# RADIO INCLUDING SERVIEE AND INSTALLATION SECTION RETAILING 

THE BUSINESS MAGAZINE OF THE RADIO INDUSTRY

## The YAzleY 1936

 Replacement Volume Control ManualYaxley doesn't believe in resting on its laurels. Its constant advances in volume control development prove that: The latest and greatest edilion of the Yaxley Replacement Volume Control Mamal provea it, too!

Twenty-four months were devoted to the production of this invaluable book. live ralio service enginecrs - specially trained for whe task - compiled, checked and reechecked the data that makes it the most complete and comprehonsive manual of its kind ever offered to you by anyone, Its preparation took plenty of lime amd plenty of work. And it will sace you plenty of time. plenty of mones. and plenty of grief.
'The 19:36 Yaxley Replacemont Volane Cansmol Manaal lists more sol models than any other, It prosides more fachal data. It contains a complete catalog of laxley approved radio products, No service bean ran well afford to do withoul it. It's complets-anthoritative-up-to-flate! Aoml its Prece.

## YAXLEY MANUFACTURING DIVISION of P. R. Mallory \& Co., Inc.

INDIANAPOLIS, INDIANA
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and save yourself time ...trouble and money


## ALI-WAVE TUITING

 Simplified by ARVINA bright beam of light shines through the glawing dials from behind-moves up and down on the major dial-and illuminates the central reading on the chosen wave band. The lower or secondary dial is controiled by the same dual-knob that operates the maior dial. It is calibrated from ito 100 , and is geared to make five complete revolutions to one trip across the large dial.
Mondes, tha. Willum yonerems

 ing ill Frumberst wervine Over-
 will fult:
 "ump Li:1 price 99050 milu uthes..... \$99.50

## MODRL 62. Walnut venmeral  hecrouly ye coverinm adl broidcast servise Funl-githe dy namie mpien with tulues <br> $\$ 59.50$

MoDel fov, Samens Model 6


ACTUALLY - the easiest, simplest, most accurate tuning the radio world has experienced to date . . . and that's not all!

Metal tube models, of course! And unmerous outstanding features such as . . . Center-Poised Tuning Mechamism with Double-Ratio Control for sped and precision . . . Automatic Wave-Route Diredor that babances antennate lo circuit for each broadeast band . . . Powerful FullRanqe Dynamic Reproducers with Multi-l'oint Tone Control . . . DoulbAetion Automatic Volume Control and Lagarithmie Manual Control . . . Trae-Fidelity Amplifier Circuits, triple-tuned to insure Irue ratio of reproduction to the original broadeast . . . and many other featores that make the now Arvins your best buy for radio profits.

Jook at the attractive Arvin cabinets! They re designed to enhance the beaty of any room . . . Modern in every line, but not too modernistic. Listen to the rieh, full tones of the new Arvins! Every one of the nine models (including a battery-operated tablesed) is traly outstanding in its price class . . . The new Arvins have everything your ensiomers want, at prices they can afford to pat. Think what this means to you? Wider appeal . . . more sales . . . greater profits: See your Arvin johber: NOBLITT-SPARKS INDUSTRIES, Inc., COLUMBUS, INDIANA
 purneterextyar wowering int troud
 reprobluere Wahat venerral githi-
 1, ast jurice with lutw $\$ 49.95$



MODDEL 4R. A 1 -tula AC sumat


 same high-filelity, phice thlii statet


 Livituine
wiltin mbes


## to



LOOK FOR THE RADIO
WITH THE BIG BLACK DIAL

August 20
42,314 Consumers
have asked
the factory" for
particulars of the

## 1936


*In response to our opening advertising

## INVESTIGATE

ZENITH RADIO CORPORATION
3620 IRON STREET, CHICAGO, ILLINOIS
Visit the Zenith Exhibit, Booth No. 53, Main Floor, National Electrical and Radio Exposition, Grand Central Palace, New Yow City

## here's the line that SELLS'EM ALL

 from ${ }^{5} 59{ }^{50}$ Up


No. 62



Nos. 58-L and 6-1-L


Look at this array of radios! They vary in scope, size and appearance but all have this in common-the StrombergCarlson reputation for quality which the public knows and wants.
Here is the longest price range to be found in the radio industry - with cvery step from the lowest to the highest correctly graded for "selling up".

Concentrating on a line like this will simplify your husiness; make it possible for your salesmen to know the radios they sell more thoroughly; identify your store with quality products.
Stromberd

[^0] and merchundising plan.

Old or young; the well-to-do or the "just getting-by"; the musically critical or the lovers of jazz - all find in a StrombergCarlson the radio they like best.

