, It is impossible for us to test out each plece of apparatus before shipping, and we expect the dealers to make his own minor repairs when needed. However, we will gladly repair or replace any defective merchandise, providing the dealer pays transportation as this would wipe out our proft in most cases. For any damage to merchandise in transit we expect the dealer to handle his own claim with the transportation company.

OWING TO THE HIGH COST OF HANDLING AND THE SMALL MARGIN OF PROPIT, WE CANNOT ACCEPT ANY ORDERS FOR LESS THAN \$3.00.
We reserve the right to ship via express collect any orders on which insufficient pastage has been remitted by customers.

We reserve the right to make refunds on any stems out of stock.

## Bank Beferences:

MIDLAND MARINE BANK, NEW YORK CORN EXCHANGE BANK, NEW YORK

NeWNew rew rewnewnex,

MORE and more radio dealers and servlcemen aro learning that it pays to deal with Federated. Wo have thousands of letters in our fles from pleased customers who iaud our service. Federated in today considered the targest radio replacement parts bouse in the country. It carries a iremendous atock of over 3,000 Itemg. With Itn huge purchasing power, Federated in ahle to buy risht always, and pass ble *avings on to fit customera. Our aix branches, looated at points of vantage on the Eastern seaboard, are maintained in the interest of speedy serviee, be-
cause we reallue that apeed in an Important factor In our busines. We employ on engineering ataff composed of expert technleians in every field of radionervice, public address and transmitting, and thene men are always at your vervice. Federated If canatantly alert to the regolroments of ite customer -that'n why it has mome 40,000 eatisfled onem. Are you one of them?

 is taken from a current catalog. Simply cut out the ad and attach It to your order or atate the name, isaue and page of catalog in which you have seen it. We make this offer because we know that many dealers would like to concentrate their purchases with us and save transportation charges.

# UTAH <br> Remote Tuning and Volume Control <br> Efficlent and Easlly Installed Huminated Dial 



This small ( $41 / 4 x^{2} / 6$ in.), but stardy device will tune and control Midget or auto Recelvers from a distance. They are equipped with a long 10 it. flextble ahart which may be concealed in the wall or along the baseboard.
Etaridard lengtly of fiexible shaft is 10 It, but longer shatts may be had on epeetal order at 25 c per foot.

$$
\text { Cat. No. } 6847
$$

Our Price \$6.50

## New Auto-Radio Steering Column Control Feature Specifications:

Pressed steel construction-all metal parts rust proof cadmiun and black fin-ish-small size $3!6$ ins, $x$ 4!'4 ins. $x 1$ in. thick-light welght-key lockswitch mlcrometer volume control 100,000 Olm (cther resistauces spesial)-Illuminated celluloid dial. Furnished with Steering Column mouñting hrackets and condenser gear plate for $1 / 4 \mathrm{in}$. shaft. 30 fit . Flexible shaft and casing standard. Special lengths to order.
Postrive drive-no sprinas NO BACK LASH-STAYS PUT Cat. No. 5164 DurPrice


Complete With 30 in. Flexible Shaft and One Coupling
With eacln control is included 30 Inches of flexible shaft and casing, which gives rexible lead from point. at which conrol is clamped on steering column to a point under the instrument board. Any dditional length required may be secured by coupling on add!tional length of fiex ible shaft, or solid rod with universal fints.

## Prices Additional Flexible

 Shaftings and JointsCat. No. Our Price 516s Flexible shaft, 1 or 2 foot lengths ......................80.86 ff. 5166 Couplings for rod or flex5107 Universal foints for rod or flexible shait ............... 510 Bessemer Steel Rod, $\ddot{1 / 4}$ in. .30 es The shove equipment will provide in ex. eellent remote control wherever the autocellent remote control wherever the auto the hood, on the dash, or uncier the foor bofid.


Acratest
Silencer Kits
For 411 Minke of Auto moblie radios except Bu. lick, ete. Fith overhest Falves. These use Cat No. 65se anppieiters.

| Cat. No, | Prioe |
| :---: | :---: |
| 4887 | \$1.50 |
| 4238 | 8.00 |
| 4299 | 2.85 |
| $\begin{aligned} & \text { WIllys } \\ & \text { perhead } v \end{aligned}$ | and |
| Cat. No. | Price |
| 70\% | \$1.00 |
| 7088 | 2.00 |
| 7024 | 8.85 |

ACRATEST
Spark Plug Suppressor
silancer in
 weatherproof tube Cannot
short circuit or short circuit or
loosen. C onloosen. Con* nects irom to spark plug.
List Price, ${ }^{\circ} 0$ c-Cat. No. 6450

## Price 20c ea.

## ACRATEST

Spark Plug Suppressor
For all Buick. virims-kinight and other
"overtiead valve" cars.


Cat. No. 6534
Price MODEL 'R' 20c ea.

## ACRATEST

Distributor Suppressor
Used in cen-
 ter of distributor cap or coll. Rewire, insert split end, in-
sett wire in olher end.
List Price, SOc-Cat. No. 6451

## Price 20c ea.

## HERCULES

Flexible Car Antenina


Made of eloseiy woven electrolytio copper mesh. and covered with s black meritas synthetic lesither. It is 82 in. long and is mounted underneath the car tled to spriags or exles, ess shown. by mesins of the rour sturdy onnvas streps.


## Generator Silencers <br> MODEL M <br> Fasten case to generator or other me 1al part of cas由nd connect wire to cut out

Cat. No, 6448 . 5 mid............. 38 c Cat: No. 6449 1. mid............. . 65c

New Adjustable Length
I. C. A. Auto Anteinna


Cat. No. 6952

## Our Price $\$ 2.35$

This aerial is the most ingenlous type aerial since it is so constructed that it is possible to sdjust it to any desired length.
The adjustable reature makes it pos slble to regulate the eerial in accordance with the sige of the running board. Another feature is that it can be adjusted to take care of the pick up strength of the recelver used in the car.

This aerial is made of metal with an Ingenlous sliding arrangement and it at taches to the running board of the car Will fit any make car. Mounts tasily Completely insulated bushings and al hardware is supplied. Mounting instruc tions are supplied with each aerial.

## Ward DeLuxe Car <br> Antenna



## FEATERES

1. More sensitive, in Most cases Excels Roof Reception.
2. Triple Action Spting Buspension
3. Imposibible to ghort or Groiund.
4. Universally Adeptable to Every Auto-
mobile. Parts Rustproof and Bturdlly
buile.
5. High Tension Non-Bhortlng Lead. Wire.

7: Ward Rubber Bplash-Guard Furnithed With each Antenna.
a, Permatient, Eficient and Easy to ind stall.
9. Cannot Break or Crush.
10. Proven performance on Philco, Motorola, Majestic, General Motors, Sparton. Crosley and all other makes of Auto Radio.

3hlpping weight, 5 lbs
Cat. No. 240
Our Price \$2.37
Ward Royal Automobile Antenna
Same in eppearance and construction as the WARD DeLuxe ANTEENNA, except that the frhls have been omitted in order to bring it down to popieler price.

Cat. No. 316
Our Price $\$ 1.98$

## ROLA DYNAMIC SPEAKERS



Series<br>"K"

These are the new 1932 Rola Model K 80riet with greatly $1 \mathrm{~m}=$ proved reproduction. Where previously the K series was specifically designed for use with midget acts, the new $\mathbf{K}$ series was engineered for public address and large allditorium work mainly. Extremely large field pots are used, giving greater magnetic strength as well as 刀口ner tone reproduction. Greater undistorted output can now be handled without overload.

| Single |  |  | List | Our | $\begin{gathered} \text { P. P. } \\ \text { Output } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Cat. |  |
| Crat. No | Model | Slat |  |  | Price | No |
| 141 | K-5 | $61 / 2 \times 51 / 2$ | \$8,00 | \$4.50 | 178 |
| 142 | K-6 | $81 / 2 \times 5$ \% ${ }^{\prime \prime}$ | 11,00 | 4.95 | 17 |
| 143 | K-7 | $93 / 4 \times 51 / 2 /$ | 13,00 | 5.25 | 184 |
| 144 | K-9 | $11 \times 51 / 2^{\prime \prime}$ | 15.00 | 6.95 | 185 |

Equipped with either aingle or Push Pall transformer. Standard held coll resistance, 2500 ohms for excitation by 40 to 80 milliamperes of direct current at 75 to 150 volts.

## Majestic Dynamic Speaker

As Used in Majestic 70, 80 and 90 (1eceivers 2730 Ohms, D.C. teld. Without Output Transiormer.
Diameter of Cone, 9 In.
Complete with connecting cablo 3trip Very rugred construction and suitablo 0 I replacemont in other sot and for public address inntallationg

Cat. No. 157<br>$\$ 5.95$

RCA No. 106 D.C. Elec-tro-Dynamic Loud Speaker


For 110-120 V. D.C. 1000 Ohm Field

Walnut finish cablnet. $334 /$ in. high, $233 / 4$ in. wide, $103 / 4$ in. deeb with Velour de Genes embroidered toile iront and side panels.
List Price $\$ 85.00$
Cat. No. 106
Brand new and packed in original factory cases.
Our Price $\$ 9.85$

## Series <br> ${ }^{6} \mathrm{~F}^{99}$

These new Rola speakers are deface lor use th midget radio lectric phoma electric phonoraphs. suited are futis surited for

stallations, such as in notels, schoois and stallations, such as in hotels, schoois and hospitals. s inches
Model F-2, for 45 tubes in push-pull. Cat. No. $186 \$ 3.75$

Model F-PR for one 47 Pentode Tube. Cat. No. $187 \$ 3.75$

> Model F-M-Unit leas input transformer.
> Cat. No. $188 \$ 3.25$

Model F-S, same as Model F-P. but 6 in . overall diameter
Cat. No. 199 \$2.75
Magnavox D.C. Dynamic Speaker Chassis

| Made by the ploneer |  |
| :---: | :---: |
| speaker manufacturars |  |
| with all the precision |  |
| that goes into quality |  |
| manuiacturing. The |  |
| range of thege speak- |  |
|  |  |
| ers is from 35 to 10,000 |  |
| cycles, giving perfect |  |
| reproduction from the |  |
| lowest to the highesttones. |  |
|  |  |
| Require only 40 mlla |  |
| at 90 to 200 volts. For | Overall |
| stagle 247, 233, 238 |  |
| Pentode. |  |
| Cat. No. 147 |  |

## Dynamic

 Speaker
## Field Coils

## c.

No. Ontonlal Speater Prioe
6191 Olonlal ss ................................................. 7192 Jerusen 1.000 Ohms....................... 15 7267 Peerlest 7,000 Ohm ............... 1.28 6819 Radjols 104 ........................... 1.00 5102 Radiola 80, 82, Westinghouse

WRS, 8, 2......................... 2.00 714 RCA Phoropnone 1,000 Ohms... 8.50 7148 RCA Photophone 6 Ohmq........ 5.60


## Midget Set Table



This radio table of simple conetruction, yet handsone design. finds its place in the home where space is a :nctor. Constructed of selected gumwood Jor strength and handsomely high lighted. $221 / 2$ in.
high, 13 in. wide. $17 \frac{1}{2} \mathrm{in}$. long.
Cat. No. $507 \$ 2.50$

## Utah 12-Inch Stadium

A. C. Dynamic Chassis bpectal model
in Yotac. 1.
 A superior hory duty thit ior home, theauit uble of handing able of handilig extreme volume tion. EmplorWestinghouse ${ }^{\text {tion }}$ Disc Rectiner isc Rectiner and extra heavy
able for 110 volt
25 and 60 cycle A.C. current 11 ght-socket supply for field excitation.

Individually packed. shipping weight, 24 lba. List \$30.00
Cat. No. 166 \$8.95
Genuine Victor D.C. Dynamic Speaker Chassis


Complete with Plug for connection to the Victor :mplliter.

Used in Victor Recelvers Nos. RE-75, REE-45, R32. and R-52, in conjunction with Vjetor 245 PushPull Amplificrs.
Operates from 110 -volt D.C. Voice coll mpedance 15 ohms, D.C. field resistance, 2,500 ohms. Bafte opening 9 in. Diaphragn: 7 in. A reproducer of unexcelled tone quality and great power, suitable for use with any type recelver requiring above resistances. 24 in . cable.

Cat. No. 149
$\$ 5.95$


RADIOLA
Model 106 Speaker
D. C. Chassis

This speaker has a tield resistance of 1000 ohms and is designed for 110 volt can however, be used as a choke in Ac. as a choke in A.c. sets or a geld xciter unit built to turnish the necessary equipoed with output equipped with outprit to match any single tube tid to the UX. 250 . Volce Coll $4 \mathrm{~m}=$ 250. Volce Coil 1 In= pedance 12 io 15 all cone diameter.


Cat. No. 114 $\$ 5.35$

## Colonial 10" D. C.

 Dynamic Speaker
## Chassis

## 900 OHM FIELD

WITH 4 PRONG PLUG AND CABLE For push-pull 245. Used in all Colonial and Silvertone 1931 sets.

Cat. No. 133
$\$ 3.50$

RCA Photophone
Dynamic Speaker
Here is the genuine RCA Photophone Dyzamic Speaker chassis used with Western slectrio sound Systems in theztres. Sultable for public address in stallations in dnnce halls, quditoriums, ohurches schools, etc.

Cat. No. 161
87.51

Less Batte
For A.C. current thim Speaker has a held exciter, Cat. No. 86, that use: 2-280 tubes

Spenter se above
$\rightarrow 1 t h$ exclter
Cat. No. 110
Mounted on Batile
1000 Ohm D.C. Field


Cutshows how speaker is mounted on bame board.
$\$ 13.25$
Cat. No. 151
$\$ 9.50$

## SPECIAL!

Offered for the First Time

RCA Photophone Dynamic Speaker With 6 Volt Field for Public Address Auto Trucks

Genuine Photophone Speaker with ${ }^{6}$ volt neld coll for use. With a 6 or 12 volt lng trucks.

Cat. No. 152

## $\$ 15.00$ each

OPERADIO Automobile Dynamic Speaker
orThe Last Word in Apte Dynamian"

Fiold
Reslatance
6 Ohms.
Por
Push-Pull 238


Cat. No. 153

## Our Price $\$ 3.95$

The product of one of the oldest speaker manufacturers, this auto dynamic is very sensitive and will carry ample volume. Housed in an attractive black crystaline metal case $9^{*}$. In diameter, vith 3 mounting brackets.


## "Reflex Field" Speaker Chassis



Jensen "Concert" D.C.


Electro-
Dynamic
Speaker
©adel D 7 D.C. 4500 ohm Field 10 in. Dlameter 4 ohm Volee Coll

These units contain suitable push-pull transformers and are absolutely hum-free. Connect directly to the set-no outside wires.

As most standard manufactured A.C. sets are englneered for D.C. speakers of thls onmage, the possibtlities for replacement with this really sood speaker are unlimited.

The wise merchant or repairman will take advantage of this excaptional "buy". Never before offered at cut price. The avallable quantity at thls price is limited. Act quickly.

List \$27.50
Cat. No. 121
Our Price $\$ 5.75$
CARTON OF 2, $\$ 11.00$
Orlglnal factory packing of $2 \ln$ a carton

## Sonochorde A.C.

 Dynamic SpeakerThe nev sonochorde namic Speak namic speak er distinct Bdvance in sound reproduction and mechanical mechanica method.ot cone suspension allows for 3 mal a ir gap re. sulting in highly con-
 centrated megnetic A.C. Electro Dynamic field. A hum speaker Ior 110 V. SD-60 puctich balang Cydes A.C. Operation. es out the induced A.C. current in the vaice coll is built into every unit.

Uses 280 rectifler tube, heavy duts power transformer and flyer system con. power taing 20 Mfd . electrolytlc condense Operates without hum from the A.C. lines Reproduces speech and mustc with re markable fdelfty and is cajable of hand ing extreme power without distortion.

$$
\text { Cat. No. } 540
$$

## Cur Price $\$ 9.50$

Also Furnished With 2,500 Ohm D:C. Field Cat. No. 541
Dur Price $\$ 3.95$

## Utah Dynamic Auto Speaker



Avallable for use winh 112A. 171A, 23 or 238 tubes in SINGLE or PUSH-PULL OUTPUT, housed in an attractive meta case with movable stde-brackets. Whici facilitate mounting at my diesirabio angle Cat. No. Type

105 Bingle 171, 238, 236, 236
4.45

## A.C. Field Exciter

Here is a unlt that has been looked for far and wide and is finally presented to you as an efficient ileld exciter. It uses 2 280 tubes in parallel, givins an output of 110 mils Rt 160 volts. It is suitable to use this to run efther dy-
 namic speakers or dynamis units. It is buft small and com. pact and to take es $11 t \mathrm{tl}$ e space as possible.

Cat. No. 85
Dur Price $\$ 5.50$
Less Tubes

## Kolster K-6 Speaker



Dur Price $\$ 3.35$ ea.
Equipped with a highly sensitive overslze magnet and a driving unlt that is one of the finest, the Kolster responds instantly to the faintest impulso. It falthtully reproduces both voice and orchestia from the faintest whisper to the fullest volume of a brase band. Yet, due to 1ts special construction, the Kolster cannat rattle or blast at any frequencles, and it always brings out the lower notes in their full musical value.

## RCA-Radiola

Speaker 103
R C A Loud Speaker 103 beautiful in appearance and su-
perb in its perb in its
abllity to reproduce nusic and ipeech iaith!ully. It
frame and prame pedestal are molded to resemble handcarved oak, while a beautiful tapestry medallion conceals the mochanism
 and $00 \mathrm{~m}=$ pletes the decorative design of the thtrument.

$$
\begin{aligned}
& \$ 3.43
\end{aligned}
$$

Premier Magnetic Speaker


Cat. No. 5366

## Our Price $\$ 1.50$

FEATURE SPECIFICATIONS
UNIT-A new development-atmple in construction and extremely effetent-magnet of carome steel
CONE-6 in . diameter standard made rom molstura prool labric jormed into pecially designed shape
MOUNTING-Non-metallig bracket requiring a maximum apan at its widest point of $63 / 3$ inches.
QUALITY - The Promior Magnetic Speaker is highly effcient and covers the tone. range in a surprisingly satisfactory manner. Tone quality is excellent and those that are skeptical about such reults from a good magnetlc soeaker have an agreeable surprise in store when they test the "Premier."

## STEWART WARNER Magnetic Speaker <br>  <br> Chassis <br> It is the only mag. netic speaker having laminated pole plece ncreasins tha magnet 10 Iux. Coll impedance 4500 ohms, match ing 17w, 245, 260, or <br> Cat. No. 150

## Our Price \$1.95

For many years this bas been the mondard of comparison in speakers. A sed by such this speaker chassis was s Amplion. New combe-riawley, Marco, Stewart-Warner, etc. This speaker ree produces the full musical scale with sa much fidelity and quallty as a dynamic. ts ability to handle a great deal of vol. ume without rattle or distortion makes it applicable for use as monitor or wall address apeaker. Special cobalt steel magnet and overaie colls make for faithiul reproduction. Will handle 450 volte with out burning out.

## FROST FONES

## The Standard of Quality 2,000 Ohm

Prost Fones continue to maintain their popularity is a very denitte There for ihoroughy ite demand phones phones at a reasonable price exacting pomes latigy the exiching demands or those wensilive oblain ertremely sensitive instruments. Light wear and easily adjusted.

wear and easil adjusted.
All materials used are of the vary haghest qually, and these phones are made in a plent which for over thirty-ilve years has manufactured high grade telephone equipment.
For testing radio parts or complete seta -ror lining up condensers-ior pesking intermediate transiormers or any similar usea these mhones may be depended upon to give perfect satisfaction.
are co be where extremely weak algnals of th be recelved spech arrangement pleces relation of draphragm to pole pleces is effected to give very desirable with black composition polished aluminum with black composition caps.

$$
\text { Cat. No. } 6200 \quad \$ 1.65
$$

## Eismann Magneto Phones Cat. No. $5723 \quad \$ 1.45$

Genuine Brandes Superior
Phones-2,000 Ohms
Cat. No. 3607 \$1. 25

## Genuine Baldwin <br> Type C Phones

Cat. No. 7123 \$3. 55 .

## Genuine Nathaniel Baldwin Units

Cat. No. 4262

## Dur <br> Price $50 c$

We Can Furnish Cones and Volce Assemblles for the Following Standard Dynamic Speakers

| Make of Speaker | Size | Cat. No. | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Atwater Kent | 11" | 552 | \$2.75 |
| Colonial 33 |  | 553 | 2.25 |
| Decatur | $9^{\prime \prime}$ | 554 | 1.90 |
| Eveready | $9 \prime$ | 555 | 1.90 |
| Eveready | 11" | 556 | 2.25 |
| Farrand | $7 \prime$ | 557 | 2.25 |
| Farrand Ind. Dyn. | 11" | 558 | 1.35 |
| First National | $9 \prime$ | 559 | 1.90 |
| Freed-Eisemann NR80, NR87 |  | 560 | 2.70 |
| Jensen DC7 |  |  |  |
| Concert | 10" | 561 | 2.25 |
| Kolster | 11" | 4269 | 15 |
| Magnavox | $7{ }^{\circ}$ | 562 | 2.25 |
| Majastic 70,90 |  | 563 | 1.80 |
| Newcomb-Hawley | $7{ }^{\prime \prime}$ | 564 | 2.25 |
| Oxford | 7" | 565 | 1.95 |
| Oxford | $11^{\prime \prime}$ | 566 | 2.25 |
| Philco, any model |  | 567 | 1.50 |
| Pearlco |  | 568 | 1.90 |
| Sterling | 7' | 569 | 2.25 |
| Stromberg Carlson | 11" | 570 | 2.25 |
| Symington | $9 \prime \prime$ | 571 | 1.90 |
| Symington | 11" | 572 | 2.25 |
| Peerless copper coll | $7 \prime$ | 573 | 1.60 |
| Peerless copper coll | 9" | 571 | 1.95 |
| Peerless copper coil | $11^{\prime \prime}$ | 575 | 2.10 |
| Peerless copper coll | 158 | 576 | 2.50 |
| Peerless wire wound coll | $7{ }^{\prime \prime}$ | 577 | 1.45 |
| Peerless wire wound coll | $9{ }^{4}$ | 578 | 1.65 |
| Peerless wire wound |  |  |  |
| Temple | $7 \prime$ | 580 | 2.40 |
| Temple | $10^{\prime \prime}$ | 581 | 2.75 |
| Temple Auditorium |  | 582 | 2.75 |
| Utah | $7 \prime$ | 583 | 1.90 |
| RCA 106 |  | 584 | 2.00 |
| RCA 104 |  | 585 | 2.00 |
| RCA 105 |  | 586 | 2.00 |
| VICTOR RE32, etc. |  | 6519 | 1.35 |
| Wright DeCoster | 8' | 588 | 2.25 |
| Wright DeCoster | 10" | 589 | 2.75 |
| Zenith | 11" | 591 | 2.25 |

## Victor Cone and Voice Coil

For Victor Models R32, R52, RE45 and RE75

These are the pamous stevens Burtex cones edged with soft velour. Volce coll and leads for quick installation and precisely fitted.

Cat. No. 6519


## Our Price $\$ 1.35$

## Phonotex Diaphragm

 for Kolster Magnetic and Dynamic Speakers 121/2 in. Nlaphragm with solt leather horder.Cat. No. 4269

## 15e ea.

Can be used for re placement on other
 magnetic speakers.

Cat. No. 4269A-
Volce Coll for Above, 350


## ABCTUROUS TUBES

Areturus Radio Tubes have earned reputathon for absolute dependabillty. Their couratywide popularity is based on extreme efthciency of operation and unustal sength of service.

Arcturus Tubes cariy the endorsement of the Pederated Purchasei and are guaranteed for a period of slx montias from date of sale.
133-2-Volt
Pentode

Lut Price, $\$ 2.80$ $\$ 1.48$

| $137-$ |
| :---: |
| 6-Volt General |
| Purpose |
| Lut Pricos s.20 |
| $95 e$ |

Type "PZ" Pentode Arcturus developed and eatablished the standards an the "PZ" Pentode tube. Lint Price, \$1.60 850


Quick-Action-Arcturus pioneered the original quick-action tube. Immunity to Overloads-Arcturus Blue Tubes resist overload as high as $50 \%$. Less HemComparative tests show that Arcturus Tubes have $52 \%$ less hum than other tubres. Long Life-Arcturus Tubes have established an unchallenged world's record for long life. Life-Like Tone-Comparison in any recelver shows the tmproved tone of Arcturus Blue Tubes.

|  |
| :---: |


| 127- <br> Detector <br> The satrot ot the Arcurus Eialts in $\frac{1}{2}$ seconds. inish hum. <br> List Frice. 1.05 <br> $56 e$ |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |


| 132—2-Volt |
| :---: |
| Screen Grid |
| Latt prbee, s..3s |
| $\$ 1.25$ |

Additional Arcturus Tabes

| No. | Гуре | List | Net |
| :---: | :---: | :---: | :---: |
| 126 | Amplifi | \$.85 | \$.45 |
| 145 | Power Amplifier | 1.10 | . 59 |
| 181 | Half Wave Rectifier | 5.20 | 2.75 |
| 150 | Power Amplifier | 6.20 | 3.28 |
| 130 | 2V. Automobile Tube | 1.65 | . 87 |
| UX099 | Detector-Amplitier | 2.55 | 1.23 |
| UV099 | Detector-Amplifier | 1.75 | 1.43 |
| 101A | Detector-Amplifier | . 80 | . 42 |
| 012A | Detector-Amplifier | 1.55 | . 82 |
| 122 | Screen Grid Amplifier | 3.15 | 1.66 |
| 071 A | Power Amplifier .. | . 95 | .51 |
| 131 | 2 Volt Amplifier | 1.65 | .87 |
| 180 | Full Wave Rectifier | 1.05 | . 55 |



## 15 Volt A.C. Types

The tubes below all take 15 volts for lighting the flament.

| The | Iype | List | Net |
| :---: | :---: | :---: | :---: |
| No. | Detector | \$4.00 | 82.12 |
| 26 | Detector | 0 | \$2.18 |
| 28 | Amplifier |  | 1.59 |
| 48 | Amplifier |  | 1.59 |
| 30 | Power Amplifier | 3.00 | 1.58 |
| 32 | High Mu | 3.00 | 1.68 |
| 22 | Screen Grid | 7.50 | 3.97 |

25 PARK PLACE, N. Y. E. or to our nearest branch


| Type | $\begin{aligned} & \text { List } \\ & \text { Rrice } \end{aligned}$ | Our Price | Type | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{gathered} \text { Our } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| WD11 Det.-Amp. | \$3.00 | \$ 3.72 | 234 D.C. Vario-Mu Pen- |  |  |
| WD12 " " | 3.00 | .72 | tode s........... | 2.30 | . 87 |
| 56 A.C. Gen'l Purpose. | 1.30 | . 58 | 235 Multa Mu | 1.65 | -53 |
| 57 A.C. R.F. Pentode. | 1.65 | . 70 | 236 Auto Screen Grid. | 2.80 | . 79 |
| 58 A.C. Vari-Mu R.F. Pentode |  |  | 237 Auto Gen'l Purpose. | 1.80 | . 65 |
| 112A " | 1.65 1.55 | .70 <br> .5 | 238 Auto Pentode | 2.80 | . 79 |
| 120 3-\%. Amplifier | 3.00 | . 72 | $240 \mathrm{R} \cdot \mathrm{Fl}-\mathrm{Ma}$ Pento | ${ }^{2.80}$ | .79 |
| 171A $1 / 4$-Amp. Amplifier | . 95 | . 38 | 245 Power Tube | 1.10 | . 40 |
| 182 Sparton | 2.50 | . 87 | 246 A.C. Pentode | 1.55 | .65 |
| 183 Sparton | 2.20 | . 87 | 247 Pentode ... | 1.60 | . 53 |
| 199 U.V. Det. Amp. | 2.75 | . 65 | 250 Power Tub | 3.20 | . 1.38 |
| 199 U.X. Det. Amp. .... | 2.55 | . 65 | 280 Pull Wave Rect. | 1.05 | . 1.40 |
| 20nA $1 / 4$-Amp. Deiector. | 4.00 | .70 | 281 Hall Wave Rect. | 1.20 | 1.45 |
| 201 A $1 / 4$-Amp, Detector. | . 80 | . 32 | 282 Full Wave Mercury | 0.2 | 1.45 |
| 2168 Rectifier. | 7.25 | 1.52 | 401 Rect. .. | 1.30 | . 58 |
| 222 D. C. Screen Grid. | 7.25 3.15 | 1.87 | 401 Kellogg Ty | 4.00 | 1.74 |
| 224 Quick Heater | 1.65 | 1.05 | 484 Sparton | 4.50 | 2.02 |
| 226 Det Amp. . | . 65 | . 35 | 585 Sparton | 2.00 1.65 | . 87 |
| 227 Det. Amp: | 1.05 | . 38 | 585 Sparton | 6.00 | 2.19 |
| 230 2-Volts Det. . | 1.65 | . 65 | 588M Mercury | 2.50 | 1.75 |
| 231 2-Volt Amplifier . . | 1.65 | . 65 | 686 Sparton | 4.00 | . 87 |
| 232 2-Volt Screen Grid. | 2.35 | . 72 | 866 Half Wave Rect. | 7.50 | 1.15 |
| 233 2-Volt Pentode | 2.80 | . 79 | BH125 Full Wave Rect.. | 4.50 | 1.08 |

## A. C. Field Exciter

For Dynamic Speakers and Units
This exclter is of the latest type, designed for either the '82 or 'B3 mercury vapor rectifiers. A switch is provided by which the exciter may be adapted for elther of these tubes, depending upon the output required. The -82 tube delivers as much as two $280^{\circ} \mathrm{s}$, and the ' 83 gives an additional increase of $40 \%$ over the ' 88 .

These tubes, the product of one of the largeat sube manufacturers in the country, are absolutely "first" quality and moter tested to tha highest specifications. Tubes not found equal to the performance of any other tubee on the market will be replaced. Packed in attractive $\&$-color boxem.

OVER 100,000 OF THETSSN TUBTS
EAVE BEEN SOLD BY US
DURING THE LAST
SLX MONTHS

| Special Purpose Triad Tubes |  |  |  |
| :---: | :---: | :---: | :---: |
| Type | List | $\underset{\text { Price }}{\text { Our }}$ |  |
| T-Tel | \$7.50 | \$3.38 |  |
| T-864 | ${ }_{7}^{3.50}$ | 1.58 | III |
| C.N.A. |  | 3.38 9.00 |  |
| Pec 2. |  | 13.50 |  |
| Pec 3 |  | 18.00 |  |
| ${ }^{\text {Pec }} 7$ |  | 13.50 |  |
| T-34 | 7.50 2.75 | 4.05 1.49 |  |
| T-46 | 1.60 | ${ }_{.87}$ |  |
| T-82 | 1.25 | . 68 |  |
| Comple fold | Desc <br> sent <br> equest | ontive |  |

## Qunningham

 Guaranteed Tubes Free Replacement for Six Months
## TUBES

Every Tube we thip is carefully teşted and guaranteed to be fresh New Stock, in perfect condition, sold with the manufacturer's warranty. Specify RCA or Cunningham.

| Type | Description | LIst | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 11 | Detector Ampliner | 3.00 | \$1.76 |
| 12 | Detector Ampliner | 3.00 | 1.76 |
| 46 | Clas $B$ Amplifier | 1.65 | . 91 |
| ES | Duo Diode Detector. | 1.65 | 94 |
| 56 | General Purpose Triode | 1.30 | 77 |
| 57 | Triple Crid Amps-Det. | 1.65 | 8 |
| E | Triple Grid Super Con trol |  |  |
| 112A | Ampliter | 1.56 | . 21 |
| 120 | Amplifer | 8.00 | 1.76 |
| 171A | Amplifier | . 95 | . 61 |
| 199UV | Detector Ampliner | 3.75 | 1.61 |
| 199UX | Detector Ampliner | 2.55 | 1.80 |
| 200A | Super Detector | 4.00 | 8.88 |
| 2014 | Detector Ampliter | . 80 | . 44 |
| 210 | Power Amplifer . | 8.00 | 4.18 |
| 222 | 4 Element Tube. | 8.00 | 1.76 |
| 224 | Screen Grid .... | 1.05 | . 68 |
| 224A | Qulck Heater 8. G. | 1.65 | . 97 |
| 228 | A. C. Amplifier |  | . 08 |
| 227 | A. C. Detector ... | 1.08 | . . 68 |
| 230 | 2v. Gen. Purpose Tub | 1.68 | . 87 |
| 231 | 2v. Output Tube | 1.65 | . 87 |
| 232 | 2v. Screen Grid | 2.35 | 1.88 |
| 233 | D. C. Plament Pentoda. | 2.80 | 1.94 |
| 235 | Buper Cont. 8. G. | 1.68 | - |
| 236 | B. C. R. P. Amp. D. C. Heater ................. | $2.80$ | 1.84 |
| 237 | Dt. Amp. D. C. Hester. | 1.80 | 1.06 |
| 238 | D. C. Heater Pentode. | 2.80 | 1.44 |
| 240 | Hi-Mu Amplifier . | 3.00 | 1.76 |
| 245 | Power Amplifer | 1.10 | . 64 |
| 247 | Power Pentode. | 1.60 | . 91 |
| 250 | Power Ampliner | 6.20 | 8.64 |
| 380 | Pull Wave Rectifler | 1.05 | .68 |
| 381 | Half Wave Rectifler | 5.20 | 8.08 |
| 888 | Full Wave Merc. Vapor Rect. | 1.30 | . 74 |
| 551 | Variable Mu | 1.85 | 94 |
| 874 | Voltage Regulator |  | \$.888 |
| 876 | Ballast Tube .......... | 6.70 | 8.86 |

## PHOTO-ELECTRIC <br> Radiotron UX-867

## rating and data

Anode Supply Voltage (maximum) Anode Ourrent (man Volts Window Dismeter -
1.25 inchet

Approximate Senalitivity
25 Dynamic-
25 Mcroamperes- 1 um m
30 Microstatio-
arcroamperes - 1 um men Masimam Overall
Socket, UX or Navy Type Diameter ........ $29 / 16 \mathrm{in}$. Length $\quad$ For $\quad$ Pperimental Purp

Photo-mectric Rental Pupposen Only Photo-mectric Radiotron UX-867 is a highiy sensitive, general purpose photocell of the central enode type: An output of from ${ }^{1}$ to 5 volte can bo obtained with excellent idelity.

USES FOP U-80y
This tube can be used for talking movie sound equipment, for $H$ ght intenalty measurement, for televiaion purposes and also may bo used for operating a relay to indicsto when lights are off, and on, and also for burglary alwrm, and zor experimental purposes.
Cat. No. 867 - List Price $\$ 37.50$
Our Price $\$ 2.95$

## Powar Transformcrs

$\mathbf{H}^{2}$ERRE at last is a most complete line of replacement power transformers, which are the result of the most exhaustive research and compliation of records which embrace every electrical set ever placed on the market. The transformers below will sutt over $90 \%$ of the receivers on the market today. They have been manufactured to our specifications by the largest and best known manufacturers in the country and. They will make a set funct and are of improved design. yefore and once an ACRATETST power transformer is installed in a set, your customer'n transformer troubles are over. The transformers
have been so designed that they are universal in applicathon, that is, they can be mounted in any position, vertical or horizontal. The laminations are of a special steel designed by our engineering staff and only the purest electrolytic copper wire is used for the windings. Every dealer and serviceman should have several of these types of power transformers in his stock, so that he is prepared at all times to replace the power transformer in any set without the slightest delay. Our transformers may not be the cheapest on the mariet, but they are the best that money can buy no matter what you pay for them. Order an assortment and convince yourseli of their special merlts.

## Aeratest

## Standard Replacement Transformer

With Universal Mounting Brackets
For Sets Using Up to 6.224 or $227,2-245$ or 247 and 280 Tubes


2 and 4-21/2 V. 1245). 8-C. T. of above. 6 and 10-5 V. (280). 7 and $9-2 \frac{1}{2}$ V. (224). 8-C. T. of above. 16 and 18-High. 12-120 V. Prl. 13-105 V. Prl. 312e $43 / 4 \mathrm{In}$. $x^{31 / 2} 14-110 \mathrm{~V} . \operatorname{Prl}$. in. $41 / 8 \mathrm{in}$. 15 -Start of Prl. Cat. No. 5191, 50-60 Cycles Our Price \$2.95

For setn using up to 4-226, 2-227, 2-171A and 1-280 tubes.


For sets using up to 5-227, 2-171A and 1-280 tubes.


## Universal Midget Replacement Power <br> Transformer

For All Midgets Using Up to 4-224, 1-245 or Pentode and 1-280 Tubes

supples the lol Buppling voltages: 21/2 V. at 7 amps. $\begin{array}{rl}21 / 2 \\ 5 & \mathrm{~V} \text {. at } \\ 2 & \text { amps. } \\ \text { amps. }\end{array}$ 575 V. at 80 mils. Rectined: 325 V . at 30 mils.


1 \& 3-High
2-Center tap of high
4 \& 5-5 V. 12801
7-C. T. of 6 and 8.

9 \& 10-Primary. 6 \& $8-2 \frac{1}{1224}$.
gize $3 \%$ in. $x 34 / 4 \mathrm{in} . \times 34 / 2 \mathrm{in}$. Cadmium Plated Frame. This midget power transformer, although of small dimensions, is very rugged and will furnish sufficient current for 4 screen grid, $1-245$ or Pentode amplifier, and -280 rectifier tubes, without overheating. It will fit $90 \%$ of the midget sets on the maricet, like ClarIon Junlor, DeWald Audiola, Melorad, Ra* diette, Crosley, Audiola, etc., having the power transiormer molnted in an upright position. For midgets using side-mounted power Iransformer, use our Cat. No. 6187: having the same characteristics sa lils one except for method of mounting.

Cat. No. 5186

## Our Price $\$ 1.19$

"250" Power Transformer Supplies Filament and Plate for 6-227 or 224, 2-250 and 2-281

Cat. No. 5700

## $\$ 4.75$

With 1200 V. C.T. Plate Winding at 160 Mils.


This transformer is ideal for transmitting and public address operation. It has $21 / 2$ volt winding at 12 amperes, $2-7 \frac{1}{4}$ volt windings at 3 amperes and a 1200 volt center-tepped plate windIng at 160 milliamperes. Lug terminal arrangement Identical to our Cat. No. 8190.

Acratest
Heavy Duty Side Mounting Midget Power Transformer For Sets Using 4-224 or 227, 2-245 or 247 and 1-280

81ze: $3 \% \times 3 \%$ in. Holen
$13 / 4 \times 21 / 2 \mathrm{in}$ C. to C .

2532
$\$ 2.40$
Bupplies the following voltages: y/2 V. at 7 amps. $\quad \$ 50 \mathrm{~V}, \mathrm{High}$, at 8 : C.T. to shield. mils., C.T. $2!2 \mathrm{~V}_{\mathrm{c}}^{\text {al }} 3$ amps.
1-Electrostatic Features: 3 Heavily Insula Shield.
2-Special ted coll.
4-Extromely
core loss.
steel core. core loss. sturdy, compact power unit capabl of supplying niament and B mene mentioned any recelver using the above ment. This tubes. Easy to instal s . price but for transiormet is steady performance. No long IIfe and st

## Acratest

"250" Power Transformer Supplies Filament and Plate for 6-227 or 224, 2-250 and 2-281

\& \& 4 -74V. (250) 3-C. T. of above. \& 10-7 $4 / 4 V$ (281 7 \& $9-2 \frac{21 / 2}{} \mathrm{~V}$. 12241 . 8-C. T. of gbove 16 and 18-High. 17-C. T. nf above. 12-120V. Pri. 13-105V. Pri. 14-110V. Pri.

This transiormer is excellent 10 use power ampliners and for repiacement in standard sets. The unique bracket ar rangement on this unit makes it extreme iy simple to install.
Cat. No. 5190-for 6-227. 2.250
2.281 supplying 950 V. C.T. at

140 mils
$\$ 3.50$

## Acratest <br> Midget Set Power <br> Transformer

For All Midget Sets Using 5-224, $2-245$ and 1-280 Tubes Can also De used as replacement in other sets where space is limited.


Cat. No. 2572

## qeralesf

Filament and Plate Supply Transformer
For Short Wave Adapters and Oscillators
Supplien $21 / 2$ V. for 4.227
Tubes and 165 V . at 20 Mils .
1 and $2-H i g h ~ V o l t a g e ~$
5 and $5-2 \%$
a. (227 rectifier).
8-O. T. of above.
6 and 7-Primary
8 and $10-21 / 2$ V. (227). $9-\mathrm{C}, \mathrm{T}$, of above.
Bize: $31 / 4$ in $x 27$


Cat. No. 5194

## $\$ 1.45$

This ransformer is particularly useful n oscillators, short wave sets, short wave converters, power supplies for tuners, preheaters for tubes, tube checkers, mike and photo-cell amplitiers. Very cornpact conatructlon. Carefully designed for continvous operation under normal load and may be operated at $25 \%$ overload for reasonable lengths of times.

## Acratest

## Tube Tester Replacement Transformer

Supplies $11 / 2,21 / 2,5,6$ and $71 / 2$ Volts at 2 Amps All from a single common


## Cat. No. 6024

## Slea: $31 / 4 \mathrm{in} \times 23 / \mathrm{in} . \times 2 \mathrm{in}$.

## Our Price $\$ 1.45$

This transtormer is perfect replacement in about 00 per cent of all standard tube checkerg. Kang experimenters are looking for such a transformer as this for laborstory wort. The fixed voltages of this transformer are $14,21 / 5,6$ and $71 /$ volts. though the 2 volt gind 8 , 6 and $7 \%$ may be run on the 14 and $21 / 4$ volt tubes Ings as their current is low and on 10 current the voltage soes higher. on 10 w current the voltage goes higher.


Transformer


For 224. 235 or 551 245 or 247 , and 280 Tubes
Upri-ht Mounting 13/4 in. long, $31 / 4 \mathrm{in}$ wide, $4 \%$ in, high
Cat. No. 5454
$\$ 2.95$

## Actatesh

Side Mounting Midget
Power Transformer
For All Midget Sets Using Up to 4-224, 1-245 or Pentode and 1-280. Fully Enclosed in Cadmium Plated Case


6 and 7-Primary.
8 and $10-\mathrm{High}$
-C. T. of hish
${ }_{12}-\mathrm{C}, \mathrm{T}$. 24 suppin in. $\times 3 \frac{1}{4} \mathrm{in}$. $\times 31 / 2 \mathrm{in}$. supplies the following voltages: $21 / 2$ V. at 7 amps.
5 V. at 2 amps. 000 V. at 90 mils. Rectified 375 V . at 90 mlls .
Cat. No. 5187 for $50-60$ Cycles
Price $\$ 1.95$


Midget Replacement
For 4-22is or \%27s, 1-247 or 245, 1-280


10 \& $12-2 \frac{1}{2}$ V. at
11.4 Amps.
-C. T. of above groun ded or irames.
316 in . long.
weight 5 lbs.
Cat. No. $62>0$
$\$ 1.95$


Power Amplifier Transformer

For 294, 287, 860 and 281 Trbet Supplies: $21 / 2$ Volts $2 t 8 \%$.Amps, 2.2. $71 / 2$ Volts 4.24 Amps 1200 Volts at 150 Mils. Cat. No. 6918

## Price $\$ 3.85$

## Thordarson 250.281 Power

 Amplifier TransformerSupplies: $21 / 2$ V. at 7 A., $71 / 2$ V. at $21 / 2$ A. $71 / 2$ V. at $23 / 2$ A. and 1100 V. C.T. same appearance as No. o918 above.


Type F-5 Tubes
3-224, 1-247 and 1-i80

C.at. No. 6757

Our Price \$1.95
Type F-8 Tubes
5-224, 2-247 and 1-280


Type F-12 Tubes
9-224, 2-247 and 1-280 Size $43 / 4 \times 33_{1} \times 3 y_{4}^{\prime \prime}$
Chassis openlng $2 x 3^{*}$

$1 \& \theta-21 / 2 V$. at 16 A .
6-C. T. of above 2 \& $10-21 / 2 \mathrm{~V}$. at $31 / 2 \mathrm{~A}$.
$7-\mathrm{C}$. T. of above $7-$ C. T. of above
3 \& $11-5$ V. 12801
 c. ${ }^{\text {Mils }}$ C. T. ol tayll groitndea B \& t ! $13-\mathrm{Pr} \mathrm{Pr}$

$$
\text { Cat. No. } 6759
$$

Oar Price $\$ 2.35$
(Continned in Next Colama)

## (Continued from Firṣt Column)

Type P-9 Tubes
6-224. 2-247 and 1-280

(.at. No. 6760

Dur Price $\$ 1.95$
Type P-12 Tubes
9-224, 2-247 and 1-280

| (1) | (8) |
| :--- | :--- |
| (2) | (9) |
| (3) | (10) |
| (4) | (11) |
| $(5)$ | (12) |
| (C) | (1) |

H12e $4 \times 31 / 44^{\prime \prime}$ Chassis opening 2-11/16x -
${ }_{2}^{1}$ \& $9-2 \frac{1 / 2}{2}$. at 16 A . 2-C. T. of above 8-C. T. of above 3 \& $10-21 / 2$ v. at $31 / 2$ A. 11 \& 12-675 V. at 110 c. T. of higll grounded

## C.at. No. 6761

## (1)

TYPE F-9 TUBES
Size $33 / 4 \times 33 / 4 \times 51 / m^{\prime \prime} \quad 31294$, ind $8-297,3-249$ 5-6-2Y/2V. at ${ }^{12 \mathrm{~A}}$
Yellow-C.T. of
above.
$\underset{7-4+8-3}{\text { above. }}$
(1) (2) (3)
$7-4-8-31 / 2 \mathrm{~V}$. at 3
10-11-5.
${ }_{9-3-12}^{10-5}$ at $2 A$.
at 80 mils.
(3) (6
(7) (0)
(9) 10
(11) (B)

Cat. No. 6243
$\$ 2.85$

## TYPE F-6 TUBES

2-294, 1-297, 2-171 and 1-280


## Radiart Step-Down Transformer



Cur Price $\$ 4.25$


## Kolster-Earl Power

## Transformer

For Replacement in Recelvers Eising aR0, 22\%, 171A and wion Tubes.


Filco Replacement
Power Transformers The Most Complete Set-up Hver Ofiered the Serviceman
$\$ 2.85$ euch


| Cat. No. | For Models | Part No. |
| :---: | :--- | ---: |
| 4321 | 20,220 | 4234 |
| 2600 | 65 | 3516 |
| 6248 | 70 | 5117 |
| 6242 | 76,77 | 3868 |
| 6411 | 82,86 | 3271 |
| 6243 | $92,95,95 \mathrm{E}$, |  |
|  | 2752 |  |
| 6244 | 111,112, |  |
|  | 211,212 | 4446 |
| 6247 | 90 | 4938 |
| 6247 | 90 | 5362 |
| 2620 | 500 Series | 3108 |

## Microphone Shielded Input Transformer

This unt is the result of many months of designing and tests．The Ire－ quency is exception－ ally fiat from 80 to over 7006 c 5 c 1 es Primary is spitt－100 chms eacli side of the reconidsry inpe dance is of the order of 400,000 ohms．i Iargei unit than
 nthers listing for the same price．The size is $35 / 451 / 4 \times 31 / 2$ inches． Matches injedancé of all standard type catbon 2 －button inicrophones．

Cat．No． 2625 \＄2．50


Two Button，Unshielded Microphoñe Trenaformer Bame Characteristics as our No． 2625
Cat．No． 5596
$\$ 1.25$

Two button unghtelded microphone transformer with 5000 ohm winding for standard pickup and a center tapped sec． ondary so that is may be used with push－ pull tubes．

Cat．No． 7145
$\$ 1.35$
Universal Replacement Filament and Power Transformer Oversized Power Supply For 227，224， 245 or Pentode and 280 Tube Can be used as replacement in $90 \%$ of receivers in the market today
Allaps mounted on one bakelito panel． Adaptable for 105 to 128 volts， 60 cycle A．C


Cat．No． 2560 ，\＄3．85
The cehter tip of the z2\％filament wind． ing and the center tap of the high tension
winding are grounded to frame．
The 2560 Replacement Power Trans－ former is designed to be used for replace－ ment purposes in all radio sets which use the following combination of tubes：

6227 ＇s or 224 ＇s or a combination of these Tubes，
2245 ＇s
1280 Tube．
The Transformer is designed to supply both plate and flament voltages．＂The Transformer will deliver 100 M ．A．at 300 volts when a standard 200 ohm choke is used and with a 2 MPD．Oondenser ahead of the first choke．
The primiary is tapped at 105， 115 and 135 volts to take care of any voltage con－ ditions．

## qenalest

## 2 $1 / 2$ Volt Filament Transformer

Delivers $21 / 2$ V．at $51 / 4 \mathrm{amps}$ ．
The T－290
Transformer Ands its prin－ clpal use in short wave sets where it is de－ sirable to light the fllaments of two or three tubes．Excellent ror pre－heaters．
Ptimary
115 volts．
Eecondary，
2.5 volts at
5.25 amps．

Length， $21 / \mathrm{s}^{\circ}$ ．
马elght， $2 \%{ }^{\prime \prime}$ ．
Width， $13 /{ }^{\mathrm{m}}{ }^{\circ}$


Cat．No． 6022
Our Price 95e ea．

## 2 $1 / 2$ Volt Filament Transformer

## Delivering 12 Amps． Center Tapped

This transiormer is of the same appaar． ance as the above except that It delivers 12 amperes and is center tapped．Very useful for pre－heaters，short wave con－ verters，tuners and tube testers．

Cat．No． 6620

## Dur Price $\$ 1.10$ ea．

## 7 $1 / 2$ Volt Filament Transformer

Bame appearance and sizo as above， but delivers 71／2

Cat．No． 6023 vol部䭪 1 mps ． Fof transmitters， ampliders，eto．

95e

## General Replacement

## Power Transformer

For Sets Using：
4－226，1－227，2－171A and 1－280 Tubes Complete Hook－up enclosed with each transformer．

This transformer $1 s$


Cat．No． 6031

> Width，3\％in．
> Height， 4 in．
> Weight， $4 / 2 \mathrm{lb}$ ．
Length， $3 y / 4$

$\$ 2.85$ desizned primatily for the earlier model recelver for which it
is very often dificult Is very often difficult to obtain replace discentinuance of manalacture．Five to seven．tubas can be operisted in connec－ tion with this powet unit as follows： 2 to 4 Na， 226,1 No． 227 1 or 2 No．171A， 1 voltare is 800 center tapped 78 MA．As． semblea：in brackets for quick installation and equipped with solder lugs providing convenlent in ethod of ：eonnectins into

WorldRadiotisistory

## BRAND NEW VICTOR <br> Replacement



Cat．No． 6830

## Our Price \＄2．95

Do not confuse this transformer with Rurplus and realaimed transformers Which we and other mall order hoises have transformer is the eurrent product of one of the largest transformer manufac－ turers in the country who have been making quailty product for 15 years．The origingl manutacturers specificstions have been not only adhered to but a greater safets isctor added sind the transiormer fanished better all around io that it his misned better all around ${ }^{2} 0$ taat $1 t$ has eye value besid find un under the severest bes．Whan transiormer in set you may rest assured set logts irhe ctrical characterigtios of this transfore el for $5-226$ tubes ${ }^{21}$ as for ${ }_{2}-245$ 226 tubes； $23 / 2$ V． $10{ }^{227}{ }^{21 / 2}$ V． 10 $2-245$ tubes； 5 V．O，T．for 280 rectiner and 800 V．C．T．at 150 mils high．Can is $41 / 2 \times 5 \times 51 / 2$ inches，Welght 8 lbs ．

## Surplus Victor Power <br> Transformer

These transformers have been removed from discontinued Vietor Amplifiers，and are guaranteed to be in perfeet working order Thay are seratched here and there due to handing，but mechanically per iect．A marvelous buy at \＄1．98．
Cat．No． 2958
$\$ 1.95$

## General Purpose <br> Replacement Power

## Transformer



For Kolster，Brandes， Earl，Freed，Amrad and Atwater Kent Sets Using－ $28 \%$ 224， 245 and 280 Frtra heavy $21 / 2$ ㅎ winding will supply nla－ ment voltage for up to $9-227$ or 224 tubes．Size $41 / 2 \mathrm{in}$ ． $\mathrm{x} 41 / 4$ in．x $31 / 2$ in．
Cat．No． 3728
$\$ 2.50$
Two No． 10 wires： $21 / 2$ Y．（227，224）．
Two atravided tinned wires on one side； Eigh．

Btranded Haln copper wire on same side：O．T．of high．
Two No． 18 wires on same side： 5 volts （280）．
Pair of No， 30 twisted wires on same stide： 110 V．tap of primary．
（227，224）．No． 22 wires on same aide； Primary 120 V．
Primary 120 Y． 18 irei at ame sold $24 / 2$ volta （245）
（245）．of twitted No． 18 whives O．F．，of $^{\text {Pa }}$ $23 / 2$ ．（245）．

Complete AK 37, 40, 42, 44, Power Pack

Replacements


These packs are housed 1:1 : carl dentical with the original, cut withou:. the cover as the old cover will i... Niacle according to original specificaticas anc guaranteed. Does not include resistince strip of socket.
Since its Introduction by us to the trade this power pack has met vilth the highest pralse and approval. such acclaim is natural when only the higke:t grade materlals are used in its constuluc. gran Do not confuse this finp Fow'i supply with makeshift, tin can arrincements. Our pack is housed in $\Omega$ beavy gauge sheet steel can of the exact pliys.cal dimensions and dark brown finirh of tive orlginal pack. The condensers, chotes : na transformer are rated far cisore tic standards set by the original manutcc. turer. Esch wire is plainly idenlintad c.na complete hook-up instructions rnclonsd with each unit. The cover from the cilt pack will fit this one and provisions $10:$ mounting the resistor and cable sirip w. Well as the tube socket can be aldadind with the rreatest laclily.

Cat. No. 2609
\$8:


These are genulne power packs manilfactured by the Atwater Kent Manuiac turing Co. and packed in original sealed factory cartons. Only a few avaliable at this price.


Fower Packs for Other A. K. Models
$\left.\begin{array}{ll}\text { Sets } & \text { Cat. No. } \\ 46-47-69 & 6466 \\ 43 & 6844 \\ 45 & 6845\end{array}\right\} \quad$ optill

Replacement Power
Transformer for Atwater Kent Model 37 Sets
Bullt to highest specin. cations and with a cafety facior.

Cat. No: ,2642
$\$ 2.75$

## POWER PACK

(Consisting of Power Transformer and Choke). Used in the following sets: Silvertone 1928 and 1929 Models, King, Models $\mathbf{H}$ and J .


Cat. No. 6504
$61 / 2 \times 51 / 2 \times 23 / 44^{\prime \prime}$ Weight, 5 lbs.

## dur Price $\$ 4.50$

Genuine Earl and Freed Power Transformers


For Model Nos. 21, 22, 55 and 56 Cal. No. 2522 Tur Net price $\$ 3.00$
Complete with uracket and strlp.
For Freed Models 78, 785, 79, 795, 90. 95. 63, and Earl \#1. 31S, 3?, 32S. 83, 335. 24, 41 Cat. No. 3738
Dur Price $\$ 4.50$

## Actatest

Universal Replacement Power Transformer
With Universal Mounting Brackets
ELECTROSTATICALLY SHIELDED

For Sets Using 5-22\%, 2-245 and 1-280 Tubes

Helght, $23 y$ in. Width, $41 / 2$ in.; Thickness, $41 / 2 \mathrm{in}$. Morizonal, $31 / 4 \times 2$ 3/16, Vertical, $3^{1 / 4}$ 3) Welght, $61 / 8$ libs.