# THE 2 PRECEDENT SMASHING Number 1. Metal Tubes 



AMERICAN-BOSCH

4


MODEL, SE5Y (Above)-8 tube, 9 tube performance, American. police and foreign, piats li, S. weather band, superheterodyne Consolct with new metal
tubes and $C$-ntrumaric construction. Ranse: 5 to to 1800 Kilocycles; police and shore wave 1800 to Gono kilocucles; short vave 6000 to 18500 Kilocycless and long wave U.S. weather hand 150 to 350 kilocycles.
$\$ 79.95$
MODEL 5852 (below)-Sime chassis as Madel 585 Y above, in Comsuie cabiner



MODEL 575F (Above)-7 tube, 9 tube perform+ ance, American, police and foreign superheterodybe Consolet fadio with exclasive combination of new mesal whes and American-Bosch CentrOmatic and police 5 fo to includes standard broadeand short ware 1800 to 6000 Kilocyefes; and shore waye 6000 to 18500 Kilocycles . $\mathbf{\$ 6 5 . 9 5}$
MODEL 575Q (Below)-Same chassiv as Mulel $575 \mathrm{~F}^{\mathrm{F}}$ above, in Console Cabinct. $\$ \mathbf{8 5 . 9 5}$

SJCCESS in 1935 depends upon 2 revolution izing features! The new metal fube is only one of them! Even more important than metal tubes alone is the CentrOmatic Unit-a separate visible unit in American-Bosch Radio. On it are centralized all the sensitive radio elements, insulated and isolated from the audio section where intruding "feed-back" noises usually occur.

Automatically, this revolution in radio engineering guarantees to your customers 5 definite benefits: 1. Better long and short wave reception. 2. Higher tone fidelity on all wave bands. 3. Greater freedom from noise between stations and on the station. 4. Easier accurate tuning even on short wave. 5. Surpassing dependa-


MODEL 595P - High Pidelity 10 tube, 11 tube per. tormance, American, police and foreign, plus U, s wearher band, superheremdyne Consule with new mecal tubes and Cencromatic constructicha, Range 560 to 1800 Kilocyeles. police and shore wave 1800 to gond Kilocycles, short wew fobp wo topol kilocydes and long wave G.S. Weather band $\mathbf{\$ 1 3 9 . 5 0}$
350 Kilocycles.


# ENGINEERING FEATS OF 1936 Number 2. Centiomatic Unit 

## 1) N = <br> 

## CentrOmatic RADIO

bility resulting from $90 \%$ less wiring and 104 fewer soldered connections.

Only American-Bosch offers metal tubes and the CentrOmatic Unit combined. That is why American-Bosch offers you the greatest radio line of the year -especially if you are a dealer who prefers to build your business with dislinctive, plus-standard merchandise.

Write for complete broadside and nome of nearest American-Bosch distributor.

UNITED AMERICAN BOSCH CORPORATION Springfillo, mass. new york chicago detroit


MODEL 510 (Above) - 5 tube, 8 tube performance, standard andpolicebands, superheterodyne Consolet radio. Ranges 540 to 1500 , and 1500 to 3600 Kilo ted Aitplane Dial calibrated in hoth K ilocreles and Meters, full foaning coil dynamicspeaker. $\$ 34.95$

MODEL 510 E (Below)-Same chassis as Model 510 above, in Console cabinet. $\$ 49.95$



MODEL O4-A tube plus 1 ballast tuhe, two band Personal radio for AC-DC operation. Kar 540 to 1500 Kilocycles: Police Calls 1500 to Kilocycles. Portable. New full vision Compass Full foating coil dynanicspoaker.


MODEL 05-s tube phus 1 ballase tube, 8 tube formance, Americann and Hureign Persomal tadic AC-DC operation. Improvel superheterodyne 5800 to 15000 Kitocstas. $\$ 29$


MODEL 505-ジ tube, 8 twhe performance, s ard and police bands Personal tadio for AC or circuirs. R anger 50 superheterons 1500 o Kilocycles.

## RAYTHEON presents

## 

## Raytheon's 33 New Tube Deals

offer a wide range of service equipment, designed to meet 1935-36 conditions including the special requirements of metal tubes and octal sockets.
"TUBE TALKS" Modern Radio Service and Merchandising (including tube complements). This 48 -page book is hot-off-the-press, full of sales ideas, service tips and constructive suggestions, which have been tried out and proved in actual practice. Subjects cover not only radio tubes but also include sound methods applicable to all radio products.

Finally, 30 of the 48 pages are devoted to a tube complement section which lists the types and numbers of tubes required by various model receivers of 25 wellknown radio manufacturers. This data covers over 2,000 models. This informa-
 tion should be available for reference, in all dealers' sales and service departments and by all independent service men.