Cat. No. 5414


A most popular replacement transtormer and used in many factory bullt seven, eight and nine tabe radios. Liberally dcsigned and well adapted for all recelvers where four or five 227 or 224 , two 245 and one 280 tubes are spectfied.
Primary- 115 volts 50-60 cycle.
Primary- $1-2.5$ voits 8.75 amps. et.
Fllament 2-2.5 volts 3 amps. ct.
Fllament $2-2.5$ volts 2 amps. ct .
Fllament 3-5 voits ${ }^{2}$ smps. Primary watts-full load, 90.
Ozr Price \$2.25

## Dongan Shielded Power Transformer

For 224, 22\%, 245, 280 and Areturus 15-volt Tubes


Cat. No. 2608

1 and 10-Primary 5 and $3-15$ volts 1 and $93-21 / 2$ volts 8 - Common negative of 4 and 13 Can oused as a power translormer fo Loftin-White Power Ampliner
Dur Price $\$ 1.10$ en.

## Earl and Kolster Power Transformer

Same transformer as above with bracket: ready for mounting in set.


Cat. No. 265.8
For 25 Cycles, $\$ 3.00$
Kolster Power Packs


## Dur Price $\$ 9.85$ eat.

Atwater Kent 55, 55C Replacement Power Transformer

Cat. No. 6013
Our Price
$\$ 4.95$

## RADIOLA POWER TRANSFORMERS



Made for replacement in Radiola sets but can be utlized in other sets using the same tubes. All brand new merchandise.

| , | , |  | Ori |
| :---: | :---: | :---: | :---: |
| No. | Part No. | Set No. | Price |
| 2081 | 8335 | 17, 18, 33, 51 | \$1.95 |
| 2373 | 8472 | 44, 46 | 25 |
| 3729 | GW208 | - 44, 46, 220V. A.C. | 3.95 |
| 9531 | B1930 | 48, 42 | 2.25 |
| -2366 | 8344 | 60,62 | 2,25 |
| 26\% | GW46 | 60, 62, 25 cjele | 2.75 |
| 2083 | GW147 | 66 | 3.95 |
| 2676 | 61730 | 80-82, 86 | 2.25 |
| 54.30 | RCA-Victor | 34, 35, 39, 37 | 2.25 |
| 2331 | HCA-Victor | RE-14, 15 | 2.25 |
|  | Radiola 104 | Speaker 6009 | 4.50 |
| 6870 |  | 18, 25 cycle | 4.25 |
| 8810 | 8299 | 41 | 2.50 |

## CROSLEY

Power Transformer


Replacement Part No. 6145

## Por Sets Using

 3-226 Tubes 1-227 Tube 1-171A Tube 1-280 Tube For 110. 60 ciycle A.C. Size $4 \times 31 / 2 \times 931 / 6$ in.
## al. No. 5075

250
Red-High Frequency Volt.
Black (with thin braidl-Pri.
White- 5 V. ( 2801 .
Double Wire-5 V. C.T.
Heavy Black- $1 / 2 \mathrm{~V}$ V. (226).
Medium Black-2 $21 / 2$ V. (227).
Thin Black-5 V. C.T. (171)
Earl Transformer Coil and Terminal Strip

Resdy to be assemoled with laminaLlons of old power vansformer.
For Earl Modele 81, 32, 32S and 41. Freed Models 78, 70, 79S, 65, 90, 95.


Cat. No. 3172
-

We Also Carry in Stock the Following Power Transformer Coils:


Freshman Filament Supply Transformer For 226, 22\%, 224 and 1\%1A Tubes Has following leads:
$11 / 2 \mathrm{~V} .(226) .21 / 2 \mathrm{~V}$ C. T. (224 or 227 ) 5V. C. T. (171A or 112A)
Cat. No. 3724

## 95e ea.

## General Replacement

 Power TransformerFor Sets using: $5-227,2-171 \mathrm{~A}$ and

1-280 Tubes.
Cat. No. 5421

## Tur <br> Price <br> $\$ 1.95$

4 in . Long, $31 / 4 \mathrm{in}$.
 Wide, ${ }^{4}$ in. Hight, 6 lbs.
$1 \& 5-5 \mathrm{~V} .(2803 / 4)$
2 \& $12 \sim \mathrm{Hi}(350 \mathrm{~V}$. 3-125 80 mils. 3-125 V. tap of 4 \& ${ }^{\text {primary }}$ 4
$8-C . T 3-5$
$T$ 8-C. T. of \& \& 13 10-ile V. tap of

$$
\text { 11-c. Trimary } 2 * 12
$$



A Weil bullt rugred ransformer that Wlll stand abuse and not overheat in the worst conditions. Siliscon steel laminations are tightly packed and held in place by iron frames to eliminate vibration. Coll wound with pure electrolytic copper and all terminals are prought out to bakelite strips and Pastened to 1198 for easy connections. Mounting feet mase it easy to install this transformer.

## Filament and Plate

## Supply Transformers <br> FOB 210, 250 AND 281 TUBES



RADIOLA
Power Transformer
For Radiola 104 Speaker
Primary operated
 $\ln 8$ eiles with OV876 Ballast tube. Purnishes nlament and plate ursent for $2-281$, 1-210 and 7-199 ubes in series. ${ }^{53} 3^{3 / 4}$ " long, ${ }^{4 \prime \prime}$ Weight. in ing $\$ 4.50$

Filament Supply
Transformer

The ideal transformer for testing panels and for converting battery sets for A.C. operation, with B Eliminator.

| Cat. No. 2610 | Secondariea 21/9 V. 9 Amp. 21/2 V. 4 Amp. | $\$ 1.95$ |
| :---: | :---: | :---: |
| 2014 | 11/2 V. 7 Amp. ${ }_{5}^{21 / 2}$ V. 2 Amp. |  |

## Zenith Power Transformer

For Models 52, 53, 54, 55, $60,61,62,64,67,602,613$, 622, 642, 672, 71, 72, 73, 77, 522, 532, 542
ELECTROSTATICALLY SHIELDED Part No. .95-96

Employing 207, ets

 Weitht 10
Cat. No. 5422

## $\$ 4.50$

Used in P.P. 2E 50-60-70
Description: Equipped Fith tappec rimary and two $21 / 2$ volt A.C windings. deal fer all pentode power packs. -x actly luke original in every speciacation made only as rigid requirements demand assuring a replacement unit as aatisfac tory as may be recured.

## ZE7 Filament Transformer

Bupplies:
$21 / 2$ Volts at 6 Amp.
$11 / 2$ Volts at 7 Amp $71 / 2$ Volts at 3 Amp . $31 / 2 \mathrm{in}$. long, $23 / 4 \mathrm{in}$. wide, 33.4 in. high


Cat. No. 5736
$\$ 1.25$

## Filament and Plate

Supply Transformer

for 250 Tabe. For B Ellminatorn and conversion of D. C. dynamio $\quad$ peakers to A. C.

600 V. C. T. at 80 Mils. 5 V. at 2 amp .

## 

AORANHET Audion are already ranked among the finen available Much care is exercleed to see that only the highest quality core and coll go Into thedr, constraction. Exacting engineers con-
stantiy watch the output of the production belt to seo that each transformer in laboratory teated, an - poor product is a dangerous enemy. This prealsion sounds costly, but geat volume production and minimized returns help combat high price.


Shielded Push. Pall Audio Transformers Permalloy Laminations cal. No. Dearthen 2aise Autio Trandormer, ratio 4/1,
 3001 1714, 245, 250, 247 281, 233, 238, 210

Prieo
n. For rise in 1 at or 2nd stice. 80.95 238, 210 coutput, railio $80 /{ }_{1}$, 20.1 Tuak vin rith 171A, 245, \%60. or for connection drect to 10 ch melce codl of dyamic.
sses Push-Fibll Output for use with ashore tubeen ratio $30 / 1$, for connection to high impedconnection toil of dypanio.

## Choke

2508 Bman heavy duty 20 honry hor trensformery. .......... above transformery.......... . 70


Midget Dynamic Speaker Output Transformer
Thls type of transformer is atandard quipment on quch midget dynamio speakers as Role, Jensen, Oxford, Quem, Meghavox, Utah and othera. These transformers are extramely ponyar beca ${ }^{2}$. their emclency and smans used in midget
A good many speacers used in midget sets have ap esriy cdition of this transformer which proved unsatile actory snd resulted in poor quality and burnt-out. Replince them with the now and improwed type. They are all destaned 20 atandared voice coll.
Cat.
No.
Daseriptlen
0
ozse single tube output for vie with 171A and 245.....s.......... 0233 single Pentode output for tut
 Push-Pull output 210 and $215 . .$. 6235 Push-Full Pentode output for use with 233 and 247.......

THORDARSON 30 Henry Choke


100 Mils at 200 ohms

8x2x3/2in. Weight 2 lbs.
Cat. No. 7186


Thetr nse in udio elrculte ofves increased wensitivity, greatar distanco, and creased sensitivity greatar clear, pure and undistorted reproduction of programs, with all the vital harmonics and rich overtones so essential to true tonal guality.

Heavlly insulated throughout, safe for use with power tubes, assembled and sealed into a beautiful black enameled metal case.
high primary fmpedance is axtremely high and exactly correct for A.C. tubes,
Goaling makes it impervious to moisture and elimingtes the possibility of opens, either primary or secondary.
Cat. No, Desoription
Price
2647 Push-pull Input, lugs on bottom,

688 Push-pull Output, lugs on botcom retio $35 / 1$, for use with 171A. 245, 231, for connection to 10 ohm volce coll of dyrsamic 1.45
Sert Push-pull Input, lugs on side. for use with 171A, 245, 250 , m, as, 2 , mended for use where ine tone guallty is wanted, due ta the former ............................. 1.80
207 Furh-pull Output, lugs on one alde and tip jacks on other ratio 35/1, for connection direc to dynamie vole cofil faz use with 171A, 248, 250, $2 \$ 1 . . . . . .$. 1.4s
60st Push-pull Pentode Output. for connection direct to voice ooll of dynamle, for use with 247, 238, 288 .............................. 1.65
871430 Henry, 160 Mil Choke, with lugs on bottom like 3847......... 1.20

## Acratest Choke

30 Eienry, 150. Mils Lut terminals on bottom

Cat. No. 3714


Dur Price $\$ 1.20$

## Unshielded Push-Pull Audio Transformers

## Eorisontal Mount

دere if oompsot trensformer whleh equals in performance anty one on the market todiy, The esse of mounting and wiring of thise instruments makes them guitsble for slmost any set. The highest quality silicon ateel and pure drawn cop per go into this splendid transformer.
Cat.
Ne. Description Price
417 S-1 Audio with lesde and mounting brackets for 171A, 245,247 or $250 . \ldots \ldots .$. B18 Push-Pull pentode output to 10 ohm volice coll.
2567 4-1 Tapped Input with leads and mounting brackets ior $171 \mathrm{~A}, 245,247$ or 201 am pliflerz...
. 83


Unshielded Push-Pull Audio Transformers With Permalloy Laminations
Cat. Descriplion

Price
No. 3 to 1 Straight Audio for use 5ss4 Push-Pull Input for usi witi Push-pull Oitput for vye with 171A, 246, 250, 231. for 00nnection to magnetic spenknection or to dynamics havins built-in input trpnsformers.
5895 Push-Püll Output for use with above tubes. ratio $80 / 1$ far sonnection to 10 ohm voice coll of dynamic........... with the above tubes, ratjo $30 / 1$ or connection to hgh in pedance voice coll of dy-
5890 Push-Pull Output for use with Pontode tubes only (247, 238, 233), for connection di rect to voite soll hor dy
1.00

## Acratest RF Choke

## 85 Millihenries

with Mounting Brackets

Cat. No. 2871
17e ea.s $\$ 1.75$ doz.

Microphone or Phonograph Input Transformer
Large Audio Mounting This is an excelent transforner ficr use oll cily amplifier or adio recelver. If natches the stand. ard microphone. diz. 200 ohms on each slue of cener tap tor doulle button mifers. shones and a 3.000 ohm phonoraph plek - up. the secondary of his transformer has an impedance of 250,000 ohms Cal. No. 6915

## Our Price \$1.95

## FilterChoke

 to Match15 Heraries at 150 Mils.
ideatical in appearanee to the 6915 input transformer.
Cat. No. 6916


## Push-Pull Output

 Transformer to Match No. 6915 InputThis trans
ormer ts
${ }_{\text {a }}^{\text {all }}$ p $\underset{\text { transformer }}{\text { s }}$
for caupling two
lifis two 250's.
(HO 245's. to var
lous types oi
$\begin{aligned} & \text { speakers } \\ & \text { lines. } \\ & \text { a } \\ & \text { n } \\ & \text { d }\end{aligned}$
translormer has
a primary of 4.-
tay ohms center
tawped, and sec-
 nndary windings as follows: Becondary No. $1-4.000$ ohms impedince, having a iap at 500 olms. Secondary No. 2-15 ohms, having a tap at 5 ohms. The 500 ohm impedance winding is for connect. Hion to magnetic speaicers or dynamic speakers having an input transiormer The 9 ohm winding 18 for connection to the voice coll of the 9 ohm speaker. The 15 ohm winding is for connection to the veice coll of the 15 ohm speaker or 15 ohm recorder.
Cat. No. $6917 \quad \$ 1.95$
T. C. A. 30 Henry
Choke 100 Mils250 Ohms


Cat. No. 250s 45c Each

Philco Audio and PushPull Transformers


2851-58, 2403

## Cat.

No. Description Models No. Price $\begin{array}{ll}5884 \\ \text { Push-pull } \\ \text { znput } & 90,20 A, 90, \\ 901,70,70 A\end{array}$
 10.8.86, 7642,8872 . 80 2008 Pilter Choke 65, 87 3518, 8472 .70 2647 Push-pull $\begin{gathered}\text { Input } \\ \\ \end{gathered}$ h-pull 111 A .11788371 .46 2652 Push-pull 65, 87, 76, 77,

$$
\begin{gathered}
0,07, \\
75, \\
\hline 6
\end{gathered}
$$

$$
\begin{aligned}
& 77 A, 85,98, \\
& 296,40,41 \quad 2848 \quad .28
\end{aligned}
$$

$\begin{array}{lllll}2558 \\ \text { 4/1 Str't } \\ \text { Audio } & 511,512,521, & 2848 & .95 \\ 531 & & 2077 & 1.85\end{array}$
3714 Filter Choke 111,112, 111A,
$112 A, 78,86$,
77, 206, 40
3422.95

Thordarson Interstage Double Audio Transformer
This transformer 18 used for coupling s stage of 227, 226 or 2014 in push-pull to a stage of 171A, 245 , 247. 210 or 250 in push-pull. Both the primary and secondary of thls transtormer sre centertapped. Fxcellent for amplifiers where fine quality is necessary.
Cat, No. 2729


## Our Price $\$ 2.75$

Thordarson Push-Pull
 Transformer

From Outpet of 2-245, -171A, $2-281$ or 2-250 ro Volce Coil of Dynamic. 6 to 8 Ohms. Very compact-on1y $1 \% \times 1 \% \times 21 / 2 \mathrm{in}$.
Cat. No. 5620

## Dur Price 75e

## Thordarson Push-Pull Output Choke

Same size and appearance. Matched in same tubes.

Cat. No. 5621
Dur Price 95c

## Concertone Sealed Audio Transformer

## For Highest Quality Reproduction

 Over Entire Musical ScaleCat. No. 6030

> Ratio s to 1
> 3-1/16 in. High
> 2-11/16 In. Wide $31 / 2$ in. Deep, Inct. Terminals Mounting Holie Centers 2x2-1/16 in Weight, 21/2 lbs.


## Our Price \$1.95

Concertone Bealed trangformers are de. signed to amplify, evenly and uniformiy, all notes within the musicel scale on ither A.C. or D.C. Bets. The Concertone transformers have that picety of bal ance. which comes trom stimcient wind ng and large core, to get aven mplincaion factor at low irequencles, yot such thst the cipscities of the secondary is low encugh to prevent resonsent peaic he hisher frequencies.
Its use in audio sircuite sives increased sensitivity, greater distince, and insures good volump of clear, pure and undis. orted reproduction of programs, with $\begin{gathered}\text { nil }\end{gathered}$ he vital narmonics and rich overtonea Thessential to true tonal qualtty.
The primary Impedance La extremeis high and exactly correct for A.O. tubes.

## Shielded Universal

Output Transformer
For Use With All Types of Tubes,
Coupled to Either Voice Coil or High Impedance


Cat. No. 6029
Width, 3-1/16" Length, 2-11/16 Helght, 3y" Mounting Hole $2 \times 2-1 / 18^{\prime \prime}$. Weight, $21 / 2 \mathrm{lbs}$.

This shielded output trarsiormer is recommended for use With No. 171, 245, 247 pr 250 tubes in single or push-pull amplincation with any of present day dynamic speakers. A comprehonsive chart is supplied with each transiordier oh ow the hook-up with any tube and speaker low, medium or high impedsnce volce coll. This unit is also equipped with secondary for magnetio speaker providing a erating an additional speaker when it is desired that one be locsted at somo distance from the receiver.

## Our Price $\$ 2.85$

T. C. A. Push-Pull Input Audio Transformer


Cat. No. 9859

Universal Replacement Audio Transformer


Cat. No. 2502 85e ea.
$A$
small
and compart tigans= former, Ideally
adapted to thatht places und can be used in any set, A.C. of D.C., using straight audio amplincation. It hes two sets of brackets for horizontal or vertical mounting. stze. $1 \%$ in. hish, $23, ~ i n$. wide and $21 / \mathrm{m}$. deep.

Welght, \% Ib.

## Universal Push-Pull

Input Transformers


Cat. No. 5597 Input

An Ideal repiscement job because of It compact cize, omctency and low price. Fits under tically every set. ncluding midgets. Universal mounting brackets. Approximately ${ }^{2}, ~$ $\$ 1.05$ ea.

New Universal Tapped Output Transformer
For Use with All Types of Tubes, Coupled to Either Voice Coil or High Impedance

Fnginearing ingenuIty nas endowed this out put transformer with festures tnsuring fextbllity beyond the everage conception, torether wifh quality together win quality pected only in a transformer of much higher price. It is Untversal price. It is universal word-jt can be used word-li can be used for couping any com171,248 or the new 247 pentode either single or push-pull) to any dynamio or magnetic dynamio or magnetic inedtum or high imvedance volce coil. A pedance voice coll. A mits mounting in ony


Cat. No. 6028
Wlath, 148 1 n Length, 2\% in. Helght, 2 in .

Dur Ppice $\$ 1.05$ poittion.
The windings are 'thoroughly impreguated. Each transformer is supplied with complete instructions for instailing, including impedance chart.

## DYNAMIC

Output Transformer


Our Price 35c ea.

RCA Matched Push-Pull Input Transformer and Output Choke
Used in all Radiola models but are small and compact and can be used in any set. Can be mounted horizontally or vertically.


CHOK:
Terminal 1-Plate and minal 2-cs" oupply Torminal s-piste and Speaker
Cat. No. 2596

## 49e per pair

Output Choke Only, Sold Separately

## Cat. No. 2557 15e ea.

## Victor Auidio

## Transformer

With Pick-up Coil Winding
For Replecement In AD Victor Sets
Can be used for any tube of high impedance. Has spectal windins for phonograph pick-up. Megneticslly shielded preventing inter-stage teed"back. RATIO $31 / 2 \times 1$.
Terminal are numbered:
1-Rhove coll

- plus
-GGronnd
- Pinte


## Dur Price

75 c
Cat. No. 2581
Triple 30 Henry Choke
Triple 80 Henty Choxes-40 mils. each, giving total of 120 mils. in series. Can be used in any power supply.
Cat. No. 2518

## 95e Each



## ERLA

Audio Transformer


Fully Shielded
Cat. No. 2515


For low tmpedance phone ptckups and used in Brunswick Models 32 and 42

Cat. No. 7204
$\$ 1.35$
Stromberg Carlson Choke

80 Flenries, 00 Nils Fermellos Leminstiens
D. C. Resistinnce 1009 Ohm
Bakelite terminal strip with soldering $1 u b s$. Hindsome brown crystalStromberg Carison 695636. Pert No. 18989.

Cat. No. 3718 55c

## Stromberg Carlson

 Filter Chokes

Fhe standard of Quatity. Steel, jacketed and num proof. Best edapted for all filter circuits. Conservatively rated.

Single Choke
8 Henries. 300 Mils, 22 ohms resistance, inductance much higher at smaller currents.
6 in. long. 3\% In. wide, $61 / 2 \mathrm{in}$. tall, wetght 11 lbs. Bakellte terminal strip.
1/4 Amp. D. C. Choke


For Power Buppites and D.C. sets. 4 in long. 24 k ln . wide, $5 \mathrm{in} . \mathrm{htgh}$. Wetghe 5 lbs.
Cat. No, 5118
98 c


Atwater Kent
Replacement
Transformers
Cat. No. For Models
2606 20, 30, 35, 37
6896 41, 1st audio 6897 41, and audio $\%$ P.P. Input 25 ea.
7057 40-42-46 Audio .......50c
705846 Input


## Amertram

 Audio Trans. former Volume and Tone Quallty Caf. No. 2577 95e each

Double Audio
Transformers Cat. No. 2512


Our Price $\$ 1.40$

## RCA-VICTOR

## Output Transformer



Output to 10 Ohm Voice Coil For Rediols 46, 47 and 66. Can siso be used in NO. 100 Bpeaker with $21 / 10$ mid. condensers. at. No. 5625 21/2x3 $3 / 43$ in. tall.

Our Price 60c
ARL AND FREED Audio Transformer

For
Model 41 Recelver
Also used in
Cat. No. 3720
$\$ 1.50$
Push-Pull Input Transformer for above models, in same can.

Cat. No. 3726
Dur Price \$1.85

## KOLSTER

Double Audio Pack


Cat. No. 5587
$\$ 1.95$

Part No. A99003. Used in Models K20 and
K21. Ratio $3 \% / 4$ to 1 D. C. Resistance Pri 1500 ohms 12 D. each. Lead in yellow spaghetti to core of both transformers. Transformers mounted at right angle to each other
$33 / 4^{\prime \prime}$ long, $2^{\prime \prime}$ wide, $348^{\prime \prime}$ tall.
Victor Push-Pull
Audio Transformer
 numbered:

Enput
1-Plate
2-B plus
8-Ground
4 \& 5-Gild
Output

-
Cat. No. 5744
1 a 2 2. Loud
speaker
moving
moving coll
8-B plus
4 \& S-Plate

Can be used with 171A, 245 or 250 type tubes
Electrostatically shielded.. Impregnated against lamination vibration, assuring am
plification on all frequencies.
Output Matches Moving Coll on All Dynamio Speakers

Kolster Double Choke


Part No. A58010 Used In Models 6J, 6K 6M, 6R, 07

Cat. No. 5543
Our Price $\$ 1.95$
Kolster Output Choke


100 Mmlles tapped at so
game dimensions as Audio Trana ormer.

Cat. No. 3725
95 c
Superior Shielded Audio Transformer

A real quallty job for pure tone and volume.

Ratio 9!/3 to 1
Cat. No. 2513
Price 69e

RCA Double Filter Chokes

Contalus Two 80 Eenry 80 Mill Choke

This heavy duty, ruggea, double Filter choke is ex cellent for all types of nite. circuits ang experimenta power smplliners, ng sets. ors transmitters and vari ors, transmitters and vari-
ous ether purposes. Made by General Hectric Company for Radio Corpor ation of America, and 18 for the Radiola 33, 18 and 17 .


## Our Price 48c

## RCA Speaker Filter

Proteots the voice coll of magretio snd dynam\&c speakers and prevents them from blowing out. Clarlfies tone. Fand a o me bronze case and 8 ft sllt cord.
 Spesker Cord.
Cat. No. 6889
75 c

## Part No.

G.W. 69

Grebe Audio Transformer


Contalnt 4\% Ellion steel laminstion recel steel laminations. woes ient ios Publio Adare
 Welght: 2 Ibs.

Cat. Na. 5105
95c ea.
Grebe Input Audio
Transformer
 Shown AbOFA
Cat. No. $6611 \$ 1.51$ en.
Kolster First Audio an'd Interstage Pack


Cat. No. 5534
$\$ 3.85$
Fart No. 13305... Used in Models 802 and 980. Housed in ateel can and mounted on steel base, with all wire leade $6^{\prime \prime}$ long 31/r" wide. $31 / 2^{\prime \prime}$ tall
Eagle Push-Pull Output


Shielded Output
No. $2514 \$ 1.50$
Unshlelded Output No. 2517 S5c

# No Liquid, Lightweight-Long 

## SELF HEALING

Eurge limiting characteristics. Unlike wax paper condensers the chemical features of these condensers are such that they will limit higa voltage surges when the set is turned on or of chus preventing to lerge extent burnt out tubes and paper condensers.
While only rated at 800 volts peak. these units will withstand momentary overvoltages as high as 600 volts without producing any detrimental effects on the condenser. The electrolyte of Dry Farads condonsers is such that when the condenser is broken down due to the application of over-voltage, it will heal itself as soon se the over-voltage is removed.

Summary of Why Acratest
Dry Farads Should Be Used:

1. Low cost per microfarad per volt rating.
2. High voltage rating.
3. Low Voltage leakage.
4. No liquids to run or leak out.
5. Long life.
6. Saving of space, less space required per microfarad than paper or similar condensers.

## Life, Compact

7. Filtering action is very nearly equal to that of paper condensers of the same capacity.
8. Complete recovery from breakdown when over-voltage is rcmoved.
9. Can be mounted in any position.
10. Low power factor.
11. Minimum chemical action on dielectric film.
12. Unaffected by ordinary temperature.
The aluminum can type is furnlshed in standard size cans for quick replacement.


## Multiple Anode Upright Units, Type M

> Peak Volts 800 Mounted w1th Rings

4* ${ }^{\prime \prime}$ High

|  |  | 41/4 High |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cltt. | Cep. | Dis. | Anoden | Onf Price |
| 5314 | 14 Mfd . | 21/2" | 8-4-2 | 1.40 |
| 5316 | 16 Mfd . | 21/2" | 8-8 | 1.40 |
| \$317 | 16 Mfd . | $21 / 2^{\prime \prime}$ | 4-4-8 | 1,95 |
| 5318 | 18 Mfd . | $21 / 2 "$ | 0-9 | 1.65 |
| 5324 | 24 Mfd . | $3{ }^{\prime \prime}$ | 8-8-8 | 1.80 |
| 6 630 | 20 Mtd . | 21/2' | 5-18 | 1.60 |
| 5332 | 32 Mfd . | 3 " | 8-8-8-8 | 2.85 |
| 5335 | 36 Mtd . | $3 "$ | 18-18 | 2.65 |
| B336 | 36 Mra . | $3^{\prime \prime}$ | 18-9-9 | 2.50 |
| 8354 | 54 Mid . | $31 / 2{ }^{\prime \prime}$ | 18-18-9-9 | 3.80 |
| 5352 | 54 Mfd. | 31/2" | 18-18-8-8 | 8.30 |

Single Section
Electrolytic
Condensers


## C Bias <br> Condensers for Pentode Tubes

| Cet. |  | Peslt | Our |  |
| :---: | :---: | :---: | :---: | :---: |
| No, | Cap. | Volts Anodee | Price |  |
| $\$ 805$ | $5 M 1 d$, | 50 | 1 | $\$ .27$ |
| 6810 | 10 Mfd | 50 | 1 | .27 |



These low voltage tubulars embody all the characteristics of the 500 volt Acratest Electrolytics. They are hermetically enclosed in a non-hygroscople tube sealed at both ends. Connections are made by means of the pigtails at each end. Polarlity is indicated by the wax color at the ends, the positive having red waz and the negative black
These unlts are nighly effcient as $C$ Blases for Pentode tubes

|  | Cap. Peak Mfd. Volts |  | Tube Size | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 6644 | 7.8 | 25 | \$/ in. O.D. $\times 21 / 8 \mathrm{in}$, | \% 20 |
| 6645 | 10. | 25 | $4 / 4 \mathrm{ln}$. O.D. $\times 21 / 1 \mathrm{ln}$. | . 20 |
| 6646 | 25. | 25 | \%/61n.O.D. $\mathrm{x}^{1 / 6} \mathrm{in}$. | . 20 |
| 6647 | 2. | 50 | \%/8 In . O.D. $\mathrm{x}^{1 / 6} \mathrm{ln}$. | . 25 |
| 6648 | 6. | b0 | 1/8 in . O.D.x ${ }^{1 / 3} \mathrm{in}$. | . 25 |
| 6849 | 7.8 | 50 | //3 in. O.D.x2 $/$ in. | . 25 |
| 6630 | 10. | 50 | 7/8 in. O.D. $\mathrm{x}^{3 / 9 \mathrm{ln} \text { in. }}$ | . 25 |
| 6860 | 2. | 100 | $3 / 4$ in O.D. $\mathrm{x}^{2} / 4 \mathrm{~m}$ in. | . 30 |
| 6661 | 5. | 100 | \%/1n. O.D. $\times 21 / 6 \mathrm{ln}$. | . 30 |
| 6662 | 1. | 200 | $5 / 8 \mathrm{ln}, \mathrm{O} D . \mathrm{x} \mathrm{s}^{1 / 6} \mathrm{ln}$. | . 30 |
| 6868 | 2. | 200 | \%/8in. O.D. $22 \%$ 1n. | . 30 |
| 6664 | 1. | 400 | 1/8 in. O.D. $221 / 8 \mathrm{in}$. | . 30 |
| 6865 | 3. | 400 | $210.0 . D, \times 21 / 8 \mathrm{in}$. | . 27 |
| 8724 | . 8 | B00 | \%/6. ${ }^{\text {in }}$ O.D. $\times 21 / 3$ in. | . 33 |
| 6725 | 1. | 500 | 7/8 in. O.D. $\times 21 / 8 \mathrm{in}$. | . 33 |
| 6726 | 8. | 500 | 1 ln O.D. $\mathrm{I}^{1 / 812} \mathrm{ln}$. | . 38 |

Mounting Brackets for Cardboard Condensers


Cat.
No.
6496 For 4 Mfd . Condensers
6497 For 6 and 8 Mfd. Condensers
Dur Price 5c Each


Is Standard

## Cardboard Container Electrolytic Condensers



SINGLE SECHION UNITS WITH WIRE LEADS
PEAK VOLTS 500
servicemen who in the past have been handicapped in making replacements now have available, through the foresight of the Federated Servce and engineering depart ments, a new type of electrolytic condenser. This unit is housed in a cardboard contalner and is exiremely handy $a 3$ s replacement.
The capacties listed are in standard size container for replacement of any drytype condenser in a cardboard container. Furnished with two $6-$ in. wire leads.
Cat. Capacity Size Our
No. Crice

| 6491 | 1 | Mfd. | $1 \times 1 \times 2$ | \$. 30 |
| :---: | :---: | :---: | :---: | :---: |
| 6402 | 2 | Mid. | $1 \times 1 \times 2$ | 35 |
| 6498 | 4 | Mid. | $11 / 2 \times 4 / 6 \times 4$ | . 40 |
| 6494 | 6 | Mfd. | $11 / 2 \times 1 \times 4$ | . 80 |
| 6195 | 8 | Mfd. | $11 / 2 \times 1 \times 4$ | . 61 |

## Acratest "Power" Filter

 Electrolytic Condensers800 volts working, 1000 volts peak

These newly developed electrolytics make posslble the construction of transmitters and power ampliflers at extremely low cost. These condensers are very compact for thelr capacity enabling their use in any outfit.

## Features



1. High capacity. $\quad$ 4. Self-heallng.
2. Low leakage, 5. Long lifed. 3. Puncture-proof, 6. Small size. 7. Excellent Filter action.

Cat. No. Capacity Slze Net I'rice
\(\left.\begin{array}{ll}6931 \& 2 \mathrm{mfd} . <br>
6932 \& 4 \mathrm{mid} . <br>

6933 \& 8 \mathrm{mfd} .\end{array}\right\}\)| $13 / 4 \times 2 / / 4$ |
| :---: |
| $\times 5 \mathrm{~F}$ |\(\left\{\begin{array}{r}\$ .85 <br>

1.05 <br>
1.95\end{array}\right.\)


- Acratest has set a high standard of accuracy and efflciency for all paper dielectric condensers. In general all our new condensers are wound non-inductively of pure linen paper and tinfoll, especially processed to insure maximum insulation resistance in excess of that required by the N. E. M. A. standards. All condensers are conservatively rated to insure long life performance and
maximum results.
- It is our aim to be of utmost service to both dealer and service man and therefore carry the largest and most complete line oi condensers available. Every standard type of condenser is carried in stock by us which permits the service man to replace and repair sets in as brief a time as passible.


## Acralest <br> NON-INDUCTIVE

Hangup Replacement Sections


Wax sealed paper alelectric sectlons coated with hard black wax which thoroughly protects sections from moisture. Equipped wish two insulated stranded man in sepairing sections for filter blocks or bypass condensers.

|  | . 1 | 200 | 5-16x9-16x13/4 .............. | 11 |
| :---: | :---: | :---: | :---: | :---: |
| 3077 | .25 | 200 |  | .13 |
| 1078 | . 5 | 200 | $8 / 8 \times 11-16 \times 13 / 4$ | . 16 |
| 3079 | 1. | 200 | 7'8 $\times 111-16 \times 13 / 4$ | .2* |
| :080 | 1. | 200 | 4/8×11/2x3 1-3-16 | . 22 |
| 1081 | 2. | 200 | 9-16x1 11-16x3 3-16 | . 41 |
| 1082 | . 1 | 300 | 5-16×11-16×13/4 .... | .13 |
| 2088 | . 25 | 300 | 8/8×15-16×17/4 | . 16 |
| 3084 | . 5 | 300 | 9-16× $1^{\text {9-16 }} 1{ }^{17 / 4}$ | . 20 |
| 3085 | . 5 | 300 | 7-16x1 3-16x3 3-16 | . 210 |
| 3086 | 1. | 300 | 1/2×15/3 $\times 3$ 3-16 | . 30 |
| :3087 | 1. | 300 | 7/6x13/4x3 3 -6 | . 80 |
| :1888 | 1. | 300 |  | . 30 |
| 5089 | 2. | 300 | 8/8×1 $13-16 \times 43 / 8$ | . 50 |
| \$090 | . 1 | 400 | 3/6×13-16×13/4 | . 16 |
| 3091 | . 25 | 400 |  | . 18 |
| :009\% | . 5 | 400 | 11-16×1-11-16x17/4 | -24 |
| 3008 | . 5 | 400 | 7/8x $11 / 2 \times 3$ 3-16 | .2\% |
| 8084 | 1. | 400 | 5/5x1 11-16x3 3-16 | . 38 |
| 3085 | 2. | 400 | 1×2 9-16x ${ }^{3} 3-16$ | . 81 |
| 3088 | 1. | 400 | 9-16×17/3x47/0 | . 38 |
| 3097 | 2. | 400 | 7/8×1 15-16x+7/3 | . 65 |
| 3098 | . 1 | 600 | 8/8x11-16x1 13-16 | . 20 |
| 3098 | . 25 | 600 | \% $611 / 8 \times 31 / 4$ | . 22 |
| 3100 | . 5 | 600 | \% $\mathrm{m}^{1} 111-16 \times 31 / 4$ | .33 |
| \$101 | 1. | 600 | 15-16x $21 / \mathrm{x} \times 1 / 4$ | . 57 |
| 3102 | 2. | 600 |  | . 68 |
| 3108 | . 5 | 1000 | \% $817 / 5 \times 4 \%$ | . 50 |
| 3104 | 1. | 1000 | 11-16x21/0 $\times 4 \%$ | .70 |
| 8109 | 3. | 1000 | 21/6x21/3x43/3 | 1.21 |
| 3110 | . 1 | 1250 | 3/6x18,8x43\% | . 30 |
| 8116 | . 6 | 1250 | \% $/ 57 \% \times 43 \%$ | . 81 |
| \$118 | 1. | 1250 | 1\%x1\%x43/6 | 1.00 |

## Official Refrigeration Service Manual



Compared with servicing a radio set or wiring house for electricity, the servlctng of a refrigerator is absurdly simple, once you surdly simple, once
get the hang of it.
In this Refrigeration Manual every part is Manual every part dis careiully explained; diagrams are furnished of
every known machine; every known machine; the servicing end. The tools needed are illustrated and explained; there are trouble shooting charts, and other service data. OVER 1,000 DIAGRAMS; 352 pages; $9 \times$ in flexible; loose-leaf leatherette kinder and complete service data.

Regular List Price $\mathbf{\$ 5} . \mathrm{mm}^{\mathbf{n}}$
Our Price $\$ 4.00$

## Actratest <br> NON-INDUCTIVE

## Standard Condensers

A complete sertes of condensers to fill almost any by-pass requirement. very seiul and employed in afMery anpopopiar circuics. y rated and will continuy raved and will contiau ously operate at the D.C sed under proper cond used under proper conditions. non-inductively wound, iree dom from leakage and the
utmost durability.


Two New Type Actatest:

## Electrolytic Condensers

Multiple Section Inverted Metal Container Electrolytic Condensers


500 VOLTS PEAE
To simplufy service work these condensers are cquipped with $4-6^{\prime \prime}$
wire iesds. Two red poslitve leads and two posiftve leads and two beads. The negative leads or positive leads can be common or any can be common or any depending upon the circuit to be repaired. These electrolytic condensers have the same general characterístics as the Acratest Dry Farad Condensers.

| Cat. No. | Capaolty | Price |
| :---: | :---: | :---: |
| 71:3 | 4-4 Mfd. | \% .80 |
| 71.1 | 6-6 Mrd. | 1.05 |
| 71:8 | 8-8 Mrd. | 1.20 |
| 7150 | $4-6 \mathrm{Mfd}$. | .97 |
| 7107 | 4-8 Mid. | 1.08 |
| 7138 | 6-8 Mfd. | 1.10 |



Multiple Section Cardboard Container Electrolytic Condensers


500 VQlts PEAK
To simplify service work these condensers are equipped with $4-8^{\circ}$ wire leads. Two red positive leads and two black negetive wire leads. The negative leads or posttive leads can be common or any other combination made depending upos the circult to be repaired. These electro Iytic condensers have the same general characteristics ss the Acratest Dry Frarad Condensers

| Cat. No. | Capselty | Priee |
| :---: | :---: | :---: |
| 7159 | 4-4 Mid. | 6.78 |
| 7160 | 6-6 Mid. | . 90 |
| 7161 | 8-8 Mid. | 1.10 |
| 710 | $4-6 \mathrm{Mid}$. | .85 |
| 7163 | 4-8 Mid. | . 170 |
| 7164 | 6-8 Mfd. | 1.00 |

See Our Complete Filter Condenser Listing on Page 93



NON-INDUCTIVE
Base Saving Mounted Condensers


Ihese condensers are
used where the used where the base a premium The dealer and gervice man will find this high grade of condenser very practical both for general replacement and the
home set builder. Cat No Cep

| Cst. No. | Cep. | D.C.W.V. | O |
| :---: | :---: | :---: | :---: |
| nend | . 1 | 200 | - 18 |
| \%982 | . 25 | 200 | . 89 |
| 2963 | . 8 | 200 | . 27 |
| 786\% | 1. | 200 | - 0 |
| 2874 | . 1 | 300 | 0 |
| 2875 | 28 | 300 | 040 |
| 5876 | . 8 | 300 | $\pm$ |
| 2877 | . 1 | 400 400 | -20 |
| 2878 | . 28 | 400 | . ${ }^{0.5}$ |
| 2878 | . 6 |  |  |

NON-INDUCIIVE UNIVERSAL BY-PASS Condensers


Thls type was designed to permit larce apacitles and high voltages. The metal capacines and all specially hot tinned and the cans wax sealed.
Cat. No. Csp. D.C.W.V. Oes Prloe

| t. No. | Csp. | . 0 | - 90 |
| :---: | :---: | :---: | :---: |
| 2783 | .1-. 1 | 200 | \$0.30 |
| 2771 | 6 | 200 | . 27 |
| 20181 | .5-. 8 | 200 | . 22 |
| 2080 | 1. | 200 | . 81 |
| 9\%\% | 2. | 200 | -8.7 |
| 278. | . 1 -. 1 | 300 | .35 |
| -774 | . 5 | 300 | .30 |
| -4,9\% | .1-.5-. 1 | 300 | . 411 |
| 9 9-9\% | 1. | 300 | . 45 |
| 2785 | . 1 -. 1 | 400 | . ${ }^{1}$ |
| องสด | . 35 | 400 | - 2 |
| 2ร\%7 | , 5 | 400 | . 30 |

## Pigtail Condenser Replacement Kit

JUST THE ASSORTMENT
FOR THE SERVICEMAN


Contains an sssortment of sizes commonly used in all sets. Very handy for the service man.

Contalns 12 Assorted Condensers as follows:

| . Mrd. | 200 Volts. |
| :---: | :---: |
| . Med. | 200 Volts. |
| . 8 Mid. | 300 Volts. |
| 1. Mfd. | 300 Volts. |
| . 25 Mfd . | 400 Volts. |
| 6 Mfd . | 400 Volts. |
| Mid. | 200 Volte. |

Cat. No. 8652

## $\$ 3.25$ per kit

## Tubular Condensers



These condensers ure made of the highest grade of electrical fibre tubing and those listed sre most commonly used. Units are completely dipped before sealing, thus making the nctual unit itself molsture prooi and the entire unit is hermetically cealed. Very useful in general replacement work and employed in most every circuit.
Cat. No. Cap. D.C.W.V. Our l'rice

| 2801 | .25 | 200 | .19 |
| :--- | :--- | :--- | :--- |
| 38041 | .5 | 200 | .25 |
| 2808 | .01 | 300 | .16 |
| 2811 | .05 | 300 | .16 |
| 2813 | .1 | 300 | .18 |
| 2814 | .2 | 300 | .01 |

## PIGTAIL

Cartridge Condensers


This condenser is by far the most useul of any condenser on the maricet and a real sid to the service man for maxing repairs. It is a small, compact unit. hermetically sealed and completely insulated. Purnished with tinned pigtail leads which permit iree soldering to all parts of the circult and very handy for general re placement work. Order a complete range now for your service department.

| Cet. No. | Cap. | D.C.W.V. | Our Price |
| :---: | :---: | :---: | :---: |
| 5637 | . 1 | 200 | \$0.10 |
| 2835 | . 25 | 200 | . 16 |
| 2836 | . 5 | 260 | . 10 |
| 2816 | . 01 | 300 | .13 |
| 2817 | . 02 | \$00 | .12 |
| 2818 | . 025 | 300 | . 12 |
| 2819 | . 03 | 300 | . 12 |
| 2820 | . 04 | 300 | .12 |
| 485 | . 05 | 300 | .13 |
| 2833 | . 075 | 300 | .19 |
| 2854 | . 1 | 300 | .13 |
| 5088 | . 15 | 300 | .1" |
| 5639 | . 2 | 300 | .18 |
| 2837 | . 25 | 300 | . $\%$ |
| 2888 | . 5 | 300 | . $2 \times$ |
| 5060 | . 01 | 439 | . 13 |
| 5611 | . 02 | 400 | .13 |
| 56t? | .025 | 400 | . 14 |
| 5643 | . 03 | 40.7 | . 1.1 |
| -6.4. | . 04 | 400 | .11 |
| 5645 | .05 | 400 | . 16 |
| 5646 | . 1 | 400 | .16 |
| 5047 | .15 | 400 | . 18 |
| 5818 | 2 | 409 400 | . 23 |
| 5640 5650 | . 25 | 800 | . 12 |
| 6651 | . 006 | 600 | 12 |
| 5672 | . 01 | 600 | .15 |
| 6653 | . 02 | 600 | .18 |

## Tubular Condenser Kit

An assortinent of tine small tubular fibre condensers ready for anj ©epair job. the modern serthe moder
Cat. INo. 3531

## Assorted <br> Condensers <br> as follows:

2-. 25 Mfd
2-. 5 Mfd.
1-. 01 Mfd.
$1-.05 \mathrm{Mfd}$.
3- 1 Mid.
3-- 2 Mfd .
:00 volts.
200 Volt.. 300 Volts. 300 Volt: :00 Volts: 300 Volts.


## Mlicomold Fixed Condensers

## MICAMOLD

## Trimmer Condensers



A sturdy, accurate aeutraliting, Dalancthe or irinumer condenser, for use in belsincing multigie tuned circuits, or equalizing separete condensers gauged for single control. Bakelite base, mica dielectric, hesvy phosphor bronze spring plates with fne screw adjustment. The plates are tinned to permit casy koldering.

## For T. R. F. Circuits

Cat. No. Capacity From


For Superheterodyne Circuits
 $\begin{array}{ll}2884 & 100 \text { to } 150 \mathrm{Mmid} . . . \\ \mathbf{2 8 8 5} & 150 \text { to } 200 \mathrm{Mmid} . .\end{array}$ $\begin{array}{ll}2886 & 200 \text { to } 250 \mathrm{Mmid} . . . . . . . \\ 250 \text { to } 200 \mathrm{Mmfd} . . . . .\end{array}$

## Precision Mica

Condenser Standards

## $1 \%$ Tolerance

Acratest. if
a ccordanca
with many
requests, is
how fulfiling
long wanted
ueed for the
radio labors.

set buildcr
and experimenter. We are IIsting and stocking a compleie line of mics condenser Standards which can be used in critica! circuits in tuned radio frequencles and superheterodyne circults, and can also be lised as standsrds for checking capscity bridges and microlarad meters.
These condensers are built of a selected graje of clear Indla nica, tested to be irce of ali forclan matter and subfected to severn voltage tests and molded in genuIne bakelite under laboratory supervision. They are not afrected by moisture or temperature conditions. These condens. ers are ell adjusted to a normal tolerance of $1 \%$ of their rated capscity with extremely higis insulation resistance sind lopower factor. Accuracy is maintained under the most trying conditions.

| Cst.No. | Copacity | Our Price |
| :---: | :---: | :---: |
| 5708 | .00005 | .28 |
| 5708 | 0001 | .94 |
| 5710 | .00015 | .84 |
| 5711 | .00025 | .24 |
| 5718 | .0005 | .34 |
| 5718 | .001 | .32 |
| 5714 | .0015 | .34 |
| 5715 | .002 | .38 |

## R.C.A. Buffer Condenser

002 on Ebech SId
of Common Negellve

Cat. No. 2910

$\$ 1.25$ Dozen

## MICAMOLD

Molded Mica Pigtail Condenser


Size $1 / 4 \times 3$
Particuiarly adepted for quick replacement. Wires can readily be bent place. angle and the condenser ftself can be mounted in the smsllest possible spsce.

| Cat. No. | Csp. Mfd. | Our Prioe |
| :---: | :---: | :---: |
| 66\% | . 00005 | * .10 |
| 6650 | .0001 | . 110 |
| 6631 | . 00025 | .10 |
| 603: | . 00025 | .10 |
| 6638 | . 0003 | .10 |
| 6634 | . 00035 | .10 |
| 6635 | . 0005 | .10 |
| 0636 | . 00075 | . 12 |
| 6637 | . 001 | . 14 |
| 0688 | . 0015 | . 14 |
| 0639 | . 002 | 115 |
| 6640 | . 0025 | . 18 |
| 6641 | . 003 | -20 |
| 6842 | . 0035 | -34 |
| 6843 | 004 | .46 |

MICAMOLD Bakelite Condenser Kit

Cat. No. 3529
Tspe J
A very useful mica condenser kit of the commoniy used capacities in every circult.

Contains 35 Condensers Assorted Capacities

## $\$ 2.95$ per leit

## Utility 8 Mfd.

## Electrolytic Condenser

Working Voltege 450
Primarily designed for replacing obsolete types electroistic condensers, this condenser can be very easily mounted by drllling two small holes in chassis, through which the screws fit and are tightened with nuts.
$4 \%^{\prime \prime}$ hgh, $14 /^{\prime \prime}$ dta.
Two wire leṣia for easy onnnections.
Cat. No. 6930
59c ea.

## Micamold Molded Bakelite Mica Condensers



Type 3
Made by the world'd largeat manufacturers of mica condensers under ordsinal process developed by them. These condensers re molded of genuine beke ite uludar ertromels hioh hydraulla prea ure which seals the contenser and frem re. itons molsture or and lione dielectrc ndis ruby mice in combinstion with tincoll plates.

Type A has Insulated mounting holes to allow for screw or eyelet ascambly direct to a metal baso.
Type $J$ is a small compact unit for general replacement work and set bullders.

|  | -Type J- |  | -Type A- |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Cet. | Our |  | Our |
| Capacity |  | Price | No. | Price |
| . 00003. | 528 | . 10 |  |  |
| . 00005 | 3122 | . 10 | 818 | .11 |
| . 0001 | \$123 | . 09 | 3135 | .10 |
| . 00015. | 3124 | . 09 | 3188 | .10 |
| . 00023 | 3125 | . 0.0 | 3137 | . 10 |
| . 0002 . | 5455 | . 10 |  |  |
| . 00035 | \$120 | . 09 | 8188 | .10 |
| . 0005. | 3127 | . 09 | 8189 | .10 |
| . 00075 | 8128 | . 10 | 8140 | .12 |
| . 001. | 8120 | . 12 | 8141 | .14 |
| . 0015 | 3130 | . 12 | 3142 | .14 |
| . 002. | 3131 | . 14 | 3148 | .15 |
| . 0025 | 3132 | . 14 | 3144 | . 15 |
| . 003. | 313.3 | . 15 | 8145 | . 18 |
| . 0035. | 5128 | . 15 |  |  |
| . 004 | 5429 | . 18 | 8148 | . 21 |
| . 005 |  |  | 3147 | .28 |
| . 006 |  |  | 3148 | . 21 |

## MICAMOLD

Bakelite Condenser Kit


Type A
Contains a complete assortment of the commonly used condensers used with insulated mountligg holes for screw mounting direct to metal
chassis.

Contains 35 Condensers Assorted Capacities

Cạt. No. 3530
$\$ 3.50$ per kit

# FIELHHEM SUPERIOR CONDENSERS 

## Non-Inductive Compact

 Type Filter CondensersType GF, Rated at 400 V: D.C.
(220 rms, A.C.)
filter condensof of the manuecturer's type, a price. Bolder-lug
terminale mazo ondensers a trifine connections to theso ends. Ereallentiy inmatter of sulator and bult in circuits demanding full loed duty.

|  |  |  |  | Yot |
| :---: | :---: | :---: | :---: | :---: |
| No | Type | Cepacity | -180, |  |
| 527 | GF10 | . 10 Mrd . | $3 / 813 / 1$ | \$0.27 |
| 5278 | GF 25 | 25 Mrd. | 941041 |  |
| 6874 | $\mathrm{GP}^{50}$ | .50 Mrd . | \% $\times \times 2 \times 1$ | 18 |
| 5875 | GF 100 | 1 Mra. | $110 \times 2$ |  |
| 5270 | GF 200 | 2 Mrd . | 1/9x2 |  |
| 37\% | GFP 400 | 1 Mrd. | $113 / 16 \times 2 \times 1 \%$ |  |

## Non-Inductive Compact By-Pass Condensers

Type GB, Rated at 200 V. D.C. ( 120 rms. A.C.)
Now, a brand new type of by-pass condenser of the marer's type, at a
 Very atractive shell construction, small and nest, they shell construction, nth degree. Providing unlmpeded radio irequency psths and unimpeded direct current obstacles, type ons iealid be in your specificstions.
For continmors operating voltages up to 200 volts D.C. (120 rms. A.C.) OurCat. Capacity 8ise.fs. Price
 $\begin{array}{lllll}5266 & \text { GB } 10 & .10 \mathrm{Mrd} & 2 / 4 \times 1 / 4 \times 1 & .21 \\ k 267 & \text { GB } 25 & .25 \mathrm{Mfd} & 2 / 4 \times 114 \times 1 & .24\end{array}$
 5270 GB 100 200 Mid. $11 / 2 \times 2$ x $1 \%$ (GB 400 \& Mid. $113 / 16 \times 2 \times 1 \%$. 96

## Non-Inductive Uncased Filter Condensers

For Continuous Operating Voltage up to 600 V. D.C. ( 400 rms RAC)

| Without doubt the neat- |  |  |
| :---: | :---: | :---: |
| est uneased condenser |  |  |
|  |  |  |
| electrically perfect. The |  |  |
| condenser win | nfing is fm- |  |
| pregated in a n |  |  |
| hygroscoplc |  |  |
| ped in s waxed paper Kanturne \}ampery |  |  |
|  |  |  |
|  |  |  |
| the condenser absolutely |  |  |
| moisture-proof. If you nave been looking for a |  |  |
|  |  |  |
| capendable unca |  |  |
| condenser to employ in aly type NU as |  |  |
| work. We f | ully recommend typo ith |  |
| the fnest obteinable. Equipped with rub- |  |  |
| out, it is a real 'ob that you will always |  |  |
| use in preference to others. one Net |  |  |
| T |  |  |
| No. Type | Cap'ety $10 \mathrm{Mrd} .2 \times 1148 \mathrm{l}$ | $50.21$ |
| 5278 NU 10 | . 10 Mfd . $2 \times 11618 x$ | 0.21 |
| 3079 NU 25 | . 25 Mrd. $2 \times 13$ Mf. $2 \times 13$ | 20 |
| \%2\%1 NU 100 | 1 Mfd. $2 \times 13 / 4 \mathrm{x}$ | 48 |
| K2\%2 NU300 | $2 \mathrm{Mid} .3 \times 13 / 4 \times 1 /$ | 5 |
| 5288 NU | 4 Mid. $2 \times 1$ 13/16x |  |

## Non-Inductive 1000

 Volt High Voltage UnitsType HSM Rated at 1900 V. D.C.
(660 rms. BAC)
Modern. scientific methods of production have substantially roduced manufacturing costs and have at the same time improved the quality Of the hnished product. Type HBM rep esention the highest per the re lection in the ert of making high voltage cliter condenser of Exc
entorlant for
 Pay has been ovolved
to it into the smallest space and to provide completo dependablity la all worts of circults.

## Or

Ons
Cak Per Price
No. TYP6 Cspaeity 8 880 $16 \times 11 / 10$ Frice 5259 HBM5 .03M1d. $2 \times 13 / 16 \times 11 / 16$
6250 HSM10 . 10 M 1 d . $2 \times 13 / 16 \times 11 / 16$
K261 H8M25 .20MPd. $2 \times 13 / 16 \times 11 / 16$
${ }_{5263}^{5282}$ H8M50 1800 MMd . $2 \times 13 / 316 \times 1 / 16$



6681 H8M 01 4MId. $2 \times 2 \% \times 3 \%$

## Non- Inductive <br> Midget Condensers <br> Beautifully made of

 highest electrical efceacy and handy to use, Plechtheim Midget Condensers are the choice of thousands of radio llable :or sil kinds of work- rild, plate-blocking by-pass series anhe, by-pass, series coupIne, compensating, neu. rgiting and other funcring with other rume voltage of 500 volts D.C. these ititie untts can beused wherever a power-factor high test condenser ts needed. Infinitely small radio frequency losses and direct current leakage.
Cst. No.


| Typo | Capreity | Our Price |
| :---: | :---: | :---: |
|  | . 0001 | \$0.20 |
| M-B | . 0002 | . 20 |
| M-C | . 50029 | - 2 |
| M-D | . 0009 | . 20 |
| M-E | .091. | .2\% |
| M-P | 002 | .2 |
| M-G | . 004 | . ${ }^{\text {n }}$ |
| M-H | . 005 | .28 |
| M-J | . 006 | . 28 |
| M-E | . 01 | . 28 |
| M-L | . 02 | . 30 |
| M-M | . 05 | . 38 |

## Non-Inductive High Tension Transmitting Condensers

Becarise of their mall kize and light welght they are excellent for use in
portable outate, arcrait transmitera stc. Absolutevolt transmitting volt transmiting market and very attractively priced. Equipped with the neat stand-of in suisiors, is enclosed in on a $11-$ metal
 container which
protects or damage. Amateurs who are Just heat or damage. Amateurs who are just beginning with their irs well to these dependable units. (ContInued in next column)

FLECHTHEIM Superior Transmitting Condensers
Type TH: For Continuous Operatinp
Voltage up to 2000 Volts D.C.