This is the start of a service reference library. The binding, designed especially for this book, permits the addition of supplementary pages which we will supply periodically . . We believe this book is unique and is worth many times the price placed upon it. First edition is limited

Mailed prepaid for 50c

## Emerson

Continuing as the "World's Biggest Selling Little Radio"—plus a Line of Equally High Valued Consoles!
(On Exhibit at National Electrical and Radio Exposition Grand Central Palace, Sept, 18-28.)

"Re-Creates the Artist in Your Home"

## Radio

with METAL TUBES
19 New 1936 Models
$\$ 14.95$ to $\$ 129.95$
(Standard-Battery-Auto Sets)

"Duo-Tone" Model 106.... \$34.95 2-Bard, 6-Tube AC-DC with Metal Tubes. Identical Grille Front and Back


Emerson CompactModel $109, \$ 14.95$
$A C-D C$ Supertheterodyne. Ihisminated Aeroplane Dial. Bakelite cabine?


Emerson Upright Model 108
2-Sardt 5-Tube
Superheterodyne. Aeroplane Dial. Bakelite Cabinet
Prices Slightly Higber in West and South

Send for new Cafalog and details of Emerson's Disiributor and Dealey Proposition.


Emerson Model $110 . \$ 29.95$ 2-Band, 5nTube AC-DC


Emerson Compact Model 111 .... $\$ 39.95$ 3-Band, 6-Tube AC-DC with Metal Tubes


Emerson Model 104.

16 to 555 Mefers. 8-Tube AC with Metal Tubes
$\$ 69.95$


3-Banct, 6-Tube AC-DC mith Metal Tubes dentical Grillo Front ard Back


Emerson Upright Model 36 $\$ 19.95$
2-Band AC Superheterodyne. Full


EmersonModel 34-C \$44.95



COMPARE Lhits tometut tuhe chassis wibl anty nelier mathe al any price see how Atwater kent famous precision worlAtwater kent famous precision worlo
manship has admyed the new metal thanship has adnjted the new metal
tubes to crate a new tone ralikm.


MODEL 856. A G-tube compact with METAL tubers 3-range tuning. 7 runed circaits. $\mathfrak{- \text { -fan }}$ condensers. Accurate 2 -speed हuning, $\$ 36.50$.


MODE1 337. Statadurd and shortwave rereption. 7 METAL tules, 3 -range tuning, 7 tuned ciscuits, 3 -pank condenser 2-speet tuning. $\$ 64.50$.


MODEL 184. A A tutio compact, 4 tuned circuits, whe rokprove Allumanatud diat. Vernier tuning. Rich tone quality.


## Metal Jube Ra DIO CONTROLAOOM RECEPTION

## 1. In the Studio

SHRCHI OF TIAtE's actors, on the ait He times a week for Time and Rermongfor Rutad. Feenact notable news events hefore sensitive microphones.

## 2. In the Control Room

 Director Arifur Proor, Jri, ilstening over sadio speakers that capture every whispat from the studio, instructs the actors by signals through sound-groof windows. With the engineer, he hears che programitue asplife, perfectiy broudcasp.
## 3. St the Atome

Now, with the new 1936 metal-tulbe Atwater Rent you heat volices and misic perfecty, as if you were actually [istening fin the shalio control roont.


COLUMBAA NETWORK - 51 STATIONS - THURSDAYS 8:30 ed.S.T.

## fada FORGES AHEAD

## acan FADA

TO A CLIMAX IN RADIO ACHIEVEMENT
WITH ITS NEW ALL-METAL TUBE
No 190 MODELS

With an entirely new chassis designed to utilize all the advantages of metal tubes

With THE
THREE GUARDSMEN that keep FADA different AUTOMATIC TONE
REGULATOR
FADA HI-FIDELITY
DYNAMIC SPEAKER
3
MICROMETER TUNINC
DIAL With the acid rest of enthusiastic repeat orders from the field on Fada all-metal tube surs, vesuling from July deliveries-notbing an stop the Fala "forge abead" procession.