## ( 1600 rms. RAC)

Porcalain insulators do not maki There are advertised many nondescript brands of condensers "equip ped with porcelain insulators. It does not psy to buy inferior ones - erse goraíed claims ere made for them and a dublous replacement pollcy tops ment polms. It, is best to get a con-
 denser gell known denser well known construction and reifsble manufacture. You can't go wroug in getting Flechtheim's.
Cath List Our


 broadcasting and amateur stations and is - ithout doubt the best 2000-volt transmitting condenser procurable. Now, in its new form containing the speclal cyl indrical windings as employed in the highor voltage types of condensers, it is better in every respect. Heavlly bushed porcelain Insulators provide an ample factor of insulation safety preventing short. crrcuit to grounded case.
Type T: Continuous Operating Volt. age up to 1500 Volts D.C. ( 1000 rms. RAC;
Imitation is the
incerest, form of
well fnown expression is stated here for resson that many manufacturers have time and and aysin tried to copy our transinitting condensers. However In the field of rancmitting con densers Flecht-
helm has beell the true ploneer.
 We have nowaledge able knowledge in the scientific manu. which we nure sondensers. No one car sacture of ous ,ondesily dependsble conpossibly make a realy, it is meeddenser better or hiore cheaple questionable less to pay more, yet moreaper condens. to pay less. There are sheaper cet exactl ers on the market, but yourobaly even what you pay ror, more probably con. less. When yon rest ssured of hones denser, you can rest assursd or value.

Prist Price No. Type Capacity Slze, In. Price Price No. TYpe 100 MPd . $51 / 4 \times 43 / 4 \times 1 \quad \$ 3.75 \quad \$ 2.9$ $6382 \mathrm{~T} 200 \mathrm{2}^{\mathrm{Mg}}$. For the more advanced amateurs, Type For the more thousands of them, is still the best bet for use with the 50 wattel with 1000 volts of rectified A.C. on the plate. Also improved in its construction, this type condenser is now better than ever.
(Continued from preceding column)
Cat.
Type Cap'ty Slze, in. Price Price
 6898 TC $2003 \mathrm{Mfd} .41 / 2 \times 31 / 2 \times 13418.00 \quad 2.75$ 6327 TC $4004 \mathrm{Mdd} .41 / 2 \times 2 \% / 2 \times 2 \% / 4.00$. 5.00 Here ds brand-new type of condenser for low power bransutter insulsted and is now more compact.
Type TC: For Continuous Operating
Voltages up to 1000 Volts D.C.
(750 rms. RAC)

Replacement 3 Section By－Pass Condenser for Atwater－Kent


For Model ${ }^{\text {Th }}$
Cat．No． 2984
80c ea．


Colonial Replacement
By－Pass Condenser Block
Used in Colonial 32
Celonial Part No．1798A
Yellow－ $1 / 4 \mathrm{Mfd} .250 \mathrm{~V}$ ． Green－1／10 Mfd． 200 V Brown－ 14 Mifd． 200 V ． Red－ $1 / 10 \mathrm{Mfd} .200 \mathrm{~V}$ ． Can is negative． Cat．No． 3211 65 c

The fading in Coloninl sets is caused by a leaky by－pass condenser．This con－ denser in an improved model of the original one． 3 in．base， $21,4 \mathrm{in}$ ．high， 2 in ．wide．

Triple By－Pass Condenser


3－1／10 Mfd． Sections

In metal can with mounting serew．Very useful for bypassing userul for bypassing boul blas and high voit courier Made for Peerles

11／4ェ11／4x 4 in
Cat．No． 2904 39e ea．
Victor By－Pass Condensers
$1 / 10 \mathrm{Mfd}$ ．
Used In all 1929 Victor Seta
$21 / 4 \times 11 / 4 \times 1 / 2 \mathrm{in}$ ．


Cat．No． 5726
15c ea．；$\$ 1.60$ doz．

## CROSLEY Replaecment By－Pass Condensers



| Cat．No． | Part No． | Price |
| :---: | :---: | :---: |
| 2780 | W6471 | \＄0．21 |
| 5219 | W7044 | 30 |
| 2980 | W40t30 | 30 |
| 5209 | W8at48 | .40 |
| 5210 | W92412 | .10 |
| 5811 | W30446 | ． 55 |
| 5612 | W\％7598 | ． 55 |
| 5402 | W5943 | 25 |
| 5403 | W6428 | ． 45 |
| 5404 | W20187 | ． 22 |
| 5213 | W20186 | ． 65 |
| 5398 | W25426 | ． 38 |
| 5399 | W4919 | ． 30 |
| 5407 | W22995 | ． 30 |
| 5408 | W7753 | ． 42 |
| 5409 | W4988 | ． 26 |
| 5411 | W4313A | ． 27 |
| 5418 | W23736 | ． 70 |
| 5427 | W20448 | 13 |

Eveready and Bosch REPLACEMLNT BY．pASS CONDENSER


Cat．No． 2983

## Our Price 65c ea．

## Zenith Quadruple ． 2 Mfd．By－Pass Condenser <br> 

－Fading is one of the characteristics of the above sets．You can stop this nuis－ ance by replacing the aid typa Jeaky con－ denser with this cold－dipped Acratest by－ pass condenser．
Cat．No． 6478 －85e ea．

## Sparton By－Pass Condensers

Tred in all sparton sets． Cate No．Sino
5888 HMPd．


## Our Price 35c ea．

Potter By－Pass
5 mfd．Compacr


000 volt Tras
Cat．No． 2759
30c ea．
Potter Midget By－Pass

## Condensers

Working Voltage 200


RCA．Victor Uncased
Condensers（600 V． D．C．Working Voltage）


Tils senuine R．C．A．－Victor unossed condenser is composed of the highest grade materlals．They are compact and moisture proof，impregnated $\ln$ special heat resists ing compound．
Cat．No．Size
Esoh
29281 Mfd．．．．．．．．．．35c．$\$ 3.60$ doe
$29292 \mathrm{Mfd} . . . . .$.

2930 4 Mfd．．．．．．．． 850 9．00 dog．
Reinforced Spring
Wafer Sockets
Bronze Prongs Phosphor
Non－Shorting 4 Prong
280，281，171A， 245，201A
Cat．No． 4064


Our Price 5e ea．

## Acratest

Atwater Kent Replacement Condenser Block


FOR MODEL 37 SETS

Cat. No. 5001

## $\$ 2.20$

 eachAtso furnished for 25 cycles for same prlee. This fllter assembly for Atwater Kent ts is not to be confused or compared with simuar but inferior imitations being oriered for less money. Our block is manufactured in our own plant out of the finest ingredients and under the supervision of Acratest engineers. Only brand new condensers are used and not old leaky sections which are often used in imilations. Every condenser is thoroughly oil cured and impregnated with war and pitch for protection against molsture. The working volkage of our condensers ere far in excess of the original manufacturer's speciacations. Two full size chokes are used and the entire assembly is housed in attractive new can of exact physical dimensions. The color scheme of the wire leads are exactly as ro original, making it very easy to replace the old block with the Acratest. Compare the Acratest block with others and you will see why it pays to get the best even if it costs a lititle more. Once an Acratest block is instatled in a set it will outjast the set.

Hook-up for AK-37 Block
Green wire to 280 socket. Black wire to R P plate. Yellow wire to Power tubo plate. White wire to first audio by-pass. White wire to C. T. of 226 resistance. Red wire to detector plate. Wire from can to groand.
Genuine Atwater Kent Filter Condensers

For AK36 and AK 'B' Unit.

Cat. No.
7052
50c


Condenser and Chuke for Model 36 and $B$ Unlt.

Cat. No. 7053
50c

\section*{Acratest: <br> Replacement Condenser Blocks <br>  Cat. No. <br> | 5026 | 70 Series |
| :--- | :--- |
| 5027 | 80 Series |
| 5028 | 90 Series |
| 6678 | $90 B$ \& 100 B |
| 5029 | Majestic $\mathbf{B}$ |
| 5030 | Majestic $\mathbf{B}$ |}

## Dur Price \$2.85 ea.

This Alter assembly for Majestic Sets is not to be confused or compared with similar but inferior imitations being offered for less money. Our block is manufactured in our own plant out of the finest ingredients and under the supervision of Acratest engineers. Only brand new condensers are used and not old leaky sections which are often used in imitation. Every condenser is thoroughly oil cured and impregnated with wax and pitcn for protection against moisture. The working voltage of our condensers are far in excess of the original manufacturer's specifications. The entire assembly is housed in attractive new can of exact physical dimensions. Compare the Acraest block with others and you will see why it pays to get the best even if it costs a little more. Once an Acratest block is installed in a set it will outlest the set.

## RCA Filter Block and Output Choke Assembly

## For Radiolas

 18, 33 and 51Cat. No. 2710

## Special

39c ea.

B.C.A. Part 8338 Contains 2-1 mid. filter condensers, - $1 / 2$ mid. output condenser and a choke coil.
There are over hall a million of these varlous types of Radiola receivers on the market and every dealer should be prepared for service calls on them by having pared ment condensers in stock.

Fada 1 Mfd. Condenser

400 volts, D.C.
2 in. x ${ }^{2 / 4} \mathrm{In} . \times 5 \mathrm{mu}$ high Cat. No. 2973
35e ea.

GENUINE BRAND NEW Victor Replacement Condenser Block

For Replacement in All Victor Sets

Total capacity 16 Mfds. 600 working voltage.

8ize: 53/4 In. long
5 in high and 4 in
wide.
Housed in metal can.

Cat. No. 2709


## Our Price 95e

## Radiola Filter <br> Condenser Blocks

Oriainal Condenser
Blocks made expressly 10 or these sets.

| Cat. | Westinghousc |  |  | Our |
| :---: | :---: | :---: | :---: | :---: |
| No. | Part No. | No. | Sef Ns. | Price |
| 2714 | 8289 | WG4 | 17 | \$ $\$ .15$ |
| 2710 | 8333 | WG12 | 18, 33, 51 | . 39 |
| 2715 | 8476 | WG60 | 44, 46, 47 | 8. 80 |
| 2720 | 8346 | WG10 | 60 | ¢.75 |
| 2005 | 8487 | WG37 | 68 | 1.60 |
| 6548 | 8368 |  | 61 | 5.98 |
| 6498 | 8382 |  | 62 | $\stackrel{7}{7}$ |
| 7260 |  |  | 67 | 3.70 |

## NON-INDUCTIVE

## UNIVERSAL BY-PASS

 Condensers (Midget Type)A small compact
unit developed for space economy without sacrife!nf any quality. Ideal for all bypassing requirements in R.F. and A.F. circuits whero single
 capactiles are re-
quired at various points and atso avanlble in combinations of capacities.
Cat. No. Cap. D.C.W.V. Dur Price

| 2779 | .25 | 200 | $\$ 0.18$ |
| :--- | :--- | :--- | ---: |
| 2781 | .5 | 200 | .05 |
| 2780 | .1 | 200 | .21 |
| 2788 | .25 | 300 | . .22 |

Every conderser block list. ed on this page is brand new in original factory packing and fully guaranteed.

Polymet 2 Mfd. Auto Condenser


With base mount ing brackets. Just the thing for using across the car generator on auto radio installations.

Cat. No. 5605
$65 e$


Dubilier 4 Mfd. Condenser

PL610 $2 \times 14 / \times 5 \frac{1}{3}$ in.

Cat. No. 5603
95e


Dubilier
.6-C. 6 Buffer Condenser Excellnht for Mike Amplifer Filter PL699 35 Be er.

Faradon 4 Mfd. 600 V. Condenser

## $316 \times 23 / 2 \times 5$ in. Suitable for AC Line Filters.

Cat. No. 5604 $\$ 1.75$ 600 V. Filter Condenser With Leads and Mounting Bracket. Dimensions: By/4 $\times 2 / 4 \times 11 / 2$ in. Cal. No. 6045

## 49e ea.



Dubilier 1 Mfd. 400 V. Condenser
 PL1395
1 MId. 400 D.C.W.V With Mourting Bracketa $2 \times 3 \times 5$ in.

General Electric 4 MFD. High Voltage Filter Condensers
D.C. Working Voltage, 800 V.


These General Elec. tric Pilter Condensers are tested from 3 to 5 times their rated value, thus assuring a sturdy, scientifically designed product, iar excelling the average Filter Condensers now being used. Encased $n$ a sturdy metal con. tainer with 8 inch flaxible insulated wire leads. Equipped with handy mounting brackets. Dimensions: $5 \times 23 / 4 \times 1$ in.
Cat. No. 6044
69c
Dubilier 4 Mfd.
Filter Condenser Blocks PL571
600 volts working test for replace. ment in sll eliminators and electric sets.

Cat. No. 2924
$\$ 1.50$


These condensers are guaranteed to easily withstand their rated working volts -and we will replace free of charge any condenser that breaks down within one year.

## Sprague Electrolytic 8 Mfd. Condenser

A tremendous advancement in fllter condenser construction. With round edged anode made of a single piece of aluminum without welding or soldering. Offers high capacity in compact space. Absolutely puncture proof self heallig. Screw socket facilitates installation in every type of set. Rated 8
mid. 480 volt: D.0. Cat. No. 6809
List Price \$2.50


## Our Price 49e ea.

Complete Filter Condenser Guide on Page 93

## Stromberg Carlson 7 MFD Filter Condenser

For RCA 104 Power Speaker 600 Volt Test

|  |  |
| :---: | :---: |
|  | Used, in Victor Electrola |
|  | Hyperion Model, Victor |
|  |  |
|  | Pack, RCA 81951 Papck. |
| RR | $43 / 8 \times 5 \times 11 / 2 \mathrm{in}$. |
| biedis | Cat. No. 3721 |
|  |  |
|  | 30 e |

8.9 Mfds. 1000 V. in same can.

Cat. No. 3730
$\$ 1.50$

3 312 Mfds. 600 V. unmounted Cat. No. 3731

75e

2 Mfds. 300 V . In can.
Cat. No. 5748
75
RCA 20 MFD. Filter Condenser Block


Excellent for A.C. line fliters and speaker' תlters, also on transmitters, $s 7 / 8$ in. long, 23 in. wide, $51 / 4 \mathrm{in}$. tall.

Part No. DL259384s

Cat. No. 5445
85 c

## $1 / 2$ Mfd.—1,000 Volts



30c ea.


Dubilier
6.1 Mfd.

Condenser
Block
RLIES
Caif Na, 3606
Duŕ Price $\$ 1.85$

## Headquarters For Gemaine <br> <br> inkejestic <br> <br> inkejestic <br> Replacement Parts

## Our Prices as Low as 80\% Dff Regular List



Cat. No. 5458


Cat. No. 5459


| Cat. | Items |
| :--- | :---: |
| NO. | Filament Trans. |

18
18
5460 Plate Trang. 18
54ft Filament Trans.
5488 Plate Transformer
5461 Fil. \& Plate Trans.
5462 Double Choke
5872 Fu. \& Plate Trans.
5465 Filter Choke,
100 Mils
5459 Double Filter Oholes, 250 Mils

| For <br> Models | Part <br> No. | List <br> Price | Our <br> Price |
| :--- | ---: | ---: | ---: |
| 180 | 619 | $\$ 8.00$ | $\$ 1.50$ |
| 180 | 820 | 8.00 | 1.50 |
| 70 Series | 61 | 8.00 | 2.50 |
| 70 Serles | 67 | 8.00 | 1.50 |
| 90 Series | 438 | 10.00 | 2.85 |
|  | 180 | 5.00 | 1.50 |
| 908,1008 |  | 13.00 | $\$ .25$ |
| 70 Serias | 68 | $\$ .00$ | 1.50 |
| 90 Series | 281 | 5.00 | 1.50 |



Cat. Na. 3469


Cat. Ne. 5461

## Majestic Resistors



Cat. No. 5466
Cat. No. Size Part No.

| $: 6659$ | 1000 ohms |  |
| :--- | :--- | :--- |
| 5467 | 2170 ohms | 102 |
| 5468 | 3600 ohms | 399 |

Dynamic Speaker Cable Part No. 119
Crt. No. 4398
25e

## 8 Wire Cable

(Chassis to Pack)
Pack No. 209, Model 90
Cai. No. 4396
60c
Majestic "A" Replacement Condenser

For Majestic "A"
Cat. No, 5031

## $\$ 2.25$ each 2000 mid.

Exact repliteat of the orty inals and miode of tho highest grade materials. ruly glaranteed.

## Majestic By-Pass

 Condenser Blocks

| Cat. No. | Type | Models |  | Part No. |
| :---: | :---: | :---: | :---: | :---: |
| 4953 | Input | 70, 71, 72. |  |  |
| 5470 | Output | 70. 31,82, | 180 | 64 |
| 5403 | Output | 80 |  | 134 |
| 0850 | Straight | Audilo 70, | $71.72$ |  |
| 8813 | Input | 90 |  | 1551 |
| 6814 | Phonp | 6. |  | 1713 |

## Dur Price $\$ 1.50$ ea.

Yaxley $1 / 4$ Ohm Hum Bucker

Majeutlo Part No. 100
Caf. No. $\$ 469$
$25 c$

MAJESTIC I. F.
Superhet Transformer


Used in Majestic Supera and tunes to 175 K.C. Aluminum housing, with wide leads.

2y/4in. long, $13 / 4 \mathrm{in}$. wide, $21 / 4$ in. tall.

## 4 Gang Condenser



Cat. No. 4356
45c
A hich quality condenser with electrical and mochanical refinemopte that stang it as a leader.
The individual sections of this fne unit are soientincally matched, onreful shielding. Compensating condenserg in each section. Cepacity, 00035.

Also firniahed in 3-gang, zame cgpacity.
Cat. No. 4370
Our Price 65e

MALL ORDERS TO A马
SGe Terms on Page

# Miscellaneous 

CLASS B TRANSFORMERS Audios - Chokes Power Supply (Circuit Diagrams Free With Each Item)
Class $B$ Amplifers, a recent development, have already won the enthusiastic acceptance by servicemen, engineers and amateurs. Every radio enthusiast is anxious to build his own Class B Amplifier, tut they have been hampered in securing the special parts going into its makeup. Below we have assembled a complete line of audio transformers, power transformers, and chokes espectally. designed tor Class B operation. Particular care was taken in their design to insure best tone quality. The best silicon steel is used fer the cores and pure electrolytic copper wire for the colls.

## Class B Power



Cat. No. 7125 $\$ 2.85$

## Transformer

Supplies flament and plate for 10 tubes. Has 3-21/2 volt windings. Por the 82 Rectifer Electrostatically shielded.

## Class B Coupling



Transformer

For a Single 16 into2-46's Cat. No. 7127
$\$ 1.95$

For 2-227 or 56's into 2-46's Cat. No. 7144 \$1.85

For 2-245's into 2-48'
Cat. No. $7128 \$ 1.95$


## Class B

First Choke
Cat. No. 7126
$95 e$


Class B Second Choke

Cat. No. 7129
95e

Acratest Special Matching Transformers For Mixer Panels


Each of these cransiormers were ticular purpose, in connection with pubtic address and stu. dio use. With these iransformers as a basis, input and output mixing paris may be constructed may exceptionally low cost. Enxcellent frequency response and high efuciency were the primary considerations in their degign.
Cat. No.
. Desorlption
Price

7131 Microphone to 200 or 500 ohm line more of these may be used for two or more inicrophones on one line ...............
7132 Microphone to 80
ohm trantiormer. Pour of these trans. formers, with their seconderies in series for 4 mikes into 200 ohms. Diagram furnlshed ...................
$\$ 4.50$
2625 Plste of 232, 224 or 257 2ube to 200 or 500 ohms input transiormer.'Primary Impedance 250,000 ohms ....................
$\$ 2.75$
7133 Plate of 230, 227 or 56 Tube to 200 or 500 ohm input trans4000 and 500 ohm
$7134 \quad 4000$ and 500 ohm slx 18 ohm volce


$\$ 4.50$ $\$ 4.50$

The New U. S. Signal Corps "Speed Bug" Wireless Key


Cat. No. 246

## $\$ 10.50$

The BPEED-BUG was made for and approved by U. 8. Army Signal Corps and contains all the improvement over former sending machines.
enables sharper, clearer. smoother and aster operation.
Will establlsh reputation for gourself as a good sender. It is truly a Bug for the operator who insiste on having the best.
You can send signals as slow as elght words per minute or as fast as you desfe. Its ease of manipulation actually rests the arm and encourages good sending

## THE WINCHESTER <br> Electric Pick-Up



Remarkable new feafures and precision Workmenship which assure superiority for the new wnsCHMSTMR PICK-UP.
Beauty of Appearance: Highly polished bakelite throughout.
Twin Spring Compensation: An ingenious construction by which the pressure of the Plck-Up on the record is under minute control. The control provided permits adjustment from the full weimt of the Pick. Ip on from the full weigh welght contact.
Ball Bearing Tracking: The needle is able to follow the record grooves no matter how light the contact.
Rotating Head: Permits of easy and repid neede change and elimingtes loose joints liable to cause chatter.
Volume Control: Smooth and'silent in operation.
Construction: Ruggedly bullt to provide an enduring service. Minimum wear on vital parts, avoiding all risk of chatter.
Faithfulness of Reproduction: A matchless fidelity of tone with response from very low irequencles to extreme hith ire quencles, with total absence of needle scrateh.

Cat. No. 7138
$\$ 4.95$

## I. C. A.

## Code Practice Set



Cat. No. 7139
List Price $\$ 2.50$
$\$ 1.47$
Code Practice get at direcily under tubes of any radio recielyer supplied complet with Internationel Morge Code chert end with International Morse Code chart and wiring diagram. The deal thin

## Visual Tuning Meter <br> With Escutcheon Plate



Cat. No, 6762

## 88 e

Complete
A high resistance tope milliammeter used in the plate circuit for visual tun. ing. The circuit is brought to resonance when the needle swings to its furthegt whention. needle swings to its furtheat position. The transiuscent dial is illuminated through the rear window. Comes complete with
studs end nuts.

# made by <br> FROST Telephone Co. <br> Volume Controls <br> <br> A Control <br> <br> A Control for every for every need 

 need}

Frost Prodacts are Manufactured by the CHICAGO TELEPHONE COMPANY OVER $3,500,000$ FROST CONTROLS WERE MADE FOR SET MANUFACTURERS LAST YEAR WHY?

Fost Variable High Resistances set a high atandard of excellence both mechanically and electrically. The improved resistance element is the longest wearing and most constant on the market. Absolutely stable in operation and is not affected by humidity or temperature changes. Contact produces a perfectly smooth, or temperature changes. contact presistance. Units are noninductive.
nductive. wiping contaots are recognized in the clectrical field as being the most dependable and best type of movable contact for use
in electrical circult controls. This is true because such contacts afford uniformly low contict reasistance and this in rurn the con. result of the wiping action which automatically yeeps the con. tacting surfaces clean and highly poished. Tne canget depends knows that the suocess and long life of a wiping contant depencs upon obtaining a low frictional component, that in, one welt below the point where cutting or scoring takes place and that below highly desirable condition is largely determined by the character of the materials used in the respective member and the original condition of th

## FROST <br> ROCKER-CONTACT

No. 20 Series Wire Wound Volume Controls


No. 20 Series


No. 20 Serles with Bullt-in Switch

In this control, wiplag contact is made by a double runner contactor positioned so that esch of the contacting runners make line contact and not point contaet with the inside of the resistance strip which we are able to maice by far the mmoothest portion, as there are no lrregularities introduced such as are encountered when attempting to accurately shape, shave or grind the strip edges for the old style edge contact. These line contacts permit the use of a much higher contact pressure then has heretofore been possible and the maintenance of a lower and more uniform unit pressure which reduces the chances of scoring to a negligible destee and accordingly greatiy increases the life of the control. Completely enclosing the unit in a tightly covered metal hell prevents the entry of dust and foreign particles which might cause scoring should whey reach the raceway, and ot the same time this complete metalic enclosure prevents damage to the unit from rough handligg.

A further contribution to the exceptionglly long life and smooth running of thete units is the use of a neutral on on tinuous lubrication.

| Fithout Switch Cat. No. Ohms | Control With | $\begin{aligned} & \text { Switch } \\ & \text { Sat. No. } \end{aligned}$ |
| :---: | :---: | :---: |
| 6187300 | Variable-Mu Cathode | 6143 |
| 6138400 | Microphone Button |  |
| 6189 1,000 | Untuned Antenna | 6145 |
| 6140 2,000 | Untuned Antenna | 6146 |
| 614150000 | Antenna Shunt | 6147 |
| 6142 10,000 | Antenna and Cathode Blas | 6148 |
| 8598 8,000 |  | 68 |
| 6397 25,000 |  |  |
| S1\% |  |  |
| คา¢¢ | (1) | e |
| $50$ | 7 |  |
| Withou |  |  |
| Switch | Swit |  |

## FROST-RADIO

No. 70 Series Composition Element Volume Controls
Supplied with three terminals. May be used either as potentiometers or variable resistors.


No, 70 Beries Wlthout SWlich
Cet. No. Ohms


No. \%, Sories with Built-in Switeh

With Switeb 6180 1,000 Untuned Antenns 6165 6151 2,000 Cathode Bias 6166 $615 \%$ 3,000 R.F. Primary Shunt 6167 6168 5,000 Antenns Bhunt 6168 6154 10,000 Antenna or R.F. Primary Shunt 610
6156 25,000 Phonograph Pick-up
Screen Voltage 6176
0156 50,000 Bcraen Voltage 6171
6157 T5,000 Variable-Mu
Cathode Blas 6178
6158 100,000 R.F. Plate Voltage 6178
6169 250,000 Audio Transformer shunt

6174
6160300,000 Audio Transformer
Bhunt Tone
Control 6175

| Dur | Dur |
| :---: | :---: |
| Price | Price |
| 45e | 65e |
| Without | With |
| Swith | Switch |

## FROST 80 SERIES Volume Controls



Contmet resistance of these switches is not only low but uniform as well, which makes thls unit particularly adspted for use in automoblle sets.
You can ssisociate these controls di ectly with the GRID circult and still there will be no dick up from the power circuit.
Sviltch Cam 18 Cold. Shaft is insulated Positioning lugs for preventing rote tion of the control on the panel ar tion oi the ccordance with requiremen of the Underwriters' Laboratories.
Insulated thimble and shaft has been worked out so inat capacity between these members and "live" parts of the control is leas than 5 micromizes.
breakdown in excess of 2000 volts.
Like all our nighest grade controls, these No. 80 series units heve sumitient wiping contact to insure keeping dowr corrosion on the contacting member. Yes! the No. 80 is gulet in operation.


| Our | Our |
| :---: | :---: |
| Präce | Price |
| Foce |  |
| withouts suitch | with suitch |

without surich with suitch

[^0]
## FROST-RADIO

## No. 40 Series Composition Element Volume Controls



The No. 40 series have been in use by severa of the vargest set manuiacturers in the country for the past year and a half and in every case have given omplete satisiaction. prove high insulation shaft and live parts allows the use of this control in circuit positions where the potential to ground may

No, 40 Serie: supplied with 2 in. shaft and 3/4-in. thread. be seversl hundred volts. In addítion to these features the absence of inductance and any appreciable capacitance particularly adapts this conrol to use in radio frequezcy circuits where de-tuning cannot be tolerated.
A positive wiping action between the resiatance element and the disc, limited in degree and unitormily distributed ovier the entire are of rotation is obtained by fexing disc frmly secured and accurately positioned over frosted cone carry ing the resistance element
The narrow contacting surface and polishing action, together with the hard resistance olement, obtain unusually smooth resistance progressions and to maintain true curve forma regardless of whether near the high or low limits specined.

| Cat. No. | Ohms | Cat. No. | Ohms |
| :---: | :---: | :---: | :---: |
| 6180. | - 1,000 | 6185... | 25,000 |
| 6181. | \$300 | 6186. | 50,000 |
| 6182. | 3,000 | 6187 | 75,000 |
| 6183. | 5,000 | 6188. | 100,000 |
| 6184. | .10,000 | 6189. | 250,000 |
|  | 190. | 500,000 |  |

Our Price 50c ea. FROST

## 40 Series Dual Potentiometers



No. 40 Serie: Tandem

No. 10 Serie Tandemwith Switch Combination

Cat. No. Size and Description Price
$\$ 160 \quad 10.000$ ohm Antenna Taper$50,000 \mathrm{ohm}$ Screen Grid Taper with 1 in. shaft..... $\$ 1.25$ 5535 Same as above, with 2 in. in. 1.25 6210 10,000 ohm Antenna Taper1.000 ohm Var. Mu Bias, with 1 in. shaft on........... 1.25
6911 10,000 ohm Antenna Taper25,000 ohm Screen Grid
Taper, with 1 in. shaft.... 1.24
6112 10,000.ohm Antenna Taper25,000 uhm Ecreen Grid Taper, with switch and 1 in. shaft ..................... 1.45

## FROST-RADIO

## No. 1880 Series

 Composition Element Type(Bakelite Case and CoverShaft Not Insulated)


No. AC1880 Series
No. 1880 Serie:
Entire shell and back cover are of genuine bakelite which prevents capacitance and inductance. Avallable with mos critical resistance gradients and will carry a maximum amount of currenc. Is of the ime-tried and proven rocker arm-rolle contact assembly, utilling our latest lmproved resistance element.

This is the Frost Control With Interchangeable Shaft
These Frost controls have interchangeble shafts and the standard resistance can be used in sets similar to strombergCarlson and Zenith. Which were designed With a special shaft tion can bestaked rom the old control and be replaced in the new. We continue to gurantee resistance curves and nousings to be wh in commerclal standards of electrical and mechanical accuracy.

Without Swlich


## Panel Mounting Tone Control

Only $1 / 4 \mathrm{in}$. deep. Will Fit in any Set.

Allows six differ
ent tone adjust
ments. No nois
possible. Extra
smooth opera.
tion.


Regulates tone from a high treble to the deep bass. Modernize old sets. Bakelite casing and $3 / 4 \mathrm{in}$. shaft.

$$
\text { Cat. No. } 5251
$$

Dar Proice 85e ea.

## Genuine Zenith Volume

 Controls(MADE BY FROST)
These controls are greatly Improved unite and we cuarantee them to outperform their predecessors.



S904 Single Unit, with switch-52 $53,522,532,54,642,55,57$ 62, 67, 64, 60, 61. Used in early models of 602,613, 22, 642, C72 .................
0120 Singie Unit-33, 34, 35, 354. 342, 352, 352A, 362, 35APX 12, 12, 14, 15, 16, 17. 31, 32, 38s, 353A................. . 0
6129 Single Unit with switch-39, 39A, 40A, 392, 392A........ 1.2s

Table Tone Control


Cat. No. 4354
List Price, $\mathbf{\$ 2 . 3 5}$

## Dur Price $\$ 1.35$

handy disc connector
Panel Mounting Typé


Cat. No. 4357
List Price, $\$ 1.80$
Our Price $\$ 1.05$


Finclosed in a beautiful black and gold crystalline case, with wire and adapters. Can be installed in a jiffy.

Cat. No. 6961
95e

# CAROSTAT 

Ad-a-Switch Wire Wound Units and Switch Coverplates



The Clarostat Wire Wound Controls have been specially designed to fll the dealer's and serviceman's demand for reliable wire wound single controls which can be used elther with or without switchecessity of quired. They eliminati the necessity onzeeping on hand duplicate sets of controls, one set with switches and the other without them. By stocking these units, all that is necessary is to keep some awitchles3 units
The plain dust-guard coverplate supplied can be pried ofl and a Cat. No. 6750 plied cen be pried-uard coverplate can be switch type dust-guard convert the switchsaspped unit into a switch unit.

When used without the switoh. the only difference is that the fo:st 35 degrees fotation of the contruls lias no effect on volume due to the fact that that portion of the resistance plement has zero resistance to ellow for the operation of the switch is employed.
switch, whon the Cat.

Ohms Type and yusrested Use Epiee No26 $\quad 50$ Standard Pot., no taper. $\$ 0.47$ $301-100$ Standard Pot., no taper 4 i Siv2 200 Standard Pot., no taper, it 7028300 Standard Pot., no taper. $\begin{array}{llll}7029 & 400 & \text { standard Pot., no taper. } \\ 302 & 500 & \text { Stendard Pot, no raper. }\end{array}$ 7080 750 Standard Pot, no taper. .hi 37031000 Standard Pot., no taper. . 70311000 Tapared Pot. for un 70822000 standard Potentiometer, 20832000 Tapered Pot. for un7084 2000 Tapered Pot. for " C "
708 2000 Tapere Control
87043000 Standard Potentiometer,
70853000 Tapered rat. for combined Ant. apered Pt. for " C " blas
70se 3000 Tapered
s70\% 6000 standard Potentiometer,
$708 \% 6000$ Tapered Pot. for combined Ant. and "C" blas control for "C"
70385000 Tapered por.
70997500 Btindard Potentiometer.
70407500 rapered pot. for combined Ant. and "C" biss control for "C", Tapered Pot.
70417800 blas control 370610000 Standard Potentiometer, go49 10000 Tapered Pot. for Ant. or R F coll control 704810000 Tapered Pot. for com" bias control

40
70410000 Tapered Pot. for "C"
704510000 Tapered Pot. For Screen
970715000 standard Potentiometer,
F04 18000 Tapered Pot. for. combined Ant, and "C" bias control pered Pot. for screen 704718000 Tapered Pot. for 870 20000 Etandard Potentiometer, reta 20000 Tapered Pot, for "C" (Continued in next column)

# CLAROSTAT 

## Power Clarostat



Heavy duty variable re sistor for radio power unths, transmitters, or general electrical appications. A iavorite for line-voltage control. Disgipates Peat rapidy and encientig. auditorium amplifers.

| Cat. | Model | Resistance Range | Carrylas Capaclty |
| :---: | :---: | :---: | :---: |
|  | Fil. Control | 1/4-10 ohms | wh |
| \%120 | Low Range | 28-100 ohms | 80 w |
| 5906 | Unlversal 20 100,000 oh |  | 80 watte |

## Our Price $\$ 2.06$ ea.

Clarostat Phonograph Pick-Up Control

List Price
$\$ 2.00$
Cat. No. 2727

## $\$ 1.18$

Clarostat Graphthe Element Volume Control of the pocontiometer type for $n$ n $n d y$ connection between the phonograph pick-up unit and the radio reograph pick-uplifer.
supplied with two tip Jecks and cord th phone tlps. A inandsome bakelite case with knob io match.
May also be used for the control of the headphones and magnetic speakers.

| Line Voltage Regulator CLAROSTAT |
| :---: |
|  |  |



Here is perfect Line voltage control. Not a plain fixed resistance, but on Automatic Line Voltage Regulator for safe operation on nucturting voltages.

Cat. No. 5901-50 Watt
For sets consuming up to 60 watts. For sets consuming 60 to 100

Cat. No - 009 -Type B
For sets consuming 100 to 150 wetts.

## Our Price 95c ea.

(Continued from preceding column) 370925000 standard Potentiometer, 704830000 standard Potentiometer, 371040000 Standard Potentiometer, 371150000 Standard Potentiometer, 371150000 no taper
no taper . 76 Note: All the above units gre potentlometers and are provided with theoterminals. They may be used as arm stats by using the center cesistance eleterminal and one of the resishout knobs, ment terminals. All Above Controls Cat. No. 675025 E Euch

## clarosta

## GRAPHITE ELEMENT VOLUME CONTROLS

Wie test's conducted in our laboratories under the geverast and most gruelling conditions have demonstrated unquestionably ditions have daman Craphite Element Volumst the Control will outlast the average reume Control will outlast the averill conceiver or sound equipment and wit any tinue to function suentayce.


| Without Switer |  | With Switoh |  |
| :---: | :---: | :---: | :---: |
| Cat. | Resilatance | -ugrested Use | Cat. |
|  |  | - Taperfor |  |
| $590 \%$ | 1,000 | Untuned Antenna | 693, |
| \%1008 | 1,000 | gtandard Potentiometor | 5098 |
| [.03 | 2,000 | Antenna Untuned | 6986 |
| 5.114 | 2,000 | Standard Potentometor | 6987 |
| 5.911 | 3,000 | 8tandira Potentiometor | 6983 |
| 3 312 | 5,000 | Antenng or R.F. Coll | 5980 |
| 5018 | 10,000 | Antenne do |  |
| 5414 | 10,000 | $\begin{aligned} & \text { Antennenad } \\ & \text { Combinad } \end{aligned}$ | $\begin{aligned} & 8940 \\ & 8941 \end{aligned}$ |
| 5015 | 10,000 | Standard Potentiometor | 694\% |
| 5016 | 28,000 | Etandard Pothor | 6948 |
| 5017 | 25,000 | Phonogrsp Voltage | 694 |
| 5018 | 50.000 | screen standurd Potentlometar | 6945 |
| 5019 | 60,000 |  |  |
|  | 78,000 | R.F. Btaces | $\begin{aligned} & 6946 \\ & 6947 \end{aligned}$ |
| 8021 | 75,000 | standerd Potentiometer |  |
| 602\% | 100,000 | Antenna or ghunt | 6948 5949 |
| 5928 | 100.000 | Tone Conitrol | 69510 |
| 5424 | 100.000 | Standsrd Potentiometer | 6951 |
| 5025 | 200.000 | soreen ard | 698\% |
| 51886 | 200,000 | Pentade Tone Control. | 5063 |
| 5027 | 200.000 | Pentade Potentiometer | 6951 |
| 5828 | 250,000 | gtandard Potentiometer | 505 5 |
| 5989 | 350.000 | Standard Potentiotrieter | 5956 |
| 5080 | 500,00 | Tuned R.F. Coll shunt | 5037 |
| 6031 6.89 | 1 1 meg. | Tone Control | 6938 |

## 70c <br> 90c <br> Without Switch <br> With Switoh

## CLAROSTA

## Constant Impedance Controls

 For constant impedance work in redio and sound equipment and also in phone int clrcults. Real wire windings ar necessery beceuse of the low resigtances cause all unlts un one shaft must change uniformly.
These constant impedance controls conist of one sxed lond resistor and one a Variable input connected in sommon.

Dual Type "L" Pad
Cat. No. 25 ohm for voice coll control. 2768 ohm for voice coil microphone 2893200 ohm 10
gest 500 ohm for line or mixing ner control
65182000 ohm for phongaraph or high impedence spenter contral.
Our Price $\$ 1.75$

WorldRadioHistory


No. Type shaft
320s Long shaf

3206 Projecting 8208 Projecting 8210 Standard
Volume
Controls
for
Stromberg
Carlson oar

| Recelver |  |  |
| :---: | :---: | :---: |
|  |  |  |
| 642 | Remer |  |
| 642 | Front | . 50 |
| 635 | Front | . 70 |
| 836 | Rear | . 86 |

## Centralab Twin Potentiometer

$\mathbf{1 0 , 0 0 0}$ to $\mathbf{2 5 0 , 0 0 0}$ Ohms Used in Earl 21, 22

An ideal Volume control for all sets. Will not burn out. Operates quietly anc uniformly always.
Cat. No. 3820
 35e ea., $\$ 3.60$ doz.

## Replacement

 Volume ControlFor RCA 18, Victor R-14, R-15, Westinghouse WR-4, Graybar and G. E. Sets Part No. 62940


Cat. No. 5158

## Our Price $\$ 1.45$

## Freshman Models "M" and "N" Volume Control



Cat. No. 3772

## Our Price $\$ 1.35$

## ELECTRAD "R I" CONTROLS



| Cat. No. | Type |
| :---: | :---: |
| 5633 | RI-273 |

2949 RI-274

| 3038 | RI-276 |
| :--- | :--- |
| 5378 | RI-232 |
| 3039 | RI-233 |
| 3040 | RI-234 |

2927 RI-240
6848 RI-201 15,000
2958 RI-280
2959 RI-205 60,000
RI-202 75,000

RI-242 100,000
2961 RI-208 250,000

2962
Accurate, Smooth Operating and Compact. The shafts are extra long to meet any mounting condition. May be had with or without a built-in power switch. The types listed below can be used as replacements in 343 standard models of receivers.


Value
(Ohms)
Cathode Bias
athode Bias, Hum Neutrolizer, Mi.
-With switch-.
Cat. No. Type 5634 RI-273S rophone Control Ne.............

2950 RI-274S
Cathode Blas Control ........................ 3041 RI-274S

R F Primary ghunt ................................................. RI2 RI-233S
Antenns Bhunt ................................................ 3043 RI-234S
Antenna or RF PrL. Shunt
Antenna and Cathode Blas.
........
Ant. Pot. Center to coil, R. F. Pri-
 Ground Shunt, Ecreen voltage
 Voltage Control

2951 RI-240S
6849 RI-201s

2952 RI-2808
2953 RI-205S
Variable Mu Cathode Control Bias

R F Plate Voltage Control, Tone Control
Audio Trans. Sec. Control, $\vec{R}$
Coll Shunt ..........................
Coll Shunt ..................

# Without Suitch 60e each 

## With Switch <br> 85c each




Genuine Majestic Volume Controls


## Replacement for

 Radiola 332000 Ohm Potentiometer


Cat. No. 3762

## Our Price 60e

## Victor Part

Frost Twin Volume Control


Will stand up. No. more burned-gut volume controls. Btandard for Victor, but can be used on ull rets.

## Miscelaneous, bargandugequ

## clarostat

Speaker and Phonograph Fader


Cat. No. 2857
1000 ohms- $0-200$

Our Price $\$ 1.35$


Frost
Rheostats
6 ohm-Cat. No.
26 ohme-Cat. No.

## Our Price 18c ea.

Clarostat 2000 Ohm Potentiometers
New Type
Air Cooled Uned in Sonors Sets Cat. No. 3759

## 15e ea.

Naald Bakelite Short Wave Plug-In Coils

$$
16 \text { to } 200 \text { Meters }
$$

The fnest grade Litz wire wound on bakelite forms. Will fit standard UX sockets.


Cat. No. 7180
$\$ 1.50$ per set of 4

## HUM CONTROL <br> 20 Ohm with Center Tap



## YAXLEY

Panel Mount Hum Control Wire Wound


## Our Price 25e en. $\$ 2.75$ dozen

Yaxley Potentiometer
For Volume Control, Wire Wound, Air Sooled.

| Cat. |  |  |  |
| :--- | ---: | ---: | ---: |
| No. | Slze | Price |  |
| $\$ 755$ | 40 | with knob 15 c |  |
| 4170 | 550 |  | 45 c |
| $\$ 763$ | 800 | V.O. | 35 c |
| 6569 | 2900 |  | 450 |



## Carter 3000 Ohm

Volume Control
Wire Wound
Tapered Resistance

Bakelite case. Short $1 / 4$-in. shart for metal panel mounting.


Cat. No. 3767
Our Price 35e ea.
Stromberg Carlson Rheostats
(Made by Ameco)
Cat. No. Size

| 4071 | 2 Ohms  <br> 4073 30 Ohms |
| :--- | ---: |

$10 \% 4250$ Ohms
Our Price 20c ea.

## ACRATEST, JR.

 Combination VolumeControl and Switch
TERMTNALS-Three are provided, permitting connection of resistance unit as potentiometer or rheostat.
SIZE-1\% in. diameter-1 In. deop over. all including switch.
FINISH-Nickle over brass-not iteel. ACTION-Smooth, positive and sturdy. Designed especialiy for midget and auto sets.


## Our Price 55c ea.

Centralab Slide Contact
Volume Controls and Potentiometers


Perfect slide shaft. Contact.
No wiping-
No Noise standard $1 / 4$ in.

Cat No.
3753
3775 Ohm Potentiometer
$\begin{array}{ll}3775 & 1,000 \mathrm{Ohm} \\ \mathbf{3 7 7 7} & \text { colume } \\ \text { Control }\end{array}$
Our Price 25c ea.
CLAROSTAT MIDGET
Volume Control
Compact. nea
convenient
O-500,000 - ohm
range in several
Micrometric a di-
Justment, one-
Convenient screw.
termlnals. Many
epplications in present-day sets.


## Our Price 30c

Electrad 250,000 Ohm Volume Control

Wire Wound - bakeute frame.

Cat. No. 3890
25e ea.


# ELECTRAD Truvolt Fixed Resistors 



EXTRA SLIDERS－CAT．NO．5832－6c．Each

## Acralest：

## Flexible Wire Grid Resistors

While Acratest Wire Grid Resistors are utilized in all high grado radio sets，they are especlally ndapted for use in sman receivers，such as Midget eats，Automoblle and Aeroplase receivers，cte．They are all－wire，completely covered by impregnat－ ed labric，compact，non－conductive and can be jeat into any cesired shape．These Resistors are made of one Nichrome wire wound in a specially in many cases they cain be connected difectly between the terminals of two com－ ponents in a radio receiver，thus elimi－ pating extra wiring connections．


| 6654 | 5 | 386 |  |
| :---: | :---: | :---: | :---: |
| 5655 | 10 | 273 |  |
| 5656 | 15 | 228 |  |
| 8657 | 25 | 178 |  |
| 0858 | 50 | 137 |  |
| \＄659 | 10 | 129 | （1） |
| 8660 | ． 5 | 100 | J1\％ |
| 4721 | 100 | 86 |  |
| 4782 | 130 | \％ | 71 |
| 4711 | 200 | 61 | rrice |
| 4712 | \％ 00 | 35 |  |
| 4781 | 300 | 50 | ＞ 7 |
| 4788 | 350 | 47 | 18 |
| 4784 | 400 | 48 |  |
| 4715 | 500 | 38 |  |
| 4716 | 800 | 85 | CHe |
| $478 \%$ | 800 | 98 |  |
| 4734 | \＄00 | 80 |  |
| 4723 | 850 | $3 \%$ |  |
| 5661 | 009 | 89 |  |
| 4710 | 1000 | 87 | ） |
| 666\％ | 1100 | 26 |  |
| 4718 | 1200 | 26 | ） |
| 4739 | 1300 | 24 | 1911 |
| 4740 | 1400 | 23 |  |
| 4785 | 1500 | 92 |  |
| 5853 | 1600 | 21 | 1903 |
| 5654 | 1700 | 80 |  |
| 8065 | 1800 | .80 | 241 |
| 5868 | 1900 | 19.8 | 4， |
| 5867 | $\because 000$ | 19.8 |  |
| 5668 5669 | 3000 | 17.6 | 20 |
| 5870 | 600 | 11 | $)$ ． |

These Units can also be used for othar purposes provided the above vartmg curreint is not exocoded．

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| WIRE WOUND |  |  |  |
| Grid Suppressors |  |  |  |
|  |  |  |  |
| Cat．No． | Ohme | Cat．No． | Ohme |
| 4700 | 10 | 4018 | 550 |
| 4714 | 10 C．T． | 4701 | 750 |
| 4702 | 20 | 4718 | 1400 |
| 1784 | 90 C．T． | 5704 | 1700 |
| 4704 | 200 | 4709 | 2300 |
| 4729 | 150 C．T． | 5708 | 8500 |
| 4705 | \＄00 | 5\％06 | $2 \times 00$ |

$\$ 1.00$ per Doz．Asst．


$A^{C}$CRATEST carbon resistors are the result of years of experimenting to produce a resistor that will be absolutely moisture proof ànd stay permanent regardless of atmospherde conditions.

The Acratest resistors all have a highly glazed surface which makes them non-hygroscopic in character and the only resistance of its kind that will not absoris molsture. These resistors are a solid molded mass, strong and durable.

Another very important feture of these units is the fact that they have no voltage co-efficient. They are conservatively rated and the temperaiure rise in opera-
tion is unusually low. Tin wire leads are soldered to the caps of the resistors which are forced on under a high pressure, thus insuring a permanent, nolseless contact. This is a very important, feature in resistors as it eliminates any possibility of poor contact.
All resistors are laboratory tested and labeled with the proper resistance value and will maintain their accuracy under the most trying conditions.
Acratest resistors are guaranteed to be the finest on the market, noiseless, unbreakable, moisture prooi and durable.

The 2 watt resistors, 1 watt and $1 / 2$ watt all the same characteristics.


Cat. No. 5860

## 10c ea.; \$1.00 dloz.

## Utility Carbon Pigtail Resistors



Cat. No. 4600-7c each

## 1 Watt Units

| Ohas | Ohm: |  | Ohms |
| :---: | :---: | :---: | :---: |
| 100 | 1,000 | 7,500 | 75,000 |
| 120 | 1,200 | 10,000 | 80,000 |
| 200 | 1,250 | 12,000 | 125,000 |
| 300 | 1,500 | 15,003 | 130,000 |
| 350 | 2,000 | 20,000 | 200,000 |
| 400 | 2,500 | 25,000 | 253,003 |
| 500 | 3,000 | 30, 50.3 | 550,000 |
| 800 | 4,000 | 40,200 | 1,03,000 |
| 700 | 8,000 | 50.000 | 750,000 |
| 760 | 6,000 | 60,063 | 1 Mes. |
|  | 7.000 | 70,000 | 2 Mcg. |

75e per doz. Asst.


## 10c ea.; $\$ 1.00$ doz.

## Carbon Resistor Kit



Cat. No. 350 ?
92. 75 leit of 33


Carbon Resistor Kit
Contents: 25 2-Watt Carbon Pigtail Resistors

| ONE EACH OF | RHE FOLLOWING: |  |  |
| :---: | :---: | :---: | ---: |
| Ohms | Ohm | Ohms | Ohms |
| 500 | 2,000 | 20,000 | 125,000 |
| 600 | 5,000 | 35,000 | 150,000 |
| 750 | 6,000 | 50,000 | 200,000 |
| 1,000 | 7,500 | 60,000 | 250,000 |
| 1,500 | 12,500 | 70,000 |  |
| 1,250 | 10,000 | 70,000 |  |
| 1,250 | 10,000 | 80,000 |  |
| 2,000 | 15,000 | 100,000 |  |
|  | Cat. No. 6515 |  |  |
|  |  |  |  |

$\$ 3.50$ per kit of 25

## Carbon Resistor Kit

Contents: 36 1/2-Watt Carbon PIGtail Resistors
ONE EACH OF THE FOLLOWING:

| Ohms | EACH 0 | Ohms |  |
| :---: | :---: | :---: | :---: |
| Ohms | Ohms | Ohms 40.000 | $\begin{aligned} & \text { Ohms } \\ & 250,000 \end{aligned}$ |
| 500 | 6,000 8,000 | 50.000 | 500,000 |
| 1.000 | 7,000 | 30,000 | 800,000 |
| 1,250 | 10,000 | 75,000 | 750,000 |
| 1.500 | 12,500 | 100,003 | 1 Meg. |
| 2,000 | 15,000 | 125,000 | 2 Meg. |
| 2,500 | 20,000 | 150,000 | 3 Meg. |
| 3,000 | 25,000 | 180,000 | 4 Meg, |
| 4,000 | 30.000 | 200,000 | 5 MeF. |
|  | Cat | . 65 |  |

$\$ 2.85$ kit of 36

MAIL ORDERS TO AETO
See Terms on Page 5

## Fetamaterpurchaser Ine.

Laboratory Model and Speed Control Clarostat
 Tspecially adepted to coaspeod motor in speed motor in
televigion ond other preols on other preeis
wort. May alan boused as a heavy-duty varihole resistor for lahoratory work, lahoratory work. heavy metal cashasy metal cas serew binding posts, and short-clrcuit but ton. Carrying capacity of 80 watts.
Cat. No. Model Resistance Carrying 0543 Laboratory $1 / 4=10 \mathrm{ohms} 80 \mathrm{watts}$ 0548 Leboratory 200 to
$66+7$ Bpeed Control $\begin{gathered}100,000 \\ 26-500 \\ 0 \mathrm{hms} \\ 80 \\ 80\end{gathered}$

## Dur Price \$2.94 ea.

New Improved Ground Aerial

The Underground Aerlal That Maken Reception Better
 A new inshallation that overcomes all dinuculties of overhead serlais-yet loses nothing in volume and improves the tone qualities of radio reseption. By belog olaced in the ground it does away with unisithtig averhead wires, eliminating the risk incidental to installing them and lightning hazard -diminishes electrical interserence and stitic; the new sub-antenna is permanent-once installed no further attention is necessary. Rasy to lnstall. Note illustration.
Cat. No. 4218
$\$ 1.50$

## Grid Bias Divider

$122,0000 \mathrm{hm}$
for R.F. and
detector voltage 0 Him of 250 Length 3 In.
Cat. No. 4017

## Our Price 50c ea.

## Colonial Voltage Divider

Same size and appearance as No. 4017 above, except that it is $\%$ In. diameter and dissipates 10 watts.

Uned in Colonial 3\%, 3s, 84 Cat. No. 5727

## Our Price 75c ea.

We carry Voltage Dividers for over 200 standard recoivers. See page 96 for complete list.

## Aeratest

## 5 Watt Wire Wound Pigtail Resistors

A reslator dealgned to meat the demand for a reatonably priced and compact bigh resistance unit. Recommended for us in Midget, Aaroplane, Automopile and other receivers where apace and price are 1 im ited. Terminals are of No. 18 tinned copper wire securely embedded in our 3coat Baked Insulated Enamel.


PEATURES:

1. special cilantio InsuMating Enamel. tomperature of oply 400 de . grees P . Acde. oil, Molsture, a. n d Fire, Prood. Every unit receives three ooats of enamel to eliminate possibility of leakery at hich volteges. are wound with
Cat. No. 5900
Maximum Wattage, s
Maximum Dia., 9
Maximum Lehgth, $13 /{ }^{*}$ minus rated resistance.
2. All Acratest Rosistors are wound with Double Coat Enamel Alloy Wire th
a very low temperature co-emelent.
3. Fivery connection between terminal and wire, on Acratest Restotors are Bard Soldared. There ean be no melse as there orten to when Mechanical Connection is usod.
Ohms Ohms Ohm *Ohms

| 50 | 2.000 | 600 | 7,000 |
| ---: | ---: | ---: | ---: |
| 100 | 2.540 | 850 | 7,000 |


| 150 | 2.543 | 650 | 7,600 |
| :--- | :--- | :--- | :--- |
| 150 | 3.000 | 700 | 10.000 |
|  | 4.000 | 750 | 12.500 |


| 200 | 4.500 | 7.00 | 12,500 |
| ---: | ---: | ---: | ---: |
| 350 | 4.500 | 1.090 | 15,000 |


| 350 | 8.500 | 1,000 | 1,250 |
| :--- | :--- | :--- | :--- |
| 8,00 | 15,000 |  |  |

## Our Price 20c ea. $\$ 2.25$ Doz.

30,000 Ohms.........250 Ea. $\$ 4.75$ Dos. 40,000 Ohms...
50,000 Ohms....80 En., 88.50 Des

## Micamold Bakelite <br> Grid Leaks



Cat. No. 4036


Our Net Price

## 40c Per Box of 10

## HAMILTON

Voltage Regulator


The popular price reculator of a well known manufacturer. Cat. No. S151.

[^1]
## PRECISION

## Wire Wound Resistors <br> 

2 Watts, 2 in long. With binding posts on both ends. Tolerance, 1\%. Accurate Treless, dependable.
Used in Tolevision Ampinfer, Voltmeter Muitiples, Meter Shunts, Ehoto Cell Cir outs, Gound. Mead. Amplifiters, Tgper "T" and "H" Pads, Attenuators, Decrde Boxes ridge Assembly.
ACRATEST PRECISION TYPR RESIS ORS are wound with the best grades o alloy wire. Eivery epool of wire is thor ubhy checked for Insulation breakdown diameter and tamparatar coneffcient be ore ontering production. To our knowl odge, we are the only company using onble insuisted wire. Every alse of wire sed in the manufactmre of our mnitis ze eive two BAKRD costs of engat insilis. ton.

Cat. No, 6500

| Resistence in Ohm |  | $\begin{aligned} & \text { Oor } \\ & \text { Prige } \end{aligned}$ | Renlatan in Ohm |  | Our Prie |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | . 9 | . 70 | - $-40,000$ |  | 1.05 |
| 50 |  | . 70 | - 45,000 |  | 1.05 |
| 100 |  | . 75 | 50,000 |  | 1.05 |
| 154 | ....-* | . 76 | 60,000 |  | 1:15 |
| '200' | -..-* | . 76 | 75,000 |  | 1.80 |
| 500 |  | . 75 | - 80,000 |  | 1.80 |
| 1.600 | - | .78 | 90,000 |  | 1.80 |
| 1,500 | , | . 75 | 100,000 |  | 1.80 |
| 2,000 | - | . 76 | 125,000 |  | 1.30 |
| 2,500 | *..*** | . 75 | - 150,000 |  | 1.80 |
| 3,000 | -..** | . 90 | 175,000 |  | 1.48 |
| 4,000 | ...... | .90 | 200,000 |  | 1.45 |
| 4,500. | -.*** | .80 | 225,000 |  | 1.46 |
| 6,000 | -..*** | .911 | 250,000 |  | 1,60 |
| 10,000 |  | . 91 | 300,000 |  | 1.85 |
| 12,500 | --... | . 81 | 400,000 |  | 1.85 |
| 15,000 | * | .90 | 450,000 |  | 1.85 |
| 20,000 | -*-** | . 90 | 1500,000 |  | 1,8\% |
| 22.500 | ${ }^{\circ}$ | . 96 | 600,000 |  | 2.00 |
| 25,020 | -..-** | . 95 | 780,000 |  | 9.15 |
| 30,000 | ...... | 1.05 | 1,000,000 |  | 8.10 |
| 85,000 | -..... 1 | 1.06 | 2,00, ${ }^{\text {a }}$ |  | +10. |

## Wire Wound Voltage <br> Dividers on Lava Tubes



| Cat No. | Ohms | Tmpped | Watte | Our Price |
| :---: | :---: | :---: | :---: | :---: |
| 8865 | 250 | 200 | 100 | \$0.85 |
| 1898\% | 4,650 | $2,500,500,50 \text { and }$ |  | - |
| 8780 | E,135 | 4,185, 950 | 50 | . 50 |
| 8908 | 5,100 | 3,000 | 100 | \% ${ }^{4}$ |
| 3864 | 6,850 | 5,200, 900, 750 | 50 | . 90 |
| 3787 | 7,095 | 90, 695, 6,205 | 50 | . 50 |
| 4014 | 7,120 | $3,000,3,000,840$ | 60 | . 80 |
| 3908 | 7,835 | $\begin{aligned} & 8,400,3,800,35,80, \\ & 40,360 \end{aligned}$ | 50 | 40 |
| 3878 | 8,000 | $\begin{aligned} & 4,800,1,500,1,250 \\ & 750 \end{aligned}$ | 100 | 0 |
| 3854 | 8,360 | 7,500, 750, 100 | 80 | . 30 |
| 8790 | 9,450 | 8,500, 3,200. 750 | 50 | . 50 |
| 3919 | 9,800 | 3,800, 3,500, 2,800 | 50 | . 00 |
| 5987 | 10,000 | 4 Sllders |  | .80 |
| 8788 | 12,300 | 8,090, 4,800 | 80. | .50 |
| 3788 | 12,000 | $\begin{aligned} & 9,000,3,300,800 \\ & 80 \text { Watt } \end{aligned}$ |  | .40 |
| 3900 | 17,660 | C.2. |  | . 88 |
| 焬18 | 17,900 | \$,400, 8,000, 6, 800 | 80 | . 86 |
| 8904 | 18,100 | 100, 18,000, 3,000 | 78 | .49 |
| 8909 | 65 | 60 | 50 | *5 |
| 8911 | 4.120 | 8,000 | 100 | . 40 |
| 8915 | 25,000 | 4 Sllders | 75 | .84 |
|  | LLE VOI | $\begin{aligned} & \text { WaGE DIVDERS } \\ & \text { ON THE SND WE } \\ & \text { LABEK TE. } \end{aligned}$ | $\frac{\text { IHE }}{4 H 2}$ | $\begin{aligned} & \text { BLAS } \\ & \text { THI } \end{aligned}$ |

## Wire Wound Resistors \& Voltage Dividers at unheard of prices

Wire Wound Fixed Resistance on Baked Lava Tubes


| Cat. No. | Ohms 突 | Stre | Waits | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 3928 | 6 | Pin. | 10 | \$0.25 |
| 3950 | 8 - | 8 的 | 50 | .25 |
| 3974 | 12 | 8 in. | 75 | .25 |
| 3910 | 81 | 2 in. | 5: | . 25 |
| 3909 | 32 C. T | . 6 in. | 10's | . 10 |
| 3902 | 55 | 2 in | 50 | $\therefore 0$ |
| 3916 | 40.14 | 136 in. | 23 | . 5 |
| 4703 | 100 2 | 13612. | j | $\therefore 0$ |
| 3975 | 100 | 2 ln | 110 | . 15 |
| 3932 | 100 | 2 in. | 10 | $\cdots$ |
| 3991 | 100 - | 2 12. | 25 | A\% |
| 3993 | 175 | 2 in | $8:$ | 25 |
| 3934 | 250 | 2 in . | 5 | 2J |
| 3935 | 300 | 2 in. | : | - |
| 3929 | 400 | 2 in . | 4 | . 85 |
| 3969 | 420 O. T. | . 2 in. | 25 | .25 |
| 3936 | 500 | 2 ln . | 10 | . 25 |
| 3921 | 600 | 2 dm | 10 | .25 |
| 3894 | 2100 C. T. | C. 3 in. | 25 | . 25 |
| $393 \%$ | 700 | 2 ln . | 10 | . 25 |
| 3938 | 750 | 2 ln. | 10 | . 25 |
| 3878 | 781 | 1 fm | 10 | . 25 |
| 3931 | 800 | 2 mm | 25 | . 25 |
| 3971 | 900 | 3 in | 50 | . 30 |
| 3942 | 920 | 3 in | 50 | . 30 |
| 3851 | 1000 | 2 ln . | 10 | . 20 |
| 3855 | 1500 - | R1/2in. | 10 | . 20 |
| 3861 | 1500 | 4 in. | 50 | . 30 |
| 3859 | 2000 | 2 in . | 25 | . 20 |
| 3904 | 2000 | 2 in | 5 | . 20 |
| 3989 | 600 C. 2 | T. 41 n | 50 | . 40 |
| 3912 | 2500 | 2 ln | 5 | . 20 |
| 3994 | 2650 | $13 / 2 \mathrm{n}$. | 10 | . 25 |
| 3943 | 3500 | 2 in. | 25 | .30 |
| 3944 | 4000 | 2 In. | 25 | . 30 |
| 3945 | 4500 | 2 ln | 25 | . 30 |
| 3901 | 5000 | 2 in. | 10 | .25 |
| 3998 | 5000 | 6 in . | 100 | .55 |
| 3947 | 6000 | 4 ln | 25 | . 40 |
| 3948 | 7500 | 2 in . | 25 | . 25 |
| 3925 | 12500 | 2 ln . | 25 | . 30 |
| 3917 | 20000 | 4 in . | 25 | -35 |
| 5677 | 30000 | 2 in . | 20 | .75 |
| 3940 | 30000 | 6 in | 75 | 35 |
| 3970 | 40000 | 6 in | 75 | 55 |
| 3946 | 50000 | 6 in . | 75 | . 55 |

Ward-Leonard D.C.
 Voltage Regulator 50 Ohms-300 Watts

Original resistor as used in Grebe BEK Receiver.
For converting A.O. sets to D.C. Where merean grid tubes are used.

General Utility Voltage Dividers


This voltare divider has many uses and applicrtio:us in clectric sets, B eliminators, transmitters and ainpiffers. Will stand up with a wide sarety lactor. Made by a natlonally known manufacturer to sell for f.-ceral gimes the price we ask. Get a tris at this low price and be prepared for the sext repsir job.
 six
17,660 OHMS C.'T. 75 Watts, $41 / 2 \mathrm{in}$. long.

$$
\text { Cat. No. } 3900 \text { 25e eal. }
$$

## General Utility Tapped

 Resistor

For Receivers. Power Amplifers and Used in Kolster and Brandes Bets. 50 Watts in. lons. Cat. No. 4014 39c eal.

1,000 Ohm 10 Watt Wire Wound Resistors
 245 tubes: and used for many other purposes, 10 watts. $11 / 2 \mathrm{in}$. long.

Cat. No. 3924 10c eal.


Cat. No. s103 15e ea.

Filament Series and Grid Resistors

For Atwater-Kent
61 D.C. Set
Cat. No. 6008 95e

Per Set of 3


Other AK Resistors Cat. No. Ohnss

15e $\left.\begin{array}{ll}7165 & 50 \mathrm{C.T} \\ 7166 & 1000 \\ 7167 & 800\end{array}\right\}$

Each
Edison Base Resistor 20 Ohms for Bosch 48 D.C.


Can be used for conversion of an A.C. et, screen grid and 245 flament supply simply hook 3 in series, making total of 60 ohms.

Cat. No. 5848<br>85c

## HY-WATT CARBON

Resistors on Lava Tubes

> 5 WATT11 3/4 INCHES LONG


Cat.
No. Ohms Color 3968 1.000 Green 470710,000 Black 4782 10,000 Black 3958 ivo.000 Red a002 20,000 D. Green 3959 350,000 Maroon 895822,000 Black \$991 600,000 Brown 470825,000 Black 3061 11/2 Meg. Blac!:



## Our Price 15c ea. $\$ 1.50$ Dozen, Assorted

Replacement Resistance Strip for Atwater Kent 37 Volume Control

## Also Used in

 AK 36, 38, 40 Burnt out o: defective stri? defective in : fiffy.Cat. No. 3713


Voltage Dividers Used in All TEMPLE Receivers

While these Wire Wound resistors, baked on lava tubes were primarily designed to be used in Temple sets, they can be adapted for use in many other standard receivers, amplifiers and eliminators. Conservatively rated and all brand new.

314


Cat. No. 3864
6850 Ohms, divided $150,5200,900$ Ohms. ised in Temple Models $8-60,6-80$ and $8-90$.

35e


Cat. No. 3867
33 Ohms-Used as Voltage Regulator In remple DC sets. Can be used in place of Voltage azezulator Tube in any set.
$31 \mathbf{c}$


Cat. No. 3861
500 Ohm Resi=tors tor Audio Bias.
30 e


Cat. No. 5742
6850 Ohms. divided as follows: 1000,5000, 850 Ohms.
$25 c$


Cat. No. 3865
350 Ohms with 300-50 laps. Used in Tcmple DC Sets.

Ward Leonard Vitrohm
8350 Ohm Voltage Bjvider
rapped at $5,000,3,000$ and 350 Ohms. 6 in . long.


Cat. No. 3914

## 30c each

7850 Uhms
Tapped 750. 7000, 100-4 in. long.
Cat. No. 3863

## 30c each

$\$ 3.50$ dozen

## Victor Voltage Divider



For all 1930 Model Recetvers. Total 2.525 Ohnis tapped at 200, 1,350, 260 and 775. Cat. No. 3170
Our Price 65c ea.

## Aerovox Crosley Voltage Divider

 ped at 2,000, 25
watts. in. long Wire wound on
baked eltemel.
Cat. No. 3965
Dur Price 50c ea.
5,000 Ohm Resistance, Wire Wound on Lava
 Epecially De Enecially De signed 10 Model 78,79 and 95 Sets. A Iso for Etarl, 31,

Can Be Used tor Any Type Bet. Cat. No. 3907
Our Price 35c ea., $\$ 3.00$ doz.

Freshman Fixed
Resistances
Wire Wound-Baked on Lava Tubes


18,000 ohms total used in Freshman $N$ Models. Tapped $1500,4500,3300,6500$ and 2200 ohms.

Cat. No. 3963
For Freshmsn (Model G) total 10.950 ohms 6 taps. Tapped as follows: 2100 ohms, 4300 ohms, 300 ohms, 3000 ohms, 1250 ohms.

Cat. No. 3966 .

## Our Price 65c ea.

## Radiola 28 Voltage Divider



USED IN 104 PACK
Wire wound on bakelite. Identical to original. This item is usually very difficult to secure and every service man should have a few on hand.

## Cat. No. 6756

Dur Price 75e ea.

## Acratest

Wire Wound Vitreous Enameled Resistors

 enameled resistors are made of the best grade of electrical refractory tubings which have the same which have the same sion sis the porcelain eramsl and wire $+m i t t 1$ it safe erany ond resistor. We use the hiehest grade of resistance wire wound on relpectory tubes resistance wire, wound on reirgctory cubes. Acratest resistor contife process where by the resistor the contect point pracby the resistor at the contact point praccolciering or mountain lugs thus elimizolcering or mountain lugs, thus elimicaused frequently by poor fotnt contects pired at 1200 Der bahrentelt durable and Fred at 120 Des, permanent. $A$ arge assortment carried in
stock to meet every requirement.

| Cai. |  | Tabe |  | Our |
| :---: | :---: | :---: | :---: | :---: |
| No. | Ohms | Size | Wettse | Price |
| 3:\%\% | 100 | 3 in . | 10 | 25c |
| 3988 | 200 | 21 n . | 10 | 280 |
| 36\%! | 250 | 2 ln . | 10 | 25 c |
| 3680 | 500 | 2 ln. | 10 | 23 c |
| 3681 | 750 | 2 in. | 10 | \$150 |
| 3682 | 800 | 2 in. | 10 | 350 |
| 3683 | 1,000 | 2 in. | 10 | 25 |
| 3684 | 1,500 | 2 in. | 10 | 25 c |
| 3685 | 3,000 | 2 in. | 10 | 2 c |
| 3686 | 2,500 | 2 in. | 10 | 28 c |
| 3687 | 3,000 | 2 in. | 10 | 250 |
| \$1688 | 5,000 | 2 in. | 10 | 55c |
| 3088 | 7,500 | 2 in. | 10 | 280 |
| 2926 | 8,600 | 2 1n. | 10 | 250 |
| 3690 | 10,000 | 3 In . | 25 | 800 |
| 4981 | 12,500 | 31 n . | 25 | 800 |
| 3692 | 15,000 | 3 tn. | 25 | soc |
| 3852 | 16,000 | 2 jn. | 10 | 25 c |
| 3603 | 20,000 | 3 in. | 25 | 30c |
| 8004 | 25,000 | 4 in. | 50 | 450 |
| 3695 | 30,000 | 4 in. | 50 | 450 |
| 3098 | 40,000 | 5 In. | 75 | ESO |
| 3097 | 50,000 | 5 in. | 75 | 650 |

## 3000 Ohm Davohm

 Resistor

## VARIABLE VOLTAGE DIVIDER



Cat. Ne. 8967-10,000 Ohms, 4 Sllders. 4 $41 / 2 \mathrm{in}$. lons. ms, Sliders, n. lant.

This variable wire wound resistance designed for heavy duty woris can be used signed for heavy duty woria can be used on any radio circuit such as $B$ eliminators, desired voltage is obtained it can be set and it will not vary due to the positive and it will not vary due to the positive ties such as used In other types of varities such as used in other types or varioble resistance, This unit aside from being electrically pariect. is low in price and will take the place irom 2 tod resistance. Lif 11.50 .

Especially adspted for Troshman snd
Estl Sots.
Our Price 80c ea.

## Radio frequency dol s heterodyne

## ATWATER KENT

Model 55 Replacement R. F. Coils


1\% in Dlameter. $21 / 2 \mathrm{in}$. high. Primary wound on - - arate form.

Cat Na BSM \$1.50
Per Bet of Coils

## RADIOLA

Super Heterodyne Coils


Uned In eatalas on and oy Vicitor Models 9-18, 9-54 and $9-56$. $\begin{array}{lll}\text { Ename!ed who on bakellte form11/2 } & \text { In. } \\ \text { diameter } x / / 8 \text { jn. long. R.F. chokes } & \text { In. }\end{array}$ dismeter $x \$ / 5 \mathrm{in}$. long. R.F. choke inclucted.

Cat. No. 3732
$\$ 1.35$ per set of 3
RCA Screen Grid RF
Coils for Radiolas 44 and 46 od


Complete with mountins brsckets,
eoreen
grld toreen grid
lead and trimmer condenser.
Cat. No. 4168
$\$ 1.35$ per set of 3
Aluminum Shields
For Shielding Coils
Diameter 20/4 in Heltht 2M lin.

Cat. No. 4150
6c ea.

Genuine Victor Radio Frequency Coils


Domplete set of 4 oolls consisting of I Antenns coil and 8 mp coils. Dismeter $1 \% \operatorname{in}_{\text {. }}$ helght $2 \%$ in. FOF . 00035 condensers.

Cal. No. 4169
50c per set of 4
Transcontinental Screen Grid R. F. Coils With Shields
for $\mathbf{0 0 0 3 5}$ Condensers
These coils may ya used in any get Thoy are space wound with enameled wire on bakelite tubing. Coils are equipped with mountIng brackets Which ara attached to the
 aluminum shields. Two tapped roles correspond with two holes in the shield. These high grade colls rill give $\mathbf{1 0 0 \%}$ enciency in any receiver.

Cat. No. 4136
Set of 4 Coils-1 Antenna, 3 Screen Grid With Shields 95c per set of 4
Ahuminum Tube Shield, Cap and Base
One-piece sluminum shield fot 232 and $\$ 24$ screen grid tubes. Outlet hole at top for wire connector. Bhield orly.
shade Ont No. 4171 150 Base Cet. No. 417\% Bo Trbe Clip Cet. No. 417820

Per Set of
3 Pieces 18c
3 Pc. Shields
For New Trpe Tubes \$5, 56, 67, 58
Cat. No. 7173 20 c Per Set of 3

Band-Pass, Detector and Oscillator Coils


An unus. ually fine superhet can billt sily be this with coll com tion. These coll incorporste a co bsind pess coll combinetion end 10 k.c. detector and oscillator combinstion first will male sensitive selective super heterodyze which will recelve from trest distances A special festure of these coifs is the tap on the oscillator coil which removes all semblance of tmage frequencies and harmonfcs. These colls tune with our 6381 4-gang condenser sind cover the entire broadcast band. Using these coile with the intermediates, condensers cons other equipment isted on this page will make up a low priced superhet of wil vanced design. Wiring disgtoin and instructions furnished with each set.

Cat. No. 6654

## $\$ 1.75$ per set of 2

## Acratest

New Design "Conoid" Screen Grid R F Coils

Completely shielded


Diametcr. 2 in.
Hetigh lfy in.
A completely shielded coil, air-wound and self-supporting. Each lug is inarked with its respective connection. These colls come in matched sets especisily tracked on accurate straight line frequency candensers. Enclosed in copper cans with removable beses for easy mounting on chassis with two screws. This facilitates wiring as the coils may be removed while the rest of the wiring is done. The colls are sxtremely selective and rugged. With a set of these coils you are sure that the collis, shields and condensers are matched. Made for .00035 condensers.
Will operate with the 235, 230 tubes and with the new utomobile cathode heater tubes, although in some cases it has been necessary to reduce the primary of the coil to prevent osciliation.

Cat. No. 3217
38e Set of 3
Consisting of 1 Ant. and 2 R.F. Colls Cat. No. 3216

## $\$ 1.30$ Set of 4

Consisting of 1 Ant, and 3 R.F. Collin

## Radio rradency - hat crodync

## Acratest

Superheterodyne R.F., Detector and Oscillator



Everything is superhet this year. Be up-to-date and revamp your old set or build a good superhet from the diagram we furnish free with these colls. In con junction with a three-gang superhet t;e3 variabie condenser, these colls will tune In stations from great distances with 10 K.C. separation. 'rhe antenna coll is separate while the first detector and oscillator colls ere on one form to assure perfect coupling.

Cal. No. 5197 95e set
Complete with Diagram

## AUTODYNE

Super-Het Coils


This system saves the use of an extra oschlistor ture and lowers the cost of constructing the recelver. The stability obtained from ire Autodyne circuit assurcs its adsptation universally.
With this set of high pain colls and I.F. transformers exceptional sensitivity and selectivity nasy be had. This entire set of colls are matched at the factory so that the builder may be assured of a precision receiver capable of receiving stations many thousands of mlles swry.
The Autodyne Kit Consists of 1-High gain antenna coll.
1-High gain interstage coll.
1-Autodyne coll and intermediate com-
bined.
1-175 K.C. Intermediato irequency transformer.
With complete diagram of sodern Buper-het using 1-RF, 1-Detector and Oscllistor. 1-IF. 1-3nd Detector, 1-Pentode, 1-Rectiner.
I. C. A. RF Chokes


For general use in brosdcast and short wave recelvers. Its choking effect extends from 14 to 600 meters and its distributed capacity is very low.

| Cat. No. Millihenries |  |
| :---: | :---: |
| 6980 | 30 |
| 6984 | 80 |

Dur Price 60c ea.

## Acratest

## High Gain Intermediate

 Frequency TransformerThese well-shlelded, sharp-tuning intermediates are fust the, thing for that new super you are planning. Close coupling between primary and secondary assures high voltage gain, enabling reception from great distances. The 175 K.C. unit is furnished complete with a diagram of one of the finest superhets you have ever heard. The 465 K.c. unit is furnisned complete with a diagram of an all-wave $84{ }^{4}$ retuet using the new band-switching coils

## FEATURES:

1-Condenser adjustment through to es Aluminum shleld with holes for wires. 3-Heavy steel supporting brackets. 4-Colls properly wound and shielded.
5 -Compensstor
6-Mounting screws.
7-Mounted on porcelain base.


## Our Price 95c en. <br> Complete With Diagram

## BAND-PASS

Or Pre-Selector Coil
For . 00035 MFD Condensers
suitable for use on any receiver. This coil will add selectivity to the broadest set. It is specially designed for the antenna stage. The coll is ex tremely high in gain. It has three windings-a primary and two secondaries. The primary is connected directly between sntenus and ground while the lower secondary is connected to the stator of one turning condenser. Tho other secondery is denser. Tho other secondary is connected to the grid of the denser.


Cat. No. 6910

## Our Price 70c

R. F. Choke

4 Millihenry


Suitable for 8 hort wave and superheterodyne receivers.

Cat. No. 6755
10c eqtabam

## BROADCAST High Gain R F Coils For . 00035 Condensers



These colis are especisily designed for the discriminating set builder. Their speclal features are:

1. Choke act at high plate impedance.
. Capacity coupled primary.
2. Low distributed cespacity.
3. Esse of mounting-ats foto tube socket holes.
4. All connections marked

Tlue colls are matched at the pactory, which is. extremely important if celectivity and sensitivity are to be sestured.

Everybody is now leaning to Filgh Gain Coils.

Cat. No. 6907
Set of 3-\$1.50
Cat. No. 6908
Set of 4-\$1.95

## Broadcast and Short <br> Wave High Gain R F Coils

For . 00035 Condensers
Range: 70 to 200 Metery, 200 to 600 Meters.
Same coils as above. Cover the Teleision, Police, Airplane, Forelgn and Amateur Bands. Colls are merely tapped in one spot for wave changing. Short wave end is separate hemvy winding.

Set of 3-Cat. No. 6909
Dur Price $\$ 1.75$
Per Set
Air King Short Wave Plug-in Coils


A reasonably priced short weve pluesth coil set ior circrite requiring high ath plincation with low loss. Forms are of plincation with low loss. Forms dandits engraved with identising coli number. Four cons in aet, covering coll number. Four cons in set, covering range from is to 210 meter

Cat. No. 4300 क1.51

## Genuine RCA－Victor and Brunswick Catacombs

Brand New！


These catacombs were lisen in the ciza and letor stis a les years tomply compoct and conuain fach the intermediate prequancy end oudlo units．Due to their veculiar construction ft is hard to replace any parts in them and to a new catacomb is necessary．

$$
\text { Cat. No. } 6221
$$

Etube Ontacomb for RCA models 28 and 25AO；Victor models：Alhambra 11． Forenze：Erunswlek models：1－B，1－C． cordova ${ }^{2}$

## Caf．No． 6220

－itube superheterodyne Catacomb for ROA models：28， 28 AC ， 80 ， 30 A ， 30 AC ， 32AO；Viotor modela：ispyerion，Borgia，
 Brunswicik models：BR－18，Cordor：B，2－0， BRP－4，PRP－4A
Our Price $\$ 5.50$ ea．
Genuine Victor R．F． Coils


Ant．Coll Cat．No．
5370
R．F．Coll Cat．No． 5376

## 50c ea

$33 / \mathrm{in}$ ．Long． 13 iz in．Dia．
Used in all late vistor tets．Enameled wire wound on Threaded Bakellte tubing． R．F．chokes included in both．R．F．coli also has midget tuning condenser attached．

Kolster Variometer
（Antenna Coupler）
Osed in Kolster K20，K－ 22．Columbia 981， C 1 and O3．A very heid to get item．It you services Kol－ sees．you should rave a few in stock at this low price． Caf．No． 5536

75 c
Blank Receiver or Amplifier Chassis


Bervicemen end Betbuilder：who＂tmake their own＂will welcome the opportunfty of eccuring this Ane sutomobile steel epot welded chassis．It is large enough to ccommodate up to 12 fubes．
$71 / 4$ inches long． $\mathrm{g} 3 / 4$ inches wide and 3 juches tall．
Cat．No． 6939 89cea．

## EBY

Triple Binding Posts
＂Short Ant，＂＂Long Ant＂ and＂Gnd＂

Onremovable top posts mounted on bakelite strip．
Cat．No． 4106


## Our Price 16c ea．

## Eby Binding Posts



| No．Nartes | Cet．Markes |
| :---: | :---: |
| 4003 Plue | bees 22v． |
| 2048 - | －60te Sple，Pu |
| 易7 Bitar | Bty Sotr．－ |
| 8670 88－ | E688 ${ }^{-1}$ |
| 590n 67V． | 80，0－ayen |
| 5081 45V． | 600＂0木t＂ |
| 8082 A － | 5pl Gud． |
| Shbs Iong Ant． | 5 508 90V． | sfes Iong Ant．5098 90V． 5684 Short Ant

## 50c per doz．Ass＇t

## ＂Push－Down＂Spring Binding Posts

Nothing to turn－maken positive strong contact．

Cat．No．8405－＂Antenan＂ Cat．No．B498－＂CGround Cat．No．B497－Blant


## Our Price 5c each

Complete R．F．Coil Assembly
For Radiola Models 17， 18 and 33


Consists of Antanna coll and 2 R．t．coils Filth R．F．chokes，trimmer condenaers and R．F．by－pase condehsers motunted on metal terminal strif raady for inatillation in sbove Radiof models and many otber seth．Colls are $1 \frac{1}{2}$ in dia．by $1 \frac{11}{2} \mathrm{In}$ ，Jong．

Cat．No． 3733

## Our Price $\$ 1.50$

Per Complete Set

## Steel Base for Power <br> Amplifier or 6 Tube Midget Set



Cat．No． 3478
Price 35e

All ready cut and 8 tube lay out．Just the thing bullder and experi－ menter．${ }_{14}$ in．long， 83 In．wide， $2 \frac{1}{6}$

Special Dual Ratio Dial and Escutcheon for

## Dual Wave Sets

This to 1 ratio dial con be instantly changed to 30 to 1 ratio dial by throw Ing a lever．Ideal for short and long wave sets，because $h$ very slow moving dal is espentlal on ahort wives．very in－ genious jet stimple construction．Noth $\operatorname{lng}$ to break or man． $24^{1 / 6^{\prime \prime}}$ wide $3^{n}$ high．Transluscent celiuloid dial


## Eby Twin－Jacks

In a ifowa bakellt atrip．
Cat．No． 4080 Marted＂Phono＂
Cat No． 4069

## Marked＂Speaker＂

## Our Price ．06c ea．

## Eby Twin－Posts

Two Eby mon－removable binding posts， akelite molded in brown composition nd mounted on a bikelite strip．The an－ tenna post insulated from metal panels．


Cnt．No． 4088 Martuod＂Field＂

Cat．確 0.6859
Merked＂Ant．－Gud．＂
Dur Proice Ile ea．

## Power Amplifier

Or Midget Chassis Base of Heavy Gauge Steel


Green Finish
 Welght， 4 lbs
Cat．No． 4399
75 e
Just the thing with which to bulld that ampliner or midyet recoiver you have been planning．All hoves cet out and drilled 10 er transormer．condenser，choke， Carlson，soteh，etc．Made for Btromberg－ Ccrlson power ampliners．Has many uses．

Earl and Freed RF Coil
Ueed in all Eerl
End Freed sets．
Dialaeter $1 \% / 4 \ln$ ．
height 2 in．，with
brackete．
Cat．No． 5375


New Illuminated Drum
Smooth Positive Action


| New type cable drive permits |  |
| :---: | :---: |
| smooth，positio |  |
|  |  |
| free of |  |
| tandard 1／4 |  |
|  |  |
| coupling－celluloid |  |
| scale，beautiful en． graving－calibrated |  |
|  |  |
| in numbers from 0 |  |
| to 300. |  |
| Cat．No． 4201 |  |
| 3,4 in．Shaft |  |
| Cat．No． 4202 |  |
|  |  |
| ${ }^{3} \mathrm{i}$ in．Sha |  |

Our Price 78c
Complete with vial Light Socket
Escutcheon Plate for this Dial Cat．No． 1042
17c Each
：lluminated Drum Dial For Short and Long Wave and Television Sets
 C．t．Na． 6903 （aur Pッ⿺゚ce $\$ 1.25$
Complete No Calibrations on Dial Beautiful Escutcheon Plate to Match Instcad of the usual numbers the cal－ ululad dial lims different colored bends runing around it．so that a different color may be allocated for each wave band．For $3 /{ }^{\prime \prime}$ shaft．Complete with pilot light socket and plate． $21 / 2^{\prime \prime}$ dia．． $5^{\prime \prime}$ high．

## Midget Set Escutcheon Plate

$2-5 / \begin{aligned} & 18 \mathrm{ln} . \mathrm{high} \\ & \mathrm{in}, \text { Wide }\end{aligned}$

Cat．No． 4043


Our Price 15c

Hammerlund Triple Compensator


Thres compensating condensers mount－ ed on strip of bakelite $81 / 2$ inches long． Cat．No． 3008
Our Price 35c en．

Metal Belt Friction Drive Tuning Dial


Cur Price 75c
Complete with Pilot Light socket
Spring Friction Drive Tuning Unit

Outcide diameter Singithole for either 3 or $1 / 4$ in． shaft．Pyralin shait．$P$ y ralin
translucent scale of 0 to 100 ．

Cat．No． 4040 3：in．Shaft

Cat．No． 4127
ifing Binaft
Tur Proice 50c
Complete with Pllot Light Socket
Midget Fan Dial
A very compact tull vision dial with trans－ ：uscent strip and pllot light socket mounted on rear top．Attractive bronze escutcheon plate to match．
Dla． 3 in．， $31 / 4 \mathrm{in}$ ，high．
For $3 / 8$ in．shoft．


Cal．No． 6911

## Our Price 60c

Complete with Plate
Fan Dial and Plate


For Midget Receivers

Fan dial with very legible black numer－ als．For $3 / e^{\prime \prime}$ shaft． Handsome bronze escitcheon plate． meter． Cat．No． 6904

Our Price 60c
Complete with Plate and Socket

Escutcheon Dial Plates of Latest Designs


Cat．No， 4042
Cat．No． 4046
Coln Embossed Bronze Hinish．Modorn－ istic Design．Especially sitited lot Drup Dials，similar to our Cat．No．4201－480 ． （ in．high， 2 F in．Wide．

## Dur Price 25c

The New＇Spot Tuning＇ Illuminated Dial and Escutcheon


Cat．No： 5505
The Ilght trivesis along with the sta－ tion indicator．Now being adopted by feading be tmanu： tractive For trative prortucat shart．Tranalucent
scale
Bronsu scale．Brona
ished
phan
plate ished plate Non－ Complete with pllot light soaket．

## Our Price 67e

Medium Sized Escutcheon Plate


For Either Midset or Larger Sets Size： 3 fn ．high． $21 / \mathrm{in} . \mathrm{wldo}$

Cas．No． 4044
Our Price 18c
Complete Full Vision Dial and Escutcheon Plate

With Pilot Socket
Cat．No． 4045
$1 / 4$ in Shaft
Cat．No． 4047
3：in．Shaft


Our Proice 90c

25 PARK PLACE，N．Y．C． or to our nearest branch

Genuine Walnut Wood Carved Knobs


Cat. No. 3215


Dit. $11 \%^{\prime \prime}$ Cat. No. 3380


Dis, 11/4"
Cat. No. 3552


Dia. 11/4"
Cat No. 3561
Our Price for Any of the Above Knobs
10c ea.; $\$ 1$ doz. Assorted

Ornamental Knobs


Brown Bakelite Rnob Fith Metal Overlay. Diameter $11 / 2 \mathrm{in}$ Insert $1 / 4 \mathrm{in}$.

Cat. No. 5106
15e ea. $\$ 1.50$ per dozen

Grecian Design Drum Dial Escutcheon Plate

$4 \mathrm{in} . \times 2 y_{6} \mathrm{in}$. Burnished
Bronze Finish
Cat. No. 5107
18c ea.
Genuine Walnut Knob


Diampter $11 / 6$ inches Lor $1 / 4$ inch Shaft With Bet Screw Two-tone Finish Cat. No. 6692
60c per dozen

Complete Line of Modernistic Bakelite Knobs


Two-Tone
Walnut Knob Dí. 13. In., is in. shatt
Cat. No. 5126
Our Price $\$ 1.10$ doz.

Dine 1 in. 1/4in. shalt
Cat. No. 5127
Our Price $\$ 1.10$ doz.


Octagon
Pyramid Top
Walnut Knob
Dis. 1-1/16 in.
$1 / 4$ in. insert and set screw
Cat. No. 5130 Our Price $\$ 1.15$ doz.

## Escutcheon Plate for Midget Sets <br> Burnithed

Bronze Finish.
2 in. wide, $2 \%$ in, thll.
Cat. No. 5108

## Dur

Price 15e ea.


Full-Vision Dial and Pointer

## For replecement on seta now using ordinary dials. Bimply remove the old $=$ iashioned diais, silp the escutch: eon pla te over condenser shaft and replece old dial with a small knob. W111 enhance the sp. patrance of eny set. Bronze finish only. With translucent celluloid disp strip. Cen also be used as on illuminated full-vision dial if panel is cut out. <br> Our Price 25e Complete

Naald Bakelite Tuning


Knob
fith in. shaft Hlack only
Cat. No. 3405
sc ea.
75e per dozen
Kurz-Kasch Bakelite Knob

for rheostats and
volume controls. Mahogany and Black
Cat. No. 4123
5e ea.

## 50c per dozen

Tuning Condenser Assembly As used In Fadioles 17. 18 and 33. Complete with aluminum drum and cable. Capacity .00035 . 04 ja . long, $31 / 4 \mathrm{in}$. wide, 5 in. high.


Cat. No. 5786
81.50

## A complete Switches to every assortment

## YAXLEY

Phono to Radio Switch

mount jack type. Used in Peerles
Sets. With knob.

Cat. No. 4109
25c each 82.75 Dozen

Single pole double throw, very ine as nti-capacity Ewitch.

Carter 5 Channel Double Arm Selector

## Switch



With Bakelite Knob and Escutcheon Plate Same appearance and construction as Cat. No. 5488 described above. except that no impedance coils are included. Fixcellent for all pullic a@dress work.

Cat. No. 5487
Price $\$ 1.00$
CARTER "IMP"
Inductance Switches


List Erice $\$ 1.00$ Cat. No. Pt.
5484 3

54854
5486
40c ea.
Complete with Bakelite Arrow knobs. Compact and rueged and will stand up undor hard atage. All metel frame, cadmium plated. Positive snap action. Diaineter of freme $11 / 2 \mathrm{in}$. Extends back of panel only $1 / 2 \mathrm{in}$.

CUTLER-HAMMER
Rotary Snap Switches


Cat. No. 6688
Eingle Gircuit with 2\% in. shaft

Cat. No. 6666 Two-Circuit for Radio-phonographs with $11 / 6 \mathrm{in}$. shaft
45c ea.; \$4.80 doz.

SELECTOR SWITCHES
With Knobs and Plates


Single Pole
witches are so constructed that switen cannot be loosened in panel by turning knob. Dennite stops are provided so that undue force aennot be upplied to contating members. Knobs are keyed to shafts to prevent their slipping. All contact members are of epring phosphor bronze and all insulation of belaor material. Bhait is entirely insuleted from electrical circuits, thus eliminating danger of shoct.
Furnisited complete with metal etched plate with walnut background and old blate with walnut background and old ber of conttects. Walnut bakelite knob with key glot to prevent backiash, and With key glot to prevent backiash, and
hexagon nut also furnished.
hexagon nut Also iurnished.
BINGLE POLE
Cat. Contacts Price Cat. Contects Price

| No. | Contacts Price | No. | Contacts Price |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 4185 | 4 | $\$ 0.85$ | 4188 | 4 | 8150 |
| 4186 | 7 | .90 | 4189 | 7 | 1.4 .7 |
| 4187 | 8 | 98 | 4100 | 9 | 180 |

## Toggle Switch



With Long Flexible Leads 5 amperes, 120 volt. Approved b v inderwriters. if 16 in. shank.
Cat. No. 4112
17 c
S.P.D.T. Toggle Switch SHOBT BRANK Cst. No. 4105 LONG SHANX
Cat. No. 4104

## 23c

Double Pole, Double Throw Toggle Switch Cat. No. 4115 45e ea.

Toggle Switch
With Long Neck (11/4 In.)


For Wooden panels and cabinet work. 3 smps., 225 volte.
Cat. No. 4110
Price 17e

Circuit-Closing Double-Throw Switch


For Phono-宣dio and Pubue Addrese Sjuteme

Used in cathode circuit of radio for shorting to ground or closing phono pick=up oircuit.

Cat. No. 5285
38e ea.
GENERAL ELECTRIC Three-Circuit Toggle Switch

Same sppearance as nbove. but makes and bresks three lines at one time. Ins many uses in radio-phonotraph, aet ent lyzer and public address work.
25c each Cat. No. 6966

## ACRATEST

Single Pole Double Throw Switch


125 V. 5 A. Approved by Underwriters' Lab.
Cal. No. 5286
49e

## GENERAL ELECTRIC

 Filament Switch8 ampere at 110 volt, 1 ampere at 230 volt. Ail bakeilto housing. One hole mount will At any set. 8 in. by the underwriters.
Cat. No. 4121


## Our Price 20c

Yaxley Filament Switch
Very fast make and break. Compact, sturdy and one bole.
Cat. No. 4108

> Dur
> Price 20c

## Push-Button Switch

A new Carter development-a perfectod puab-button type switch that is both adeptable and reliable in operatioli. Bame rugred construction as Carte short Jack switches. Uniformly tem pered steel, csdmium plated springs Posiretain their tension permane Bokelite tive contacts, non-corrosive. Bakelit knobs. Fully Insulated.
NON-LOCKING
Contact is made vhen
prossure $0: 1$ knob is released.


Cat. No. 6712
40c Ea.

## Automatic Electric <br> Turntable Switch

This device. when installed on sny elec. trio turntable, will shut the current off when the pick=up When the the end of the record and the trm comes in contarm comes in conUsed on sil RCA and Vletor Radio-phonograph combinations.


Cat. No. 4222
25c ea

Yaxley PhonographRadio Switch

Osed in Temple sets.
Has neatral position.
For panel mounting and snob control.
Cat. No.
4119
Our Price 15c ea.
Carter Switch Jacks


Double Pole, Double Throw. Complete with Knob.
Cat. No. 6548-List Price $\$ 1.00$
Our Price 40c
Rotary Snap Switch
For Fada and AC Dayton Sets
$11 / 8 \mathrm{in}$. Shaft
Cat. No.
5284
10c


Carter "IMP" Jack
sliggle circutt, open.
Cat. No. 5491

## 10c

Rotary Snap Switch
3 amp. 225 volts. with 15 in . pigtails.
Cat. No. 4122


Dur Price 14c
Stewart Warner Rotary Snap Switch with Knob

Cat. No. 4114
25c each


## Carling Toggle Switch



Por Volume Control. sumich Combinations on sill A.C. sets. 125 V. 3 Amp.
Cat. No. 4118
25c ea.
CARTER CHANNEL Selector Switch
With Knob and Plate
Gives instant selection up to 5 channels with constant mpsasace of so ohms. ${ }^{\text {andvanced design for }}$ use in centralized radio installations, radio ing the listener enabling the listen of ${ }_{5}$ to programe with con5 programs impedance maintained throughout the line. Constructed to int into outlet box. The impedance coils are securely riveted to the frame and all wiring concesied. Depth of switch $13 / 4 \mathrm{ln}$. Screw oonnections provided to sll leads.
Fquipped with attractive brown bakelite knob, arrow pointer and escutcheon plate.


Cat. No. 5488

Lint Price $\$ 5.00$

This diagram inlustrates the wiring ond action of the selector Switch.

## 5432154321

Dur Price 85c

## I.C.A. CONVENIENCE Radio Outlet Plates

Will Fit Standard Electric Outlet Box
A.C. Set Outlet Plate

Antenna, Ground and Antenna, Connections Rich Brown Two-tone Bakelite.

Cat. No. 5501
List Price, $\$ 1.15$


Our Price 75c ea.

Speaker Outlet Plates

Equipped with Phone Tip Jacks and 2 Phone Tips.

$\begin{array}{clrr}\text { Cat. No. } & \text { Material } & \text { List } & \text { Net } \\ \text { 5482 } & \text { Bakelite } & \$ .85 & \$ .35\end{array}$
5199 Brass . 60 . 25
Antenna and
Ground Outlet Plate

Cal. No. 5500
Material-Bakelite

## Tur Price

 50 c
## BRASS

Radio Wall Plates


Made of 040 gauge brass with a brushed finsh thes mount on a standard switch box and are clectrically and mechanically perfect.
Cat.
No. "A Style
6595. "Antena-Ground"

4141 "Spzaker" ........... Jack

MAIL ORDERS TO R要 See Terms on Page 5

## ACRATEST SR. High Precision Condensers

Features:

1. Itecl
frame
cad-
mium plated.
2. Shaft.
hard-
ened

3. Condenser frame provided with three point chassis mounting. contect springe
4. ghaft mounted on ball bearing mechanism mounted on both end pletes. permitting free turning motion with perfect allmment.
5. Frame highly reinforced by means of Inter-stase shields
Perfect electrical isolation between gang units.
6. Extremely low dielectric losses.
7. Proper rotor capacity distribution.
8. Periectly electricully matched between suceessive inits.
Stator eection provided with individual trimmers.
9. High insulation resith giots lor per . Aitting adjustment to take care of distribution of capacity in set circuit
4 Condensers provided with extended low shlelds between stages.
These superhecerodyne rang condensers will match any of the latest coils such as the ones feaured on this page. Tire oscillator sectio:s is tracked and does not requira any padding conaensers. Becsuse of this reature the oscillator section is caslly ncijusted to turn with the others making single control possible. The sc curacy in gauging these condensers eng sures marvelous sedectivity and senslllvity.
The TRF condensers are accurately pauged and will lend high degree of selectivity end rensitivity to any recelver. complete shlelding and tow loss aid in conding leats rand assuring etsy tuning. Small in tize enablint mounting in smal spaces. With any of the page it will cover irom 200 to 500 meters. Des:gned so that the band is spread and no interference will result.

FOR SUPEBS POR STRATGHT B. F.
Cat. uangs size No. Gangs frice 3892 Two $31483^{5 / 8} 1 \mathrm{n}$. 335 T Two $\$ 1.75$ 5808 Three $41^{\prime} \times x^{35}$ in. 586n Three 5.51 se94 Four $51 / 2 \times 3 \%$ in. 5831 Four 3...is

## ACRATEST JR.

Precision-Built Variable Condensers


Construction embidies latest improcements, with 1 - plece bathtub type frame, interstage shlelding and individual compensators. Ball-bearing action throughout; $3 / 4$-in shaft; . 00035 capacity.

```
Cat. No.
Price
5720 Two Gang............ \$ . 98
5721 Three Gang......... 1.35
5722 Four Gang.......... 2.25
```


## ACRATEST <br> SHORT-WAVE Tuning Condensers



These condensers are of the halt shield type insuring 150lation be tween stages. They are all cased 1 n heavy alumin-
 um isames and tapered 105 remark able wre spread. Easliy mounted and precise in operation.

| Single | Cat. No. | Price |
| :---: | :---: | ---: |
| .06914 | 6854 | $\mathbf{9 5}$ |
| .00025 | 6855 | .95 |
| .00035 | 6906 | .95 |
| 2 Gang |  |  |
| .00014 | 6708 | $\mathbf{1 . 5 0}$ |
| .00325 | 6856 | 1.50 |
| 3 Gang |  |  |
| .00014 | 6709 | 2.50 |

## U. S. L. Midget Condensers

For Short Wave Sets


When used as a neutralizing condenser the DE JUR Midget Condenser is far auperior to the "arious ty $43 s$ of "spring" conbe uset as be used as a redenser in certain circuits or as a means of greater selectivity when ylaced in series with the antenna circuit.

| Cat. No. | Description | Our Pric |
| :---: | :--- | :---: |
| 5256 | .000025 Mfd. | 43 c |
| 5257 | .00005 Mfd | 55 c |

Bakelite U. X. Sockets


Cat. No. 4051
Regular Socket 15c

Cat. No. 4075
Spring
Socket 20c

## BENJAMIN SOCKETS

## Green Top - 5 Prong

 ritive ionger life and protect tubes irom those sudden imor its which destroy hester, grid and plates.
Positive side wiping
connections.
All mounted bakelite.
Cat. No. 406130 e eacha

## BAKELITE Wafer Sockets

Special construction makes short circuits or Ilashovers im possible.

Cat. No. 40004 Prong-
201A, 226, 112A, 171A, $245,210,250,280,281$, 230, $232,231,234,82$


Cat. No. 406 $56,284,237$, 288, 289, 247.
Cat. No. 6934-6-Erong-5\%, 6s, 8

## 6c ea., 60c doz.

## Genuine Eby Sockets



Eby UY and UX Sockets are the standard of quality. They can be mounted above or below metsi. Bekellte or wood pancls. Molded of genuine Bakelite with a bitiltin guide for the tube pronge. Phosphor bronze contacts so designed thet their spring action cannot be damaged no matter how often the tubes are inserted or withdrawn. Btandard packsges of ten.
SUB-PANEL TEPE

| Cab. |  |  |
| :---: | :---: | :---: |
| No. | Pronss | Price |
| 5875 | $E$ | .16 |
| 5876 | 5 | .16 |
| 6936 | 6 | .80 |

## Base Mounting Sockets



Phosphor hronze aprisgs and knurled posts, 4-ProngCat. No. 5675 5-PrunE-
Cat. No. 5676
6-Prong-
Cat. No. 6937

## Our Price 12c ea.

## Sub-Base Mounting Sockets

## 4-Prong-

Cat. No. 4080
5-Prong-
Cat. No. 4081
6-Prong-
Cat. No. 6938


Ont. No. 4080 Sub Base Mount
12c ea., $\$ 1.20$ doz.

## Two Sensational Achievements in Sound Reproduction

At no time in ite development was any particular heed paid to the coat of material and only the very best equipment goes into the manufacture of these amplifiers. The fact that tre mendous production was started once on these amplifters was the first indication that thelr cont would be extremely low as material could b purchased in large quantities.

The publio sddress field has constantly been plagued with expenslve equipment which did mot prove its worth, nor operate in the pignner in which it was advertised. Do not urider any circun. stances compare this amplifier to lowpowered and exasgerated output am. pllfers ald exativer These amplifiers are made of only the finest parts obtainable,


CADMEOM RHATED CHASSIS

Super-Power Semi-Class B 245 Power Amplifier

3 Stage<br>250 Power Amplifier

Cal. No. 101

Cat. No. 107,
$\$ 18.50{ }_{\text {Tabea }}^{\text {Lese }}$

$\$ 24.50$<br>Ress Tubes



> Power Output--10.8 watts
> Power Consumption-55 watts.
> Power Supply-110-125 volts 60 cycles A.O.
> size- $11 / 1 / 2 \mathrm{in}$, long, $61 / 2 \mathrm{in}$, wide, 7 in . high.
> Employs 2-57, 2-245 and 1-280 Tubes.
> Set of Univetsal Tubes . . . . . . . . . $\mathbf{\$ 2 . 6 0}$
Set of Artcurus Tubes . . . . . . . $\mathbf{\$ 3 . 3 9}$

Amplifer development has taken rapid steps in the last few months. small output tubes can be made to develop tremendous power in new circuits. Where ordinary push-pull 245 ampliners amplifer enables an undistorted output of 10.3 watts, and stil maniniaining exceptional quality.

## Circuit of No. 107

This ampliner is operated as a standard class A audio ampllfer untll its output reaches 4 watts; then a change takes place and the 245 tubes turn into class $B$ tubes and the result is tremendons output. This change is, taken care of by the special attenuator control and is not's sudden change, but a smooth, graduated gain.
The irst stage in this smplifer uses two of the new type 57 pentodes. These tubes sct both ss the voltage amplifiers and a power stage transferring a substantial ampunt ci energy bridge-coupled to the specia! jutput stage.

## Power

The maximum power output of this smplifier is actually 10.3 watts. At this output the quality is as excellent as at lower levels! The gein of this ampliner in decibles is 80.

## Quality and <br> Peformance

The reproduction of this amplifer is excellent and is par. ticularly recommended for rezording, medium sized public address systems and sound cars. The response from this ampliner is good from 30 to 10,000 cycles.
This amplifier will all an au* ditorium or theatre seating up to 3,000 people: will uperate 3 aditorium dynamic speakers at maximum and can handle up to 6 such speakers with trimendous power.

## Universal Inpat and Dutpat <br> \section*{Connections}

The input transtormer of this ampliner is wound for a tandoard sabgle or double button mercophone and for 8 low impeatance or high impeanace phonograpp plackup. The out. put is wound to match stanaard voice colls and high imnetics.

## Gain Control

The gain control on this amphifier is no ordinary volume control but a specially constructed dusl potentiometer giving excellent regulatton over the entire output range. This control is equipped with a graduated plate for scallng volume levels.

## Circuit of No. 101

This amplifier consists of three stages. The arst stage uses a 58 gs - high gein voltage amplifier. This stage acts as a per-amplification unit, which gives added power to microphone or phonograph input. This stage is coupled by a balanced bridge of resistors to a 56 intermediate amplifier which is transfc*mer coupled to a pair of 250 tubes.
The secondary of this transformer is equalized to keep the amplifier from reaching distortion levels and maintains pure tonal quality under all condltions. The input transformer provides for phonograph, rs-

## Power Output-11 watts.

Power Consumption- 130 watts.
Power Supply- $110-125$ volts, 60 cycles A.C.
Size-16 in, long, 11 in wide, 8 in . high.
Employs 1-58, 1-56, 2-250 and 2-281 Tubes.
Set of Universal Tubes $\$ 6.25$
Set of Arcturus Tubes
$\$ 13.00$
dio, and microphone coupling The output transformer is tap. ped at the following impedances: $9,15,500$, and 4000 ances: The 9 , ohm winding is ohms. The $\theta$ ohm winding is ior couping o Wright Decosta and similar speakers. The ohm coil is for recorders, namic units and RCA 500 ohm phone speakers. The sor ohm miner tines white the 4000 mixer secondary is recommended for magnetic monitor speakers and dynamics that already contain output trans. formers.

## Quality

A true straight line curve from 30 to 10000 cycles has proven that the Acratest Laboratories have really attained perfection in this outfit. The audio transin this outnt. ars andl of the large upright type and use the large upright type and use the Inest grade ol pire sincon ane cores. a his enabies ane requency respor which ner ouistanding.

## Performance

This amplifier will all a hall, theatre, stadium or an auditortum seating up to 4,500 people. It is capable of filling to maximum 4 auditorium type speakers but will handle 6 to 8 such speakers with ample power. special outpui is provided for use with exponentlal horns. equipped with dynamic units.

## Attemuator Control

A control is provided on the front pane! for easy access. rhis gain control moves in a logarithmic curve from complete silence to a deatening coar with volunse graduatlons n smooth stepless attenuation. rhis gives complete control yyer both the mplit and out. put. A graduated scale is plo. vided for cnarting vartous output levels. At all volume levels the same pure tonal quality is maintained. Instructions on outpu: levels for recording and various :leed auditortums are tiscussed in the instruction sheet.

## Potwer

Gonerally amplifiers of this type ere rated as having an output of from 12 to 15 watts When measured on nctua Western Eleciric standards the true maximum outjut of 2 230's in push-pull was oblathed; a full 11 watt. The gain of this amplifter measured by the same standards wiss tound to be 87 D . B .

> Additional Amplifiers on Pages 53 and 54

These Acratone Amplifiers have been continusus on lest for over a month to assure long iffe and their ability to meet varying conditions. The heavy duty power transformer is constructed for an extremely large safety margin. Au elcctrostatic shield is used between the primary and high voltage winding to reduce the capacity and remove all possibliliy cf orcing between. The temperature rise over a period of 24 hours was 42 degrees Centigrade from normal room temperature.