MODELS NO. 190 OUTSTANDING FEATURES
9 Metal Tubes . 18 Tunted Circuits Range Conte Bands ${ }^{4}$ Wrequency Range, Continuous 540 KC to 24 MC , Hayed Automatac Volume Control Inter-station Noise Suppression Inter-station Noise
Automatic Tone Regulator Automatic Tone Regulator ' M Micrometer Tuning


CONSOLE MODEL 190C

Cabinet: Piano finish walnut, with gracefully curved pilasters and rounded front cotners. Straight grain walnur with figure used on sides and pilasters, with burl walnut overlaid on center of top and frons panei. Speaker: $12^{\prime \prime}$ Full Dynamic.
prtce $\$ 124^{50}$

MODEL 190CK (SAME AS ABOVE)
With $12^{\prime \prime}$ Super HiFidelity Speaker.

$$
\text { PFICE } \$ 14450
$$

TABLE MODEL 190 T


Cabiner: Two-toned walnur with rounded cortters, front panel burt walnut, top and sides straighr grain walnut.
Speaket: $8^{\text {er }}$ Full Dynamic.
Prece $\$ 84^{30}$

FADA ofiers a radio for ewery purse. . from compact to HI-FIDELITYY console
staight AC and AC-DC WORLD. WIDE receivers... from $\$ 19.99$ to $\$ 144.50$. Wire for Distributor or Dealer proposition.


See why Fada forges abead at Booth 51-New York Radio Show. Sept. 18-28 inclusive. Grand Central Palace.


RAY V. SUTLIFFE Editor<br>W. W. MacDONALD Managing Editor<br>T. H. PURINTON Assistant Editor<br>HARRY PHILLIPS<br>HOWARD EHRLICH<br>Vice-President<br>H. W. MATER<br>Manager




## SPECIFICATIONS AND THE SHOW

In this issue, Radio Retailing prints its annual tabulation of the new sets. This month, at the Grand Central Palace, New York City, many of these receivers will be publicly displayed.

The complete, itemized specifications in this issue offer the only convenient opportunity for radio dealers throughout the country to study and compare the new models which manufacturers are marketing.
The National Electrical and Radio Exposition will be the only show this year claiming national prominence.

This month, therefore, marks the opening of
another radio year. The industry is prepared to "go to town" with a line of merchandise never before equalled in attention value and promotional features. The sets are properly priced and will be adequately advertised.

And the remaining factor, listener interest, will be well taken care of by the big broadcasting chains and the local stations. Programs distinctly different (see feature news story in this issue) are already on the air or will be launched shortly.

To the coming season! May sales justify this vast amount of preparation.


EDITOR

## OF THE RADIO WORLD IS UNDER THESE COVERS



ENGINEERED WITH SPARTON " $)_{\text {tcschce" REPRODUCTION-THESE }}$
REVOLUTIONARY MODELS CREATE AN ENTIRELY NEW SALES OPPORTUNITY FOR SPARTON RADIO DEALERS

- Walser Dorwin Teague is one of America's foremost industrial designers. In nearly every new phase of industry he has designed products that are more loeatiful and more salable-from kodaks, stoves, glasware to lrains and Ford buildings at A Century of Progress and the San Dicge Exposition. He has won praise from coast to coast. Walter Teague is a great designer, the he is a great salemman, also. He knows hew to beantify products to help them sell.

Sparton has the exclusive radio service of TeagueL'inder these four covers are the most revolutionary radio designs ever oflered to the pulbic. Although extremely revolutionary, they will be immediately acepted and sel an entirely new trend in radionde-
sign. They will be unveileal Scpember 18 shath me inchuded as part of the alreaty attrative line al" II models. Sparton in 1936 really has iwo limes the regubar Iine which hat already been introduced, and this sensational Teque line. Hoth lises arestrerbly enginecred with Sparton "1'resemee" reprodnction and include other remarkable feallores, such as Super-lligh Fidelity, Tome Exactifier, Triolian 'Third-dimension Principle, New Vises-plo 'Tuninu* Special Superheterodyne Girenits. No deater, under any circumstances, should miss seetiog this Teagut line. Wately for it. Expert it to be womlerfal. Vount not be disappointed. In the moantime write for details. The Sparhs-Withingtod Compary, Jithson,


UNVEILING SEPTEMBER 18 AT THE NATIONAL ELECTRICAL AND RADIO EXPOSITION SPACE 3, 4, 5 MAIN FLOOR, GRAND CENTRAL PALACE, AND AT SPARTON DEALERS.

THE metal tube, its present and its iuture, is this month's livest topic of conversation. Intended originally as an exclusive G-E feature, competition saw in this decidedly different device a clance to capture a larger share of the public's attention. Hence arose a sales psychology situation which has forced quantity production a bit before its logical ripening time.

Should the dealer landle one line or many? Letters just received indicate that retailers are stifl uncertain as to the hest policy to pursuc.
There are two well defined sides to this argument. Dayton's largest furntture store (one of countless examples) for years has given the public its choice of five or more makes-and made moncy by so doing. Other, smaller outlets, favor concentration.
This problem cannot be solved with the simple pronunciamento that there is hat one way to run a retail business. Each dealer must ent the cloth to his ow m theasurements.