# LOFTIN－WHITE AMPLIFIERS 

## LOFTIN．WHITE ＂245＂Amplifier <br> （Hoensed）

For Use in Home Phonograph Reproduction and Small Public Address Systems


Employs 1－＂45，1－24，1－＇80 Tubes Completely Assembled mad Tosted （less tnbes）

This job is Ideal for home use sis recording amplifier or phonorraph sm－ pllifer．For commercial purposes this unit is recommended for use as as line booster


TECHNICAL INFORMATION
When used with a microphone，no addi－ tional amplification is necessary．This is due to the inherent characteristics of these ampllfiers．The high impedence these ampllifers．The high impedance secondery of the＂mike＂transiormer au－ tomatically incrasses the gain of this
system and compensates for the low input system and compenastes for
voltage of the microphone．

The output of the＂ $248^{\prime \prime}$ Amplliner is conservatively rated at 3 witts．
＂2H5＂AMPLIFIER－Completely Fired nad Tested（less iubes）
Cat．No． 76
Our Price \＄13．50

## Loftin－White Single Pentode Amplifier

The single 247 （Pentodel amplifier： Uees $1-224,1-247$ and $j-250$ ．The output of this unit is about 4 watts．For high rain this unit is recommended for y⿴⿱冂一⿰丨丨八又土 in the same purposes as the 245 amplifer．

Cat．No． 82

## Our Price $\$ 14.95$

The Loftin－White＇250＇

## （Llcensed）

For Theatres，Public Address and Microphone Amplification
Employs 1－＇50，1－＇A4，1－＇B1 Tubes
The＂ 250 ＂Ampliner will successfully do the work that much higher－priced ampli－ ners have been doing in the past．For phonograph reproduction this model can be relied upon to dellver suificient volume to fill a hall containing up to 1,500 people．
The undistorted output of this unit is 6 watti．For small public address system Whtts．For small public address systems this job is used extensively．The ampli－
ner is adaptable for phonosraph，micro－ phone and radio inputs．
The output of the＂ $250^{\circ}$＂is from 6 to 8 watts，undistorted．
＂usin＂AMPLIFIER－Wired and Tested （less tubes）
Cat．No． 78
Our Price $\$ 19.95$

## The Midget 250 Push． Pull Amplifier．



This unit is the most recent develop－ ment in sound systems since the intro－ duction of the large power tubes．Up to this time to procure great volume， to this time to procure great volume， ampliaers which nocessarily critice and layout pensive，which involved critical layout， large transtormers，ohokes，etc．，as woll and distortion，by the use of a new method of direct coupling，it eliminates transformer distortion botween tubes，and the other commonly known evils of the old type of mpliner． $3-224$ tubes in push pull feed， $2-250^{\prime}$ s in push pull， 8 － 281＇s rectifers．The output is rated at 13 watts．Its gain is 90 DB＇s at 400 cycles．The eurve on the amplifiar is comparatively fiat and shows only a 4 DB drop á 10 EC．Power consump－ tion is only 125 watts at 110 volts 60 cycles．At this remarkably low price，wo have brought out an amplinar which ex－ coeds in performance the majority of other units selling at much higher prices． other units selling at much
Sultable for Phono，Mike ind Radio Input
Cat．No． 285
\＄24．51

## 250 Push－Pull De Luxe

 Amplifier：

The output is rated at 15 watts and has a tapped output of $9,15,500$ and 4000 ohms．The input is edapteble to Microphone，Radio and Phonogreph which are bullt into the amplifier．This is the last word in Loftin－White anvolisica． tion，and uses 2－294＇in purh pull foed－ ing 2－250＇s in push pull with $8-281$＇s as rectifiers．At 400 cycles，the gain is 125 DB ．It is ldeal for large installe tions where several speakers are used． The unusually high gain elimingtes the necessity of a pre－mpliper for micro－ phone．Due to the new method of di－ pect coupling used in the unit a degree of tone quality and volume is aftained whtch has nover before been offerdd．
At full volume，the percentige of dis－ tortion is sbout t\％and the amplifier ranges irom 30 to 9000 cycles．

Mounted in strong steel crystal （black）finished chaseis the unit is the last word in amplithers from every angle． A tapped output with engraved symbols miakes for ease of operation．The input is also tapped for microphopic，radio and phonograph inputs．The gain control is built in．Bize－10＂$\times 10^{\circ} \times 81 / 2^{\prime \prime}$ ．
Sultable for Phono．Mike and Radio Input
Cat．No． 79 NorldRadioHistor 2.51

## 224－247 Double Push－ Pull Automobile <br> Amplifier <br> This unlt is the outcome of Expert

 menting for a high gain amplifer at low cost and low power consumption．It ha an output of 7.5 watte．The job will operate 1 rom any 00 whet generator of the conventional type：oi from the new much advertised and used 110 volt generator dealgned to work from a volt storago battery．This last uift is no larger than a＂$B$＂battery．
Previous to thls a lerge and expensive ampliner was necessary to procure the same amount of volume and nomblned with this a power supply consisting of With this a power supply consisting of several storage batteries and a larde gen－
erator or a gasoline driven motor wat erator or gasoline driven motor was needed．Al this has been oliminated by the uso of the above described smpll let．Blte－ $10^{\prime \prime} \times 10^{\prime \prime} \times 71 /{ }^{\prime \prime}$.
sulteble for Phorio，Mike síd Redle Inpet Cat．No． 288

Lese Tubes
$\$ 29.50$

## Push－Pull Pentode Amplifier



The new A．O．Pentode Double Puigh Pull Amp．uses 3－2it in push pull smpitice tion resistance coupled to $\frac{2-247}{2}$ pentode in push pull．This unit＇has sain of 66 DB overall，making an ideal amplifer for microphone installation in medium sized halls，small parks and Indoor or outdoor amusement resorts．The power output is 7.5 watts undistortad，with quality of tone unusual in comparison to the average pentode ampliser．＂The pilt 8 equipped with matching transforme input or phono radio or mircrophone making an ideal arrangement for general purposes．Mounted on heavy steel bige anishing in black crystal．Bize－19＂ 2 to $\times 81 / \mathrm{a}^{\prime \prime} \mathrm{hlgh}$ ．
Suitable for Phono，Mike and Madio Inptit Cat．No． 286
$\$ 29.50$

## DC High Gain Amplifier



Has an undistorted output of 2.5 watte． Uses 1－237 and 2－257 output tubes in push pull．This output is equivalent to the output of the average 245 ．mpliner．${ }^{\text {an }}$ tone control is supplied to vary the torie to any degree desired．The circuit is， high galn two stage unit taking agvari－ tase of the new D．C．pentodes and giving a tone quality never before aco complished on D．C．at this volume．It is ideal for microphone input．vers compact，it has the unusualiy low curront consumption of the ampere．In addition is no more costly than any A．C．unit of the same power．size－ $113 / 4^{\prime \prime} \cdot \mathbf{x} \cdot 81 / 3^{n}$ $x$ 8＂．
Sulteble for Phono，Mise and Radio Impt Cat．No． 287


## 10 Watt Transmitter

The low power universsl transmitter described in this article represents the most advanced design for this class of equipment. The clrcuit employs a '24 speech amplifer, resistance coupled to a pentode modulator which leeds into a pen tode oscillator. The rectiner is a pulle Wive '80. type tube. The output of this tranomitter is rated at 10 watts. The power equipmient specifed has a 75 per
cent overload safety
 (actor. The anten ns:system ts of the absorption type. The oscillstor is of the well - k in own Iartiey dessn, wha light modincs tlons, readily noted lrom the schematic liagram. The Hel sing or plate modu lstion system is used. An important testure of the delign is the fact supuly one powe supply and a single source ol blas ar ased thenient swito A convenlent awite on the lront pane permits rapid zhange from C.W. phones short the switch, when on key and cuts., in the modulator. C . c . at C. W. position, it cuts out the modulator and speech ampliner, so that only he oscliator listened wh or a wave-meter should be used to check the wave-length sccurscy.

The universal 10 -watt transmitter is buil on a rugged aluminum irame, 10 Inches wide by 14 Inches high by 9 inches deep. The microphone and the key are connect ed to binding posts st the back of the the antern. The irame is grounded, bindin post located alongside of condenser (31) The switch for changing over irom whone to C.W. is conveniently locsted on the front panel. Thls panel also carries the milliammeter, the microphone gain con trol, the tuning dials for the variable condensers (27 and 31), and the microphone and line switches.

The Universal Tranamitter deslgned by Messrs. Werner and Blair is exceedingly effecient. The following aro a few of the atations worked during the first week the transmitter was on the Eir: EAR116 (Ipain), 40 -meter C.W.; W4IU (North Caroline), 160-meter phone; W8ACI (Pennsylvanis), 160-meter phone; Wrlz (Oregon), 10 -meter C.W.; WZZZAT, Expedition in Yueatan, kept schedule on so-moter C.W. Although the eatpat of this transmitter is only 10 watts, it is capable of reaching out to very great distances, not only on C.W. bnt also on phone. Ineldentelly, this job ls lisht, compact, and comparatipely Inexpensive. (This tranamitter is fully deseribed in an article by Mr. Werner in the Angnit 1830 2sse of "Short Wisve Craft.")
clalized branch of the radio Industry In itself. We felt that when we did decide to offer transmitting apperstus, it would not be of the ordinary run, but extraordinary equipment deigried and constructed by experts in the fleld. We have been cortunate in securlng the service: of two ploneers of the key and phone, G. Leonsid Werner and Haskel Blair, who have designed and bullt transmitting apparatus for meny yosrs and who sro tup to the minute on the subject. The equipment described on thls page was designed and built under their personsi supervision, and incorporate the Isst word in transmittor dealgn. In Inaururating this departmient, wo havo festured only such items for which there is a general demand, of slmple construction and easy to operate, yet oxtremely eficient. If you art inter. osted in building or having ng build for yot miny xpeclal transmitting spparatus, or wish to ask any questlone on the mubject, we will be glad to have you write to Messrs. Werner and Blalr, Who will sive your fetters their permonel attention. II you know of any other Items which should be pemtured in this department, tell ws.

## 50 Watt Hartley Oscillator



Cat. No. 129

Less Tubes
This oscillator is one of the most emicient circults in radio tudey, and we offer this effcientify made job to the experimenter, commerclal and amateur operator. Thls job is completey wired and 15 supplied with 20 . 40 and 80 meter coils. The latest and foremost equilpment is used in its construction, and it Is 80 designed as to be adaptable for phons work. The niament is center uses one 50 watt tube as oselllator.

## Listening Monitor

We are offering at this time a new development, it consists of: a completely wired unit employing the long sought for band spresd on the 20,40 , and 80 meter channels. On each of these bands. We have almost a 100 degree spresd. It employs the new type 230 tube snd the ontire unit including $A$ and $B$ batteries In a neatly crackled inished metal can No. 5X9X6. A Burgess 2 volt battery and small $221 / 2$ volt battery with a 230 tube $w i l l$ be supplied for $\$ 2.00$ extra.

Cat. No. 131
$\$ 9.00$
Less Tuber and Batteries

## 50 Watt Transmitter

50 watt phone and C.W. crystal control transmitter, conplete with power supply.


Cat. No. 127
$\$ 350.00$
Less Tubes

Consists of 210 crystal oscillator, 2-210 erequency doublers, 2-50 walters - thype 511) in parallel as modulaiors, modulating a 511 as the final amplifier. Au 80 meter fundamentsl crystal is supplied a;j are volt meters, millismmeters and antenns meter. All controls, switches, volumo regulators, jaciss, etc., are out on the bakelite paneling. equipment such as Cardwell, son is ūe?

## KOLSTER Push-Pull 245

## Power Amplifier and

 Matched Dynamic SpeakerFor raclo, phonograpln, publle address systems for lecture and Concert Halls and small auditoriums. Reproduces speech and muslc with marvelous fidellty of tone.


The amplitter has two stages using the 227 in the first and two 245 tubes in the push-pull stage with a 280 rectofter. Kolster Dynamic speaker to match. For 115 volts, 60 cycle alternating current.

## Cat. No. 102

## Dur Price \$16.95

(Less Tubes)

## Screen Grid R. F. Tuner

This unit consists of complete R. F. section to be coupled to any audio unit. Uses 4 space 224 tubes and will operate on either A. C. or D. C. current. The condenser gang is completely shielded as are the R. F. colls. A Sine adjustment of the volume may be obtained from the volume control which is included in the unit.
Cat. No. 132
$\$ 13.50$
Less Tubes

## To Meet the Great Demand

Great News for Battery (9) Set Buyers !
RADIOLA 28
8 Tube Super
Complete With Eight Radiotrons

| Brand <br> New in <br> Original <br> Factory <br> Sealed <br> Cases | Cat. No. 28 Llst Price, \$260 <br> Radiola 28 Second Harmonic Superheterodyne in distinguished and graceful two tone mahogany cabinet. Ample compartment for all batteri directiy unc-r catacomb easily accessible by |
| :---: | :---: |

raising hinged upper section of receiver. Tubes used and furnisined with recciver are 7 UX-199 Radiotrons and 1 UX:-120 Radiotron. Same tubes used whether recelver is operated by batteries or eliminators.
Just the set for the home without electricity, for sallboats, tourist camps, houses on wheels, etc. Will work anywhere without external connections. Fully selfcontained.

This set is very sensitive and powerful and yet uses dry cells throughout. Employs twelve $13 / \mathrm{V}$. No, 6 Dry Cells,-Cat. No. 6656

Three 224 V. B. Batteries-Cat. No. 6685 -and two 45 V., B. Batterles. Cat. No. 6905
compleis witi all emterehes. TUBES AND RADIOLA 103 SPEAKER READY TO PLAY
Cat. No. 128

## Radio Set Analyzers

 AND HOW TO USE THEMWith Irull Instructions and Descriptions of set Analyzers, Tube Checkcre, Oscillators, Etc.
By L. VAN DER MEL
This book explains thorortghly the operation of set analyzers, tube checkers, osciliators and other testing equipment For every radio man this book is extremely helpiul. It covers every phase of testing and gives you valuable short cuts.

Our Price 50c

## Cat. No. 200

List Price, $\$ 295.00$

Special
Our Price \$29.50
$\$ 22.25$


Bize: $19 \times 5 \% / 4 \times 53 / 4$. Weight: $163 / 4 \mathrm{lbs}$. List: 584.00. (Less tubes.)
You cen sow convert at very little cost Radiola 28 's and 25's io modern Power Ampliffed all-electric receivers by using
this Powerizer Power Pack.

This Pack is a double action Unit when used with these receivers. It does away with all batterles, supplying complete $A_{\text {, }}$ $B$ and $C$ current ior all ciee 109 tubes in the set in addition to supplying a stage of 210 Power Ainplification in place of the 120 tube giving unstrpasses tone and tre mendous volume. It is a revelation.

This Powerizer approved by RCA.
Very simple to connect. Uses the UX210 and 280 tubes. Operates on 110-120 Volts, 50-60 Cycle A.C. current.
R-25-Cat. No. 4481 For Radiola 25
R-28-Cat. No. 4482 For Radiola 28
Our Price $\$ 18.75$


RCA-Victor End Table Electrola

Dimensions: $247 / \mathrm{in}$. 16 high: deen: 56 in. wide.

## POWERIZERS

## R-25 and R-28

ABC Eliminators and Power Amplifiers for Radiola Models 25 and 28
$\$ 16.50$

Cat. No.
269


Beautiful Walnut veneered cabinet. Spacious ledge for records. 8 1t. electric cord 20 fet. cable to Radio set. Will make a phonorraph combination of any radio. RCA-Victor electric motor and Victor pick-up. Radio-record tramsier control; phonograph turntable, starts and stops automaticady.
We Carry the Largest Assortment of Wire in the Mail Order Business. Our Prices Are Below Market. See Pages 76, 77 and 78.

## Universal Model

## ${ }^{6} \mathrm{Q} R \mathrm{Q}^{6}$

An exceptionan ezcoptionsmall low cost microphone microphons for smateurs, experimentern and for sny instalion ing a u cimple single -b uttion microphone. Q R Q is an cxact replica of the replice dard Broadcard Model in
 as modence. It is is $84 / 3$ in. high and is nnished in besutiful pol-

Purnished with 8-fi phone tip cord. packed wi., 1 lb 1 os. LLat Price $\$ 5.00$

Cat. No. 212

Model Q R \& is singlo-button, 100 ohm carbon microphone with high sensitivity and clear natural roproduction. The button is colid 24 -rarat cold faced. giving it extremely lons life.

## Dur Price $\$ 2.94$



Cat. No. 206

## Llst Price $\$ 7.50$

Baby Mike is a genuine staglebutton os is on
 ohm remistance. $t$ is mounted in Ing $31 / 2$ inches ng 3/2 inches ang-s repica Brosiont mode It may be conmay be connected to smplio ers or cirect to lmost any radio et. beautiful miniatut microphone finlshed in titrac le 11 mod tive polishod

It 13 shipped to you securely packed and completely furnibled with prong r.dapter for connection to tube, pin plugs of connection to jacig or Finding postis, $25-5 t$. cord. detailed instruction sheetin short, everything needed to hook up ready to enjos the fun.
Our Price $\$ 3.95$

## Universal Model "LL"

An extra rusted, neavy type, twocophone The entire essembly tis of hith carbon steel. grousid to within . 001 of an inch necuracy. the ditaphragm is alloy of exaonly the proper of exaoty the proper hardness sad stretch sults. Pure gold consults. Pure gold coneach side. The masterlals used and the precisiod of manufrecture combins to make this model stand out as the superlative microphone reproducing tinge


Net wt., 21/4 Ibs. 34 1bs.

Cat. No. 211
List Price 875.00

## Universal Model "A"

America's Most Highly Developed Single-Button Microphone

## New Heavy Duty Design

The now dealgn of the heavy duty Model "A" microphone incorporates improvements that lift the performance of this most retined s/ngle-button mierophone above anything previously considered possible. The new type of periorsted protective fading more than doubles the effective fres of the disphragra.
Model "A" 1s conetruoted with golid. 24 Et. gols faced button and highest grade carbon granules which reduce hiss to e minimum. Fquipped with sn extremehy thin, If weight diephratm whloh is slso gold isect. The seientino dsmpling permits Model "A" to hindle frequencles irom 100 to 8,000 cycleen


Cat. No. 208
Net weight 1 lb Paoked weight $11 / 2 \mathrm{lbn}$.

Lust Price $\$ 15.90$

The single button

## Dur Price $\$ 8.82$

 200 ohm reselenitan is diemeter colstace. Model " $A$ " is 8 In. in inmater oy $11 / 4 \mathrm{in}$. thick, It is beautirully plated in polished chrome and can be mounted in varlous ways. Model $K$ Desk stand or $81 / 4$ 1n, suspension ring recommended.
## Universal Model "BB"

## 1933 Value-New SuperDesign

The super-microphone in every sense of the word. No other 2-buton microphone csi give such euperiative value for such a low nearly twice as hesvy as any other milcro hone in its class. Built to hair-line precision. An ides of the rugged Cat. No. 209 by the fact that model Net weight 1 lb . "BB" is $2{ }^{1 \mathrm{ln}} \mathrm{m}^{1 \mathrm{n} ~ \mathrm{dil}}$ Packed welght 1/3 lbs.
List Price 525.00 it is bullt especisily or voice-pickup, pubfor nadress work and ters. experimenters. halls ofll rooms epeak. or wegons, etc. Fin. ished in begutifully fin. shed indy polished chrome niphly polished Model "BB"
ra hespy 24 has extra heavy 24 -KKt. tors. Duralumin Diaphragm and has a irluquency range of from 70 to well over 4,000 cycles, 200 ohms per button.
Owing to the large size and weight of Model "BB." it is. recommended that Model "L" dosk stand be used for mounting instead of Model "B:" eapecially when ing instead of hat

All Microphones are shipped in original factory sealed containers. Due to the delicate construction of these instruments, repairs and ad. justments are made by the factory only.

## Universal Model "KK"

## A Top-Notch Double-Button Broadcast Microphone

Only supreme perCormance and your after year dependablilty can explain the isct that the 1 m continues to be the continues to bs the most popular \& n lastest seming 50.00 market.
A substantial, sol(d, two-button broadcast microphone, with s. very minimaim of hiss. Model "KK" is carefully constructed of the nnest materials with a $24-\mathrm{Kt}$. pure sold spot center pure sold spot center which is held under tension Diaphrem hes s thickness of only 002 in .
The froguenoy
range of Moder "řk"
is all thet can be


Not weight, $1 / 4$ lbs.
Pacied weirht, lbs.
Cat. No. 210
List Price $\$ 50.00$
 desired in s carbol from 30 to well over 6000 cyelef. The buttons ere of 200 ohms a sisthe ine mitire microphone onished in $k=1$ ent untre microphone maisheq in $\pi=-1$. pol shed gold. It is $21 / 2 \mathrm{in}$. in ditmeter sind $11 / 4$ in. thick.
sach unit is carefully laboratory tested before ahipment.

Universal Model X Two

## Button Microphone

A Sensational Microphone at a Sonsational Price


Diameter, 2ti" Thickness, over all. $1^{\prime \prime}$
Welght packed. 1 lh. Polished Nicsel Plete A two-button microphone Misting $\quad$ at
only 10.00 . Model Only $\$ 10.00$. Model X sets a new high at price that de. hes compritition. Model " $X^{\circ}$ conntme the reputetion for juallty and pertorimizcs. n 11 Unlversal products. Evivery es ontlal fempury ne esisary to thare ne perior performarice ond lone cere-frec service nes been inaervice has been incorporated in the deOngn of this madel. ial trinmints have men piminated to onable us to outer this remarkable microphone at this popula price
Faithful, truly natural tone. Puré Gold Contacti. Duralumin nontireakable didpliragm. 200 ohms per button. Very low hiss level. Scientifically Damped. Fre quently range from 1,000 to 4,000 rycies Model " $x$ " is ruggedly bult and anined in ion-corrosive, polished nickel piate Can be mounted in any Univer ing. Diameter, $21 / 2 \mathrm{in}$. Oversil thiceness, in.
Nowhere can a better microphone be purchesed at anywhere near this astonistingly low price.

$$
\begin{aligned}
& \text { Cat. No. } 524 \\
& \text { List Price } 510.00
\end{aligned}
$$

## Dur Proice $\$ 5.88$

FEDERATED PURCHASER is the premier radio replacement parts house in the U. S. A. 3,000 items carried in stock.

## Universal Condenser Microphones



The model herewth illustrated is the result of exhaustive experiments to produce a microphone for flum and disc recording, In which neld $90 \%$ of the production of this model is used. Universal Condenser Microphones are in use in nearly all parts of the civilized world in film recording and in broadcest studios.
Universal Condenser Micmodels, Model 1440 and 2440 rophones are made in two -the first having a single stage of amplincation and in the second, a 2 stage amplifier is used. They are otherwise the same in size and appearance. Following re detail description
A single stage milcrophone using a 440 tube with an output of approximately Minus 15, D. B., with an al most flat response from 82 to 7000 cycies. Ampliser drawn in one plece without seams or rivets. Amplifier base casting of bronze with transmitter head ring of brass. Neat and business-like in appearance, finished in beautiful statuary bronze piate. Battery required 6 V "'A" and 300 V " B ." The output is designed to feed into a 200 ohm oad or the input terminals of an ampliload. or the input terninals of an amplefer. Where a carbon microphone has previously been used, The curreat consumption on the 200 volt tap is only 2 milliampere with flament surrent of No amp. Siz. 6 inches by 3 inches. . Net Complete with : feet Rubter Covered
saielded Cable
Cat. No. 242.
List Price $\$ 300$

## 

A two-stage microphone using two 440 tubes with an output of approximately Plus $2 \mathrm{D}, \mathrm{B}$. This model is the same in every particular as model No. 1440, except the current consumption on the 300 volt tap is only .4 milliampere with filament current of .5 amp . Bize 8 finches by 6 inches by 3 inches. Net weigit, 12 lbs . Facked weight. 18 lbs.
Complete with is feet Rubber Covered shielded Cable
Cal. No. 243
List Price S350

## ©ur Price \$205.80

## Universal Suspension

## Rings

Made of nolid brass, for suspending microphones from ceilings or beams. For Luse especially with Models "A". "BB". "KK," or "LL," etc. Besutifuliy finished in polished claromium.

Size $5 \frac{1}{4}$ In. dismeter by $1 / 2 \mathrm{in}$. wide by $1 / 8 \mathrm{in}$. ihlck- 8 suspension springs included.

Cat. No. 3636

## $\$ 1.47$



Size $61 / 2 \mathrm{in}$. diameter by $1 / 2 \mathrm{in}$. wide by $1 / 8 \mathrm{in}$. thick- 8 suspension springs included.
Cat. No. 3621
Our Price $\$ 2.35$

## Universal Desk Type Mountings

## MODEL "K" DESK MOUNT

 WITHOUT COVERSModen " $K$ " is 5 inches in diameter and s used for mounting Model " A ", or " KK " is used microphones on 8 springs-the ideal way to suspend using 8 springs-the tieal way to suspend a microphone. lt may be used for the new hesvy "BB" but is r.o
this new larger unit.
The base is set in mouided rubber ring forming a cushion against vibration and preventing darnage to polished surfaces.
The entire unit is seautitully tinished in chrome plate.f Provided with inger ing for carrying.| Cable passes through ling horlow bese.


Net Wt., 21/2 lbs. Packed 7 high.
8 Suspension
Springs
Included
List Price \$5.00
Cat. No. 238

## Our Price $\$ 2.94$

## Adjustable Floor Stand

An exera heavy floor stand, with extra heavy base weighing 18 pounds. so that ail possibility of tipping is eliminated. The top ring is $6 \%$ Inches in diameter, four point suspension to accoms modate all large mic. cophones now in use. 'Total extended helght. 6 leet. It is smoothly operated with very positive ciamy lock, prevent ing falling of stand while exter ded. Fin ished In Statuary Bronze. making : one studio appear ance.

Cat. No. 333

## (1) Pr Pı®̊ce $\$ 8.50$

## Extra Heavy

 Condenser Microphone Floor StandBuilt especially for condenser microphones. An idea of its ruggedness can be attained from the main body tube which $s 2$ inches in diameter. The entire as sembly is statuary bronze plated and presents a fine studio appearance. A range at top allows for easy mounting. The sdjustment lock screw is frm and positive and locks. or releases by the gilghtest thumb pressure. Net weight, $211 / 2 \mathrm{lbs}$. Packed weight, 28 lbs.

Cat. No. 244
List Price $\$ 40.00$
Our Price $\$ 22.80$

## Model "K" Desk Mount <br> with Covers and Letter Shield

 POLISHEDCHROME FINISH
Desirable protection rom the curlous is becured by the beautifuly turned and screened covers of the covered Model "K". The covers are sprung into positon eliminating trick mechanisms which are jable to rattle Makes s substantiol and busisubstantial and busisame tand and irame. as on Model "rz" with as on Model " K " with
 out coyers.

Cat. No. 230
8 Suspension Epringe tneluded. List $\$ 8.00$

## Our Price $\$ 5.29$

## Model "L" Desk Mount with Covers and Letter Shield

The same type of covers as described for Model "K" are atted to the $61 / 2$ inch diameter of the Model "L"' mounting. Extra room is provided inside the ring and screened covers to sllow freedom of movement without danger of jar or shorting of wires. Polished chrome flnish, it is most attractive and business-like in appearance. Full instructions for mounting. Call letters furnished. Any letter can be mounted at no extra cost.
Net weight $31 / 2$ tbs.; Packed weight $41 / 2 \mathrm{lbs}$.
Cat. No. 232
8 Suspension Springs Included List Price $\$ 16.00$

## Our Price $\$ 9.51$

## MODEL "L" DESK MOUNT

 WITHOUT COVERSModel "L" is $0 \frac{1}{2}$ inches in diameter and is used for mouning Model "LL" 387 W . or New Type "BB". or other large. heavy types of inicrophones. An exiremeiy well-built and attractively Anish. ed in chrome plate mount following the lines of Universal's general designs. |Prcsents a highly professional appearance.

Entire sssembly $10 \frac{1 / 2}{}$ inches high. Net weight. 3 lbs. Packed weight, $41 / 2 \mathrm{lbs}$
8 Suspension Springa Included. List $\$ 10.00$
Cat. No. 239
(1)ur Price $\$ 5.88$

Banquet Stand


A beautifully inn shed stand of statuary Bronze, adjust able from 12 inches to 34 inches. The top ring is $63 / 4$ inches in diameter, our point suspenion. built to accom modiste ony is rfe nierpphone on the market. Can also urnish top ring of $51 / 4$ inches in dia meter. three point uspension to accommodate smsiler mic ophones now in use Weight of base, ounds, 80 the here is no possibil ty of demege beins caused by tipping.
Cat. No. 332
Our Price $\$ 5.50$

UNIVERSAL


New Bullet Type Microphone
With Tone Control and Battery
Compartment
Carbon Granule Type With Hiss Eliminating Filiter

A double button microphone siving the eppesrance of a condenser mike. Recommended to be used wherever the the sudience.

| Bullet | Cat. | Tist | Our |
| :---: | :---: | :---: | ---: |
| Microphone | No. | Price | Price |
| "BB"" | 217 | $\$ 50.00$ | $\$ 29.40$ |
| "KK" | 210 | 75.00 | 44.10 |
| "LL" | 223 | 100.00 | 58.80 |

Note: All Bullet Type Mierophones supplied with cable is shown. shpped with ort battery.
Universal Bullet Type Microphones ere the last word in appearance and performance for the lowest possiblo cost. prpecially recommended for use in pubicance of sppearince, besuty of design. gance of appearance, besuty of design,
and true reproduction of voice and sound and true repro
Careful tests have shown that the hiss level ci Universal Bullet Type microphones is iar below any background noise enesuntered in public address or similar work making the proved performance of Universal high grade carkon microphones especisily favored for that type of work
Univercel Bullet Type Microphones consist of a tube with a center partition, providing space for a standard $11 / 2$ volt ho. is fixed eel batteryj. Microphone hos is fixed, sssuring verticsi position at all times. Adjustment screw, operated through side of tube, fermits microphone edjustment for varying acoustic conditions. Flexible wire connections, lone onough to permit easy battery replacemont. Rubber cushions and spring tension Eides make s very rugged sasembly
thet permits a great desl of handling the permite great deal of handing formance.
Finished in highly polished luminum and chrome plate.

## FROST <br> Microphones <br> Desk Microphone

Cat. No. 6201 $\$ 4.60$

Hand Microphone
Cat. No. 6203
$\$ 3.75$
These microphones enjoy n enviable reputetion for Cheir excellent
performance
performance. Their design is based on over thirty-hve years experlence in the telephone manufacturing neld and they are guarsnteed to give complete satisiaction when used in proper circuits. They are not destgned for commercial broadcrating use, but are intended for amateus and general apparatus work. These microphones are very sensitive and rugged in construction. Avallable in two diferent stenderd stsles complete with cord.

## Universal Torpedo aType Microphones



This new type of Unlversal Microphone is supplied to meet the steadily growing demand or microphones which in themselves are lully protected, are more com pact, and can be quick Type Microphones of the design illustrated sre supreme in this seld. They combine in one instrument the recognized outstending quality of tested Univeral microphone performance with the specisi lestures demsinded.
Connection 18 made to three spring facks into which telephone pin terminsls are plugged. Not supplied with cord. The polished chrome plated perforated and creened cup housings are of hesvy brase and sre irmiy isstened, can not te removed accidentally. Suppifed in standerd Models "BB," "KK" and "L工."

| Model | Cet. No. | List <br> Price | Our Price |
| :---: | :---: | :---: | :---: |
| Torpedo "8B" | 226 | \$30.00 | S17.04 |
| Torpedo "KE"' | 228 | \$55.00 | \$82.84 |
| corpedo "LE" | 280 | \$80.00 | \$17.04 |

## Universal Single Button "Handi-Mike"

Pre-eminent $10 \%$ a 11 crophoine of singlecrophone of single-
button construction is desired. It is intended desired. It is intended for voice only and in this field it has maxiand clesn-cut speech reproduction

## production.

Handi-Mike is built in Handi-Mike is built in two models-"Regular" The iniversally enthusiastic praise this microphone is receiving is esphone is receiving is escompetition for superior home recording
Handi-Mike is Anished in besutifully polished chrome. It is equipped with an "on" and on cord, swit.ch $15-100 t$ cord, and provided with hanging while in or out of use.

## List Price $\$ 10.00$



## Our Price $\$ 5.83$

## Universal Double-Button

## "Handi-Mike"

Bame size and appearance as the Single Button Mike.

An exceptionally alear, highly damped hand inicrophone, desigued particularly for uses where clarity of reproduction plus general adaptability and portability are feneral adaptabinty and portabinty are important requisites-s microphone that s outstandins or its superior reproduction qualities. Especially recommended whers microphone hilust be used in close proximist to loud speakerg, stich as liome
The double-button Handi-Mike is 200 ohms per button. It is finislied in beau. tifully polished chrome and comes equip fed with a 6 -ft. silk brald covered cable.

Cat. No. 227
Our Price $\$ 8.82$

## UNIVERSAL

Miniature Microphones model w


Cat. No. 221
Cat. No. 222
List $\$ 3.00$
Our
Price
\$1.77
List $\$ 2.00$
Dur
Price

Universal Model "W"' is the smalles completely protected and workable singlecompletely provected manuiactured. sup button microphono manuiactured. sup plied particulariy for the many spaciad compact microphone that can be depended compsct microphone thst can be depenced upon to give iuli quailiy periormance. . s.a such
lapel.
High sensitivity, light weight and compactness are the outstanding features ci pectiness model. 200 ohms. Equipped wlth Pure Gold spot Center Diaplragm. completely enciosed. protecting it ngainst in. ury during handing and use. $17 / 3 \mathrm{in}$. in diameter. $1 / 4 \mathrm{jn}$. thick.

## The Super-Sensitive Midget Microphone

Universal Model "Y" is even IIghter emaller and more sensitive than Model W," described above. It is of the same eneral construction as cept that the front race of the micro chone is the diaphragn proper
Model "Y" is extremely sensitive. When placed in eny hidden position, it will pick up sonnds and convessations. Fiecom nended for ise where high sensitiva and be placed in proiected locntions, behind be placed in prosected locations, behind creen ore of the lese expenetve lype ut with some of the lase expla phrarm, great care must be esercised in handling

## RCA-Victor Hand Microphone

Prical Extremf!y Low!

Cat. No. 523

## (1)erfer pice 

## Manufactured by

Kellogs \&vitchboard \& Supply Co
This fine microphone is being used by RCA.Victor in their 5750 radio and phono graph combinations. Its extremely fine response curve makes it suitable for home recording, public address and amateur hroadcasting. The entire casing and handle is of steel in gun metsl Anish making it sturdy and rugged. It requires but 10 mills of current which may essily be obtained from a $11 / 4$ volt dry cell or power pack. For home broadcasting it is not necessary to use a coupling trans. former with this mike is it. win perform perfectly when inserted in series with the cathode of the detector tube. This mike 18 menufactured for RCA by Kellogg Switchboard and Supply Co, whose equipment is standard in 90 per cent of the
world's broadcesting statipne.

## Microphone Shielded

## Input Transformer

This unit is the esult of many months of designing and tests. The frequency is exceptionally fiat, from 80 to over 7000 eycles Primary is split- 100 ohms each side of the recondary impe. dance 18 of the order of 400,000 ohms. A
 larger unit than same price. The stze is $33 / 4 \times 31 / 4 \times 3!2$ inches. Matches impedance of all standard type carbon 2 -button microphones.

Cat. No. 2625 \$2.50


Two button unshielded microphone transformer with 5000 olim winding for standerd pickup and a center tapped secondary so that it may be used with pushpull tubes.

Cat. No. 7145

## $\$ 1.35$

## RCA.VICTOR

Low Impedance Electric Pick-Up Head
An exceptionally fine ptck: up head with a cobalt steel permanent magret housed in bronze finished brass case. Made by R. C. A. and used on R. C. A., Victor, Brunswick, G. E., Westingnouse and olher makes of radlo-phonograph combinations.


200 OHMS
Cat. No. $3670 \$ 1.75$

## RCA-VICTOR

Low Impedance Pick-up Head With Straight Neck
For rCA, Victor, Brunswick, G. E. and Westinghouse Radio-Phonograph Combinations 31, 32, 42.
Equipped with Spectal Victor Plug.

```
Cat. No. 7201
\(\$ 2.25\)
```

Brunswick Low Impedance Pick-up Head Same Neck as No, 7201 Above Cat. No. 7200 42.25

A New Super Hydro Double Action Pick-up

dan be used in nombination Radio and Phonorraph Broadcasting "Stations, Public Address Systems, Laboratory and Expertmental Work.
This unit is very efflient with much greater output and we recommend it as a competitive unlt, against any make, re gardless of price stze or output. A posi tive working principle and of the inde structible type.

Nest-SImple-Compact Construction
All workmanship Prectaton Bullt, with the finest grade of material obtainable unconditionally guaranteed. Beautiful statuary bronze finish.

The Free Movemen
of armature while in siding position will prolong the life of the record materially and allow for any warp in the record. The neddle will ralse sumciantly with the stylus to overcome this and not gouge the groove at the warp. Rubber onsulated needle screw top will stop any resistance foints where screw may come In contact with the case. The rubber bumper and rubber plece mouncedin back plate holds srmature in position in case of drop or sudden pressure on needle point.

The magnetic fux is equal on nill four sides of the Pole Pleces, giving a positive magnetic conter and air gap at both ends of the armature.
The New super Hydro brings out the fundamentals lost in nost pickups and with less scratch and $a$ full round tone.

STANDARD PHONOGRAPH PICKUP WITH VOLUME CONTROL
$10^{\prime \prime}$ overall length, $7 \% /^{\prime \prime}$ from center pin to needle point.
Cat. No. . ....Regular Hype $5970 . . . . . .$. . Regular High Impedance Dur Price $\$ 4.75$

- Can be used on Victor and similar receivers. Can be connected drirectly .to miorophone input transfoimer.
Standard Theatre Balanced Pickup


151/2" overall length. Arm is balanced
for required type.
Cat. ND. 5996
$\$ 5.25$

## THE NEW

"Upco" Chromatic
Professlonal Plek-np With Bullt-In Volume Control
As Used In Theatres and Public Address


UPCO'S engineers, backed, by limitless skill and expertence, have evolved this truly scientific, sensitive instrument, capable of reproducing all of the world's finest music with full justtice to the consummate art of its creators.

## Acraphone Microphone Input Stages

These units each contain the well known Acratest Microphone Input Transformers, microphoue


Brown Crackle Findshed 8teel Case rent control and $c$ uto and ch to pre serve the life serve the inie phone. Frephone. . range quency ' 5ange cycles. Input, standard micstandard microphone impedance; 400,000 oh ms. Com-
pletely shtelded to avoid feed-back
The unts is housed in a handsomely fnished black crackle steel box. A volume control with an "on-off" switch for turning current off the microphone are included. The volume control has a very fine adjustment not ordinarily found in other input stages. Battery compartment for $11 / 3$ to 6 volts.

Cat. No. 6528
For Single Button Mikes
Our Price $\$ 3.85$
Cat. No. 6529
For Double Button Mikes
Dur Price $\$ 5.50$

## Utah Electric Pick-Up



Cat. No. 4751

## Dur Price $\$ 3.85$

The tone arm is scientifically designed lo give the correct support to the pickup unit. The weight of the tone arm is carefully celculated to insure the right amount of Inertia for best reproduction. The pick-up is mounted in a manner to counter-balance part of fts weight, thut materially reducing wear on records Standard Impedance 7500 ohms at 1000 cycles. Supplied with 6 ft. cord with phone tips. Artistic brown fnish. In dividually boxed. We recommend our Cat. No. 8810 Acratone Volume Control at 90c.

## Universal Tone Control

A new accessory that means much added value. The tone control is used the the buttons of any microphone to change the microphone to change the tone to it adverse citched voices may be toned dowr. voices may be toned dowr. to normal, and grufi, deep votces may be .tuned io more potcer irequencies.

The tone control also permits an rdjustment in public address and loud speaker installations that eliminates the "feed back," resonance of ring-
ing e eho following the


Size, $31 / 2 \times 21 / 2 \times 41 / 2$ Net weight. 1 lb .
Cat. No. 220 pronunciation of certain sdjustable words. It provides a fiexible. adjustable element against these drawbacks when
working in a butlding liaving bad acoustics.

Our Price $\$ 4.70$

## Instrument Littlefuses

## (Low Voltare)

This line is
Lestred espect-
ally for the protection of 8 uch delicate equipment
gilvenometers,
micrommmeters
and millimmmetert, \& d 10
 Shome LeUSE Con角truction. fors festers. Psisued and pending. reio creuts, small radio and rectiner tubes, otc. See also "Where to useA Littelfuse."

Description Max. Aver.
Cat. Rating Doscription max, 5 mis. Uur No. Amps. Application M.A. Lond Price 6AS $1 / 100$ Use for Ealvanometers, microlind 0-1 mil-thermo-couples.
( 138
exel 1/32 0-1 to 0-5 millismmeters. 0-5 to 0-15 m. \&. thermo-couplés. 15 6B .18
$6645 \quad 1 / 3 \quad 0=10$ to $0=50$ 0-50 to 0-100 m. e. thermocouples. Radio "B" circuits in suto and battery satt. Undervilters sp=
$100 \quad 16 \quad .08$
661 ( $1 \quad 0-500$ to $0=7 \boldsymbol{7} 50$ millismmeters.
$0-600$ to 1 smp .
thermo-couplets.
Bmall rectifiers. 1000 . 36

## Assorted Carton of Instrument Littelfuses



Carton contains 50 Instrument Littelfuses of various sizes in the proportions most generally used. Inerally used. 10 use on es eh osrton. Attracotrton. Attrac-
tively and makes an ideal counter display. Contents are as follows:
 b-1/16 amp. $10-1 / 4$ smp. $10-1$ mp.

B-No. 1010 Mountings
S pr. No. 1012 Gryp-Connectors
Weight, 1 lb .
Cat. No. 6649
List Price $\$ \mathbf{8 . 3 0}$

## $\$ 4.80$ per box

Single Pole Mounting for Littlefuses

For Instrument Litelfuses. B 1 ect moulded bakelite bies 11/ x\%ex $/ 16^{\mathrm{m}}$ Tinned, shateprooi torminall and ex. tra quelity phosphor quility phosplated fuse cllps. Mountine hole teres No. हo No. 10 Flat Hesd Screw. Overall lenth 17\%. Teltht \%". Stendtrd prorese, 20. Welsint, $1 / 2 \mathrm{lb}$.

Cat. No. 6648
3c each

## ELKON <br> "B" Eliminator <br> Makes ANY Auto Radio ALL-ELECTRIC

Universal application-sultable for , all popular brand of stendard automobile radio sets. Dependable, uniform reception. Fasily installed. Bafe and compact, tested and proven. List price, 819.05 complete!


Delivers 180 volts at 30 mils and 135 volts at 40 mils. Requires but 2.1 Amps. at 6 volt input.
Size 10x7x31/2in. Cat. No. 273
Our Price $\$ 14.95$


## Janette Auto-B-Power

 Perfeot Auto Redio RecoptlonFree FromBattery Replacements,
Bettery
Expense,
Battery
Voltage


Dropt.
THE JANETIE "Auto-B-Power" conslats of a small JANETPE dynamotor and filterins devico mounted in a strong, attractively fnished steel box. It transforms the 6 or 12 -valt current of an sutomobile or alrplane storage bsttery Into the higher voltase "B" ourrent required by your guto-radio sot. Whatever the voltase requirements of your autoradlo set msy be \& JANMITT "Auto-BPower" can be furnished for the correct voltage. (Bee table on reverse slde of this page.)

## Quiet-Compact Vibrationless

The JANETTE "Auto-R-Power" has a dynamically balanced armature: thus it rung with a minimum of vibration. Virtually insudible when placed under the hood, 100 boards or seats. Requires but little room-messures only $13 \times 6 \times 81 / 3 \mathrm{In}$, weighs 20 lbs.
(Continued In Noxt Colmma)

## JANETTE <br> Rotary Converters



Creates Big Market for A.C. Sets
The Janette Rotary Convarter, and espectalis the new CA-20-F. opens up a fertile feld for A.C. radio sales. Over 600,000 farmers own 32 or 110 volt D.C. lighting plants. yvary one of them is a prospect for a double-pronte sale consistint of an A.O. radio set and m Janette rolary orverter. Alo rity Jobbers overythere are seling this opportunity to build new volume.
and on top of it all there is the trent market in the D.C. districts of latye citles -plus the marine field.

## Perfect Radio Reception

Janette Rotary Converters are equipped with the Janette Filter which provents convarter intarference from reaching the radio. Janette Converters are guaranteed not to faterfere with radio reception.

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Frame | $\begin{gathered} \text { Out } \\ \text { put } \\ \text { Wutts } \end{gathered}$ | Input <br> D.C. <br> Volts | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Our |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 282 | CA-20-F | 80 | 32 | \$40.00 | $\mathbf{\$ 2 8 . 5 0}$ |
| 254 | CA-20-F | 110 | 32 | 49.50 | 35.00 |
| 255 | CA-18-F | 150 | 32 | 54.30 | 38.75 |
| 256 | C-13-F | 300 | 32 | 75.00 | 53.00 |
| 283 | CA-20-F | 80 | 115 | 40.00 | 28.50 |
| 257 | CA-20-F | 110 | 115 | 49.60 | 35.00 |
| 258 | CA-18-F | 150 | 115 | 54.50 | 38.75 |
| 259 | C-13-F | 300 | 115 | 75.00 | 53.00 |
| 260 | CB-12-F | 500 | 115 | 95.00 | 69.85 |
| The | following converters are shipped from Chicago, one week dellvery: |  |  |  |  |
| 261 | CA-20-F | 40 | 6 | 84.00 | 39.40 |
| 262 | CA-18-F | 60 | 6 | 59.00 | 45.35 |
| 263 | CA-20-F | 80 | 12 | 54.00 | 39.40 |
| 264 | CA-18-F | 120 | 12 | 58.00 | 45.85 |
| 265 | C-13-F | 160 | 12 | 81.00 | 60.75 |
| 284 | CA-20- ${ }^{\text {P }}$ | 80 | 280 | 40.00 | 28.50 |
| 266 | CA-20-F | 110 | 230 | 51.50 | 37.30 |
| 267 | CA-18-F | 150 | 330 | 56.50 | 40.70 |


(Contineed from Preceding Colemn)
Data and Prices

| Cat. No. | Code | Battery |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  | Input <br> Volt. | Output Vols. |  |
| O65 | AUTEX | . | 13 | 2, |
| 206 | AthOB | 6 | 180 | 3. |
| 267 | AUTAK | 12 | 185 | 1.4 |
| 270 | AUTIL | 12 | 180 | 1.6 | voltadewords fnolude units complete with voltage and 1 extra tap. If two extra tsps TABBY.

-These current values are maximum. In most catel battery drain will be much less than those indicated in this table. Disi frice Complete with Voltage
Diviter and Extra Thpa........... 882.00
Our Price \$18.82

# The 

## Furnishes 110V. 60 Cycle A.C. Current From A Storage Battery not A "B" ELIMINATOR

## Operates-

A.C. Midget Sets
A.C. Faps
A.C. Amplifier and Turntable

And any A.C. appliance consuming up to 65 watts

Cat. No. 271
(Dur Price


Complete with Cable and Control Box
This device furnishes 110 Volt 60 Oycle Alternating Current from a standard Six Volt Storage Battery. With this device you can use your standard 110 Volt Alternating Current Midget Home Radio set in any Automobile, Boat or Aeroplane. Use your Radio in your automobile while traveling and then merely pull the plug and take your set into your Home, cottage, Bungalow, or Hotel foom to use there.
This device also lends jtself to emall Puble Address systems, drawing from 40 to 65 Watts. Eliminates the necessity of gazoline or other expensive types of Generators. This enables you to use your Public AdGenerators, your Automobile for" Advertising Purposes, dress on your Automoble for
Small Electrical Appliances drawing from 40 to 85 sman Watt inces as Pans Heating Pads Baby Bottle Warm Appliances as Pans, Heating Pads. Baby Drink Mixers, Trouble Lamps and many others come in this classiAcation.
The Battery Drain is very small. Due to the fact that the current is taken from the Battery intermitently, the Ammeter does not accurately record the Drain, but registers only the peax load. However, the actual Drain is about two-thirds of the ammeter reading. A 60 Watt Radio Bet draws betweon six and seven Amperes by actual Battery Test.



#### Abstract

This unit mounts onto the Cowl under the Hood of your Automobile, and the control and receptacle for plugging in your Radio set mounts on the Dash. The actual installation is 80 simple that anyone can do it without any trouble by merely following the very cleser instruc tions furnished with each device. No drill ing is necesesary on the ce:h, as the con trol mounts by means of a Postive Bet screw. A pair of pliers and a screw driver sre the only tools necessary.


Due to its muliplicity of uses, every Automobile and Boat Owner should have one of these units.

This converter will supply sufficient current to operate our push-pull 245 amplifier No. 107 described on page 50

## 1932 Edition Official

Radio Service Manual
 latest disgrams of testlates oquipment and mid. ing oquppment and midi Cat. No. 356 gliew diatrsm which sppenrod in Volume 1 has been
 reprinted.
There arc blank pages included throughout the book so that notes and sketches can be made if desired. A coupon page entitles the owner to have his questions enswered free by a stat of radlo enginetars.

The Manual contains over 1,000 pages, with six supplements of C4 pages or more. mailed free every 60 deys to owners for one yeforfldRadioHistory

Victor 2-Stage 245 Amplifier
For Victor Receivers
RE-75, 32, 42 and 45


Tres one 226, two 245's (push-pull) and one 280. Pusin-pull output transformer in ampliner enstched for 15 ohm voice coll and 2,500 ohm tield resistance. Supplies dynamic speater field of 110 -volt D.O. at 50 mils. Undistorted output at watts. Pine for use With phonograph plek-up or radio set. Operates on 110 120 volts. B0-80 cycle A.C. current.

Cat. No. 62
$\$ 8.25$

## Victor 2-Stage Power

Amplifier R. C. A. Model AP-736

## (S. P. U ${ }^{24}$ )



Uses one zal 6 , one 250, and two 81 ․ . Used vith Victor Electric Orthophonis Phonograph No. 3'-15 Electrols and the 8. C. A. No. 105 Speaker

Output transformer in ampliner matched for 11 ohm volce coll impedance with 1,000 ohm fleld resistance Supplies dyn1,000 omer feld of 110 rolt D.C. at 110 mil phdictorted outpit at 5 watts which mils. Undistorted outpat least thres which is enough to handi at east thre dyna mic speakers. Ampliat operates on 110 power amplifier for use with phonograph power ampiner
picts-up or radio sets.

$$
\text { Cat. No. } 81 \text { \$14.25 }
$$

## The Rotrola Electric Turntable and Pick-up

Rotrola Electric Portable Phonograph using the famous Webster Pickup with a built in volume control Genuine $G$. E. Bynchronous motor with the turnteble locked in so that it will not spill when being moved. 8 pecial container for being moved. 8 pecial container for records is another a The hinge on this portable this unit. The hinge on this portaple phonograph is of the piano type, stretching clear acros the back. The case is constructed of the designed brown leatherette with a reinforced padded top wo stand abuse. The handles and lock are of the heavy reinforced type. "On" and 60 Cyclo A.C. current.

Cat. No. $124 \quad \$ 9.50$


## Popularly Priced !

The Federated Purchaser's engineers, in conjunction with the Acratest engineers, have cooperated in developing a complete line of inter-ccmmunlcating and public address systems. The units incorporated in these systems are the highest quality and have been selected by Acratest Laboratorles only after long tests under practical operatimg conditions. These systems are the result of careful plenning and thorough testing; are carefully matched and so designed as to glve the highest efficlent operation,

## Carefully Planned!

having been sold to many large technical and sound laboratories, where they have met with the highest pralse.

Acratest Laboratories does not claim straight line characteristics for its Amplifiers, as this is impossible 'If the suxiliary apparatus used is not of matched characteristics.

However, we do guarantee the best possible response characteristics for commercial units where input and output impedances are properly matched.

Acraphone Intercommunicator System No. 1

This system is recommended for interconmunication in factories, large ofinces etc, where there is a noise level greater han what the human voice can overcome. The volume of this outlit is about $\mathbf{5 0 \%}$ greater than No. 1. The ssme specifications can be used here as for the No. 1. This unit can also be used for small public address systems, recording and broadcast work.
Fo: cech udditional point of communication is necessary to add one No. $2-A$ ulist, consisting of a two-button microphone double throw switch. It is necessaty pole double throw switch. it is necessas o use a $2-A$ for every point to and from which it is desired to communi-

| $\begin{aligned} & \text { Cget } \\ & \text { No. } \end{aligned}$ | Demeription | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Otur } \\ & \text { Prese } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 24 | Loftin - Whit 248 Amplifler. | \$85.00 | \%18 |
| 183 | Utah AO Dynamio Speaker | 28.00 | 7.05 |
| 503 | Universal "B" Microphone .......... | 88.00 | 14.7 |
| 6568 | Acraphone 8r. Input Btage...o....................... | 28.00 | 5.80 |
| 248 | Universel "K" De顛 Mount | 8.00 | 4 |
| 368* | Mike Extension Cord | .78 |  |

Totals $\qquad$ \$105.75 448.80

## (1ur Price

Complete $\$ 43.00$
Suggested Auxiliary Two Way Equipment for

System No. 2
Universal Model 'BB'' Mike, No. 209.14.70 S!nsie Pole Double Throw Knife 8witch, Ne. 4177. $\qquad$

## ACRAPHONE <br> Giant Auditorium <br> Speech Amplifying System No. 2

Eystem No. 3 is ideal for operation at mall dance halls, funeral parlors and portable public address wort for installation on trucks. It will give about $71 / 2$ watts undistorted output and cover an average city block in length. It has sufficient power to operate two or three dynamis speakers with very slight output drop, approximately 5 per cent. It can also be used fer inter-commuaication purposes, but is easily too great in volume. It is ideal for phonograph reproduction and microphone work, and will easily cover rooms and auditoriums 100 ft x 100 ft, or an auditorium seating 2,000 to 1,500 people,


## Our Price for the Complete dutfit $\$ 60.00$

Suggested Auxiliary Equip' ment for System No. 3

Utah A.C. Dynamtc Se.zaker, No. Univarsal Model "BB'...............................................95 . 209 ....................................14.70 Bingle Pole Double Throw Knife

## ACRAPHONE

 Auditorium, Theatre and Outdoor Model
## Sound System No. 3

The Acratone s Stage Push-Pull 250 Ampliner still is the most enfient and most economical Power Output systam avallable on the present market. This ampliner far surpasses anything in ite prics field. It is capable of reproducing from below 30 cycles to above 8500 . There is a propartionate drop above 8500 eycles.
Acratest engineers wre conflent that for audiences of 5000 people indoors of 3500 people outdoors a pner instrument cannot be obtained of nny type. It is an all-around amplifier and will reproduce ideally phonograph, radio or microphone. It is capable of an undistorted output of 11.3 watts. It will supply up to six dynamic speakers or 25 magnetic speakers.
In using a single 127 for Microphone pre-amplification this mpliner is capable of putting nut up to plus 36 D.B. With an absolute fidelity of tone, making it ideally suited for recording purposes. working into a 5000 ohm record cutting head. Can be used in conjunction with talky Ams In theatres seating 8,000 people or more.

| $\begin{gathered} \text { Cst. } \\ \text { No. } \end{gathered}$ | Dewerfption | $\begin{aligned} & \text { Hat } \\ & \text { Priee } \end{aligned}$ | $\begin{aligned} & \text { Oue } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 101 | Acratone 3 state |  |  |
|  | 250 Amplifier ... | \$128.00 | 82100 |
| 210 | Universal Model |  |  |
|  | *K Microphone | 80 | 84.80 |
| 632\% | Acraphone Er. Out- |  |  |
|  | put 8tage....nn......... | 18.00 | 5.50 |
| 110 | 3-R. C. A. Photophone A.C. Dynamic |  |  |
|  | Speakers.................... | 80.00 | 35.60 |
| 333 | Adjustable Floor |  |  |
|  | Stand......................... | 20.00 | 8.50 |
| 302\% | Mike Extension |  |  |
|  | Cord............................. | 1.75 | .78 |

> Dur Price. for the Complete Outfit $\$ 90.00$

## Microphone and Public

## Address Connectors

Composition, steel covered cadmium plated. The adjustable clamp grips the cord tightly, ihus relieving the strain from the binding posts, and also prevents the outer cover of cord from unraveling.



## Armoured Bakelite <br> Cable Connectors

Three prong cable connectors insuring perfect contacts and $100 \%$ insulation. The steel armor protects the plus and extends over maling the cable clamp as chown. No better plug on the market for carbon microphoncs. The prong arrangement permits asceinbly ith one position only. $11 / 2$ inches In diameter.


## Base Receptacle and

 4 in. CoverFlush, with 4-in. Ronna Stee! Boz Covers Attached for Trucks, etc.
Cadmium finish, outlet box covers are standard.


10 Amperes, 230 Voits 15 Amperes, 125 Volts
Cat. No. 6361

## Price 95c

## 7 Wire Shielded

Microphone Cable
With Coupling Plugs
s0 FEET LONG
For condenser
microphones con-
nects b a t ter ry
supply and Input
to main amply
fier.