RR's statement, last month, that practical television still is a long way off-that people are deluding themselves who would defer the purchase of a present type set with the idea that a combined instrument shortly will be avail-able-is Eurther supported by the recent discovery of new transmitting troubles.

Experiments made by the Marchese Marconi suggest that the range of ultrashort waves may be much greater than the limit of optical visibility: British engineers have picked up and resolved Berlin television transmissions, and these have even heen received in Buenos Aires.

We must first learn the true characteristics of wavelengths below 8 meters before television practices can be determined.

How do you like your radio news? Spot reported, as it happens, in five minute summaries, 15 minute commentations, dramatized, satirized, or in weekly revicws digested for family use? All types are on the air this season.

Great to-do about the revival of "wired radio," in Cleveland and elsewhere, broke out in the public press last month. Tish, tish! Its bark is worse than its bite. High service charges and limited range of programs will keep this critter in the dog house for many months to come.
M. Auster and H. R. Levinger (formerly vice president and advertising manager, respectively, with Wholesale Radio Equipment Company, New York City) have bought out Federated Purchaser, Inc, same town. Mr. Levinger states that "the show will be different, Graham" . . . more conservative, controlled circulation and a better break for the legitimate deater and service man.

The catalog business is no bed of roses these days. Virtual elimination of fumping has cleared the market of stocks which once were readily gathered in and re-sold at bargain prices. And the parts makers, working through "on location" jobbers, have secured such good distribution and made prices so competitive that the post office operators find mach of their old thunder stolen and mast change their tactics.


BEAUTIFUL as furniture, obsolete as radios, the sets sold back in the days of Calvin Coolidge are blocking the door to new butsiness.
The heck of it is that radio clealers might just as well scratch off the best residential sections of town as prospective customers, unless something is done to stimulate replacements. For the well-to-do, the liberal spenders, the quickest to adopt new luxuries, were just the ones who went into radio with both feet when the instrument was first perfected.

These old sets are in their homes today, performing after a fashion and causing owners to feel satisfied.

Witness the saturation, among the upper bracket customers, as evidenced by a Columbia University survey of typical Westchester County. New York, published recently in the book "f eisure":


Create Atmosphere, Says Lyon \& Healy
Aware that the replacenent market is the royal road to substantial sales, Gerald W. Ward of the radio department of Lyon \& Healy, Chicago, declares that he has turned to direct mail as a media for stirring up discontent with old sets.
"It is the old set that gives trouble that leads the family to take action. One or two repair jobs at itn-
portant moments will stimulate buying as nothing else will. Lyon \& Healy prepare for this day by mailings, three times a year, to 22,000 families whose incomes indicate they are able to afford the best in musical instruments. This list had to be prepared new, as the depression has ruined most of our old customer addresses. We send out three mailings a year, with pieces costing up to 7 c apiece. Out of each we get a direct kick back of from 75 to 100 prospects. The others follow when their radios go bad.
"Mind you, a lot depends on whether you sell a radio as a musical instrument or something to get baseball scores. We stress record players heavily. In fact, I believe we sell 70 per cent of all combinations placed in the Chicago territory."

## Sells Aerials -Throws in Free Trials

Post cards-plain old picture postals-form the media by which G. A. Tatch of the Tatch Radio Co., 643 Michigan Ave., Chicago, penetrates the portals of the Gold Coasters.
"The tough job is getting to these people," says Mr. Tatch, who can stand at his front cloor and see the homes of the millionaires. "They get piles of mail, and clirect mail doesn't often catch them. But a picture card has a personal touch about it, and this fall we are sending them a view of our new $\$ 10,000$ bungalow here on Michigan Ave." Inciclentally the card is about the cheapest of direct mail- 25,000 for 2 cents apiece.

The Tatch proposition is simple. He lumps a $\$ 5$ antenna in with the price of every radio. Mr. Customer

G. A. Teich attracts high-class trade by mailing pieture posteards of his swanky $\$ 10,000$ Michigen Avenue store


Herb Areadius intriguez upper-bracket buyers by inducing interior decorators, architects to recommend builsoin speakers, remote control


Dave Ettelsen offers to equip the old "hand-painted Chinese consoles" with new chassis if owners value these too highly to let them go

How Chicago dealers sell replacement sets to Gold Coasters who bought their

## last radio back in the Coolidge era

is offered a trial in his home for $\$ 5$. Cp groes the new aerial and radio. If the customer doesn't like the 1935 radio, he is ahead a new antenna, which makes his old set play better anyway. Mr. Tatch finds the well-to-do like the proposition.

## Ties up with the Architects

On the walls of the office of the late Arthur Bissell of Bissell-Weisert Piano Co., Chicago, are affectionately endorsed photographs from Ellen Terry down to presentday stars. He knew the opera singers, knew the wealthy opera public. All this is mentioned as evidence of the firm's understanding of the psychology of the well-to(f) market.

This year Herbert Arcadius, head of the radio department, is working hand-in-glove with the architect and the interior decorator.
"The architect is striving mightily to give the builder something unustal for his money-something ahead of the ready-made plans one can buy. Music from hidden speakers, music by remote control is that something. There is no quibbling over price on a job of this kind. There is a lot of building and remodeling going on and we use the architect as our sales agent.
"In the same boat is the interior decorator-a man who is consulted much more frequently by the well-todo than the radio dealer. Cooperation with him on cabinet work is mighty profitable to a house."

Both Dodge and Polk leasing and building reports are subscribed for by Bissell-Weisett as tip-off sheets. Mr. Arcadius goes personally out to "inspect" his installations three times a year. Free adjustments, a half hour's conversation with clients, keep his appointment books packed.

## Rebuilds Old Radio

A stone's throw from the Sheridan Road apartment skyscraper that houses "Amos and Andy" stands the Lake Shore Radio Company at 3206 Broadway, Chicago. David Ettleson, one of the proprietors, is a veteran who dates back to 1923, and once operated four stores.

The firm is unique in that it "rebuilds" the magnificent oid Calvin Coolidge radios, putting new allwave chassis in them.
"A woman from the Gold Coast, wanting to tracle in a magrificent hand carved cabinet started us on the idea." Mr. Ettelson relates. "That cabinet was worth $\$ 600$, and a fair trade-in would have more than wiped out all our profit. Being stymied, we proposed to rebuild it for her. The proposition was accepted, and the house was launched on a new idea."

About 75 per cent of the customers for rebuilt jobs are happy with the modernization. Some 25 per cent. started at last on the purchase of a new radio, let the old set go, bag and baggage. That is really what the firm is after, but the rebuilding proposition is a doot opener. It has been found that direct mail on the idea gets a bigger response than straight radio sales talk.

 ness to competition, this dealer works the "sticks," driving a 1,200 mile weekly route to service and sell. His first call is 25 miles out of the city, the most distant 60 miles away. He has an almost unbreakable hold on 1,000 customers in 50 rural towns.

## Up the Ladder

## Ten years a service specialist,

## Beauchamp Nolin of Alabama tackles sale of radios and refrigerators, sells 40 sets, 55 boxes to repair clientele in 90 days

By W. W. MacDonald

NOT every independent serviceman is ambitious to becone a dealer:. But it is George Allen Tseminth Beauchamp Nolin, Jr.'s idea of the way to grow.
"Beech" started servicing from his home in Montgomery, Alabama, back in the battery set days. And he started with an idea. Avoiding competition in the city he induced a relative driving a wholesale meat truck to
tote him around through the "sticks," concentrating on neglected rural prospects.

Within a year business warranted the purchase of a second-hand Continental-Beacon sedan. The back seat was removed and a trunk ingeniously fashioned out of part of a Model-T Ford body fitted up at the rear. It was soon rolling over a weekly 1,200 mile route, stopping first about 25 miles out of Montgomery and extending its sphere of infuence to the edge of a 60 -mile circle.
He couldn't be everywhere just when repair work "broke" so it seemed essential to have some kind of representation in outlying districts, people who would collect leads, pass them along wher he came through on his trips. And it was necessary to secure such representation without adding materially to selling costs. The problem was solved by making friends (Nolin does it naturally) with general storekeepers, postmasters and gas-station owners. offering them free service on their own radio equipment by way of compensation.
Beech soon boasted over 1,000 regular service customers, people who liked him so well that they would frequently bid for him to stay with them overnight, even offering fried chicken as an inducement when a neighbor extolled the virtues of corned-beef hash! Twenty-two


## ABOVE

One-third of the service jobs unearthed in the field are brought in for repair, returned next trip. Shopmen Samford, Taylor and Gilliam fix them up

## ABOVE RIGHT

Boss Nolin (right) leans toward radio. Salesman Leverage exerts a counter-pull for refrigeration
crossroals storekecpers were working for him and despite the necessity of paying from $\$ 20$ to $\$ 45 \mathrm{in}$ taxes to certain small towns for the privilege of doing business Montgomery Radio Service seemed well on the way to success.

Followed several years of straight servicing, Nolin repairing about two-thirds of the sets in the field, bringing the remainder back to town and returning them on the next week's trip. A shop was rented.