Cat. No. 4477 Net $\$ 8.00$

Three Wire 10 ft . Microphone Cable


Cat. No. 3626

## Our Price 25c ea.

## 3 Conductor Micro-

 phone Cable

A toush rubber jacketed yet extremely sexible cable which will stsnd sil sorts of abuse without shorting. Water. oll and acid resiating. Each conduotor rubber insuisted andicotton braided. The Idesl mfcrophone cable.

| Cat. No. | Length | Oqr Prles |
| :---: | :---: | :---: |
| 4425 | 12 ft | $\$ 0.60$ |
| 4441 | 25 ft. | 1.25 |
| 4442 | 50 | ft. |
| 4448 | 100 ft. | 2.25 |
|  |  | 8.75 |

## Armored 3 Conductor Microphone Cable



A conductor beavily insulated cable encased in a steel nexible armor which scts as a shield (when grounded). Will tesist all weather and the herdest reear. You can Fun a 10 -ton truck over it wilh: out injuring it. Idesl for ell outdoor publio address work.

$$
\text { Cat. No. } 4446
$$

## 4c per ft., §3 per C.

## Universal Microphon= Cords <br> Made Up Cables With Ar. moured Connectors

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. | Length | List | Net |
| 4435 | Cft. | 82.75 | \$1.65 |
| 4487 | 12 ft . | 84.00 | 59.70 |
| 4488 | 2514. | \$7.50 | \$ 8.50 |
| 4439 | 80 ft . | \$12.00 | \$7.20 |
| 44.4 | 100 ft. | -19.00 | \$11.40 |

For outdoor use over travi- parem
For outdoor use, over travel, pavement, platiorms, in water, or whore crowds are waiking. uine ab Barellt connections Bupplled in 8 -conductor in s-conductor shlelded only, the shield being soldered to the center conductor of the plug and socket. These assemblies cuplicated snywhere tor the ptice.

## Microphone Suspension

## 凹uinimimim Springs

For suspension of microphones in rings, desk mounts, floor stands, etc. A much needed small part handy to have and sometimes hard to obtain. Bpecial heads With one long loop, beautifully finfsed of highest grade spring steel allowing maximum foxibility withgut strotch. Eight are eenerally used per set.
Cat. No. 3631 f for 35c

## CARBON GRANULES

For Microphones
Oxpe must be exercised in handing granules, and careful handing granule gad careiun messurement muat be mado in be kept realed pefore use and be kept reaied peiors use and The very bett grade of transmitter carbon sranules, each visl conter carbon suftelent to re-carbon one ordinary two-button microphone. No. 100 sire.


Cat. No. 6974
List, per Vial
$\$ 1.00$

## Our Price 59c

## Shielded Microphone Cable <br> 

Priea

| Cat. Ne. | Wire | Per ${ }^{\text {F }}$ t. | 100 TH |
| :---: | :---: | :---: | :---: |
| 4450 | 3 | (10 | 58.50 |
| 4880 | 5 | 100 | 8.00 |

The s.ilelding is fully insulated and may be used as an additional conductor.
mais multiple conductor has a tinmed . $\quad$ cor shleld beneath tis extra thick rub. F insulation and may also be used as ©: s additional conductor. Each conductor Is insulated and braided. Wlll stand plenty of abuce. For all public address work, Indoors of outdoors. Acid reststing.

## A Gain Control.Plate



Cat. No. 6940
Dlamster $11 /{ }^{\prime \prime}$ Hole 弱"
10c ea.
This plate will ba found excellent for public address amplifiers. faders, phonograph pick-ups, etc. It is graduated in 20 equal divisions and 10 numbered places. Etched aluminum with silver numerals.

## GENERAL ELECTRIC Synchronous Motor With 10-inch Turntable

 4 in . deep


Cat. No. $215 \$ 3.95$

## G. E. PHONOGRAPH Induction Motor With 12.inch Turntable

 A oompact, powerful, heavy duty Induction type phonoglre ph motor. Being iree of
 tors, brushes or cutout awltches, it cannot set up any distarbances. Large bearing surface provide adequate support and insure long prove.

Quick Starting Torgue
Exceptionally quick starting torque. Tull speed is atained instantly without manspeed is attained Instanped with 12 -inch turntable, cord and 2 -piece plug.

$$
\text { Cat. No. } 135 \$ 7.35
$$

Special Acratone Carbon Steel Recording Needles

This needle has been developed especlally for recording. It may be used on ether pre-grooved or blank discs of either aluminum or composition.

This recording needle is made of exremely hard carbon steel which is nicied plated and highly polished. Backgroundnoise is reduced $50 \%$ with this new type of needle. The tip of this needle is blunt and tapers acutely to a point. This cuts \& $U$ shaped groove which is mire satisfactory than the $V$ ehaped groove of ordinary cutting needles.

Cal. No. 6975

## 15 Needles for 25c



Fibre Playback Needles for Aluminum Records

Cat. No. 6929 25e pleg. of 50 Needles

## First-Perfect Reproduction.

Second-Plays many records without repointing.
Third-Plays all makes of Dise Records.
Fourth-No Burface Nolse.
Fifth-No Injury to Records.
Bixth-Improves Tone Quality.

## The New Two-Speed Green Flyer

## Model D Motor, 78 \& 331 -3 <br> R.P.M.

One demonstration and they want ft. Put on a new Long Playing Phonograph Record Explain its merits. show the Record. $1 / 3$ r.p.m. turntable speed. Then change to a Regular Phoñograph Record, with turntable speed shifted easily to 78 with turntabio speed shired-change lever. r.p.m. by pushing the speed- Green Flyer Motor They want new Long playing RecMotor. They watinew $\$ 15$ to $\$ 20$ or $\$ 25$ ords. You're making the same customer sale, that where records. That will bring you other customers for motors and records.
Backed by over 18 jears of Nyor Phonograph Motor and electrical manupacturing success. Responsibly guaranteed. Order a sample TODAY.
New Green Flyer Two-Speed Governor Controlled Electrical Motor- $331 / 3$ and 78 R.P.M. complete with $10^{\circ}$ turntable, speed indicator dial, speed indicator pointer, speed change escutcheon plate, speed change pointer, mounting screwi and washers.

Mode No. Turntabie. 110 Price

| 253 | $10^{\prime \prime}$ | 9.75 |
| :--- | :--- | ---: |
| 275 | $12^{\prime \prime}$ | 10.75 |

## Robbins \& Myers <br> 21 V. A.C. Motor


motor has
many uses,
toys, fans,
etc. C
be mount-
be mount-
box with
Cat. No. 5539
0 in long, diameter 4 in. Weight 51 lbs .
a turn-table and makes an excellent window display on account of fts slow revolution.

## Wall-Kane 10 Record Needles

The orlginal famous Wall-Kane 10-Record Needle. made. 50 to a box, 60 boxes, sz forted loud, medfum and soft, in 8 3-color metal display stand.


Cat. No. 4371
6e pkg. 83.70 Display Stand

## "Echo" Pregrooved Aluminum Record Blank

Can be used on any phonograph or electric turntable. Just sling or takk into horn or mise.
Cat. No. 5363-Diameter 6 in.

[^2]
## Genuine Sapphire Reproducing and Cutting Needles

GaNUN WHIIL ORIEN N. No. TAL SAPPGIRE USED EXis rated, nccording to sci entists' tables, hardness of which is $90 \%$ as that of the diamond. Consequently. it is very durable. To insure dts long life, care mus be taken that it is no dropped on a hars surface or used on rough surfaces. GENUINE Type AW, for cutting sADPUIRE (grooving) and recording on ALUMINUM. It will work on practically all commercial and home made recorders. Its radius and angle s specially made to cut sine groove Same needle when used with a nowerful motor, will also cut on ERAYDO

$$
\text { Cat. No. } 250
$$

$\$ 2.50$
Type BW, for recording and playback on Victor type black c.mmposition prerooved home recording blaniss, slso prerooved aluminum or celluloid with s minimum of surface scraich.

## Cat. No. 249

$\$ 2.50$
Type OW, for playback on regular commerclal records such as Victor, Columbia. Brunswick, etc., also electrical transcriptons when all above are made to play the rate of 78 revolutions per minute.

## Cat. No. 289

$\$ 2.00$
Type DW, for cutting (grooving and recording on CELLULOLD. This neede does rot push s.way the material but cuts ous a fine thread of cellulold while recording.

Cat. No. 290
$\$ \$ .00$
Special DIAMOND NEEDLE for CELLULOID, used for professional recording.
Cat. No. 291 \$16.50 eal.
All above needles are tested and inspected before shipment and are guaranteed against defective materials and workmanshin. They are usea extensivey by recoraing studios, 1aboratories, universities, language schools, etc.

| Remsen Aluminu |  |  |
| :---: | :---: | :---: |
| Record for Hom |  |  |
|  | Recordin |  |
| cat. |  |  |
|  | ${ }_{6}^{6} \mathrm{fm}$. |  |
|  |  |  |
| 072 | ${ }_{12}^{10}$ |  |

Sspecially designed for recording devices utilizing blank records, like the Presto Home Recorder. Can be used on bolh sides.

Universal Pregrooved Records

| Cat. No. | Size | Price Eu. |
| :---: | :---: | :---: |
| 7176 | 6 in | 18 c |
| 7177 | $8 \mathrm{in}$. | 29 c |
| 7178 | 10 in | 44 c |
| 7179 | 12 in. | 59 c |

## SHANNN

Wireless Practice Set


1. C. A. 50 Watt Trans-
 mitting Socket with Isolantite Base

Cat. No. 3653
$\$ 1.50$
An excellent power tube socket. Fits all standard 50 watt tube bases. Maximum masulation is obtained by the use of heavy glazed isolantite base. All metal parts are nickel plated and the contacts are so irranged that commections are made etther co ths termina! screws or can be eoldered tact soringe. All connections are plainly martied.

Dienieter of socket 33.n. Two mounting noles.

## Quartz Crystal Holder

This plug-in dust proof quartz crystal nolier is; icieally sulted for the smateur and brondicast iransmitters.


It will accommodate the sverspe one inch crystal. Contact with crystal. crystsi fs misde the crystel is mide
throuzh brass plates through brass plates
ground perfecty fiat. Ground periectly nat.
The bottom brass plate The bottom brass plate
is nickel plated on Its is nickel plated on its
outer side and the top bakelite cover is held in place by four
screws, Perfect electrical contact is maintained by means of a pigtail which rests lightly on the crystal, allowing it to oscillate freely. The inner dimension is 1-1-32" square.

$$
\text { Cat. No. } 6627 \quad \$ 2.25
$$


I.C.A. 250

Watt Tube Socket
Cat. No. 6951

## $\$ 2.85$

This socket will fit all double enced tubes such ss types G4A. 49, 51,61 , 69 , etc. Heavy glazed isolantite material is used for the mounting of the contacts and provides perfect. Insulation for high frequency work. All metal parts nickel plated.

## Na-Ald Code Practice Set



Finely molded base. Nickel plated hardware. High pitched buzzer, Worki on single flashifitht cell. relegraph code etched on bsse. A wonderitul 9sc seller.

## ACRAPHONE, JR. Wireless Key

 84 in. long, 23 in:

## Cat. No. 6819

Our Price $\$ 1.10$ ea.
This is a really finc littie Instrument for the amateur, ham or for practicing. steel lever arm and Drass Ittings. Cetman silver contacts. Phosphor bronze tension spring 4 adjustments. Composition inger rest. Mahogazy finlshed wood base with rubber feet.

## High Frequency Buzzer

Is adjustable. Can be adjusted to stentard frequency of 1000 cycles. Can be used in modulated sudio oscillators as a standard irequency control. Has standard Can be opersted onms. can be operated on a 6V. circuit. Cen be furnished in special resis. ders. Black crystallied lacquer finish.


Type R-60 Cat. No. 3559
75


## Signal Wireless Key

A long time favorite with all amsteurs. Universally used by mokt operstors. Sturaily made. Coln silver contects. All sturaily made. ooin kilver contacts. All quered. Braso base. Barelite inger reste.

| Cat. No. |  | Contacts | List Price | $\begin{gathered} \text { Our } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 3556 | R-62 | $3 / 16 \mathrm{~m}$. | \$3.50 | \$1.88 |
| 3557 | R-63 | 1/4. In . | 3.70 | 2.21 |
| 3558 | R-64 | \% $\%$ n. | 3.90 | \%. 30 |

Headhand for Earphones Indispensable to Short-Wave Fans and "Hams".
Cat. No.


The New Connecticut Duplex Telephone Set


Cat. No. 6555

## Price $\mathbf{\$ 5 . 6 3}$ per set

Connecticut Duplex Telephones are the result of 37 years experience in telephone manufacturing and sro fully guaranteed for one year. Affords the essiest, slmplest and lesst expensive means of communics. Lion between two nelohbortng pointe. simple to instail. Requires ordinary cells theach end Cases ore of dry gaure steel filshed light are of heavy in attraetive risnlay ight green. pactad of wire, staples and instruction book.
Uses for the Connecticut DUPLILS
Convenfence Telephone

## IN THE BOME

Bedroom to kitchen-Bedroom to mald's quarters-Upstairs and downstairs-House to gerage-House to workihop-Neighbor to nelghbor.

## ON THE FABMI

One farmhouse to another-House to barn-House to dalry-Home of one radio fan to that of another.

## IN FACTORIES

Mansger's oflice to factory-One factory department to snother.

## The Connecticut

Duplex Telegraph Set Every boy will want this real practice on and learn the code. Continenti code on etched code on etched plate in large, essuly resd if
beside key. Instruments mey be used beside key. Instruments may be used sepa-
rately for practice. Just the set for Boy Scouts-can be carried on hikes and set up In canip in a few minutes. Manufacured and designed by engineers who have been building telegraph instruments for 37 years. esch instrument has its own buzzer. Will operate efficiently up to 1000 feet. Mshogany finish with black ensmel parts and gold trim. Packed in sttractive display box with 50 feet of wire sad complete instruction booklet. Weight complete, 4 1bs.

## Cat. No. $6579 \quad \$ 3.75$

complete
Signal Junior Key
Black enamel $k$ ey
 bsse. Mahogany finish b sise. Nickel plated lever. Coin tilver contects.
Cat. No. 3559
List Price, \$2.25
118-X Key
Our Price $\$ 1.35$

## You neod Adapters for your Lab.

## Acratest

 Speaker and Headset Adapters These adapters re of the same apnearance a 8 re abo ve and nect one or mor nect one or more dadic or dynamic netic or dynamic ingle or push-pull up to any set using a single or push-pul pentode output or 45 output. simply remove the power tube from the sockel nsert the adapter and replace the power tube or tubes. Can be used in the ACRA-
TONE and other midget sets.

| Cat. No. | Set Output | Our Price |
| :---: | :---: | :---: |
| 6524 | Single ${ }^{45}$ | \$.75 |
| 6525 | Single '47 | . 75 |
| 6526 | Push-pull '45 | 1.25 |
| 6527 | Push-pull ' 47 | 1.25 |
| 6987 | Single 6 prou | . .75 |
| 6988 | Push-pull 6 p | 1g. 1.25 |

I. C. A. Phono or Microphone Adapter
Bnables the uae of a hono gick-up or ms crophone wity any receiver not cquippes witn phono jacks. prong.
Cat. No. 512.?


## Our Net Price 60c

## Multiple Speaker Ex-

 tension Cord or Speaker Output AdapterFor sets usaucio.
Complete
 hector. Cat. No. 4205


## 75c per pair

This device ensbles one to connect additional speakers to any radio set, with out rewiring or soldered connections. Smply place the adapter under the power nose or lubes and connect the adaished.

Naald Pick-Up and Microphone Adapter

## For UX or UY Sockete

Connects to fllament and grid for UX tubes or grid and cathode of UY tubes. Cat. No. 4111
18c ea.

## ACRATEST



## Pentode Adapter

## Allows the Uee of the

 Pentode Tube In 245 Sockets Simply remove the 245 tube, insert the Acrstest Pentode Adapter into the top of the adapter. Insert new tube.Cat. No. 5200
39e ea.

Analyzer Plug
This plug bas a 5 prong UY base and the handle has a screen grid cap. The latch is not alive and the center post in the adapter No. 5886 is simply $a$ locking stud over which the latch slips, engaging a ring in the stud. Thus the adspter will not come off unless the latch is pressed. Used in the iatest Jewell No. 44 Analyzer. Can be used to pentode and screen grid.

Cat. No. 5887-Analyzer Plug
Our Price $\$ 1.80$ ea.
Cat. No. 5888-4 to 5 Adapter
Cat. No, 7146-5 to 6 Adapter

## Dur Price 72c ea.

Earphone, Speaker and
Testing Adapter (4. Prong)


Has many uses. such e.s allowing the use of hesdset connecting ser commectirs up eimply move power reinsert phon tube. of extra spplisnce into conventent Cat. No. 5250 jacks on the adad29c each end is ach adapter so that the adenter can be shorted out when not in use instesd of having to remove it from the societ.

## PLUG IN ADAPTER

For Test Kits and Short Wave Sets
Also used to connect dynamic speaker to chassis. A very handy accessory in
 the shop.

Cat. Nn. 3526 5-Priong
Cat. No. 6990 6-Prong
Our Price 29c ea.

## NAALD ADAPTERS



## I. C. A. PENTODE Speaker Adapter



This adapter is for connecting additiona speakers to radio sets using one or mor Pentode tubes in the output. Individualiy boxed.

Cat. No. 6450

## Dur Price 60c pr.

Adapter and Trouble Finder for Servicemen

Especially adapted to frouble rinding and making all circult connections to ahere no wires are exposed. Plate, grid cathode, or heater circuits can be open ed readilly for cor-
 nection of meters or
test equipment. May be used for con necting phonograph pickups or meters to radio sets or amplifers.
Cat. No. Net 4257 Universal 5 Prong Sjcket al Prong Sook- 95
4258 Universal 4 Prong Socket
6993 Universal 6 Prong Adaptor. 35 c
Speaker and Analyzer


Cat. No.
Our Price 5868 4-prong short cap.........20c 5869 5-prong short cap.........20c 5870 4-prong long analyzer
plug. . . . . . . . . . . . .
5871 5-prong long analyzer
cap............ .250

691-6-prong shot cap. .250

6992 6-prong long analyzer cap 25

## I. C. A. Test Adapter for 280 Tube



Cat. No. 6963

## ©ur <br> Price 90e

With thia adapter one may make all desirable tests on a 280 rectiner, including plate current, d.c. output voltage flament, a.c. filament voltuge across flaments. Leads are attached to all prongs for above tests.

## I. C. A. Neutralizing Adapter

For use in balancing neutralizing conForsers in superheterodyne or neutrodyne densers one flament is dead, enabling the use of an ordinary tube for balancing. Supplied for 4 - or 5 -prong sockets.

```
Cat. No. 6964-4-prong
Cat. No. 6965-5-prone
```


## Our Price 60c ea.

No. 6965 Adapter is the same as No. 6964 but for a 5-prong socket. Cathode prong is dead and lug is brought out rom cathode hole for external connection to cursent suppls.

## I. C. A. Oscillation

 Control AdaptersThese adapters break erid connection with tip jacks. They may be used for controlling oscillation by attaching resistors in serjes with mrid circuit, and can also be used for general testing of grid circuits.

Cat. No. 6949-4-prong
Cat. No. 6966-5-prong

## Our Price 75c ea.

I. C. A. Phono-Radio Switch and Adapter
For A.C. (5 prong)
Cat. No. 6953
Llat Price \$2.75 For D.C. (4 prons)


Cat. No. 6954 \$1.65 ea.
The simplest method of connecting a phonograph pick-up to the audio system of the radio. Adapter plugs into the delector socket, tube plugs finto the adapter and the switch, which may be mounted on radio panel, changes from radio to phonograph instantly. Supplied for A.C. or D.C. sets.

## B.M.S. Fixed Detector

B.M.S. Fixed Detector will give renew d action to refles or crystal sets. The sensitivity of the mineral is determined byed permanently. Made to wed pern hish voltage ithstand high vollage smalt it has proven in Bakellt, hering achle ment.

Cat. No. 7124 6Oe

## Naald Socket Saving Adapters



Save wear and tear on et analyzer ockets by inserting these adaptezs. onnections are straigh

ube connections wear out it is unneces sary to tear your analyzer apart to replace the socket; slmply remove the Adapplace and replace it with another one. very useful when many tubes are to be tested and sockets would ordinarily wear out in short time. Can also be itsed to add additional height on the tube. Supplied in 4-. 5- and 6-prongs.
Cat.
No. Deseription
588 To insert a 4 -prong tube into a 5 -prong socket. To insert s s-prong tube into a 4-prong socket.
6962 To insert \& 6-prong tube into a 5-prong socket.

## Our Price 60c ea.

## The Famous M16 Elkon

Replacement Rectifier NEW TYPE "XB16"

May be used on the lollowing "A" elimi. nators: Majestic, Maylian, Elknn, Philco, Webster Knapp, Gen. Inst, Metro, Pada. Beraard, Sentinel, Elkon, and Briggs and Btratton. Also special y adapted for use With many standard Cat. No. 4152 dynamic speakcts.


## Our Price \$3.75

BENWOOD-LENZ B12 Rectifier

For New Tobe, Muter and other A eliminat ors, Sterling dynamic speakers, etc.

Cat. No. 4155


## Our Price $\$ 2.50$

I. C. A. Loud Speaker Adapters

For connecting addjtional speakers to sets using simple cr push-pill 112A, 171A. 245, 247, 256, etc., poweer tubes. For single power tube order 1: for push-pull order 2 adapters.

## Cat. No. <br> 6912 <br> 6943 <br> 6941

Our Price 20c ea. 4451-4255 20 Ft. Speaker Cord With Connector 23c

Replacement Jars
For Philco, Willard and
Exide " $A$ " and " $B$ " Eliminators


Cat. No.
3663
TYPE "A"
Small round
for 4 , 01
A" elimin
$\$ 1.39$
Each . Set of 4. Each
REPLENO Rectificr cells are guarantee o give satisfnctory service and 1 ill charging rates in fower Units properiy designed for thelt use.

## KUPROX RECTIFIER Replacement Unit

Type A-110.
For use on the following popular trickle chargers: Bakelite Type 'K' (.4-.5 Amp.); 51 itte ( 6 Amp.)

vesta (.5 Amp.) List Price $\$ 5.00$ Cat. No. 5852

## Our Price 85cea.

KODEL DRY DISC
Rectifier With Brackets

For replace-
ment in Kodel Kuprox power units and Dynamic speakers, etc.
Single Un't.
Cat. No. 4153


## Our Price $\$ 1.10$

RCA No. 106 Dynamic
Speaker Rectifier Stacks
Also Used on Radiola 69 Speaker Delivers 100 Volts 100 Mils D. C. with Load

Will supply sufficient $B$ voltage on any Dynamic Speainer having 600 ohm field.
nca Part No. 6898 Cat.'No. 5734
Dur Price $\$ 2.50$ eft. $\$ 4.50$ per Pair

## I.C.A. Exploring Coïl

Cat. No. 6945
$\$ 2.10$
Handy Service Tool


Designed for the serviceman to tere in locating R.P. trouble. Can be used in conjunction with a sicnal supplied by an ofllilator Fhich is induced into the rrid of the tube whon the exploring colf is placed around the tubs. A big time eaver. pescelient for superheterodyne ciroulte for peaking the intermediates. When used in conjunction with an output meter, the amount of cain may be determined by bringing into resonance the partsiof R. F. circuits.

## GOODELL-PRATT Coil Winders

An mexpensive maschine that yound Ideal in winding induation and transformor colle
 super and superbeter-

odyne cir-
cults on oylinders of bakelite, flbre, etc., up to $4 \% \mathrm{in}_{\mathrm{i}}$ in diameter and 7 in . long: in black enamel and can and nnished In bisck enamel, and can be lastened 10 in table or bench. The discs are finishea in red onamel and natural aluminum. All
Dur Price $\$ 3.50$
Heavy Duty Laboratory Type
Test Prods With Needle Point Tips


## 60c per pair

Cat. No. 6914-With Spade Terminale 50e per pair
16 Wire, 50 Foot Cable
For Remote Control and Public Address Work
Also suitable for mnumeistor gytems.
Cat. No. 5537.

Test Leads With Chuck for Phonograph Needle Tips


Theee test proda are a creat improve ment over the ordinary prods, being equipped with two chuoks in which sre Inaterted any gtondard phonograph noedles for tipa. The nesdie will mete contoct through ingulation and pltoh, and get into tight places which osninot be resohed with the ordinary test tlps. Made with best grade nbre unbregkable prods and lacquered wire. Equipped with phone tips or spade tígs.

Cat. No. 6532-With Phone Tips
Cat. No. 85s8-With Spade Tipa

## 49e per pair

Servicemen's Test

## Leads



The Tast Lads are a convenience to the set owner and a necessidy for the Radio Service Man and Radio Desler. They are unsurpanged for testing sets sind trioing trouble in fets where shorte open and other derect common to radio eete are encountered.
They can quickly be atteched to any meves for testins batteries or any electr: cal spparatus.
They are tupplied with red and hlack wire 10 positive and negative identincstions.

## I. C. A. Test Leads with Phone Plug



## Our Price 90c

The test leads have phonogrnph reedle prods and the ends are attached to a double phone plus whon makes it handy lor testing in the laboratory and shop.

## Utility Test Leads



Consists of one No, 6020 test prod, 2 inches of Anest grade lacqureed wire and a No. 8019 arocodile clip. A very handy accessery for the servioe man.

Cat. No. 6985 गTe ETl

| Multiple Conductor Cables |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Make | Wirem | Length | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ |
| 6184 |  | 4 | 2 Ll | \$0.15 |
| 6769 | Cleneral mectrfo | 6 | 4 ft . | . 20 |
| 0387 | General Electric | 8 | 6 ft . | .88 |
| 44\%4 | Belden | 10 | 8 It . | , 40 |
| 6764 | General Electrio | 10 | 81 t . | . 30 |
| 6768 | Creneral Electric | 12 | 8 ft . | . 45 |

## EXTENSION

 Speaker Cords

| Cat. No. | Length | Each |
| :---: | :---: | ---: |
| 4451 | 20 ft. | $\$ 0.16$ |
| 4452 | 30 ft | .24 |
| 4453 | 50 ft. | .35 |

Headphone Cords (Double)
6 ft . long, with loop eyes on one end and pin tips on other.

Cat. No. 4454 ITe ert. $\$ 1.00$ dozen

SPECIAL SPEAKER CORD 8 FT. LONG WITH LUGS ON ONE END AND PINS ON OTHER

Cat. No. 445s 10e eal. $\$ 1.00$ dozen

5 FT. SPEAKER CORD WTTH LUGS AND TIPS

> Cat. No. 4456 10e eal. $\$ 1.00$ dozen


10 Conductor-5 Feet Long
Complete with
female receptacle for wall plate.

List Price
$\$ 5.75$
Cat. No. 4236
45c ea.

Every Acratest Power Trans. former is brand new and packed in factory sealed boxes or to our nearest branch

# I.C.A. 5 in 1 Neutraliz. ing Compensating Tools <br> This cool set is a combination of a $1 / /^{\prime \prime}$ aut wrench, a $5 / 16^{\prime \prime}$ nut wrench, a neutralizing screw driver with $1 / 4{ }^{*}$ blade and a full slze screw driver. so constructed that all-the parts telescope so that the entire outfit when closed is no larger than a fountain pen. Pocket clip nttaclied. <br>  <br> Cat. No. 6946 

Our Price 50c Set
Extra Neutralizing Attachments for above Set
For Majestic Sets-
Cat. No. 6947 15e ea.
For Crosley Sets-
Cat. No. 6948 15c ea.
I. C. A. Neutralizing

Tools With Metal Nibs


The I.C.A. Neutralizing Tons make it asler, quicker and more accurate to work with are constructed of the tinest quality insulating materials and are finished with highly nickel plated brass nibs, Compact y constructed, the screw driver fits into the duplex wrench making it a four-inone set. The nther end of the acrew drives is special magnetic steel 10 picking up and placing of screws, bolts, nuts, wash. ers, etc. The I.C.A. Neutraitzing Tools work on all standard make radio recelvers.

Cat. No. 6457

## Our Price 88c

## Neutralizing Wrench

 and Screw Driver

## A Very Fiandy Tool

 or the Service ManThe wrench and sorewdriver is made ot case hardened steel. The handle is made of bakelite-prevents body capacity. Fispecially suited for Radiola sets.

Cat. No. 4207
Dur Price 45e ea.

## Utilco Tool Chests

411 Utility Chest with Loose Tray
8120 $14 \times 81 / 2 \times 6$ in.
Tray has disappearing handle and movable partitions. Matched hardware. Pesmanent embossed rule on cover.
 Cat. No. 411

## Our Price 85c ea. $\$ 9.60$ dozen

## The 414 Utility Chest With Automatic Cantilever Tray



Cat. No. 414

## Dur Price $\$ 1.00$ ea. $\$ 11.50$ dozen

The 411 Utility Chest, truly the chest of a thousand uses, originally developed by UNION, refined and lurther improved with automatic tray as shown in the 414, has proved is merchandisins sensation. has proved a mechanic's tool chest, fishing tackle box for household tools, bathing tackle box, ing suits, lunch and outing box. valuable prpers and other uses too numerous to papers and other of thousands of these mention, hundreds of until there are now more than a million in use.

## ELECTRICIANS’ SCREWDRIVER



Cat. No. 3566

## 98 c

A new slum-bladed ratchet screw-driver with knurled socket which can be rapidily rotated between the thumb and forefinger and is a great convenience it is runilng small screws in and ontiectrical oartlcularly useful tor work on electrica and other apparatus where amall machine crewa are used
The same dependable ratchet mechansm is used as in our 5078, which has proved its dependability over a great many ears. Right or left ratchet or rigid action is controlled by turning the knurled sleeve.
The blades are made of tool steel, hammer forged and carefully hardened and tempered. All exposed metal parta gre nicely polished or nickel-plated. Mahog any inished bandle.

## INSULATED HANDLE <br> Pocket Screw Drivers

$A$ ery
 handy and useful little tool IOI everybody. Put a display card or oour counter and watcl and watc
them sell. Ihree slyes.
Cat. No. 3263
Our Price 75c per card of 12

## DETECTO-LITE

Tells All at a Glance!


Indispensable to Any Service Man

1. Will test any current from 110 volts to 550 volts and will indicate voltage.
2. Will tell ingtantly whether A.O. or D.C. current.
3. Will show now many cycles.
4. Wul detect the live and ground wires.
5. Will act as pilot on any electrical apparatus.

Cat. No. 3255

## Dur Price 88c

I.C.A. "Short-O-Tester"

Every Serviceman Should have one


With 213 V. Lamp Cat. No. 6956

```
                $1.50
```

The I. O. A. "ghort-O-Tester" is an Ingenious new circuit tester containing $21 / 2$ volt lamp and a small tubular flashlight battery so connected that when the fexible wire lead with its spade tip in attached to one turn of the electrical circult tested and contact made through the pin terminal on one end of the tester. it will indicate whether said circuit is open or closed. It is an excellent continulty tester for radio and electrical work and should prove a very useful tool to the serviceman. It can also be used as a nashlight in an emergency by touching the spade tip to the metal test prod, thus shorting the circuit. It is also furnished with a neon lamp so that circults nished with any voltage or frequency may be tested for continulty and approximate indication of the relative strength of same, and whether it is A.C. or D.C.

## SERVICEMAN'S

Test Terminal Kit
A Fitting for Every Conceivable Connection


## Cat. No. 5413

## Our Price $\$ 1.50$

Contains fourteen (14) pleces: One (1) each Nos. 25 and 30; two (2) each Nos. 13, 28, 35, 86 and.42. Two No. 38.

RED and BLACK for POBTTIVE and NEGATIVE respectively; except No. 35, Which is high nickel pollshed, Dolored parts have highest insulation quality, equa to Bakelite. WLLL NOT FADE not break easily as in the case of hard rubber or similar materials. DESCRIPTION OF PARTS

Price tely Price Cat. per
No. 1s-A Spade terminal that fits plugs Nos. 28 and No. $25-4$ plug that has a chuck that will hold a chuck that win hold a phis into No. 30 to use with the Kit to prod with the Kit to prod
No. 28-A plug that has a hole thru it to insert anthruer plug to other plug to tap of a branch connection. Fits No. 30-A coupling to couple No, 25 to No. 42 and
No. 38-A strong ""Crocodile" saved clip with fine teeth that will fit plugs Nos. 25, 28 and 42. No soldering or serevs No. $38-A$ universal " test prod which is very strongly built and will not fade thom perspiration of the hand or warp with use. Pluge Nos. 28 and and the other will end and the other will ft No. $42-A$ plus that is sturdy. The set screw for the Whe is under a cap avoiding the possibility of cetting Nos. $30,35,36$ and Fits Nos. 30, 35,36 and 13. Can be used as a small prod coupler"...ili $6406 \$ 1.25$
$\qquad$ 0010 1.98 6017 1.83 6418 1.25 Tip ack coupler will fit all tip jack now on the market used on analyzers, meters, etc. Size $13 / 1 \mathrm{in}$. ions by

## USE OF SET

Place a No. 28 and a No. 42 plug at each end of a wire; then plug either a No. 30,35 or 36 onto these, as the individual test needs. It is recommended that the No, 42 plus be used at the No. 36 (test prod) end.

Special Screw and Nut Assortment
Contalns a generous supply of screws, nuts, wachera, luga, otc., which are indim. pensable to the service man. should bo in overy repair man' kit. Can also be sold across the counter to set builders.

Cat. No. 3662 ISe ea.
Professional Hardware
Assortment, 5 Pounds
For the dealer:
and servicemen's shop. Oontains an extra large assortof screws, nuts, washers and lugs for every radio lor every radio
purpose. This sortment is indis.
pensable to the man who dods repalring and bullding ind will pay for itself over and over.

Cat. No. 3816

## $75 c$

## The Handy Scratch Remover

Mars and Scratches Vanish Instantly
Cat. No. 3379
$\$ 3.60$
per doz
(Sold one dozen to arton wllh comnter Alisplay)
 BAMPLE 850


Rubber Howl Arrester
Fis over the tube and prevents oscillation and mícropnonic noises.

Cat. No. 6669
10cea.
$\$ 1.00$ dozen


## Melomite Cat-Whiskers

 For Crystal Sets

Three In a celloohene envelope, mountplay card. Rotsil at 35 c per cerd.
Cat. No. 4067
Retall at 250 per card $\$ 1.00$
per dos. cards

## Live Rubber. Casters <br> For Radio Cabinets and Furniture

Prevents vibrations, cut down tube noises, and caves floors and ruys. Placed under leas of cabinet.

Retali at 400
for the set of 4
12 Casters mounted on attractive counter display.


Cat. No. 6470 Size $31 / 4$ in. 750. dor Cat. No. 4427 Size $21 / \frac{1}{2}$ In. 60c doz. Cat. No. 6471 Slae $2 . \mathrm{ma} .40 \mathrm{c}$ doz

## Supersensitive Crystals

 Individually boxed.
## A real

mineral product.
Cat. No. 4054


## $\$ 1.25$ per doz.

## STOPPANI Jeweled Compass

Stoppani Compass
is an ideal SUR is gn ideal instrument with elevat ed sights. It is mace of Solld Mace of Sarkerred, non-rusting. radurted in $1 / 10$ Rubby Jewelled. n. square. Fitted as with se screw in corner rigla when not use.


Cat. No. 5303
the U. S. Government paid more than $\$ 30.00$ for this precision instrument.
Being a precision instrument, the Stoppani Compnss lends itself admirably for use in the Radio Experimenter's test laboratory. It afford on ideal means of deter minin the popularity om mageta, lec-fro-magnets and nolenoids carrying our

MAY BE USED AS A GALYANOMETER
Because of its uniform magnetic prop tice hieh sensityity and felicate pric rtios, high sence the sioppent compe honless Dearings, the stogpani Compasa nay bo ullize precise galvanomecer for rio circuits. The Compass is castly and adily converted into said alvanometer ey merely windive soveral salve of ordi y merell nare and hor case of the compers leev and anaces - move sace betwe turns robe - moveme the lom of the wire are brourat out as tes lead be firle . A dedection of a either direction indicates the presenc of an electric current. incidentally the ntensily of the current may be closely pproximated since the force with which intensity of the current flowing througis intensity
the wire.

Our Price $\$ 4.50$

25 PARK PLACE, N. Y. C. or to our nearest branch

## GEM LINE Interference Eliminator



A grcat many noises interfering with your recep: tion are caused by motors, such as electric refrigerators, vacuum clesners and elevators, and numerous electrícs appliances. The Gem Line inter. ference eliminator will help prevent any A.C. or D.C. Ine Interference irom entering into your radio.
Due to the fact that the Gem Line Interference Bimminator is plugged into your wall cocket, the power coming to your radio is filtered through, and the results obtained will please every set owner. Installation instructions are very simple, and can be easily followed by enyone.
Cat. No. 5121
81.65
I.C.A. Wonder Aerial

Cat. No. 6955 List $\$ 1.00$ Net 59e

A marvelous device which eliminates the outdoor gerial and yet is equal to it. It is scientifically designed and whil woric on all types of sets.

## F. \& H CAPACITY Aerial Eliminator



Attractively Colored Comnter Displey

Furnished with 6 Capreftator

## Cat. No. 4264

75
The F. \& H. Capacity Aerial Euminator has the capacity of the average $75-100 t$ aerial, is attached directly to redio set and complete with an attached wire for a ground connection.
The F. \& H. Aerial Eliminator has many ndivantages. Increases selectivity, many ndvantages. incresses selectivity, of lightning hazards, unsightly poles, guyof lightning hazards, unsightly poles, guywires, mutilation of woodwork for leadin wires, lightning arresters, and certain types of man-made static. Eeing portable
and easy to install, it also enables you and easy to install, it also enables you to move radio set from

## I.C.A. INSULTENNA Aerial Eliminator

## A Startling Invention to Replace Outdoor and Indoor Antenuan

The Insultenna is remarkably compact, nessuriag only 5x23/2 xl in. May be installed anywhere. It can be convenientiy placed in the console or cabinet. It contains a number of feet of a new type altered acrial wire and condensers which give it the capacity of 75 feet of ordinary antenaa.
Cat. No. 6452
Price $\$ 1.47$

## Filtervolt, Jr.

## Light Duty Line Noise Eliminator

Filtervolt, Jr., is the populer size line noise eliminator, euftable for inminaling all line num cleaners by vace ng on and of switch ng on and of jights, electric hearing pads lectric toasters and with clectrical apparatus With make and breal conts

Like the Piltervolt Br., the Filtervolt Jr.
 installed elther ${ }^{8}$ adio set or at the source of interferenco. It is quickly and easily attached without the use of tools and is an extremenly small and compact unit. The housing is made of black enamel metal with nickel plated end rings.
Cat. No. 3406
$\$ 1.70$

## Storm King <br> Lightning Arrester

The errester with the FREES 100 are insur. ance policy.
Oenuin molded bekelite. No etr gep. Ne. tonally adver tised et 1100


Cat. No. 6581

## Special 35e ea.

## Line Voltage Regulator

Differential Resistance automatically adapts itself to any set.

Air cooled by draft holes.
Steel clad perfectly fireproof.
Standard outlet will take any sato


Fits any standard socket or outlet.
Small, neat, compact; finished in nickel.
Cat. No. 3277
35c ea.
An air cooled, dependable voltage regulator. Will deliver correct voltage of any set. Less than the cost of an ordinary tube. Fits any stenderd eet socket or outlet. Protects set from current surges, saves tubes.
I. C. A. Wizard Aerial

For Midget
Receivers
Cat. No. 6941

## List Price \$1.25

Our Price 75c
A clever new serial for quick installation into midgets, as shown in the cut. Can also be used in consoles, portables and automobile radios. Seli-contained, No ground connection needed on most of the midgets on the maricet today. In cases where a ground is necossary. the Wizard eerial has a provision for it.

## Line Voltage Ballasts

Used in Majestic and other new sets. The Real Line Voltage Regulator
Blectrically and mechanically, a,s Well as merchandising and servicing stand. points, the Line Brllast represents the ultimate solution of the line voltage problem. The device, when properly matched to given power transformer and load. is designed to maintsin a practicsl constant voltsige, or within the $5 \%$ plus or or within the $5 \%$ plus or minus specified by tho manuiacturers, on the primery, even though the ine much is $\$ 0 \%$. It is usually designed to much as $30 \%$ it is usually designed to Iunction

Set Cat. No. Set Cat. No. Eremer Tully 4028 Majestic 70 4010 Brunswick 4089 Majestic $72 \quad+034$ $\begin{array}{llll}\text { Grebe } & 4030 & \text { Majes!lc } 80 & 403 \\ H 1-Q 810 & 4029 & \text { Majestlc 80 } & 403\end{array}$
 $\begin{array}{llll}\text { Kennedy } & i 0 k 6 & \text { Feerle.s } & \text { SuJi } \\ \text { Kylectron } & \mathbf{1 0 8 3} & \text { Sonora }\end{array}$ Kylectron

## SWAN-HAVERSTICK <br> Light Socket Aerial

Cut. No.
6580
43e


The modern sets and especially the supers require a short aerial, and this device is tdeal for this purpose. Elminates all unsightly wires. Does not use current Printed Instruction sheet with each one packed in attractive display box.

## STICKTAPE AERIAL



Cat. No. 4256

## 59e ea.

$\$ 6.40$ doz.

Packea<br>oimpley<br>Certun

Sticktape is made of a new nuetalic alloy of great capacity. the back of which Is coated with an adhesive rubber that will stick to any surface. It can be easily concenled behind picture moulding, ot on baseboerd or under rus oll floor or behind drapes, etc. It is the most amazing aerial of modern times and will increase the recelving range of eny radio recelver

## GOLD TEST AERIAL

Cat. No. 4268

## $\$ 1.60$



The Weliston Gold Test Aerisi is the world's smallest indoor antenns and yet It is as efficient es A 75-ft. outdoor aerial. Clets distance and reduces static. Im proves reception. Works exceptionally well with superheterodyne recetvers. Can be installed inside radio cabinet or on baseboard.


"E-Z" Flow Wire Solder What Every Service Man Is Looking For Diameter 1 MM.

| Cat. No. | Spool of | Welght | Our Price |
| :---: | ---: | :---: | :---: |
| 6521 | 117 ft. | $1 / 2 \mathrm{lb}$. | .50 |
| 5997 | 235 ft | 1 lb. | .75 |
| 5998 | 1175 ft | 5 lbs | 3.50 |
| 8999 | 2350 ft | 10 lbs | 6.50 |



Note Special Fluid (not resin) in Center.
No Corrosion No Oxidation Quick Action
"Use Hall as Much Solder Twice at Long."
This finest of solders is used by the largest radio and electrical manufacturers. Despite its extreme thinness ( $1 \mathrm{~m} . \mathrm{m}$. ) it has a fluid core which makes it hold to aluminum, nichrome wire and highly polished suriaces. The real advantage of this solder is that only sufficient solder to make the connection is used, while with many ordinary 3min. solder, a large globule is needed to make a connection. Will last twice as long as ordinary solder. Once you use this solder, you will never go back to ordinary solder. Sample free on request.

## "PERFECTO" Soldering Fluid


conne coider. When used in consection with Perfecto soldér substances which ordinary solder will not mand. Will also facilitate solderIng of other metals. All that is necessary is to touch the fluid with the tip of the tron.
Cat. No. 5377
Our Price 25e
Per 2 oz. Jar
Nokorode Solder Paste
Packed 12 cans in attractive display

Cat. No. 4211
$\$ 1.20$
Box of 12 cans
Retefl it 15 c ea.

Eveready Rosin Core Solder


A very high-grade solder for wiring and senerat house wort use. Attractive epools and cans.

| Cat. No. | Size | Our Price |
| :---: | :---: | :---: |
| 4156 | 3 cz . | $\$ 1.35 \mathrm{p}$ |
|  |  | carton of 10. |
| 4175 | 1/808. | . 25 cach |
| 4176 | 1 lb . | . 40 each |

## Kester Radio Solder Rosin-Core

The small package of
Rester Rosin-Core Sol-
der belng of the flat or ribbon type. Recom. mended by leeding radir engiveers for it is nosolutely non-cor-
rosive in d non conductive Deston ed for the amaten set builder and far radio meintenance
work. A liberal roil of moldor is pected in a lithozraphed tin osen; ten cans are put ip in a handsome counter display certon.

Cat. No. 5220

## Cur Price $\$ 1.40$

Per carton of 10

|  | For Genersl Work Acid-Core Cat. No. | plentrical and Radio Work Rosin-Core Cat. No, | Our Priee |
| :---: | :---: | :---: | :---: |
| 1 lb Spuol | 521 | 52.35 | \$0.48 |
| ${ }^{6} \mathrm{lb}$ Spool | 59\%9 | ¢\%2\% | \$0.42 |
| 20 lb Epool | 52.21 | 6828 | 1.95 |

## SOLDERALL



Cat. No. 4467

## 10c Retail Size

In Counter Display
Carton of 24 Tubes

## Dur Price $\$ 1.35$

per carton of 24

This is n romplete metal solder and fux combined. A small quantity applied to the jotnts to be soldered when hested will now and imite the pirts the same as wire or bar sadder. Furnished in collepsible

Special Servicemen's Adhesive Tape
y-oz, rolle, approximately 100 yds. Width, \% in.
Here is a handy item for the man who repair:
and installs radio sote and does wiring. A narrow strip of black fabric coated on one mide only with a very adhesive compound which will stick. Makes orery neat job and saves time and wort.
EVERY BERVICE MAN SHOULD ORDER
A DOZEN ROLLS AT THIS SPECLAL PRICR.
Cat. No. 5578

## Cur Price 5e ea. 50c per Dozen Rolls

## A Wonderful Time and Labor

Saver for the Radio Service Man and Electrician "TWIN-TAPE"
Rubber and Friction Combined In One. One wrap instead of Two."
1-Minsiln covering. -Rubber tape.
3-Friction tape.
Twin-Tape representy the highest grade ot nsulation tape. The beat quelly of mate. rials obtainable is used in its manuiacture, which insures untformity and long life. One roll instegd of two means seving in inventory and convenence to the workman.


8 Ounce Rolls-Cat. No. 5565

## 9c each

Friction Tape
Cat. No. 4226
1-Ounce Rolls, marked "5c Each."

71 e \(\begin{aligned} \& Per bax<br>\& of 32 Rolls\end{aligned}\)



Cat. No. 4219
2-ounce Rolls, marked "10c Each.
70c
Cat. No. 4215
4-oz. Rollg--8c each
Cat. No. 4223
8-0z. Rolls-15c each
Packed in individual cartons and attractive display contelpers which makes sales easier.

LENK NO. 7 HANDY BLOTORCH

Handy for any soldering purpose. Made of brass heavily nickoled. 1200 degrees neediopoint name.
sire: of in $x \% \mathrm{in}$. play card. Bhipping walght par dozen, two pounds.

Cat. No. 6694 30c ea. $\$ 1.75$ Display Card of 6

## LENK NO. 108

 New ModelFive Improved
1- Grtension base improved stance.
2-Bcrew-top makes it esuiter to load.
3-Noszle-cap provente ovaporation.
4 -Oapper heat conductor gonerates guickly.
5-Bigger barrel holds more fuel.
Blows itealf. Operstes on denetured leohol. Bolid baut makes it mechanically leaz-proof.

## Cat. No. 6693 B1e eat.

Bize: $51 / 2 \times 21 / e \times 1 \mathrm{in}$.
3.50 Display Card of 6

Lenk No. 66 Improved


## FIVE TMPROVED <br> FEATUAES:

1. Fxtension base improves atance.
2. Screw-top makas it essier to logd.
3. Nozsle-cap prevente evaporation.
4. Copper heat conductor generntes quickly.
Bigger barrel holds more tuel.
Blows itself. Operates on Cat. No. denatured or commercial 5435 it inechanically leak-proof.
sizo $61 / 6 \times 2 \frac{3}{6} \times 11 / 4$ inches

## Our Price 88c

Carton of $6 \$ 5.25$

## Special Toaster Value !


and evenly. Large base prevents Tosster from tipping. Made sturdy of heavy metal, not tin. Genuine nichrome wire imbedded in genulite refractory hooks. Equipped with electric cord and plug.

Fach packed in individual carton,
Holght-7 in. Baso-7\%35 $7 \%$ in.
Weight- $21 / 6 \mathrm{lbs}$.
Cat. No. 393 Bec

## Lenk No. 30 Champion Blotorch

For the Mechanic who Know: Value


Cat. No. 5433
$\$ 1.80$

Mechenically foolproot. All parts interchangesble.
Built to last a lifotime. Blows ftelelf.
Burns 3 hours on one filling.
starts in 20 seconds.
The Champion of Blow Torches.
Bise 7x31/4x2 inches.
Packed one in a carton -slx to a shipplag contalner.

Lenk No. 50 Master Blotorch A Combination Alcohol Torch

Powerful $2800^{\circ}$ blate with attached burner, One turn of thumb screw releases


1. Double burinerone for a needlepoint fame- add he attachment for hesvy intense flame.
2. The pressure release valve - no aputtering, no boiling over, no evaporation, no leaks.
3. A cleaning pin always handy when you want it-kept securely in the handle.
4. A full grip handie. always cool.
b. Substantially built to last a life-
time.
corrugated carton
5. Fool-proof construction-no adjustment десssзary.
6. Pilter screen in jet prevent plugging of orifice.

## Our Price \$2.95

## Special Therapeutic Electric Lamp <br> Relieves Pain With Heat

A quality product of heavy aluminum, highly polished. One-hals of inside silver etched; scientifically correct in size, 8 hape etn., with 260 Watt standard first quality carbon lemp. All made with 6 f. Silk cord, 2-pc. Attachment plug knob or push stand up under inigh heat.


Cat. No. 388
Either A.C. or D.C. current. Recommended by physicians everywhere

## Each \$1.65

Complate with 260 Watt Bulb

## 260 Watt Bulbs Sold Separately

Cat. No. 6562
60c

## Electric Soldering Irons



A handy coldering iron for the radio Ian, Equipped with removable copper tip, heater csrd and a two-piece attschment plug. alloy element.

Cat. No. 2720 59e
75 Watt High Heat Soldering Iron with removable brown handle, approved hepter cord.
Cat. No. 5113 \&Tole ET.
100 Watt Extra Hesvy Hich Eest Iron with brown removible handle, epproved hester cord.
Cat. No. 3305
$\$ 2.00$ ea.
75 Watt, 220 v.
Cat. No. $6707 \$ 1.50$ eal.
Mueller Battery Light


Cat. No. 6586
A. Handy and Inexpensive New Battary shop Tool

## Our Price 38c ea. <br> Six for $\$ 2.10$

The MUELTER BATTHEY LIOHT uses the storage battery ytself as the logical source of power for lighting up the work when cella ere belng replonished with water.

1deal an Temporary Voltmeter
The MUELLER BATTERY LIGHT provides a simple and sure means of showing up a bad cell without the necessity of removing the battery from the car. Packed in Individual Boxes.

## Electric Waffle Iron

In "Super"
Chromium Plate

With Heat
Indicator


Here's a "Super" Chromium pisted wattle iron, in popular "pedestal" style. attractively etched, ready to take its place as the unquestioned popular-priced VALUE-LEADER in any department! With unheard of selling teatures in its price unheard of selling teatures in its price class-such as the new patented Guaranteed Entombed Element, With nichrome Were and double strengen trminal connections; non-breakable heal indicator, conveniently placed, Ras shown; full $71 / 2$ n. cast aluminum greaselesa grids: ebonized wood handles; and matching gilk cord cet with pull-type bakelite double plus. Fibre feet. Operates on 115 volts, 800 watts.
Packed One to a shipping Carton.
ghipping Weight, 8 lbs .
Cat. No. $965 \quad \$ 3.35$

Bakelite and Aluminum Panels


Special sizes of bakelite and aluminum panels can be fur. nished at short no tice. Prices on request.

| 14 Gause Aluminum |  |  | S/16 in. Bakelite |  |
| :---: | :---: | :---: | :---: | :---: |
| Slze | Cat. No. | $\begin{aligned} & \text { Our } \\ & \text { Price } \end{aligned}$ | $\mathrm{Ca} \text {. }$ $\mathrm{No}_{\mathrm{o}}$ | Our Price |
| $7 \times 10$ | 6176 | \$0.50 | 5168 | 81.00 |
| $7 \times 12$ | 6177 | . 67 | 8170 | 1.25 |
| $7 \times 14$ | 6178 | . 67 | \$1\%1 | 1.50 |
| $7 \times 18$ | 5179 | .880 | $617 \%$ | 1.90 |
| $7 \times 21$ | 6180 | . 97 | 5178 | 2.25 |
| $7 \times 24$ | 6181 | 1.16 | 8174 | 2.50 |
| $7 \times 28$ | 6182 | 1.30 | $51 \% 5$ | 9.76 |

A14minum shielding can, 5 in. by 6 in. by 9 in. with $\&$ corner posts.


Cat. No. 5184

## Our Price $\$ 1.95$

Alumintim Corner Posts for inaking aluminum boxes. 6 in. long with holes drilled and tapped at each end.


Cat. No. 5183
Our Price 20c ea.

Bakelite Tubing (Coil Forms)
Cat. No.
4085
14/4 in. dia.,
4 in. long
Cat. No.
3812
$11 / 2$ in. dia.,

## Our Price 10 ea.

Polished Bakelite Strips
Black
Cat. No. 4364


## 15e ea.



Cat. Ne. 1364-App. 51/2 in. $x 14 / 6$ in.

## 5e ea.

These bakelite strips can be used by the service inan for many purposes. At these prices they should order a supply.

Round Head Machine Screws


## Our Price 5c

Per Envelope may be assorted

## Wood Screws in Envelopes



The wood -screws are pasked 10 to an envelope, each envelope illustrates the type of the wood screw head and always states the quantity.
4746 t/ $\times$ No. 5. 10 Round Wood Screws to $\sin$ envelope.
6474 Tis $x$ No. 8 , 10 Round Wood Screws to an envelope.
$6475 \times 6.10$ Round Wood Screws to an envelope.
$64761 \times$ No. 6, 10 Round Wood Screws
64:7 $11 / 4 \times$ No. 6. 10 Round Wood Screws to an envelope.

## Our Price 5e per envelope

Machine Screws, Nuts, and Washers

Cat. No.


Our Price 10c
per envelope of 36 pieces

## Soldering Lugs


© Actual Slze
25e per hundred

Hexagon Nuts, Knurled Nuts, and Washers in ${ }_{c}^{\text {cat. }}$ No. Envelopes
$59596 / 32 \times 1 / 4{ }^{* \prime}, 20$ zuts packed 5960 8/32 an envelope.
x $/$, 30 nuts packed
0961 0/82 an envelope.


5089 packed to an envelope.
ora $\frac{x}{}-16$, 15 nuts 5063 6/32 x $3-16^{\prime \prime}$, 6 nuts packed to an pnvelode.
3004 No. 6 Washers, 25 washers nacked to an en905 Velope. o, 8 Wasbers, 25 wash $=$ ers packed to an envelope.
All of this merchandise packed to an envelope with an illustration of the product on the front side, also the qualits.
5c per Envelope
Brass and Copper
Tinned Terminal Lugs The No. 1
and 2 lugs are
commonly used
0 n b
cR bles .
The No. 3 lus
is a solderless
1 ug for round or square bus-

bar.
The No. 4 lug is a flat lug for bus-ba connections.

The No. 5 lug is also flat but is $7 /$ in. In length. This type of terminal is easily bent to any desires angle or shape.

The No. 11 lug. Tite-Lock. 77. in. in tength.