NTINETY days ago Beech decided that while he could undoubtedly continue to make a living on service alone, with little fear that competitors would "crash" his territory, husiness growth practically demanded the merchandising of sets and refrigerators. He hired salesman H. S. Leverage, secured Grunow merchandise from the E. E. Forbes I'iano Company of Birmingham, a concern which evidently knows a good man when it sees one and is willing to back its judgment with stock.

Boss and salesman covered the next weekly route together, Nolin talking radio, Leverage boosting refrigeration. To date the combination has sold 55 refrigerators and 40 radios. Nolin's acceptance plus Leverage's drive has turned a service operation into one of the most promising sales-scrvice operations we have seen in some time.

Financing of merchandise sales prevents the operation from mushrooming, which is probably a good thing. Beech is not particularly well "heeled" but what he lacks in resources he more than makes up in credit rating. Ask any wholesaler who sells in Montgomery. They would trust Beech with their shirt, realizing that his clientele, won in a territory badiy neglected by others, is nearly bulletproof ant that Beech's future is sectire.

Gcorge Allen T'semiath Beauchamp Nolin, Jr. "went places" as a servicer. Now he's headed Up the Ladder as a sales-service dealer.


At once a showroom and an advertisement, this new $11 / 2$ ton truck costs $\$ 40$ a week to operate, is worth it


Presenting a cross section of the 'ratlio industry's newest offerings in receivers, tubes and accessorjes, the annual Electrical and Radio Exposition opens Sept. 18 at the Grand Central Palace. New York City, under the sponsorship of the Electrical Association of New York.

Here, ari expected attendance of 250,000 persons will view also the latest in lighting, heating. tefrigeration, air conditioning, oil burners, electric cookery and many smaller clectrical appliances.

The attendance-getter this year will he right in tune with the basic purpose of this exposition- that of educating the pulbic in the progress of the clectrical arts. The "Hall of Science" occupies a large part of the second floor and there will be demonstrated non-comnercial, electrical and scientific inventions sucle as the many uses of the electric eye (the electronic tulbe), the radio knife, the electric brain,

What the Public Will See at the Annual National Electrical \& Radio Exposition, Grand Central Palace, New

York. Sept. 18.28
talking books for the blind baking lread without crust. the "lie detector" and cumutless other fascinating devices.

Among the unusual displays be the set makers will loo noted the Zenith exhibit of ebony-finished receivers and. on a revolving turret, its well-known 25 -tube "Stratusphere." Also four farm radio models and on ton of this, $1+$ fit, in the air, a "Whitharger" in full operation.

Pilot will feature its newly developed high power antumatic phonograph combination with th-acoustic rejurobuchon of records, lirmaleasting and short-wave progrants. Also a newly perfected all-wave chassis available in table cabinet. console ant phunugrapil combination.

Pierce-dirn is displaving ten models utilizing the wew metal tuhe with special emphasis on its model 610 S . a
 meters.

General IElectric will call the attention of the pundic to its "Sentry Box" assembly and unique horizontal dial with a specially momed thassis to fucilitate close insinto thon of these fatures.

Among those spectalizing on speater design and hinth lidelity will de noted the General Jonsehold Utilities Connpany (Grunow) and Plilco.

In aldition tu Grumur's tome testing resurator, its sets have been smartly styfel of attract the instand attemitur of the fair sex. Thirte-six uther features will be explained by willing salesume

Attention at the American lonadt hootl? will be formsend on its two high fiedelity sets empluying the exclusive Centromatic Unit and an now uming tange expanding device. Ali the critical radio elements have been centralized for the first time, claims American Busch, in an separate muth in these receivers.

Crosley is one of the few companits olfering a choice af tither ghiss or metal tuhes. Appealing to the technically minded wild be its developments in a volvet action twoisped dial and triple-tumed i.f. Hansformer.

Radiobar will cextibit six models of its now famous invention for mixing une's liquid inspiration with music. Priced from $\$ 99.50$ to $\$ 347.50$-inchuding all the necersary glassware. Bring your own liquor.

The crowd at the Enerson booth will maloubtedly mill aromed its "Dho-tone"- the little table model with an added sjeaker opening in the finished back panel. "llace pablic will also notice in most Emerson sets a clever comhimation of both metal and glass tubes in the same citcmit.

Among thoer displaying striking new designs in cathinetry, in tuning facilities of in the compact assembly ui component prets will be Stromberg-Carlson, RCA Vicher. Ferguson, Stewart-Warner, Air King and Fada.

Manager Joseph Bermhtert rejorts a sell-out of spate.
Special arrargements have been made to lacilitate the irspection of these sets by the trade during the morning hours. Many radio manufacturers will have entertainment headquaters in the sumonding hotels.