All terminal lugs are packed 20 to an envelope. 50 envelopes to a box.

| Style | Cat.No. Style | Cat. No. |  |
| :---: | :---: | :---: | :---: |
| 1 | 5972 | 4 | 5975 |
| 2 | 5973 | 5 | 5976 |
| 3 | 5974 |  |  |

## Our Proice 5c

per envelope of 20
$\$ 2.25$ box of 50 assorted envelopes

## SCREEN GRID

Tube Caps with Leads
These Screen Orid Tube Caps have a lead soldered directiy to the cap. The cap litself is manuractured of a pring or ass and cadmium plated
Cat. No. 3892


## Cur Price 20c doz.

Cat. No. 4173-Without Leads
15c Dozen

## FUSE CLIPS

Spring Phosphor Bronze tuse clips that have been carefully designed and accurately made so as to insure perfect electrical efficlency and 'durability.

Cat. No. 3893
15c per doz.

Pilot Light Sockets
With Mounting Bracket

$\$ 1.50$ per dozen
Cat. No. 4077-Without Bracket
Our Price $\$ 1.00$ dozen

Copper Sleeving for Shielding


This shisiding is used on emplifers, peakers, public address conduits, autospeakile fadios and wharever it is desir. mobile to eliminate electricsl interference. able to eliminate renductors are run through the sleevThe conductors are run th arounded. The ing and the aeeving is can be stretched to double its orlginal length.

| to |  |  | OUR | 1CT |
| :---: | :---: | :---: | :---: | :---: |
| Cat. No. | 8180 | Din. | Per it. | 100 It. |
| 4te8 | 1 | 1 in . | \$0.11 | \$10.69 |
| 4469 | 2 | $1 / 2 \mathrm{in}$. | .09 | 8.00 8.80 |
| 4470 | 3 | \% in. | . 06 | 4.50 |
| 4475 | 4 | 1/4 in. | .06 | - |

## DE JUR PIN JACKS

Direct connection to the loud speaker of ear-phones without the use of a phone-plug is facllitated by the use of the DE JUR PIn Jack. This useful little terminal device Ands adequate application in modern recelvers where rcception over a wide band of wave-lengths is Rccomplished with the use of is rccomplished Wing colls. Their use on terminal gtrips is also a great conventence.

Cat. No. 4129

## 50c dozen

Package of $100 \$ 3.50$
Solderlese Phone Tips, Cato No. 8378 , 500 Dowen.

## HACKSAW



Cat. No. 5076
Price 85c
They are adjustable from 8 to 12 inches, with back arms and clips made of 2 very hard grade of steel. The nicely-sheped pistol grip handle. is made of steel stampings, corruggted to give a gond Erip. the handle is riveted to the irame. An oing
foints are everisstingly welded together.

This firma connects two $1 \mathrm{H}^{*}$ shafts together. Very handy for connecting condensers, volume controls, etc. With 2 sensers, volume N. P. brass. s/" jong.

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## Radio Cyclopedia

Answers in plain ype of circuit used-the location of the difierent parts in the recelver-the correct operating conditions-the correct resistance between points so that he may make his various tests.

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1. Allgnment Frequencies.
2. Atwater Kent Eleetrical Values.
3. Point to Point Resistance Values.

Schenatic Wiring Diagrams.
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practical question on the gervicing odjustment pír remodeling and designing of ad 10 recelving oquipment. Erach oquipment. kach dred lesding ir dicles is complete in itself and in in itseli, and in sre hundreds of
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Pocket size. Any dyne service prob lems are solved.. How to sdjust $\dot{R}$. F. Trimmers
I. F. Trimmers

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mers . . How to apply a set tester to a superhetro dyne $\dot{\text { d }}$ How to use R. F. and I. F.
oscillators to eliminate double spot tuning
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 The use o hpon - actual service pro cedure * . troubles . . symptoms and analysis indexed. Everything made sim-ple-svallable at vour fingertips. Size $5 x 7$ inches. Set in clear tvpe. Pro losely lilustrated. Round in fiexible cover

Cat. No. 355 95c


A-book that should be in the possession of every Sound and Recording Engineer and Radio Serviceman engaged in Public Address Work.
Written by the Engineering gtaf of RCA Photophone, Inc.

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Battery Chargers
Recording
Turntables
Sound Heads
Input Controls
Vacuum Tubes and Vacuum Tube Amplifiers
Loudspeaker Equipment
Theatre Acoustics
RCA Photophone Equipment
Trouble Shooting
Type PG5 Portable Equipment

## Radio and Electronic Dictionary



Radio Transmission and Reception Broadcasting. Commercial Communica Ion, Aviation, Navigation, Industrial Con trol. etc. Photoelectricity and Photocell Applications. Bound Pictures and Public Address Bystems. Television and Tele. photography. Electricity and Magnetism

## The Radio Amateur's Handhook

By the Headquarters Staff of the American Radio Relay League
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The Handbook is a practical manua of amateur radio in all its phases published by the American Radio Relay League, the amateur's own organiza tion. It starts at the beginning and tells the whole story: What amateu radio is; How to be a radio amateur How to obtain your licenses; How to how to obtan your hicenses; How to ple station: How to bulld the best ple station, hows for nown spparatus for the most moder tation; how to operate the stathonand interested for tive kears
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## Servicing Receivers by

 Means of Resistance Measurements

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Cat. No. 353
Price $\$ 1.00$
Bold with a Money Back Guarantee
book which you
mus have!
CONTENTS:
Resistance, Types, Values and Wattage Series, Parallel and Series-Parallel Re istances
Resistances in Powerpacks.
Resistances in Tube Circuits
Point-topoint Resistance Measurement Checking Resistance of Inductences and Condensers.
The Apdlication of the Ohmmeter to Receiver servicing.
Servicing Receivers by Means of ReAnalyzing special Circuits.

## USALITE

FLASHLIGHTS Two Best Sellers


2-Cell Large Fise Focusing Spotlisht Will throw a beam of light ver 400 feet.日1ze 13 " "x8s"
Cat. No. 6679
85c
Complete


3-Cell Large Slae Foonslng Searchlight, with Extra harge ilend
Will throw a baam of light over 1000 feet. Slze $13 / \mathrm{in}$. by $9 \%$ in.
Head 3 y in. Dismeter
Cat. No. 6684
$\$ 1.35$

## Complete

1-Heavy gauge aolld brass cmsen.
2-Body finlshed in black.
3-Pully Nickeled.
i-Fool-proof safoty switch that locks on and of in addition to miermittent flashes for signalling (popular with Boy Ecouts.)
B-Hinged ring on bottom cap for hanging.

If Octagon-shaped to prevent rolling.
7 - Bhock absorber at base of bulb.
8-All parts are ribbed for aturdy usage.
9--تrach Flashlight is complete with Bulb,
10 - Pnd Bach Flashlight is packed in an individual attractive box.


New "Photo-
flash" Lamp
and Holder

## Photonash Holder

 with 7 -in. Reflector and BatteriesCat. No. 3377 65e
Makes picture taking easy under any condition, indoor or outdoor, day or ulght. No tre hazard, noiseless, safo and cconomical. Any ohild can operate it. Simply screw the now photonash lamp into socket of this special holder, press button, and the picture is inade. A boon to the amateur photographer-a necessity for the professional.

Photoflash Lamps Only
Cat. No. 3378 18c eal.

## 4 $1 / 2$ Volt "C" Battery

4 in . long $\times 3 \mathrm{in}$. high $\times 1 / 2$ deep. Packed 10 in a ghipping carton we:ghing Cat. No. 6655
Our Price 20c ea.
$\$ 1.90$ Standard Carton of 10

No. 6-1 $1 / 2$ Volt Dry Cell
This is a Dry Cell of the hignest quality and will
give satisfaction in any give satiafaction in any
service for which this type of cell 18 adapted. It is especially qualifled for all kinds of ignition work, doorbells. buzzers Radio "A" Battery, and for other general uses of the Drgcell. $21 "$ dlameter x $6 \frac{1}{2} *{ }^{2}$ high Cat. No. 6656

## 20e ea.

85.00 per Carton of 25

Packed 25 in a shipping carton weighing 60 lbs .
22 $1 / 2$ Volt "B" \& "C" Battery
4" long x $x^{\prime \prime \prime}$
higin $\times 2$,
packed 5 in
slipping car-
tor weighing
8 lbs.


## Dur Price 58c ea.

\$2.90 Standard Carton of 5

## Merit Flashlight

 CellsLARGE SIZE
Fit Both Flashlights Shown Above.
Size $11 / 4$ inches by $2!/ 4$ Inches.
Cat. No. 6682-Regular Size Cat. No. 6683-Baby Size

## Our Price 4c ea.

 $\$ 1.85$ per Carton of 50Flashlight Lamps
Miniature Base-Imported


Packed. 10 to the box, 100 to carton
Our Price 30c Box \$2.50 per Carton

## NEON

Pilot and Night Lamps
Uses Very Little Current. Burns 24 Hours Per Day For 5 Cents Per Month. Can Be Used Anywhere-
No. 3673-1 Watt. ...50c
No. 3674-2 Watt.... 65 c
Standard Package, 10


Acts as Pilot Light, Night Light, Indicator on Electrical Apparatus, etc.
Uses Edison Medjum Base
Worke on Both A.C. or D.Cp, 110-180 Volt

For VICTOR and COLONIAL Set
Intermediary Base, Frosted Cat. Na. 4224

## \$1.50 Carton of 10



## Pilot Lamps

110 V. Candelabra Base


For Pilpt Receptacles and General Use.

Cat. No. Color
8041 Clẹr
s001A Amber
PaCEED
is to the bot

## Our Price 5e ea. $\$ 2.00$ Box of 25

Round Decorative

## Lamps

Regular bsee, Gisis and Als Pagked 10 to the bax.


| Cat. |  | Cat. |  |
| :--- | :--- | ---: | :--- |
| No. | Color | No. | Color |
| 6096 | White | 8099 | Elue |
| $509 \%$ | Amber |  |  |
| Suns | Red |  |  |
|  |  |  |  |

90c Box of 10

## 45 VOLT

'B' Batteries
Cat. No. 6905
88e ea.


Carton of $5 \$ 4.00$

## Magnotiol-Leadin- Wire

AERIAL WIRE

Lots of 25 coils . . 15c ea.
Lots of 50 coils, . . 13c ea.
Lots of 100 coils . . 12c ea.
No. 7-22 Heavy Gauge
Cat. No. 4402
90-ft. Coils
Lots of 25 coils . . 22c ea. Lots of 50 coils . . 20c ea. Lots of 100 coils . . 18c ea. Cat. No.
44621000 ít. Spoopl.
Price

7-24 Stranded Enamel Wire Cat. No. 4421-100 ft. colls
Our Price 35c per coil
No. 14 Solid Enameled Wire Cat. No. 4416100 ft . colls
Our Price 30c per coil
Cat. No. 44751000 ft. roll $\$ 2.75$

Gold Plated Aerial Wire
Used on all U. A. Batlleships. Cat. No. 4213


Indoor Aerial Tape
Cat. No. 4311
our price
30cea.
$\$ 3.35$ dozen


Tape is s flexible metallic ribbon antenna especially manufactured for Indoor reception. Gives reception far superior to any other. type of indoor aerlal or loop. Can be easily glaced about the room in convenient pleces. Pleced around the moulding.

## LEAD-IN WIRE

solld Copper, Rubber Covered
50.ft. Rolls

Cat. No. 4403

## 15e ea.

25 coils for $\$ 3.15$
100-ft. Rolls
Cat. No. 4404
28c ea.
25 coils for $\$ 6.50$
SPECIAL SHIELDED

## Lead-in Wire

Bhielded Lcad-in stranded cable of Eranded cable with Easy-strip Rubber
Insulation enclosed in a braided shield in a braided shield wire. In service the wire. In service the shielding in grounded. Shielded Lesd-in Wroblem of trouble-
problem of trouble-
some interference and thus protects the some interierence and inthus inom interferee caused by high tension lines, motors and similar disturbances.

| Cat. No. | E.ength | Price |
| :---: | :---: | :---: |
| 4460 | 50 It Coil | .30 |
| 4481 | 200 ft Coli | .50 |
| 4464 | 500 ft Coil | 4.50 |
| 4465 | 1000 ft Coil | 8.50 |

## SOMETHING NEW!

 Continuous Aerial and Lead-in Wire SPECIAL OFFER!Rubber Covered Tinned Copper Lead-in Wire Underwriters' Label On Each Coll 500 Ft. Coils.
With this wire it is not necessary to use insulators or make any splices. You sim-

ply tie one end on some high object on the rool and jring the other end down overthe side of the roof and into the window. For a nuick and secure installation, there is nothing better than this fine insulated copper wire.

| Cat. No. | Gnage | Type | Onr Price |
| :---: | :---: | :---: | :---: |
| $\mathbf{4 4 2 2}$ | 16 | Solid | $\$ 2.65$ |
| 4430 | 18 | Stranded | 1.75 |

The solid wire has a $3 / 84$ rubber cover and is cotton braided and weatherprooled. The stranded wire has a lacquered cotton braid over the rubber insulation.

## Serviceman's Handy <br> Wire Spool Assortment



Now! Every Serviceman can have a complete assortment of Wire in stock without a large Investment

## Our Price 95e

For Any Spool Listed Below
Knowing that it is essential that every service shop has a complete assortment of electircal and radio wire in stock for every job. but very few servicemen can efford io invert too much money in wire, we have arranged with a very large. Wire we have arranged with a very large. Wire mype of wire. put up in handy spools, so that a complete assortment is in the so that a complete assortment is in the
reach of everyonv. For a small investreach of everyon. For a small investply of every popular cype of wire in stock. Cat. No. Description
4492100 ft . No. 18, $1 / 64$ Cotton Covered twisted gruen and yellow.
4408100 tt. No. 18, $1 / 32$ Silk Paralle,
4494 as30rted colors. 100 ft. No. 18, $1 / 44$ sulk Parallel,
assorted colors.
4ns 50 ft . No. 14 Cotton Covered Twisted for heavy filsment circults carrying exceptionally large cur-

4496200 it. No. 18. 164 Single conductor Cotion Covered, ior aeriai and cround wire, lead-in wire, filment leads and genersl repalr
4e9 100 .
ductor. No. 14, $1 / 32$ single con ductor cotton Covered. for heavy
4488100 ft . No. $18,1 / 84$ silk Covered twisted for flament leads and extensions. Assorted colors.
4420350 ft . No. $22.1 / 84$ Eingle conductor for hook-up wire, essorted colors.

No. 18 Bell
(Annunciator) Wire
A real quality No. 18
single wire. Made by one of the larcest
wire compantes und priced right.
Cat. No. 4409
All Colors in Boxes

## 1/2-lb. Coils,

## 15c ea.-\$1.50 doz.

$25-f$. colls, white, for inside work, 25 coils to a box.
Cat. No. 6302
Our Price \$1.25
Per Box of 25 Coils


| Gauge | Single Cotton Cat. No. Price |  | Double <br> Cat. No. |
| :---: | :---: | :---: | :---: |
| 18 | 6056 | \$ . 15 | 6063 |
| 20 | 6057 | . 17 | 6064 |
| 22 | 6058 | . 18 | 6065 |
| 24 | 6059 | . 19 | 6066 |
| 26 | 6060 | .24 | 6067 |
| 28 | 6061 | . 27 | 6068 |
| 30 | 6062 | . 33 | 6069 |

Zvery Dealer and Service Man Needs This Item


A lugh grade hook-up wire for general work. The 19 -gauge wire is tinned, ready ior soldertug. Covered with paraffined push-back insulation. Black.
Used for wiring sets and genernl rpeair work. At this price you can afrord to get 500 feet. Cat. No.
$4408 \quad 100$-ft. Roll 50.50 $4411 \quad 500-\mathrm{ft}$. Roll $\$ .00$ 1412 1.000-1t. Roll 8.75

## Stranded Push-Back Wire

For flament leads and phercve: fiexiillty is desired. Tinned for quick solcring.

Cat. No. 4463


## SPAGHETTI TUBING

Cat. No.
5630

36 ins-Black


## 35e dozen

$\$ 2.50$ per 100 lengths

## Green Silk Covered

## Litz Wire



Litz wire is used for winding precision induction coils and for making loop aerials. It is the most sensitive wire known and is excellent for indoor antennas.
$1 / 4 \mathrm{lb}$. spools.
Cat. No. 4243 20c

## Colored Rubber <br> Covered Stranded Hook-Up Wire



Very fexible tinned wire covered with blue, yellow, green or red rubber. Ideal. for wiring or hooking tp sets.

| Cat. No. | Length | Each | Dozen |
| :---: | :---: | :---: | :---: |
| 440. | 25 ft. | 11 c | $\$ 1.20$ |
| 4406 | 50 ft | 20 c | 2.25 |
| 4407 | 100 ft | 40 c | 4.50 |

## Radio Set Hook-Up Wire

So many of our customers have asked is to supply them with the same type of hook-up wire that is used by the large production manufacturers of radio sets. This type of wire is ninobtainable in the usual channels of trade and is made up only on order, which orders must be sufaciently large to make the wire on a production basis. We have arranged to stock this wire for the dealer and serviceman trade at extremely low prices.
Specifications
Stranded copper, TINNED: 10 r casy soldering): casy soldering : $1 / 64$ rubber; braid. The braid brald. The braid is then lacquered, making it absolutely moisture proot. The lacquer also causehere permanently to the rubber.


VERY EASY STRIPPING
ALL COLORS
Packed on 250 tt. Spools.
Cat. No. 4430
1 Spooi, 1 Color-250 ft.-95c
2 Spools, 2 Colors-500 It.- $\$ 1.75$
4 Spools, 4 Culors- 1,000 f1.- $\$ 3.25$
This is the spme wire that is used by Atwater-Fient. Stewart-Warner, Majestic, plllee. RCA-victor and all the large set Mnกะ!acturers.

Service Man's Handy Wire Assortment


Contains $1: 50$ ft. of Wire Cat. No. 4415

A complete assortment of wire lengths from 4 in. to 15 in. of every lype of wire used in a service department. Contains hook-up, pushback. bus bas. shielded, heavy alanent, A.C eads and others. Will pay or Itself many times and save you money on wire. Very handy to have on the repair bench or in your service kit.

## Our Price 39c

## Special Heavy Duty Rubber Covered Stranded Filament Lead Wire

For $11 / 2$ and $21 / 2$ velt filament leads and wherever a heavy low of current is carried.

## 14 Fauge

 Will carry15 Amp.
at 110 Volts
Cat. No. 4497
12 Gauge
Will carry
30 Amps.
at 110 Volts
Cat. No. 4459

## 100 ft. <br> 100 ft. for 95e

Same wire as above also furnished in twisted pairs for A.C. leads and other uses where two conductors are required.

14 Gauge-Cat. No. 4495
12 Gauge-Cat. No. 4500
95e per 50 ft.

## No. 18 Twiṣted Lamp Cord



A closely woven double brolded and seavy rubber inisulated gtranded coppor wire for all general uses Green ind rellow, white of brown, cotton covered.

$$
\text { Cat. No. } 4418
$$

## $\$ 3.15$ per 250 ft coil

 $\$ 8 . .75$ per 500 ft.No. 18 Type "PS" l/64
Reinforced Cord

|  |  | Used for an <br> pogtabl <br> like vacuum |
| :---: | :---: | :---: |
|  |  |  |
| Ruggedly built, substantial |  |  |
| Cat. No. | Length | ar |
| 31 | 100 ft . | 1.75 |
| 4432 | 500 ft. | 5.50 |
| 4433 | 1080 ft . |  |

## Flat Cotton Parallel

| will stand <br> a lat of abuye | Wire |  |
| :---: | :---: | :---: |
| Approved <br> No. 18. 1/82 Rubber | $=(1252 x)$ |  |
| Cat. No. | Length | Price |
| 4447 | 260 ft . | \$2.25 |
| 4448 | 500 ft . | 4.25 |
| 4449 | 1000 ft . | 8.00 |

No. 16 Double Lighting


## HEAVY DUTY "SJ"

## 2 Cond: Garage Wire

Run a 10-ton truck jver it: leave it out in sleet and snow: will stand almost any abuse. Very popylar for trouble lamps, motor leads, emporary outsid ines and it will make s vacuum cleaner cord de luxe. An extra heavy
duty
 covered cord, posl lively water and oil proof, Suitable for garages, shops, etc. A full $60 \%$ Para rubber cord priced about 50\% below market prices.
> $\$ 2.25$ per 100 ft. spool

Extra Special Valuo Silk-Covered Parallel Wire
For Electrical, Radio and General Uso
 wirn for mirime homen with beso oonid conven fence o atension and hundred otlier uses.

This 1sthe fastest moving wire, and every dealer and ser vice man should hav
hap


Furaislied in whito, green, marooa brown and gold 1,000-ft. spools only Price per

| Cat. No | 8150 | $1,000 \mathrm{Pt}$ |
| :---: | :---: | :---: |
| 4410 | $18-1 / 64$ | $\$ 5.85$ |
| 4434 | $20-1 / 64$ | $\$ 95$ |

Single Conductor Cotton Covered Fixture Wire


Fnith finner in brala tion For hooking up set to eerial and Tound sind genera lectrioal use.

1000 FF. 8 POOL:

| Cat. No. | Gauge | Color |
| :---: | :---: | :---: |
| 4484 | 18 | Brown |
| 4485 | 18 | White |
| Du1 Price 33.20 |  |  |
| Cet. No. | Gange | Color |
| 4486 | 20 | Brown |
| 4499 | 20 | White | Our Price $\$ 3.00$

Asbestos Heater Cord

heavy duty wire used for all appliances.
Cat. No. 4423
Cotton Braid Overall
Per $5 \mathbf{j} 00 \mathrm{ft}$. $\$ 5.50$
Per 250 ft. $\$ 3.00$

Battery Charging Cable (Single)

lleavy, extremely Glexible oatlery cable. Weatherproof, actd prooi and fume proof. heavy rubber covered. Due to the heavy flexible conductur resistance is cut to a minimum, and hreakase of wire is almost tunknown Cat. No. 4450 strands used.
The fincst battery cable it is possible to manuiacture. 100 ft . spools.
95 c per 100 ft.

## We Carry a Complete

 Line of Cables, Cords and Belts for All Standard Receivera

Our Dlals and Belte are mede in ece cordance with the original nianulactur ers specifleations and are guspanteed to dt right.
Cat.
Sat, Model and Trye Frice
5788 Amrad 84 ............................... 80
U881 Atwhter-Kent, \&, 8T, Left \&
Right ............................................
20. Atwater-Kent, 68, 81, sot of 2,
*es Atwatar-Kent, 10 , Belte: det of 2 . Left \& Right .................................

Left \& Risht ...................................
Sel Atwater-Kent, 44, Belte: Bot of $\mathbf{I}_{1}$
Left \& Eight

Sed Balkelt Cable

4200 Bosch Model 48 s
6729 Bosch 28
B789 Bosch 68, 60
00 .......................................... 28 .
 3867 Colonial 81, 32 .......................... ${ }^{3}$ Colonial 85, 34, 85, 87. Dqive Ca-
bles, Set of 2

 5887 Crosiey Model $601-602-607$........................... 5989 Emerson

87 c
6869 Everendy, All Nos., Drive Cobbles. 88 41058 Freed-ifltemann Belts, Model N. R.
58sr ${ }^{60}$ Freshman Modè 2
023 First National
-•...
洋- Kelloge, Set ct Vith Sprling....2ive 584 Kolster, Heavy Cord .....................
 728 Majestic, 62. 60 ................... 90 270 Majestic Band Model, 70-71-72 and
 isl Pilico All Models 2:1) R.C.A. 16, 17. 18, 38, Linen....... 14 4883 R.C.A. Dial Cable, Model 17-18-46-
 bronze wirel complete with Con nector . . . .
 087* Steinite, All Nos. ....................27e 657\% Bonora . ..........................................
 Springs .................................. 86

Phosphor Bronze Dial Cable


Cat. No. $4838-25 \mathrm{It}$
Cat. No. $4286-50$

Cak. No. 5288

Our Price $\$ 2.50$
Per 150 Ft. Spool
$\qquad$ .80 c
.00 c

25 PARK PLACE, N, Y. C. or to our nearest branch

## CORD SETS For All Electrical Appliances <br> 

Best grade asbestos heater cord, 2 pc. bakelite cap only.
No. Type erich Doz. 3318 With cold mold
plug, no switch.. $\$ 0.17$ \$1.80
3315 Same as above, plug and silk cord.... . 40 4.45 3323 With Bakelito switch plug...... . $35 \quad 3.60$

## BAKELITE <br> Quadruple Table Tap



Compact, ilght and neat. Equipped with it. brown silk cord and bakelite handle cap Makes four electr.
outlete out of one.
Cat. No. 6584

## Our Price 45e ea.

$\$ 2.00$ per box of 5
Triple Outlet Cube Tap


Cord is of $2 / 18$ silk parallel with anuel braid spproved by underwriters. Geucral Electric attachment plug. Cap only.
Monowatt cube tap.
Very handy for connecting one or more lamps. radlo sets, etc.. from the outlet. Ciat. No. Lomsth Each Dozen

| Cat. No. | Lomgth | Each |  |
| :---: | :---: | :---: | :---: |
| \$3022 | $6{ }^{\text {\% }}$ | 8.19 | \$2.00 |
| 8380 | Y 1 t. | .2\% | -. 40 |
| $38 \%$ | 12 tt. | . 25 | 2.75 |
| 3858 | 15 It. | , *8 | 3.10 |
| 8358 | 20 it. | 32 | 3.60 |

Handy Extension Cord Sets

Hesvy gijk Cord with Inner Rrnid. Besutiful Assorted Colors.
Approved
Socket
Approved Cord
G. E. Bakelite
Cap Only

| Cat. No. | Length | Eech | Doren |
| :---: | :---: | :---: | :---: |
| 3300 | 6 tt | \$ |  |
| 8824 | 9 tt . | . 29 | 8.85 |
| 8825 | 12 ft . | . 32 | 3.73 |
| 8316 | 15 it. | . 35 | 4.00 |
| 3301 | 20 ft . | . 40 | 4.65 |

## Two-Burner Enameled Electric Stove



## SINGLE EEAT

 Cst. Finith Price No. No. Minith Price $\begin{array}{lllll}881 & \text { Grean } & \$ 2.00 & 394 & \text { Blue } \\ 880 & 8.95 \\ 8.05 & \text { Braen } & 8.95 & \end{array}$ 884 Nickel 2.60 Nickel 390A sturdy and useful Hotplate which will perform many of the every day cooking operations in the home. It has an open coll unit 6 in . in dismoter, which fits $90 \%$ of all utensids. It hests quiterly and pro vides a clean, sootless hest. Presmed stoel construction. Pollshed nickel fnish. Two open coll units, each unlt 550 watts. Two single-heat, reversible switches. Complete with cord ind plus. For $110-120$ volts.

Connections concealed and protected quipped with 6 it. electri
two-piece attachmont plug.
Single Stove Without
Switch
$\left.\begin{array}{c}\begin{array}{c}\text { Colors: } \\ \text { No. } 402-\text { Biue } \\ \text { No. } 403-\text { Green }\end{array}\end{array}\right\} \$ 7.20$ dozen

Commands Attention to Your Displays

Cat. No. 379
$\$ 2.75$
Complete with 5 Assorted Color Films

sPOT LIGHTING is efrectively employed to focus attention on a section or portion of a display to cring same out prominently.

Varied beautiful ughting efrects may be procured by using spotights with the colored gelatine screens of five assorted colors furnished with this outit. Finds a ready sale in all retall stores, sutomobile show rooms, drus stores and should be used in every show window where you wish to have some article stand out. Built of heary gauge nluminum with universal bracket and porcelsin socket. Furnished complete with adjustable brackets and Ive assorted color תlms, spoTLIGHTE will help eliminate daylight refiections in plateglass windows which are so annoying to merchants eager to compel attention to their window displays during the daytime as well as at night.

## We carry Voltage Dividers

 for over 200 standard receivers. See page 95 for complete list.
## 6 L.B. DE LUXE HOUSEHOLD IRON

6 pound iron
-b e eut ifully designed sind heavily nickel plated with bevel-edge sole plate, $t 1 p=4 \mathrm{p}$ heel rest black handlo, complete with cord set. Hall sttachment plug. Imbedded type One year guarantee.
Cat. No. 425

$\$ 8.50$ per Carton of 6

## TOURIST IRON

2\% pounds. Nickel plated, bevel-ed!e sole plate snd black rubberized hande, with cord set sud helf plug, Porcelain element, tip-up heel reat. 110 volk, 875 watte.
Individual oarton. Is to e thipping Carton shipplas Weight, 38 lbs.
Cat. No. 502
S10.50 per carton of 12

## GOLD SEAL

Automatic Water Heater
When Faucot is Turned On, Heating Element is Connected

When Turned Orf. Current ls $\mathbf{O N}$, Also.

No Swltches to Bother Witll-Completaly Automstic

Made of the FMnest
Materials
$71 / 2$ ft. Rubber Meotric Cord Non-Breaksble Rubber Plug Aluninum Case - Highly Polished GUARANTEED
Just slip uver faucet sind plug into near. socket Permanent installation in less est sockec. Permanent Operates on 110-130 thalt two minutes. Also made in 220 Volt at slight selditionsl cost.
Cat. No. 6570
$\$ 2.25$


4 in . high
Fisamel in four dixerent colors-black, blue, green and grey.

Fach stove in an individual carton. 24 Ftoves to a standard shipping box. Made of heavy steel-"Genuine Nichrome Wire" elements imbedded in high grade porcelain bricks.

No. 58\%-Black $\rightarrow$ No. 404-Bine
No. 407 -Green - No. 406-Grey
Our Price 79c ea.

MAIL ORDERS TO AS
See Terms on Page 5

COMPLETE AERLAL KITS
(We oan supply Aerial Rits in quantities to your own specipontion.)
Kit No. 4216
90 4t, $7 / 22$
8 tranded Btranded
Copner Wire 50 ft . Rubber Covered Lead-in Wire 38 ft. Ground Wire.
1 Approved Arghtning
1 Copper
Ground
Olamp.
Strip.
Gless
Insulators.
Nallt Knob


## 65c ea.; 10 for $\$ 6.25$

Kit No. 4217
20 5t. No. T/28 8tranded Oopper 0.

Is R. R.c. Eead-in W4re
25 Copper Ground of
1 Copper Ground Cramp
1 Lesd-in berip.
2 Nallit Knobs

## 42c ea.; 10 for $\$ 4.00$

Kit No. 4220
Assembled to meet the demand for a real low priced kit, yet sufncient for the modern midget receiver.

00 th. 7/27 stranded Copper
25 ft. R.C. Leade
1 Lesde. Lead-in Wbe
1 Lead-in Btrip
1 Ground Clamp
${ }_{2}^{2}$ Naillt Rnobs
35c ea.; 10 for $\$ 3.25$
NEW GRIP-TITE GROUND CLAMP


Mares real sood connection on pipe
up to 1 in. diameter.
Cat. No. 6046
Our Price $\$ 1.55$
Box of 50
$31 / 2 \mathrm{tan}$. length. Packed 100 to box.
Cat. No. 2769

## $\$ 3.00$ per 100



Smaller Quantities-4c Each

Storage Battery Clamps
 Heavy Daty In Boxes of Ten

Medium size, No. 64B
Cat. No. 4261
Per Box 60c
Large size, No. 64 Cat. No. 4278
Per Hox 85c

## GROUND CUMMPS <br> ces

Cat. No. 4251
25 for 75c 50 for $\$ 1.16$

## GIANT

Lightning Arrester


Fested and Approved Radio Lightning Arrester, large type. Made from high teasion, thoroughly vitrifled porcelain, brown glazed. Expansion and contraction has no erect on the sir fap of this srrester.
Our arresters aro so constructed that they may be installed indoors and out of doors.

White Wiring Nails Packed 100 to a box


## Cat. No. 6658

15c per 100 $\$ 1.35$ per 1000
Wiring nails are ideal for fastening wire to baseboard when muking extra electric outlets lor the radio, lamps, etc. They are white colored to harmonize with the woodwork.


INSULATED STAPLES natural fibre


500 Staples 50c 1000

100 to bex
Cat. No. 4253
$95 c$

These staples ano furnished with white or brown ilbre to match indoor moodmors.

Cat. No. 6852-White
Cat. No. 6853-Brown
$\$ 1.60$ per 1000
Jiffy Baseboard Wire Clips
Jing wire clips replace the old-fashloned double end tack for staple, or fastening insulated wires; and do a NEAT JOE for you INETANTLY.


Your Radio Lead-in, anside Aerial, Tele phone, and Lamp Wires are held by this cievice between trim and wall and cannot mar or damuge vour woodwork.

Cat. No. 3264
50c per 100
INSULATED
Window Lead-In

## 

## Cat. No. 4208

Entirely insulated ine equipped with Fahnestock cups. l"acked 00 to a carton $\$ 1.45$ per box of 50

## Lightning Arresters <br> Applovad by vire Underwitars



## PORCELAIN

Lead-In Anchor
Nickel plated fitings.
Diameter 2 in. Ht. $2 \%^{3 / 4}$ in
Cat. No. 5299


Our Price 9c ea. 25 for $\$ 1.90$

 Cat. No. 4200 25e edt. Extra Beaded Floats 10c ea. Cat. No. 4203

## PORCELAIN

Nailit Knobs
Two-Plece
Cat. No. 2767
$\$ 1.00$ per 100


3-In. Screw Eye
Insulators Galvanized Screw Cat. No. 2768
$\$ 2.00$ per 100
SPRING AERIALS


For Indoor and Outdoor Use Solid Brass, 75 ft. Cat. No. 3657
30c ea., $\$ 3.50$ doz. Copper-Plated, 75 ft . Cat. No. 3658
10c ea., 25 for $\$ 2.25$
SILK GRILL CLOTH
Green and Gold Diameter, 11 in . Por replacement In speakers and consoles

Cat. No. 6686


Dur Price 10c ea.

## PORCELAIN

 Base Knife Switches

Insulated handle Copper blares and contacts. Midget 812 .

Cat. No. 4159
S. P. S. T. 95c Box of 10

Cat. No. 4177
S.P.D.T.
\$1.60 Box of 10


Cat. No. 4178 D.P.S.T.
2.00 Box of 10

Cat. No.
4179
D.P.D.T.
$\$ 2.75$
Box of 10


Radio Cartridge Fuses
1, 2, 3 and 5 Amp.
Cat. No. 4206

## 15e box of 5 $\$ 2.75$ per 100



Universal Dry Ribbon
A Rubber Insulated


Cat. No. 6505
$\$ 1.75$ Box of 25

## DE JUR AUTOMATIC

 PHONE PLUG

Cat. No. 4263
This handy phoneplug is extremely pmall in size. Autosmail in sure-grip clips matio
inside the plug ass sure positive contact sure posithout the use of tools. To connect the speaker or phone tips, simply insert them in the holes. No buttons to press, no screws to tighten.
Our Price 15c ea.

## UNIVERSAL

Battery and Radio Clips
screw connections-no solder required. Channel construction throughout. Polarity Indications. For positive, for negative.

Cat. No. 6485
No. 45-Pee wee Cad. No. in-Pee Fins ind, $11 / 2$ in.
30c per box of 10 Cat. No. 6486

35c per box of 10
Cat. No. 6487


No. 24A-Lend Contede, $9 \%$ in. lons. $60 c$ per box of 10 Cat. No. 6488
$\$ 1.20$ per box of 10
No. 21A-Lesd Costede, s\% In. lons. Lead Inish protects the clip arainst acld.
Grip-Tite Ground Clamp Cat. No. 4212

## Our Price $\$ 1.75$ for 50 4c each

## PORCELAIN

 Screw InsulatorBetter than the ordinary aerial insulator kecause it can resdily be attached to a pole, Wall, root, etc. Brown glazed
porcelain, $3^{1 / 2}$ in. overall, with porcelain, $31 / 2$ in. ove
R galvanized screw.

Cat. No. 6114
7 c eal., $\$ 6.50$ per 100
I. C. A.

Double Phone Plug


Moulded of brown bakalite end hardware is nickel plated brass, Takes two sets of phone cord which are beld firmly in place by set screws. Individually boxed,

$$
\text { Cat. No. } 6957: \mathbf{3 0 C}
$$

Modern Vacuam Tubes
And How They Worls With Complete Technical Data on All Staniard an By ROBERT HERTZBERG By ROBERT HERTZBERG
Modern Vacuum Tubes describes the fundamental ciescribes the iundamenta electron theory which is the basis of all vacuum tube operation and goes progrossively from the simplest two-element tubes right up to the latest pen-
 is written in clear, simple
is written in clear, simple
language and is devoid of the mathematics language and is devoid of the m
which is usually so confusing.

Cat. No. 352
$50 c$

Two Piece Attachment Plugs
Bakelite Plug Complete
Cat. No. 3262
Package of 25 81.00

Cap for Above Cat. No. 3266
Package of 25
 55e

Armored Cap Cat. No. 3268 5e each

Bakelite Handle Cap
Caf. No. 3260
Our Price
25 for $\$ 1.00$


Live Rubber, Cap, same as above, Cat. No. 3276 10 for 50c

Round-Cord Connector


Connector only, no cap.
Cat. No. 3338
10 for $75 c$
Attachment Flugs for Same.

Cat. No. 3266
10 for 25e
Bakelite Midget Cord Connector

Smallest connec-
tor made.
for small motors, nalted milk machines, etc.


Cat. No. 3345

SPECIAL TWINLIGHT
Cat. No. 3303
Box of 25 $\$ 1.75$

## $71 / 20$ ea.

Here we offer what we consider and what our actur past experience has
proven, the innest plug of its kind. Well inade of the finest cold mold materlal used for this purpose. Absolutely guaranteed. Just figure the proat our low price gives you.


GENERAL ELECTRIC
Flush Receptacle
Provides an A.C. connection on any cloctrical appliance for standard attachment cap.

Cat. No. 6668
10c ea.
3-WAY CUBE TAP


A small, neat and compact 3 -way plug with bladel as shown to fit pln type receptacle. A very useful item for which there is always a blg demand. It makes three outlets where there was one before

Cat. No. 3329
BAKELITE
Box of 25.
$\$ 1.75$
Bakelite Side Outlet Pull Chain Socket


Pull chain mechanism controls bottom light only. Blide outiet for jron or other appliance remalns alive, $A$ very handy Eltchen accessory.

Cat. No. 3376

## Our Price 27e ea.

$\mathbf{\$ 2 . 3 0}$ per Display Box of 10
BAKELITE
Twin Light Socket


Dur Price $\$ 1.05$
Carton of 10

## Bakelite Heater Plug

smanell end of exceedingly attractive appearance.

Cat. No. 3349
Unit Carton, 10


Dur Price 65e
Box of 10 SPECIAL
Bakelite Heater Plug with "On-Of" Switch
Cat. No. 3320

## $\$ 1.95$ Box of 10

Armored Heater Plug
Cat. No. 3304
Unit Carton
10 for 80c


## BAKELITE

Feed Thru Switch
Used as a make and break switch on any electrical sppllance carrying up to 550 whtt losd. Un breakable moulded case, Can also be used cn electricis ngures or as a pen
 dant switch.

## 15c ea., $\$ 1.44$ doz.

Twin Flasher


Made of renulne Hakelite. Has blades which on be inserted direstiy in. receptacles. Has $5 w 0$ outlets, both of which have inashing inechanism.

## Our Price 19c ea.

Bakelite Current Tap

One-piece construction with Uno Threaa Unit earton, 10

Cat. No. 3334
Our Price $\$ 1.05$ Box of 10

Superior Electric Bell


21/3 Inoh
Works on dry cells ar bell-ringing transtormer.
vory sturdy con: struction and guaranteed.

Cat. No. 3257
22c ea.

## SUPERIOR

## Electric Buzzer

Works on dry cells or ell-ringing transformer. same construction a the well.
Cat. No. 3256

## 21c ea.

## BELL-RINGING

Transformer


105-125V on Primary 6-8 Volt Secondary

Cat. No. 3331
Dur Proice 55c ea.
I.C.A. STATIC FILTER

The I. ©. A. Static Filter Is an accurate tasic filter and station elimintor. It cuts out all interfering stations and minimizes sll atatic coming over the eerial. Estily atattached. Individusl-
 if boxed.

Cat. No. 6454
Our Price 90c
General Electric Step-Down Auto
Transformer
220.110 A.C., 275 Watt

Will dellver sufclent curyent or any large set. including radioincluding ranograph comphonograph combinations. Als
sultable for wash-


 ing hesvy current.


Cat. No. 6014
92.75

7\% in. long; 4\% in. wide; $31 / 4 \mathrm{in}$. tall. Weight, 12 lbs

## NICHROME WIRE

On Card


Requires no further cutting For repairing all electrical appllances.

One to the cart. 10 to the box.

Cat. No. 3337

## Dur Price 14c ea.

Carton of 10, $\$ 1.15$

## UNIVERSAL

## Flatiron Element

For replacoment in all $6-\mathrm{lb}$. Irons.

Genuine
Nichrome
Blbbon
Element


Cat. No. 3332
Dur Price 23e \$2.10 Carton of 10

## GLOWCOIL <br> Heating Elements



Cone
Straight
No. 3261
No. 3275

## 20c each

Box of $10 \$ 1.80$
Elt sll ecrew type heatera. Best grade of colled "Nichrome" wire used. 110-120 volts. 000 to 600 wietts.

## Immersion Heater



This practical little appliance will heat Fater quickly safely and economically In the home aftice barber thop besuty parlor dentists and doctors onces, etc. parior, dentists snd do socket and place simply plug into light socket and place the heater inte the wster: instruction

Cat. No. 6489

## CIGAR LIGHTER

## UNIT ONLI

For replading unit: thet heve burned out This is the urit telthout the socket Mounted on trtactive diepley cerd

Cat. No. 3336


Our Price 12c ea. $\$ 1.20$ Carton of 10

## ELECTRIC FUSES



10, 15, 20, 25
30 Amps.
Clear Vision Top

Cat. No. 3307
Our Price \$1.10
Assortment of 50
Portable Trouble Light


Equipped with neavy auty super-service cord. Full $60 \%$ rubber. Impervious to gasoline oil and weather. will last incilinttely.

| Cat. No. | Length | Each | Dozen |
| :---: | :---: | :---: | :---: |
| 3254 | 12 ft. | $\$ .60$ | $\$ 7.00$ |
| 3258 | 20 ft. | .85 | 9.75 |

## ALL-RUBBER <br> Trouble Light



With Eubber Fiandic and Rubber Fiandie Cap. Packed one to the oastor.

## C.

| ch. No. | Lenfth | R100 |
| :---: | :---: | :---: |
| 3381 | 10 ft. | $\$ 1.00$ |
| 3322 | 20 ft. | 1.10 |
| 5749 | $30 \mathrm{ft}$. | 1.20 |

Radio Frequency Choke


85 Mils. Fully chielded with 2 solder terminals m mounting screw. Dis. 11/4/. HT.
Cat. No. 6752 3/4
Our Price 25c Ea.

25 PARK PLACE, N. Y. C or to our mearest branch

## Handy Tools Radio Peench

## GOODELL-PRATT TOOLS

Ratchet
Screwdriver Set


Cat. No. 5078
These tools can pe used as automstic screwdrivers for driving screws, or the spirals can be locked for use as plain screwdrivers for elther driving or drawing screws. They are simple in construction. but are strong and durable and wlll not set out of order.

## Our Price 95c



## Hand Drill

This tool represents an unusual value in a drill of $1 / 4$-lnch capacity. The frame in a Inttlo lighter than the preceding drills and no slde handle is provided, and economiss In faish beve been made. Its Derformanee excellent.

Cat. No. 5077

## Our Price $\$ 1.24$

## Steel Rule




Cat. No. 5082 SDC
A very handy rule provided with E hale in one end lor hanging up when not in use. It is made of tempered cruelbio steel nicely polished and graduated on one side in 8 th and 82nd inches. Plain, deeplyetched graduation and large, clear agures.

## BENCH VISE



## Screwdriver



Leontet screwariver, caretuhy manuiactured from the best materials obtainable for the purpose and finished in keoping. This screwdilver is particularly useful is servicing Atwater-Kent, $81 / 4$-inch blade.

Cat. No. 5083 40c

## Scriber

This scriber is made of a fine grade ground steel with a beautiful tapered point ground stee with is carefully tempered, fround and polished. The body is finely Enurled and b/32-inch in diameter.

$$
\text { Cat. No. } 5084 \text { 21c }
$$

## Automatic Drill

Cat. No. 5081
This new tool is bullt for the home to provide a highly -menable arice
It drills eight different size holes quickly and with surholes quickly and with surprising ease in hard and sort wood, sott metals, wall board plaster, etc. The eight drill points are contained in the numbered compartments in tho magasine handle made of hiny jot black, molded bakelute in untif rented ocked in untul wanted.
The exposed metal parts are beautifully polished snd nickel plated The apiral diving mechanism is very well made and is practically indeatructible with proper lubrication. pinte 1-16-1nch to $11-64-$ Inch points, $1-16$-inch to 11-64-inch ath each drill
Iength 9\% Inches. Welght ounces.

## Dur Price $\$ 1.25$

## Radio Socket

## Wrench Set

A Anely-manufactured and Anlshed set for tightening and loosening the small hexgon nuts and thumb screws encountercd in radio
Pour sockets are furnished:
four sockets are firnished. One each for hexagon nuts measuring inch between fiats, and 8 inch between fiats, and 8 four-jawed socket for hand. ling knurled thumb screwt such as found on dry cells. etc, The sockets are dceply drilled to accommodate scre: ends and the he:agon pcrtion ccurazaly broached to a slze. case-hardened.
Cat. No. 5079
85c

Terminal Strips for Mixing Panels and Amplifiers

dress work. strip A-6 post input strip for microphone and phonograph pickup and
Cat. No. 1148
50c
Strip B-e post output strip for volce coil. sod ohm line and 400 ohms. Martied L, 9, 18, H, EC, 4M.
Cat. No. 7149
50c
Strip $0-4$ post output strip for volce coll-and high impedance. Marked VC, HI.

Cat. No. 7150
35 c
Brtip D-2 post input strip marked input.
Cat. No. 7151
25c
Etrip R-(Not Illustrated)-2 post ointput strip (game sise as strip D) marted output.
Cal. No. 7152
$25 c$

## Right Angle Ratchet Screwdriver <br> Cat. No. 6480 <br>  <br> Dur <br> Price $65 c$

There are Innumerable places arouna utomotive. electrical and sadio equipment where this little unique screw driver will periorm juickly and easily where an ordinary screw driver cannot be used. The rachet mechanism is entirely enclosed in the head, thru which runs s square socket to hold the bit. The hit is $1 / 4-1 n$, wide, $1 / 2-1 n$. long, and has a square shank with a spring retainer to hold it Armly in the squar ratchet socket. Tool is 4 inches lons overall. 'rhe handle and head are finished to red and black enamel and all exposed parts are nicely polished. Packed one to box, 12 to a display carton.

Screw-Holding Screw Driver


## WESTON RADIO INSTRUMENTS 3 $1 / 4$ Inch Panel Instruments <br> 

Designed for the serviceman who desires to build a multi-range instrument to fill his particular testing requirements. It is for use with externgl ghunt

The instrument is of the permanent magnet moving coll type with a self-contalned per oxide rectiller for'the A.C. measurements. It is self-contained for 5 volts and $i$ milliampere A.C. and 50 millivolts and I milliampere D.C. It has a double scaleone for A.C. and the other for D.C., each calibrated $0-5$ volts.

A connection diagram giving suggested ranges is shown below, however the Instrument shunts and resistances may be purchased separatoly and the meter built up for any range desired.

This high grade matched line of meters offers an exceptionally wide range selecoffers an exceptionally wide range seonle tion in. D.C. A.C. and Thermo-Counle lype instruments. Because of their inimitable Weston design and workmanship thes are extensively used throughout the entire world on radio panels and in the allied electrical industries. Ordinarily they are supplied in flush type but can siso be furnished in surface type, if desired These meters may be specified with
D.C. INSTRUMENTS-M ODEL 301.permanent magnét moving soll type. Accurate within $2 \%$. They are supplied as Voltmeters, Volt-Ohmmeters. Ammeters Milliammeters and Microsmmeters. Welght approximately 8 ounces.
A.C. INSTRUMENTS-MODEL 301 REC TIFIER TYPE. Extremely high sensitivity A. C. instruments are obtained by using a A. C. Instruments are obtained by conjunc-tull-wire copper oxide rectiner in conjuncLon with a standard Model soi damp. movement. They have the excelent and high ing. oven scale characteristics and high ver-load capacities of the D.C. instru nents.
Tempernture crrors at ordinary room
Model 301 D.C. Voltmeters Ranges

Net Price
1, 14, 2, 2, 3, B, 10, 15, 25, 50 and

150 Volts $\qquad$ | 85.88 |
| :---: |
| 8.85 |

150
250

Model 301 Volt-Ohmmeter | Volts | Ohm Bcale | $\begin{array}{c}\text { Resistance } \\ \text { Ohms per volt }\end{array}$ | $\begin{array}{c}\text { Net } \\ \text { Prife }\end{array}$ |
| :---: | :---: | :---: | :---: |
| 15 | $0-100,000$ | 1000 | $\$ 8.82$ | ${ }^{\text {is }} \begin{gathered}0-500,000 \\ \text { Model D.C. Ammeter: }\end{gathered}$

## Ranges Net Price

1, $14,3,3, B, 10,20,30,50 \mathrm{Am}-$
peres (have a drop of t- 8 ...................................................
Model 31 D.C. Voltmeterss
Resistance 1000 Ohms
per Volt
temperatures and frequency errors over the power frequency range of 25 to 133 cycies are negligible. Frequency errors on higher froquencies up to 35,000 cycles mas be corrected for as the instrument indications decrease approximately $1 / 2$ of $1 \%$ for each thousand cyeles per second.
MODEL 425 A.C. AND D.C. INSTRU-MENTS.-These instruments are of tha thermosouple type. The ammeters are for use on D.C. And on A.C. of any frequency. The milliammeters and Thermo-Galvanometer are for use on A.O. only. They may also be used on any frequency without impairing their accuracy. These instrument are accurate with $2 \%$. Approximate welght 6 ounces.
MODEL 476 A.C. INSTRUMENTS.Movable iron type for A.C. only. Supplited as Voltmeters, Ammeters and Milliammeters. - They are sccurate within $2 \%$.
MODEL 478 CONDENSER METERS-
These meters are calibrated to read the capacity of contensers direct in microfarads. They are of the movable iron type and are nccurate within $3 \%$ when used on the voltage for which they are adjusted.

## Model 301 D.C. Milliammeters

$\qquad$ Not $\mathrm{Fr}^{\text {n }}$


## Rectifier Type- <br> Model 301 Voltmeters <br> 1000 Ohms per Volt

$\mathrm{Ran}_{5} \mathrm{E}_{5}$.
${ }^{80}{ }^{3} 100$, 150............................................ 11.08 80 i ............................................................. 14.09

## 2000 Ohms per Volt

1. 126, 3, 5, 15.................................. 11.08


## Rectifier Type 301 Milliammeters

Range
Net Price

## Model 425 Ammeters

 (Continued on next colvmen)


Note:-We are authorized distributors for and carry a complete line of Weston and Jewell instruments. Only few popular numbers are listed here. A complete catalog will be sent free on request.

## Meter Dials



Type D1
Cat. No. 6799
For the 1 mil D.C. With 27 ohn internal resistance (27 mili-volt). HI thre zcale readings and am ohm seal 0 to 100,000 using $41 / 2$ volt bittory.
Type D2
Cat No. 6800
gime at D1 except for the lower scales.
Type D3
Cat. No. 6801
For the 1 mil. A.O. Rectified (not the universal.). This dial has two scsles for A.C. volts from which many oan be made by adding imaginary zeros. 8,000 to 1 meg. A.C. ohms, capscity range . 0004 to 7 microfarads. Uses current supply from 115 V . 60 oy, line. Hookup iusnished.
Type D4
Cat. No. 6802
A special arrangemont to sllow the reading of many ranges of A.O. voltage and cu-rent and D.C. voltege end current from only one set of numerical asures, the scale in the center beins for A.C. The matn A.O. scale divisions con nect to the D.C. divisions of the Beme value. At the top is a 0 to 100.000 D.C scale using a $41 / \mathrm{V}$. battery. By using 10 mil. shunt across the meter and readjusting the circuit resistance, 0 to 120,000 ohm sesle will result.

## Our Price for All Types 45e each

Disis are of extra heavy Bristol boterd.
When mounted on the bsick of yout ord final dial. will compere to those of lerger amA Anpr meters.

## (Continued from precedin column) <br> Model 425 Milliammeter:

 Net Price
Model 476 A.C. Voltmeters
Net Price
$11 / 2,2,5,10,26,80,100$.....antencom $\$ 5.88$
150400 . 8.82

Model 476 Condenser Meter Range $\qquad$ Nat Frice
I2\%.05
Model 476 A.C. Ammeters
Ronge Net Price

Model 476 Milliammeters
15. 25, 80. 100, 250, 80Q.......... Net Eriee

## THE FAMOUS JEWELL

## Trio Panel Mounting Instrumentas



The Jewell Trio of radio instruments is popular for building special test panela and service instruments for use on experimental laboratory apparatus, and in amateur transmitting. Patcerns 88, 63 and 76 comprise a new series of instruments nvailable in flush type bakelite cases that duplicate the old Patterns $\overline{6}$, 4 and 74 in metal cases.
Patterns 88,68 and 78 are furnished for mounting in cases of molded bakelite. Flange diameter, $31 / 2 \mathrm{in}$. case diameter, $8 \%$ in. Approximate shipping wegint 8 lbs.
When ordering Jewell meters, please note that types Nos. 54, 64 and 74 have metal cases. Specify whioh type you desire. Externally adjustable, the pointer or needle can be oxactly placed in the zoro position which may vary slightiy owing to normal changes in temperature.

Pattern 88 (Bakelite) D.C. Instruments
Fith range tistruments are auppled with external resistorm, having molded bakolite heads which are amply large to take ciare of various requirements. These instruments are not recommended for testing tho voltage of $\mathbf{8}$ power supply.

## Csh.

Pris Our
14 0-8, $10,15,30$, so volte.. $\$ 7.50 \quad \$ 5.51$ $150_{0-200}$ volts ................... $8.50 \quad 8.98$
151 O-500 volts $\because . . . . . . . . . . . . .$.
450 0-500 volts. ......................... 19.00 18.87

| 518 | $0-1000$ | volts |  |
| :--- | :--- | :--- | :--- | :--- |
| 457 | $0-1500$ | volts |  |
|  | ......................... 28.50 | 28.50 | 16.54 |

58 0-2000 volts ................ 84.50 25.55
$590-3,5,10,18,25,60,100$,
$150,200,250,300,1500$
milliamperes ...............
600 milliamperes
$7.50 \quad 8.51$
0 0-1 8.00 8.61
108 0-200 Mamperes $\cdots \cdots{ }^{2} \cdot 0.00 \quad 6.61$
amperes
$24.00 \quad 17.64$ $440-1,1.5,2, \cdots, \%, 10$ and is
 The above meters can also be furnished with metal cases, $33 / 4 \mathrm{in}$. Hange, 3 in . case at asme prices. Specify Type 54 for metal.

## JEWELL

Pattern 88 Rectifier
Type A.C. Instrument
The pattern 88 consists of a sensitive Jewell D'argonval direct current instrument used in conjunction with a selfopitaned full wave copper oxide rectider unl.


## JEWELL

 Pattern 78 A.C.
## Instruments

## RATTIERN 78 A. C. INSTRUMENTS

Cat. List Our

No. Price Price
$4680-8,5,10,15,20$ and 80
volts ...................... 7.80 \$5.51 60 0-150 voits .................... 8.50 6.98 $170{ }^{0} 0-300$ volts $0-3-5-150$ Tripie........... 12.00 8.8ing

 47 | $0-25$, | $10, \cdots 100$, |
| :--- | :--- |
| 200, | 300 | ${ }^{800}$ milliamperes $0.1 . . .$. 7.50 6.51 $4780-1,2,8,5,10,15 \mathrm{am}$ peres …......................50 E.51 The above meters can also be furnished in metal cases $33 / 4 \mathrm{in}$. flange, 8 in . case, at same prices. Speclify Type 64 instead of 68 and 74 unstead of 78 for metal.

## JEWELL <br> Pattern 89 OhmmeterPattern 89 Voltmeter



For the radio serv. iceman who relies upon resistance, continuity, and independent voltage tests the Pattern 88 Ohmmeter and the Pattern 89 Voltmeter provide a combina tion that 18 unequaled for convenience, sccuracy and speed in testing by any other equipment of comparable price. These instruments are mounted in cases of molded buitable termiaals, as illustrated.
A 1/8-volt cell, mounted inside the case of the Pattern 80 Ohmmeter makes it independent of outside sources of enerfy. A magnetic shunt provides convenient adjustment to compensate for variations a cell voltage. since this adjustment may be made before each series of tests, very accurato direct resistance readings are sssured.
Approximate shipplng weight, 3 lbs.


Jewell Pattern 444 Analyzer


Complete with accessories; data book and pad of tube charts

Cat. No. 315

## Our Price $\$ 82.32$

Jewell's Newest Set Tester and Analyzer, tests all types of kubes including triodes. pentodes and tetrodes, and both plate.. of a 230 rectiller tube without the use ot dapter.
This new Jewell Analyzer is the most complete radio service instrument ever uilt.
Its compact, rugged construction makes it easy to carry and enables it to stand up under the hardships of service work and its professional appearance gives prestige to the radio service man. This new Jewell Set Analyzer and Tube Checker marks a blg step forward in Radio Testing equipment. With it practically every test can be made with a degree of accuracy never before attained. It incorporates features not found on any other type of adio set tester.
The Patiern No. 444 lests erery circuil in any receiver, regardless of the type of ubes used. Full wave rectifler, variablemu output pentode, and nentodes having direct connected firth element, may be accurately tested under actual operating onditions.
A.C. and D.C. circuit tests are controlled by sejarate rotary selector zwitches making it necessary to set: only one witch to obtain any desired test.
The following measuring ranges are provided: A.C.: $\begin{gathered}0-4-3 \text { annperes; } 0-20-100 \\ \text { millimperes: } \\ 0-4-8-160-800\end{gathered}$ mimampere ${ }^{0}$ 0-4-8-160-800 volts. D. C.: -12-60-120 milimperes: 0-6-12-30-60-120 $300-600$ volts; $0-1000-100,000$ olhms; and low-medium-high ulitput renges.

## Pattern 209 Checker

Tests Screen-Grid Trbes
For redio dealers who reguire an accurate and effective sube checker at moderate price. Operates on 50-60 cycle, 110 20 volt A.C. Needs no, Latteries. Has B.c. meter with ix tuhe sockets in
 case of molded cakelite. The sockets provide nlament voltages of $1.5,2.5,3.3,5$ nnd 7.6 to 4 proung sockets, and 2.5 lo a 5 -prous socket. Terminals are provided for tubes with terminals at the top,
Makes all tests. Correct values of readings are given in an engraved chart on the face of the tube checker.
Cat. No. 314
$\$ 22.05$


A 3-Meter test set having an oscilator, a chooker for A.C.-D.C. tubes and a complete radio set tester for all types of A.C.-D.C. sets. Checlas pentodes without adapters.
SERVICLNG SCOPE OF WESTON MODEL 565
Tests Wilh Tester Pluy Inserted in Radio Set
All Filament Voltages
All Heater voltages... Cathode voltages ... Four Bias voltages . Tvo Control Grid Voltages a Tro Plate Voltages Bisa Three Plate Current Rarges. Voltags on D.C. Sets with Reversed Filsmients of Colnvenlent Readings of hoth Plates of Reclifier Tubes... Two Screen
Current Ranges. Space Charge Grid volts on 350 -volt rauge ... Charge Grid Current on $25 \mathrm{M}, \mathrm{A}$. range.
Cixterual Tests lhat can be made with Moasurement of Power
to 1,000 Volts A.C. Transformer up to 1,000 Volts A.C.
Line Voltage Messurcments on the A.C. Metcr.
Heater Voltage at Power Pack-Three Ranges on D.C. Milliammeter.
Plate Current at "B" Supply Taps-Three $B^{\text {Ranges }}$ on D.C. Milliamineter.
"B' Supply at Power Pack-Four Ranges on D.O. Volmeter.
Six "Banzes on "C" Battery VoltagesSix Ranges on D.C. Voltmeter.
Continuity Tests-Using Self-contained $4!$ Volt Battery und the D.C. VoltMeter with a resistance of either 1000 Ohms per Volt as desired.
Resistance Measurements-The D.C. Voltmeter also serves as a Direct Reading Ohmmeter with ranges of $0+10,000$ or $0-100,000$ Ohms.
Condenser Measurements can be made from $1 / 4$ to 6 Microfarads-from 110 Volts A.C. Hne without resistors or adapters.
rube Checker-For all Flament and Heater Type Tubes-Checker operates directly from any 50 to 60 Cycle, 90 to 130 Volt A.C. LIne.
mput to Radio Set-On or 8 Ampere A.C. Range and Bmall A.C. Measurements such as Currents in Voice Coll of Speaker, eto., using the A. C. 100 MA Range.
Fllament or Heater Current of A. 0. Tubes on 4 Ampere A. C. Ammoter.
R. Fi. Oscillator-Three Frequencies-For Teutralizing and Synchronizing and signal is available (Griḍ Dip Meter.) SEBYICE MANUAE A complete sicrvice Manual comes with every Model $565-T$ yo 6 . It causes of probable causes of poor recection, how to locate them and What to do to fix thein. It is more than an instruction book. It is a prafical sarvice
man'e handbook.

## JEWELL

Pattern 540 Portable Tube Seller


Dealers are using tube testing in homes to increase tube sales and to locate new set praspects. The Jow oll Pattern 540 Portable Tube-seller is Ideal for this service, because a laree color scale similar to the scale of the famous pattern $5 \mathrm{~S}_{8}$ is provided. This scale reads tube condition direst in terms of Batisfactory, Doubtful, and Unsatisfactory.
The salesman who shows the defnite method in which the Paftern 540 reads tube condition secures admlssion into the most skeptical inomes, because radio set owners really do want to know the condition of their tubes.
Gives direct reading for all types of tubes, including variable-mu and standard type screen grid, full-wave rectiner and output pentode tubes with special adapter.

Operation is for 110 volt A.C. line, making tube tests eutiraly independent of the receiver. The true condition of the tube is read directly from os single meter; the reading of two values and the subtraction of one from the other is eliminated.
Line voltage indicating meter and adJustment compensats for fuctuadons of lime voltage from 105 to 185 volts. Lights in series with the short-check. nockets. indicste whioh element of the tubei is shorted.

List Price $\$ 75.00^{*}$ *
Cat. Na. 322

## Our Price \$54.15

Copper Oxide Rectifier
For D. C. Meter Conversion 8ize, $13 \mathrm{ln}, \mathrm{x}$ 有 in.


Type Míter Rectifer your present 0-1 D, C. milliametcr by using this rectifter. This will make an A. C. voltmeter up use of multipliers, which can be ob: tained from us. Rectiner is small enough to install in meter if destred. Curve and diagram furnished.

Cat. No. 6675
Dur Price $\$ 2.95$

## READRITE

Portable Type Voltmeter:


Readrjt portmbl. moters are offered in varlqus raingel qur particuiar purposes. Th A.C. Yoit meter are meter repulsion type and cion ype and cin be used with racy for elther racy for either A.C. or D.C. testing. This not be confused with the ordinary vane type instrument with its restricted applications. Readrite A.C. Voltmeters are accurately calibrated and have very uniform divisions throughout the scale lengths. The highes refding voltmeters contali over 100 ohms per volt resistance. The D.C. Voltmeters are of the polarized vane type. standard package porteble metera 25. Average weight 20 lbs.

## D.C. VOLTMETERS Description

With 3 In. Case
Cat.
Lat Out No. Type 848, for testing "B"
B881 Th
5381 Type 840, for teating $\mathrm{B}^{\prime \prime} 4.00$ 5882 Type 847, for testing "B" 8.00 s.00 With 21/2 In. Base
5383 Type 349-0-300 Volts... 8.00 1.80


## A.C.-D.C. VOLTMETERS

| at. | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | $\begin{aligned} & \text { Owr } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: |
| 5885 | For testing A.O. Current |  |
|  | Bupply Line-0-150 Volts |  |
|  | -Type 348 | 10. 4 |
| 6567 | Type 355P-0-10-140 Volts |  |
|  |  | 2.40 |
| 5386 | 0-600 Volts A.C.-D.C. .... 8.00 | 8.60 |
| 13887 | 0-150.750 Volts A.C.-D.C., 8. 00 | 4.80 |
| 5388 | 0-300 Volts A.C.-D.C. $\mathrm{I}^{\text {a }} 8.00$ | 8.00 |
| 5330 | 0-60-300 Volts ( 300 Ohms per Volt) | 2.70 |
| 5301 | Type 249-0.750 V. A.C., |  |
|  | Panel Mount W....... 7.0 | 4.20 |
| 5302 | 0-300 D.C. Miliammeter |  |
|  | (.8 Ohm), Panel Mount $\text { Type } 389 \text {.............. } 1.00$ | $\cdots$ |
| 5308 | 0-50 V. UX Socket Test- |  |
|  | ing arid Voltmeter |  |
|  | (15,400 Ohms) - Iype |  |
|  |  | 1.80 |
| 5894 | 0-10 V Friament |  |
|  |  | 1.80 |



| Cat. No. | Type | Each | Box of 10 |
| :---: | :---: | :---: | :---: |
| 3560 | $0-50 \mathrm{~V}$. | $\$ 0.40$ | $\$ 3.80$ |
| 3575 | $0-50 \mathrm{~V}$. |  |  |
|  | $0-50 \mathrm{~A}$. | $\mathbf{6 0}$ | 5.50 |
| 3579 | $0-10 \mathrm{~V}$. | .40 | 4.20 |

'All set analyzers ars shipped in original factory salled cartons. Repairs wiflatafotiburtments must be taken up with factary.


This tester is especially designed for the new sets with 244 and 245 tubes. It is equipped with three double reading instruments; a millameter $0-20-100$, D.C. colt-mejer $0-60-300$, and repuision ype A.C.-D.C. voltmster $0-10-140$. This atter instrument should not be confused with the vane type, with ite restricted applice
vided.
Extra cords snd tip Jack connections fermit the use of each meter individually. Also checks line voltage. Very compact and complete.
The extra cords are carried in the metal cover, which has a leather handle. size $4 \times 8 \frac{1 / 2 \times 31 / 4}{}$ in. high. Cover inished in baked black enamel, wrintle finish.

## Readrite Output

 A.C. VoltmeterCopper-oxide Rectificr Type
A rellatle instrument for indicating output voltage of a radio set. Used for innins upl r.f. land if. siages by determining maximum gain. Also comparing gein of tubes. r.f. tuner eelectivity. aum, and lading. A nractical. low priced d.c. voltmeter with copjer-oxitle rectifer of ho full Ware yfe. aiodel No. 555 is used on No. 550 uscillator. For con. ascillator. For conable instrumer.t Lodel No. 575 las ceen designed. Test leads designed. Test


CASE TYPE
Cat. No. 486 List Price $\$ 6.00$

Llat Price $\$ 0.00$
with Model No. 575. Case is baked enamel uver scaniless steel $41 / 2^{\prime \prime}$ dia. The assembly includes voltmeter, rectiner, jacks and conder.ser. Connect low voltage (0-5) conderser. Connect low voice coil, and high voltage ( $0-50$ ) jacks to magneţic groaker terminals.

PANEL TYPE
Cat. No. 487
List Price $\$ 5.00$
$\$ 2.94$


## Readrite Customer

Tube Tester No. 430


The No. 430 Display Oase is designed for use in connection with No. 406 or No. 407 Counter Tube Testers. The metal Display Case contains a color chart precision meter for direct reading of tubes and batterles. An A. C. Voltmeter with rheostat controls the ine voltage. An ON and OFF toggle 8 witch, tip jacks, and the receptach comple 430 equpmoat of the No. 430 Display Case.
The No. 407 Tube and Ehort Tester is plugged into the receptacle and the tip acks. The meter on this tester is then used for short testing of all tubes under operating conditions. The tester can be ifted out of the Display Case and used for portable testing as a separate instrument. The Display Case contains a convenient meter which the customer can observe and readily understand. It is beautifully finished in bated enamel. It is $10^{\prime \prime}$ high, and the base is $15 \mathrm{x} 11^{\prime \prime}$.
This Customer Display Tester will not only increase your tube sales, but will add that customer satisfaction every dealer ztrives to obtain and hold. At the low price, no dealer can aflord to be without this complete visible cussomer tube tester, which will sdd as much prestige to his tube testing equipment as the more elaborate testers at much higher cost.
The No. 407 is designed to take care of all the tubes, including the new sir prong type, testing them without the use of sdapters. It is the only tester nn the market which tests rectifer tubes by the plate current change method.

Household Utility Tester


List Price $\{22.50$
No. 900 Complete
Net \$13.23
For servicing elecirically operated refrigerators, ironing machines, water pumps, oll burners, stokers, ventilating systems, ranges and general household appliances.

Contains input and output amperes, A. C. Ammeter reading up to 20 amps., A. C. Voltmeter reading un to 300 volts. and a complete direct resiling Ohmmeter $0-40,0-10,000$ ohms for continudty testing.

## READRITE <br> Continuity and Capacity Tester No. 1000

For Set Analyzing, Testing Resistance and Capacity


The Modern Set Analyzer. Contans Ohmmeter $0-6,000,000$ ohms and Capacity Meter, 008 to 10 mids. both direct reading. A unique and exclusive circuit is employed, providing a new method of set analysis. No serviceman will fall to recognize its superiorlty and outstanding adFantages. Every serviceman needs this instrument to properly test modern receiving sets.

The No. 1000 Tester combines the very latest method into one instrument for testing resistances, continuity and capacuy or radio recelvig set. The ay. . precis mat ane low or to m. a. the to Into kilohms, 003 to 3. This scale arrangement makes essy reading, and resistance tests are quickly made with extreme accuracy. Provision is made for increaring each scale reading by muliple of lower scale by 10 , thereby giving good acale divisions of resistance measurements irom 0 to million ohms. The $A$. 1. meter is calbated forears iy in microisads. The lower scale reading is .008 to .25 . The upper scale readcalibrated for use on 00 cycle at 110 volt The rheostot regulates the correct voltage orrect voltage o be ap

Cat. No. 1000
List Price $\$ 55.00$

\$32.34 | NET TO |
| :---: |
| DEALER |

Something New for
Testing Condensers
Electrolytic-Paper Types


No. 850 Capacity Tester contains one D.C. and one A.C. meter. Resds directly the capacity of condensers. The A.C. meter connects to A.C. supply line and condensers 008 to 10 mids. The D.C voltmeter connects to rectitier tube end adjusts to 300 volts. Selector switch provides for measuring voltage, slso forming and testing inilliampere canacity of electrolytic condensers. The maximum reading for a rood electrolytle condenser is 2 m per inid in s seamless metal case with or without cover a verg prectical and convenjent instrument.

## Cat. No. 850

$\$ 8.82$
Same as above for testing paper type condensers only. In a seamless metal case $41 / 4 \mathrm{in}$. dia., baked enamel finish.

Cat. No. $800 \$ 5.49$

## READRITE

Counter Tube Testers
Models.406-407
Test all Tubes Without Adapters
Connect to A. C. Supply Line Illuminated Dial


Cat. No. $406^{\circ}$
List Price $\$ 25.00$

## Our Price $\$ 14.70$

Dealers and servicemen use the No. 408 Tester for checking sil new and old tubes used in receiving sets. Test card attached to panel gives simple instructions. Anyone can operate. A single push button provides two plate current readings for determining the conductance and worth of a tube. A new and outatanding feature applies the aame cest to rectifier as all other types of tubes. A separate push button provides for testAng both plates of ' 80 type tubes.
The simplined single scale meter is made possible by the wide change in readings. The meter is connected in tip jacks. Attached to the meter is a small protecting iuse. A pllot light is also directiy beneath the meter for 11luminating the dial. Both the lamp and fuse are easily renewed by detaching the meter. These are features which will appela to every user. Iejection end ac ceptance of tubes tested in the No. 406 will bo equally as satisiacory as with testers costing many times more.

## Tube and Short Tester Combined

## Model 407

Cat. No. 407
List Price $\$ 30.00$

## Our Price \$17.64

The cases for above testers are strongly built, with re-inforced corners and have rubber feet. The leatherette covering and trim makes up s rery attractive instrument. The cover is removable and the leather handle is provided for portable use. Bhipping weight ten pounds each. One extra $1 / 4$ amp. mmall fuse is supplied.

The No. 600 contains the same equip ment as No. 700. The carrying case is largest with leatherette covering and quipped with lock. Rooms is provided or carrying tubes, tools and supplies. The test equipment and panel is in emovable tray in the top of the case. The tray equipment may panel for shop ately as n complete tcst
purposes. size: $14 / 2 \times 7 \times 7 / 3$

Cat. No. 610
List Price $\$ 30.00$

## Our Price $\$ 17.64$

We carry a complete line of "Readrite" Analysers, Tube Testers and Meters. Our discount is $\mathbf{4 0}-2 \%$ from list prices.

## PENTODE

Set Testing Reduced to Simplicity Equipped with 6 Prong Tube Adapter

List Price $\$ 25.00$
Cat. No. 710

## Our Price $\$ 14.70$

Those thrae meter analyzers are equipped with a practical selector switch for checking fill parts of the tube circuits by connecting to the set sockets. Belection for testing voltage of plate, grid, cathode and screen-grid is done quickl and accurately. Plate current, flament volts, also ine and power supply volts are measured. The grid swing test for tubes is rised. Just push one button for screen-grid and another for other tubes. Makes testing of all type tubes simple and thorough. A $41 / 2-v o l t$ grid battery is furnished. The battery is used for the grid test and also continuity testing of transformers, chokes, etc. Cupacity and resistance charts are jurnished showing use of instruments for testing condensers, also measuring reslstances up to 100 , 000 ohms. The eight scale readings of the meters may be used separately whe readjack tre $0-60-300-600 \mathrm{D}$. C. volts, $0-10-140$ $700 \mathrm{~A}, \mathrm{C}$. volts and $0-20-100$. milliamperes. Both A. C. and D. C. Alament voltages are accurately mieasured on the one meter.

Housed In a strong case with leatherette covering. Attractive. Compact. comple Pllis every need jor the expert sernalyzing. Size $103 / 4 \times 31 / 2 \times 8$.
small fashlight celis, which with resistance to be measured. are connected in series with meter. Used for testing resistances in radio receiving sets, and cir-
cults generaily. IMne for conilnuity tests.

Cat. No. 5389
List Prlce, $\$ 2.50$
Dur Price $\$ 1.47$

25 PARK PLACE, N. Y. C. or to our nearest branch

## WESTON

Model 590 I.F. and R.F. Oscillator


A New Weston Instrument for Aligning I.F. Stages - Aligning of Gang Condensers - Determining Sensitivity of Receivers - Checking iR.F. Transformers and Condensers - Making Selectivity Tests and Checking the Oscillator Stage of Radio Receivers
The new Weston Model 590 Oscillator is a very complete and practioal signal generator. It has an intermedlate frequency range of approximately 110 to 200 kilocycles and a broadcast range of 550-1500 550, and above 1600 kilocycles may be obtained by means of harmonics.
The osclliator is equipped with an instrument which is mounted on the panel and which serves as a Grid Dip Miliammeter, Filament Voltmeter and Plate Voltmeter. This instrument remains in the grld circuit at all times unless connected
across the Plate or Filament circuits by across the Plate or Filament ci
Two type 30 tubes are used in the osellator, one for the R.F. and the other to modulate the R.F. to produce an aud tien note of 400 cycles with $30 \%$ modula tion. The output of the oscillator is con atcr. by an especially designed ettenu The batteries for operatlng the osclllator are contained in a shielded compartment in one end of the case. They tery and four $11 / \mathrm{y}$ volt unit cells commonly used in flashlights, which are comnected automatically when inserted in their compartment and which will give over 20 hours of continuous operalion.
An output meter is a necessary accessory for this instrument and a compartment has been provided. in the case for the Weston Model 571 which can be purchased with the oscillator as shown above for $\$ 22.50$ additionsl
Dimensions: $161 / 4 \times 67 / 8 \times 58 / 4$ inches - -p proximate weight, is pounds.
The Grid Dip Milliarnmeter is particuman that the oscile assures the service ating and that when no outiput is obtained from the radio recelver it is the latter which is at fault. It also makes it posslble to test each stage of the R.F. amplifer individually.
The Filament Voltmeter can be used to keep the flament voltage constant at two volts which is necessary to maintain accurate calibration of the oscillator and obtaln maximum battery and tube life.
The attenuator is adjustable ftom practically zero up to its maximum range by smooth, gradual changes and not by steps. This makes it possible to obtain any degree of audlbility desired.
Because It produces signals above 1500 k.C. It can be used in testing short wave adapters and receivers

Rodel 590 Oscillador without Output Meter with tubes less batteries.

Cat. No. 590

## Dur Net Price $\$ 79.38$

READRITE
Counter Tube Testers No. $405-$ No. $406-$ No. 407


Dealers and servlcemen use hte No. 406 Tester for checking all new and old tubes used In recelving sets. Test card sittached to panel eives simple instrucpush button provides oerate. A single readings for provides two plate current ance and for determining the conductoutstanding test to rec|ifier as all ohter types of tubes. A separate push button provides for testing both plates of ' 80 type tubes. The simplified snigle scale meter is made possible by the wide change in readings. The meter is connected in tip Jrick. Attached io the meter is a small protecting fuse. A pllot light is also directly underneath the meter for ils luminating the dial.
Cat. No. 406
$\$ 14.70$

## TUBE AND SHORT TESTER COMBINED

The No. 407 tube lester combines with short test of the short test of the tube, All shorts, gas and leakage tests are made with the Tube is tested under operating conditions. Tube is tested for its worth in the same llght for tlluminating the dial is pilot used to indicate the the dial is also leakage condition the shorts, gas and
Cat. No. 407
$\$ 17.64$
No. 405 Tube Tester is similar to No. 406, but has a two scale meter and $41 / 2$ Cat No. 405 $\$ 14.70$

## READRITE Direct Reading Ohmmeters Models 500.502

| These ohmmeters are complete with |  |
| :---: | :---: |
| rent dain is negilgi- |  |
|  |  |
| light battery; cur. |  |
| ble. Tests tesist. |  |
| ances up to 10,000 |  |
|  |  |
| tests resistances |  |
| 10,000 ohms. Model |  |
| 502 has a second scale |  |
| sistances up to 40 ohms. in aremition to |  |
| voice colls of dynamic speakers and |  |
|  |  |
| shorted turis of \%. 1. tran | nsiormers are |
| tested best on the low range u-40 ohms. |  |
| Rheostat knob adjusts the | needle to fuli |
| scale. Wire leads are furnished for con- |  |
| Inulty tests. A high grade | e instrument. |
| Case is beautiful baked enamel frish. | enamel flnish, |
| seamlers steel, 4 inch diameter. Welghs |  |
| work. pound. Indspensshle for sernice |  |
| Cat: No. Ra |  |
| 5380 0-10,000 | \$6.00 \$3.53 |
| 6960 0-10,000 \& $0-40$ | $7.00 \quad 4.12$ |

## WESTON <br> Model 566 Type 3 <br> Radio Set Tester



SERVICE MANUAL
A complete Service Manual comes with every Model 660-Type 3. It tells the probable causes of poor reception, how probable causes if poor reception. how them. It is more what to do to f. them. It is mote than an instruction book. It is a practical service man' handbook. This service manual is made mation is formarced and acadicional infor to keep it

## Cat. No. 318

## Our Net Price $\$ 84.53$

SERVICING SCOPE OF WESTON MODEL 566-TYPE 3
THSTR WITH TESTER PLUG INGERTED IN RADIO SET
All Filament Voitages . All Heater Three Bias . Tw'o Cathode Vollages Grid Voltages Voltaces Two Contro -. Bcreen Curronts P Blas Voltage on' Voltage on D.O. sets with Reversed Filaments . . Space Charge Grid Volts con 250 volt range) Charge Grid Current (on 25 M. A. range) … Readings of Both Plates of Rectifer Tuber . . Three Plate Current Ranges.
EXTERNAL TEATS THAT CAN BE MADE WITH MODEL be
Measurement of Power Transformer up te 1,000 Volts A.C.
Line Voltage Measurements on the A.C. Metcr.
Heater Voltage at Power Pack - Three Ranges on A.C. Met.er.
Plate Current at "B" Fupply TapaB" Supply at Pover Pacs-Thre
on D.C. Vollmeter. Pacs-Three Ranges on D.C. Vollmeter:
six Ranges on D.o. Voltery VoltagesContinulty Tests- Using Self-co $41 / 2$ Volt Battery mand the Delf-contained meter with a resistance of either 1,000 or 100 ohm g per volt as desired.
Resistance keasuraments-The D.C. Voltinetar also servek as a Direct Reading Ohmmeter with Ranges of $0-10,000$ or $0-100,000$ Ohims.
Condenser Measuruments can be made from . 001 (By Pass) to 2 Microfarads -irom 110 volts A.C. line without resistors or adaplers.
Tube Checker for all Filament and Feater Type Tubes under the same condition as exists when in their sockets.
Input to Radio Set-On 4 Ampere A.C. Range and Small A.C, Measuremerits such as Currents in voice coll or speaker, etc., using the A.C. 100 or 20 MA . range.
Rectifier Type Outpat Meter-Range 100-5 Volts.


By special arrangement with a prominent, long established manufacturer with over a quarier century of successful electrio refrigerator experience back of his product, we are a fier our customers the Federated Eectric Relrigerator.
Behind each Federated Refrigerator stands a time tested repu tation for unexcelled quality and performance dating back to the pioneer days of the industry. Everything that only long years of knowing how can give to a product, is built into every Federated Refrigerator-sturdy ruggedness, capacity for long, enduring service, simplicity and economy of operation, years of satisfaction. All Federated Refrigerator cabinets are jnown the world over for thelr distinguished beauty, quality and durability.

## Electric Refrigeration Offers a Real Opportunity to Radio Dealers and Service Men

Bectric home refrigeration, the fastest growing industry today, enfoyed amasing progress and expansion during the past two vears, in sharp contrast to the heavy falling off in most other lines of business. More and more radio dealers and service men are turning to electric refrigeration as a source of pronts. Every family is a prospect and there is a model tor every requirement and pocketbook. Besides the proft on the initial installation, electrio refrigeration offert \& steady source of income from service and maintenance work. Get into it now.

## THE CABINET

Bullt and insulated so as to properly maintaln an even temperature at all times, axterior and Interior Walis 18 geuge steel. Improved type of
 insulation between walls. AIr and rubber cushion gasket seal for doors. Bpacious storing arrangement. Convenient heigh shelves. Porcelain chill tray Positive action snep latch on door. Exclusively designed. Bright chromium finished hardware of solid brass including hinge on door. Doors rigidly supported. Automatic electric light inuminates interior when door is opened on Model 404. Removable rustless shelves firmiy mounted on rubber covered hooks. Models 402403 and 404 sre raised sbove 402, s03 and ateming maximum fontilation and senitation. Sll venciation and sanitaon. these reatures maric the Federated Reirigerators as outstanding in quality and amazing in value. They will compare favorably With any reir how expensive <br> \section*{3 Year <br> \section*{3 Year <br> <br> Guarantee} <br> <br> Guarantee}

Every purchaser of a Feder. ated Refrigerator is protectated Reirigerator is protect ed by a couble three year Warranty of the Federated Purchaser and also of the factory guaranteeing every refrigerator against inherent fault improper assem bly, or defective material The Pederated Refrigerator incorporates e vex y worth while and latest improve ment in domestic refrigera tion. Built to the highest standards, yet it costs you as little as many reirigerat ors of inferior grade and small capacity. Buy a Federated los moderate first cost and continuous care tree service-constant, clean, dry cold with maximum economy.

THE UNIT
Randily located defrosting switch placed alongside automatic cold controi with 10 atages of cold. Cooling unit porcelain covered. Adequate hand room betwean chill tray and untt. Ice cube trays of between chill rame rustproof with bright chromium plated
fronts.
Frost colls ot $s 011 \mathrm{~d}$ copper. will nct corrode. corrode. sturdlly sturaily
$b$
0 bompressor unit. Direct Direct driven
 by flex-
 construction. General Electric $\mathbf{1 - 6} \mathbf{H}$ coupling; no belts, gears or pulleys. Fewest moving parts. General Electrio Capacitor type 1.6 H . P. Motor. Motor-compressor assembly mounted on springs for quiet, vibrationiess operation.


Cat. No. 401
$\$ 98.00$

## HODES 401

Finish-Lacquer exterior: porcelain interior. Gross capacitz 4 cu. ft.; height. 54 in. depth, $20 \%$ in.: width. $243 / 8 \mathrm{in}$.; depth with door open, $40 \%$ in.; shelf nrea including bottom, 8.1289 ft.; number of cube trays, 2 - 38 cubes per tray, total 56; insulation, $21 n$. Shipping weight, 815 1bs.


Cat. No. 408 $\$ 118.00$ MODEL 403
Pintsh - Lacquel exterior, porcelain intericr. Gross ceracity, 6 cu. itoi height, 68 in : depth, $221 / 2 \mathrm{in}$.: width, $251 / 2$ in.: height of legs, 4 in.; number of ice trays, 3 , total of 84 cubes; insulation, $21 / 2 \mathrm{in}$. Shipping weight, 330 lbs.

Finish - Lacquer exterior, porcelain interlor. Gros: capacity. 5 cu . It.: height, 52 in.: depth, $221 / 4$ in. width, $221 / 2$ in.; neight of legs, 4 in.; number of cube trays, 2-total of 56 cubes; Insulation, 2 in. Shipping weight, 325 lbs.

Cat. No. 402
$\$ 110.00$
MODEL 108

Federated Refrigerators listed on this page are for operation on 110 Volts, 50 to 60 cycles afternating current. All models are also obtainable for 110 Volts direct current at samo prices.


Cat. No. 404
$\$ 139.00$

## MODEL 104

Pinish-Porcelain interior, lacquer exterlor. Gross capacity, 7 cu. it.; height. p7/s in.: depth, $221 / \mathrm{sin}$. width, $26 \% / 8$ in.; height of legs, 4 in.; depth with door open, $431 / 4$ in.; shelf area including bottom, 10.21 sq . ft.: number of cube trays. It.; number of cube trat total 3- 28 cubes per 1 insula, Automatic electric jight when door opens. ghipping weight, 338 lbs.

## Replacement Power Transformers for All Standard Sets

These Power Transformers in most cases are the orIginals and where they are not, they are the phybical and electrical duplicates of the originals. 'This ifst is constantly belng enlarged with transformers which have passed the approval of our engineers.

Where the original transformer has been duplicated,
it is a rellable product. In many of the recelvers listed
here the original manufacturers' transformers were unsultable for continuous service, and we have made changes in the safety factor to bring it high enough above normal operating conditions so as to even compensate for shcrts and break-downs in the receiver. Winerever the transformer is contained in a can both the finish and physical characteristics are identical to the orginal.

| Set Model E | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Price |
| :---: | :---: | :---: |
| EARL (0) 31, 31S, 32, 32S, 33, 33S, 24, 41, |  |  |
|  | 2522 | 3.00 |
| EARL (0), 55, 56 | 2657 | 3.75 |
| ECHOPHONE (0), 6 TUb | 5828 | 2.85 |
| ECHOPHONE (0), 8 Tube | 5829 | 3.25 |
| EDISON (O), R4 | 5855 | 3.85 |
| EDISON (D), R6 | 6843 | 3.50 |
| EDISON (D), R2, C2 Plate Tran | 6998 | 2.45 |
| EDISON, R1, R2, C2 Plate Transformer | 6998 | 3.50 |
| EVEREADY (0), 30 | 6026 | 3.50 |
| EVEREADY (0), 40, 50 | 2617 | 2.85 |
| F |  |  |
| FADA, 35 | 7226 | 3.95 |
| FADA, 43 | 7227 | 3.95 |
| FADA, 16, 17 | 7228 | 3.95 |
| FADA, 42, 44, 46, 47 | 7229 | 3.95 |
| FADA, 50, 70, 71, 72 ( 420 Electric Unit) | 7230 | 3.95 |
| FADA, 50, 70, 71. 72 (180 Electric Unit) | 7231 | 3.95 |
| FADA, 75, 77 | 7232 | 3.95 |
| FADA, 45 | 7233 | 3.95 |
| FADA (D), Special | 6786 | 3.95 |
| FADA (D), 10. | 5865 | 3.50 |
| FREED (0), Model 55, 56, 60 Cycle | 2402 | 2.75 |
| FREED (O), Model 78, 78S, 79, 79S. 90, 95, 65 |  |  |
|  | 2410 | 3.95 |
| FREED-EISEMANN (0), Model NR57, 60 |  |  |
| Cycle .................................... | 2411 | 4.50 |
| FREED-EISEMANN (O), NR85, 60 Cycle. | 2412 | 4.50 |
| FREED-EISEMANN (0), Model 16, 60 Cycle, |  |  |
| B and C Eliminato | 2414 | 2.25 |
| FREED-EISEMANN (0), NR73 | 2662 | 4.50 |
| FREED-EISEMANN (0). NR80 | 2661 | 4.25 |
| FRESHMAN, G Old Type Trans | 7246 | 2.95 |
| FRESHMAN, K | 7847 | 2.93 |
| FRESHMAN (D), ERAC | 6842 | 4.85 |
| FRESHMAN (0). Model G-60-5, 60 Cycle <br> (Plate) | 2418 | 2.2: |
| FRESHMAN ( 0 ), Model $\mathbf{G}-60-5,60$ Cycle (Filament) | 3724 | 1.65 |
| FRESHMAN (0), EAC | 2553 | 3.50 |
| FRESHMAN (0), Filament Transformer | 2530 | 3.50 |
| FRESHMAN (0), N, 25 cycles. | 2634 | 5.50 |
| FRESHMAN (0), Q, 60 cycle | 2626 | 3.83 |
| FRESHMAN (0), QD 60 cycle | 2628 | 4.50 |
| FRESHMAN (0), QD 25 cycle | 2629 | 6.00 |
| FRESHMAN (0), N, 60 cjcles. | 2644 | 5.50 |
| FRESHMAN (0), Q, 25 cycle | 2627 | 5.50 |
| G |  |  |
| GENERAL ELECTRIC (D), T41. | 6999 | 3.50 |
| GEN. ELECTRIC (0), H31. H51, H71....... | 2676 | 3.25 |
| GRAYBAR (0), 700, 770, 900 | 2678 | 2.65 |
| GREBE (0), AC6 | 6923 | 2.75 |
| GREBE (0), SK4 | 5044 | 3.95 |
| GREBE (O), 1931 Series with Clarostat Line |  |  |
| Ballast | 6652 | 3.75 |
| K |  |  |
| KING (0), Power Pack | 6504 | 7.85 |
| KELLOGG (D), 523, 526 | 7000 | 4.50 |
| KENNEDY, 26, 34 | 7934 | 3.95 |
| KENNEDY (D), 10. 20, 30 Seriss | 6758 | 2.15 |
| KNIGHT (D), P. T. and Choke | 2529 | 4.50 |
| KOLSTER INTERNATIONAL, K90 | 7235 | $3.9 \%$ |
| KOLSTER INTERNATIONAL, K80 | 7236 | 3.05 |

(Continued on page 99)

Code: $(O)=$ Original Manufacturer's Model; $(D)=$ Duplicate; $(R)=$ Replecement.
or to our nearest branch 25 PARK PLACE, N. Y. C.

# Filter Condenser Blocks for Standard Sets 

The condensers used are all of the highest quallty, and in every case having higher safety factor than the original. The physical specifications and electrical specifications of the original condenser blosk have been duplicated in every respect.

There are no obsolete or cheap parts used in the making up of these blocks and all of them are guaranteed to perform as well as the originals.


# Volume Control Guide 

This list of replacement volume control is not a haphazard collection of make-shift substitutes, but the result of four years of experlence in merchandising replacement parts.
The majority of these volume controls are the exact replicas of the manufacturers' originals and the others best replacements obtainable. The physical dimensions and electrical specifications in each case are exact duplicates of the original controls.
These controls are the products of Frost, Centralab, Electrad, Clarostat and Xaxley.

| Pecalver models | Cat. No. | Priee |
| :---: | :---: | :---: |
| A |  |  |
| Acratone, 2, 3, 4, Midgets | 6148 | \$0.70 |
| All-American Lyric, K | 6190 | 50 |
| All-American Mohawt, 90 serles, C6, | 6142 | . 50 |
| All-American Mohawk, D | 7093 | 1.40 |
| All-American Mohawl, $\mathbf{S 8 0}$ | 7094 | . 70 |
| Ampad, 81, Bel Canto series | 6186 | . 50 |
| Amrad, 71, 7100, 70 | 6140 | . 50 |
| Apes, 80 series | 6142 | . 50 |
| Apex, 40 series | 6138 | . 50 |
| Apex, 30 serles | 8142 | . 50 |
| Atchison, 5 and | 6142 | . 50 |
| Atwater-Kent, 1928-29 Models | 5241 | 1.10 |
| Atwater-Kent, 61, 61A, 66 | 5695 | 1.85 |
| Atwater-Kent, 37, 38, 36, 44, 40, 42, 5 | 3713 | . 45 |
| Atwater-Kent, H2, H1 | 8186 | . 50 |
| Atwater-Kent, 55, 55C, 60, 66 | 7123 | . 45 |
| Audiola, Jr. | 6142 | . 50 |
| Audiola, 308 and 7330 | 6182 | . 50 |
| Auditola, 8430 | 6187 | . 50 |
| Audiola, 889 | 6138 | . 50 |
| Audiola, 31 | 6142 | . 50 |
| B |  |  |
| Balkeit, A3, A5, A7 | 6190 | . 50 |
| Balkeit, B7, B9 | 6142 | . 50 |
| Balkeit, $\mathbf{F}$ | 6142 | . 50 |
| Balkeit. C | 6142 | . 50 |
| Bosch, 73, 74, 20 | 0142 | . 50 |
| Bosch, 49 | 6142 | . 50 |
| Bosch, 60, 62 | 6190 | . 50 |
| Bosch, 54, 48, 56, | 5840 | 1.75 |
| Bosch, 58 | 6115 | . 89 |
| Bosch, 28, 29 | 6502 | .50 |
| Bosch, 5, 20, 20J, 20K, 20L, 31, 32, 73 | 7075 | . 90 |
| Bremer-Tully, 640, 641 | 7100 | . 70 |
| Bremer-Tully, 7-70, 7-71 | 6142 | . 50 |
| Bremer-Tully, 8-23, 8-21 | 6127 | . 60 |
| Bremer-Tully, Counterphase | 6183 | . 50 |
| Bremer-Tully. 81-82 | G170 | . 63 |
| Bremer-Tully, S-81. 82 | 8538 | . 99 |
| Browning-Drake, 34, 36, 38 | 6180 | . 59 |
| Browning-Drake, 69 | 6142 | . 50 |
| Browning-Drake, 70-71 | 8189 | . 50 |
| Brunswick, 10 | 7101 | 1.00 |
| Brunswick, 18 | 7102 | . 60 |
| Brunswick. 3KR8, 3KR0, 3KR6 | 4165 | . 45 |
| Brunswick, 5 KR , $5 \mathrm{KRRO}, 2 \mathrm{KRO}$, 5 KR 6 | 4165 | . 45 |
| Brunswick, 5NC8, 5NO, $5 \mathrm{NC8}$ | 4170 | . 50 |
| Brunswick, PR-17-8, R-1, K1104 | 4165 | .45 |
| Brunswick, 14, 21 and 31 | 6185 | . 50 |
| Brunswick, S14, S21. 331, S81, 582 | 60588 | . 90 |
| Brunswick, 1930 Models. | 6223 | . 75 |
| Buckingham. 80 | 6181 | . 50 |
| Bulova, M501 | 7103 | . 90 |
| Bulova, M701 | 7104 | . 65 |
| Bulova. C751 | 7105 | . 85 |
| Bush \& Lane, 1012. | 3203 | . 65 |
| C |  |  |
| Case, 80 | 6142 | . 50 |
| Clarion, Jr., 60 | 6148 | . 70 |
| Clarion. 51, 53, 55. | 6148 | . 70 |
| Clarion, 40, $45 .$. | 7106 | . 90 |

The resistance taper, value, size of shaft, size of case and switch specifications have been closely adhered to, and in no case is a control specified without our having studied the requircments of the particular receiver.
Any controls not listed here can be possibly furnished by us from stock and we invite your inquitries for speclal controls.
Any controls not listed here can be possibly furnished by us from stock and we invite your inquirtes for speclal controls.
2.) PARK PLACE, N, Y. C. or to our nearest branch

# Volume Control Guide 



## VOLTAGE DIVIDERS For All Standard Receivers

The Voltage Dividers listed herein are duplicates of the original voltage dividers used in the various sets All values and physical dimensions conform to the originals and in many cases the safety factor has been brought up above normal load.

| Make .Models and Values | $\begin{aligned} & \text { No. } \\ & \text { Part } \end{aligned}$ | No. Cat. | Price |
| :---: | :---: | :---: | :---: |
| A |  |  |  |
| Amrad, A.C.-4,080 ohms |  | 6857 | . 75 |
| $B$ |  |  |  |  |
| Balkelt, AB6, 180A, 180B-10,800 ohms |  |  |  |
| Balkeit, ABC, $135,180-10,800$ ohm. |  | 6888 | .75 |
| Ralkeit, 37, B8-24,800 ohm........ |  | 6381 | . 95 |
| Balkelt, C-4,370 ohm ..... |  | 6382 | .55 |
| Brandes, B11-4,650 ohm | 4919 | 3922 | . 40 |
| Brandes, $\mathrm{B}-10$ |  | 5756 | . 75 |
| Brandes, B15, B16-2,955 oh |  | 6859 | 1.00 |
| Bosch, 48, 49 |  | 5756 | . 70 |
| Boseh, 68 |  | 5753 | . 75 |
| Bosch, 60, 61, 63-9,000 |  | 5754 | . 75 |
| Boseh, 62C-4,790 ohm |  | 5755 | . 75 |
| Bosch, 28, 29, 825-10,000 ohm |  | 6274 | . 85 |
| Boach, 28, 29 825-2,000 ohm. |  | 6375 | . 55 |
| Bosch, 60, 61-9.000 ohm |  | 5752 | 1.00 |
| Bosch, 54 D.C.- 20 ohm, Edison Base |  | 5848 | . 85 |
| Bosch, 62, 63-4,250 ohms |  | 6850 | . 75 |
| Bosch, 63-26,050 ohms |  | 6851 | . 85 |
| Bremer-Tully, 820A, 8-21A - 13,400 |  |  |  |
| Bremer-Tully, 6 -40-16,720 ohm ... |  | -6377 | 1.80 |
| Brunswick, 3, 8, 10, 11, 13-6,770 ohms |  | 6860 | 1.00 |
| Brunswick, 3ER8-6,265 ohms |  | 6861 | 1.00 |
| Brunswick, \$RU, X902, 3NW8- |  |  |  |
| 7,780 chms |  | 6862 | 1.00 |
| 3,040 ohms |  | 6863 | 1.00 |
| 4,470 ohms |  | 6864 | 1.00 |
| Brunswick, PR6-11,700 ohms |  | 6865 | 1.00 |
| C |  |  |  |
| Colonial, 33, 34, 110,000 ohms tapped |  |  |  |
| Colontal, $28-15500$ ohm ............... |  | 5017 | . 75 |
| Colonial, 32 D.C., 34.9 ohm . |  | 5453 | . 95 |
| Colonial, 32, 33, 34-122,000 ohm |  | 5727 | .75 |
| Colonial, 36, 39 A.C. $-165,000$ ohms tapped at 65,000 . |  | 5636 | . 50 |
| Colonial, 33, 34, $35-80,000$ ohms tapped at 25,000 . |  | 7199 | . 35 |
| Colonial, 33, 34-420 ohm C.T |  | 3969 | . 23 |
| Colonial, 31 D.C.-Speaker Resistor.. |  | 7205 | 3.00 |
| Colonial, 31, A.C. .-. |  | 5674 | . 75 |
| Colonial, 31 D.C., 60 oh |  | 5856 | . 85 |
| Colonial, 28-7,200 ohm |  | 6378 | . 75 |
| Columbia, C1, C3, 960 |  | 4014 | . 39 |
| Columbla, C5-7,835 ohms |  | 3905 | . 40 |
| Columbla, C1, C3-7,120 ohms |  | 4014 | . 39 |
| Colonial, 950-50,000 ohm | 4810 | 5517. | . 30 |
| Columbia, 902, 950, 980-13-110 ohm. |  | 5716 | . 75 |
| Columbia, 930-2,060 ohm | 5478 | 5521 | . 40 |
| Columbla, 980-6,155 ohm |  | 5522 | . 40 |
| Columbia, 300, 930, 500, 2,640 ohm. . |  | 5523 | . 40 |
| Columbia, 902-430 ohm .. | 4290 | 5527 | .30 |
| Columbia, $\mathrm{C} 5,961-8,050$ ohms |  | 6866 | . 75 |
| Columbia, 902, 930, 980-2,220 ohms.. |  | 8867 | . 75 |
| Columbis, 931-9,035 ohms |  | 6868 | . 75 |
| Columbla, 940-2,955 ohms |  | 6968 | 1.00 |
| Crosley, D.C. sets using 224 Tubes- |  |  |  |
| Crosley, 602, 740-5,000 ohm, tapped at 3475 |  | 3965 | .35 |
| Crosley, 50, 102-25,867 ohms |  | 6710 | . 50 |
| Crosley, 40C, 601, 102C-6,515 ohms. . |  | 6711 | . 50 |
| Crosley, 77, 77-1-4,295 ohms |  | 6870 | . 95 |
| Crosley, 602, 704-650 ohms ......... |  | 6871 | . 75 |



## MAIL ORDERS TO R峝

See Terms on Page 5

# VOLTAGE DIVIDERS 



## By-Pass Condensers for Standard Sets






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1-Ward Auto Antenna.
1-Steel Battery Box.
2-Shielded Cables.
Brackets, Screws, Nuts, Etc.
The receiver is readily attached, by means of the brackets furnished, to the steering column of the car, thus avoiding the necessity of marring or defacing the car. There are no cumbersome or fussy flexible cables -the set is tuned in directly like any other receiver. An illuminated dial enhances the set.


## STERIING Automobie Radio

## The set of simple installation, marvelous operation

Utilizes All Heater Type Tubes-2-236, 2-237, 2-238 Illuminated Dial . . . Lock Switch . . . Magnavox Dynamic Speaker. Made to sell for around $\$ 45.00$ to the dealer and now offered to you for less than half!

For Outfit consisting of a 6-Tube Chassis housed in a heavy steel case, Magnavox dynamic speaker, shielded cable, shielded

battery cable, steering column clamp and mounting brackets.<br>Our Net Price<br>Set of Universal Tubes<br>s19.35<br>WorldRadioHistory

## Midgets in size <br> - in pe

## publix Receivers

## FEATURING 5 MODELS

## With Latest Improvements

## Including-

TONE CONTROL

## FULL VISION DIALS

## VARIO-MU AND PENTODE TUBES FULL DYNAMIC SPEAKERS

Ontstanding in value without sacrifice of quality these spendid receivers incorporate features usually found only in high priced receivers. The reception is remarkably faithful. selectivit: minute and volume ample for all requirements.

The set is the Model product of the Publix Laboratory and is well 74 constructed with materials throughout. Operates on a $25-\mathrm{ft}$. aerial and brings in stations in a radius of 500 miles and more. Full vision dial. Handsome mahogany two tone cabinet.

The set is ideal for the bungalow, camp, sun-parlor, bedroom, or anywhere a small individual set is re quired. You can sell this set at $\$ 19.50$ complete with tubes to thousands of prosrects right in your town. Order your sample today and get started makins sales to people who have no radio sets in your city. Nobody can afford to without radio for $\$ 19.50$ !
$113 / 4$ in. long, $83 / 4$ in. wide, $141 / 2$ in. tall.

Uses 1-235 or 551, 1-224,
1-247 and 1-290 Tubes.
Set of Universal Tubes. $\$ 2.00$ Set of Arcturus Tubes. 3.00

Model 54
D.c. For people living in dis this efficient receiver will be a revelation in performance. The use of heater type tubes makes the set very efficient and insures the absence of line hum. The set also hoasts of Tone Control and 2 of the new direct current Pentode Power Tubes are used in push-pull, giving great volume if desired. A very artistic walnut cabinet with fluted sides and Gothic grille houses this receiver. Illuminated single dial control.

Cabinet $191 / 2$ in. high. $151 / 2$ wide $9^{1 / 2}$ deep.

Uses 3-236 Screen Grid and 2-233 Pentode Tubes.
Set of Universal Tubes ........... $\$ 3.85$
Set of Arcturus Tubes
7.25

Model
Incorporating the most recent developments in superhetrodyne design, this 7 tube model is the last word in radio efficiency. Its ability to receive stations at great distances with ample volume is almost uncanns. In this receiver selectivity attains perfection and fidelity of reproduction is second to none. Volume from a mere whisper to auditorium-filling crescendo can be attained. Tone control enables sou to bring out any desired shading of tone color. The cabinet is beautifully designed with a suggestion of the Orient and lends itself to any surroundings. The illuminated tuning dial is enhanced with a handsome bronze escutcheon plate.

Cabinet $191 / 2$ in. high, $151 / 2$ wide, $91 / 2$ in. deep.
Tubes used: $2-551$ or 235 Vario $\mathrm{Mu}_{1}$ 2-224 Screen Grid, 1-227 Detector, 1-247 Pentode and 1-2s0 Full Wave Rectifier.

Set of Universal Tubes $\qquad$ . $\$ 3.45$

Set of Arcturus Tubes. $\qquad$

## Model 93

A receiver extremely low in price, yet embracing the atest improvements in design, including the new type tubes. Tone control enables you to emphasize high or low notes and bring out the proper shading. Vario Mu tubes eliminate cross-talk and make for sharp tuning. The lentode Tube gives ample volume for every requirement. Cabinet 15 " high, $131 / 2 "$ wide and $91 / 2^{\prime \prime}$ deep.

Uses 2-58, 1-57, 1-247 and 1-280 tubes.

Set of Universal Tubes $\qquad$ $\$ 2.95$

Set of Arcturus Tubes . 3.85

Model

This 7 Tube Tuned Radio Frerfuency Model is clesigned primarily for people with Whom great distance reception is secondary but who desire the utmost in quality of reproduction. The receiver uses three of the new Vario Mu tubes for utmost selectivity on Screen Grid Detector and two of the powerful Pentode Tubes in push-pull. This combination makes for remarkable fidelity of tone with great volume where the occasion requires. The Cabinet is of a very popular Gothic design and of very beautifully matched walnut overlays llluminated dial with bronze escutcheon. Tone Control gives you just the right emphasis of instruments.

Cabinet $19^{1 / 2}$ in. high, $15^{1 / 2}$ in. wide, $9^{1 / 2}$ in. deep.

Tubes used: 3-551 or 235 Vario Mu, 1224 Screen Grid, 2-247 Pentode and 1-280 Full Wave Rectifler.

Set of Universal Tubes. . . . . . . . . . . . . $\$ 3.45$
Set of Arcturus Tubes
5.50


MODEL 74
4-TUBE 110V. A.C.


MODEL 93
5-TUBE 110 V . A.C.
MODEL 54
5-TUBE 110V. D.C.


## MODEL 70 7-TURE TRF <br> MODEL 77

7-Tube Superheterodyne Both for 110 V. A. C.

## A Great Success/

# Acratone RECORDER 



## Processing

 .. hase aranged for a sarvere to es bimped to 25 biark place to art ion of Recoratiog Department
## Price SI.25 eatoh



## For Cutting and Rectraingon Aluminum Record PBIanks

Has Won Universal Acclaim From Sannd Engineers, Broadcasting Studios and Recording Laboratories

A Really Prartical Recording Device for Record ing Fiavorite Radio I'rograms, Sound Truck An nouncements. Niusical lecompaniments, Home Movie sound Effecte, Transcription Programe, Sound Effects, Dancing studio and diymatsiam Rearding, Advertising Taks, Campaign Speeches, etc., "re:
The recorder is extremely simple to install. Ond single $3_{8}$ " hole is all that is necessary th mount it. In recording it is only mecessary to move the arm 10 the centw of the record and throw the lifting lever to the down position. This immediale-ly starts the recording which evenly prowes the record. The remarkable number of 96 grooves ber inch are col which allows the recording as long a phaving time as standard monograph records. The recorder may be operated It either 78 or $33-1 / 3$ r.p.in.

## Amplifier to Match

Acratest has developed an amplifier suitable for recording and pablic address use. This amplitiol uses three stages and gives excellent quality for microphone. radio and phonwaph recordings. This amplifier has slectial settings of its vo:rome contron for recording purposes. Foult dereribed elsewhere in this catalog. Finty Cal. No. 101

Price S24.50

## Recording Motor

We have found that ordinary phonograph motors are hardy suitable for recurding as they are not powerful enough for such purposes.

This Motor is specially fitted for reconding purposes. sipecially it isted for reful and can be switched from is fom. to $33-1 / 3 \mathrm{lip} . \mathrm{m}$. hy just a throw of the switching lever.
Cat. No. 274

## Price \$12.50

In Ordering Mention Type Required DIAMOND RECORDING NEEDLE Price $\$ 6.00$
FIBRE REPIRODUCING NEEDLES Cut. No. 6929

25 e Package of 50

## Simple to Operate

In recording a great deat of volume is umecessary. An ortinary midget receiver at nomal room volume is sutficiont. For microphone amouncements the volume show d be turned slightly higher: A special cutting needle is susgested for best recordings. Fibre needles are used for reproduction except where the rec ords ire processel. This process ent
 esseng is dome attar the recording has been made. This processing. describerd below, hardons the surlate of the recond and makes it lat thousimels of reproductions.

## For Campaign Speeches

Illis recoralin can be jut to use to gradt adramtage by political organiza tions and individual otlice seekiens. Spreches may be recorded om blanks and distributed io thwitues clubrooms and other public places for reprorluction. Nith a portable public address system such speeches can be reproluced to great mumbers of voters. This anule offers " reat omporturity to radio dealers and
servicemen.

The Meratont Recorder makes reconds that are really outstanding in quality and atre compatable 10 standat transceriphion records. Aheady this recorder is being lathded by brodeleast enginears as the tirst pratical and simplifed studio recording mnit. It is extremely simole to aperate and records instantanemuly. Records are practically free from needla scratch and background noise.

Radio servicemen and dealers will find a new field of endeavor with this recorder as it lends itself to many applications.



[^0]:    We are prepared to quote special prices on all Frost Volume Controls to Manufacturers, Jobbers and large service organisations.

[^1]:    Our Price 45c ea.

[^2]:    $\$ 1.80$ dozen
    Including 2 Hecording Needles