# Quly Stewart-warner brings you the TWD GREATEST ADVANCES IN RADID 



- Stewart-Warner alone gives you radio's most sensational achievements . . the metal tube and Ferrodyne. The Ferrodyne Chassis is an exclusive Stewart-Warner develop. ment, created especially for the all-metal tube...to get the utmost from every advantage the new tubes bring to radio?

Now we know you've heard plenty of sets, and some mighty good ones. We know you'te inclined to be skeptical. But here's our proposition. Look at the new Ferrodyne. Listen to it. We'll leave it to your own good judgment: Isn't the Stewart-Warner Ferrodyne as fine a set as you've ever heard? That's proof enough, isn't it? We're willing to stake everything on your opinion!

Then-after you've heard this amazing new all-metal tube set, look into the unusual merchandising program Stewart-Warner has set up to help you sell. It's a sound plan. It's backed by sound selling ideas..." newspaper advertising . . . and something new: your own local radio program with big-time talent! You'li find the StewartWarner story interesting, out-of-the-ordinary. Write, wire or phone today - we'll give you full details in a hurry!

STEWART-WARNER CORPORATION Chicago, Illinois
STEWART WARNER FerrodyuE RADIO


## DESIGN TRENDS

$\mathbf{W}$ HAT kind of radios will the fickle public buy this season? How nuch will the consumer be willing to pay?
No one can be quite certain just how the wind blows until the season is well under way. But we can determine, by analyzing the specifications of new lines appearing in the following pages, what manufacturers thimk the public wants.

## METAL TUBES

Extremely interesting facts come to light concerning the popularity of metal tubes among designers. Sixtytwo per cent of all companies lister use them in one or more sets, generally sticking to glass rectifiers even where metal is used in other sockets. One manufacturer uses them exclusively, in every model.

A larger number of manufacturers still use standard glass tubes exclusively than we had imagined, 38 per cent of them to be exact. Fither these makers were caught with production too far advanced to switcl or prefer to avoid any possibility of "bugs" of delivery holdups.

Glass tubes with octal bases are found in 8 per cent of the new lines. We predict that the number of users will increasc ats the scason advances. An increase in the namber of users of metal types is also to be expected as models are added to the pre-season list.

Obviously, the butk of the producers


## have It

more efficient, more beautiful . . . are a

the replacement market

have been sold on at least the merchandising advantages of the iron bottles. But they have found it necessary or advisable to dispense with them in some models at this time, as further analysis shows.

Metal types are not available for use in 2 volt battery receivers. And new automobile radios are not introduced until the Spring, so that no car set included in our listings uses the iron tubes. Thus the proportion of models using metal tubes seems relatively low if battery sets of both the car and home variety are included in the analysis. Of more than 800 models listed, for example, just 11 per cent use the GE-type metal tubes exclusively. Sixteen per cent use both metal and glass tubes in the same chassis. Another sixteen per cent use glass types with the octal base. And 57 per cent of all the receiver types now offered use regular glass tubes.
It is more significant to determine what percentage of new a.c., or a.c.-d.c. home sets offered use metal tubes in one or more sockets, onitting 2 volt battery and auto-radio sets from the calculation. Precisely 33 per cent of them do, a figure sufficiently high to indicate high interest when the late date at which the metal tubes were announced is taken into consideration.

## PRICES

Now, let's check price trends. The average console costs $\$ 106$. This is a material increase over last year, manufacturers evidently "betting" that there

will be more money in circulation. The average table model costs $\$ 47$, somewhat higher than last season, which will please most clealers. Introduction of many more deluxe anto-radios jacks the average in this classification to $\$ 50$. Phonograph combinations settle down at $\$ 136$. Automatics, few in number, will command nearer $\$ 1,000$.

The average price of sets sold last year was: Table model: $\$ 35$, console: $\$ 67$ and auto-radio: \$43. Manufacturers. thus, appear to be aiming at a substantial step-up this seatson.

## MODELS

The public will have more models to choose from this year, for the average line has 14 ( 10 last year). This includes 5 consoles (as against 3 in 1935) and 8 table types ( 6 last season). No tendency to produce more consoles in proportion to milgets, or vice versa, is moted.

## BATTERY SETS

More companies appear to be interested in battery sets, 49 per cent of all makers prothicing them as compareal with 38 per cent shown in our September, 1934, analysis. Another extremely interesting trend is seen in the production of battery models with built-in B-eliminators by 19 per cent of the field, where only two companies had such offerings before. About the same attention is paid to 32 volt cl.c. scts, 13 per cent as compared with 15 per cent a year ago. But those companies that make such farm models appear to be giving the rural purchase: more varicty with respect to morlels.

Improvements in farm district economics have. obviously, stimulated radio manufacturers to greater interest in this business.

## COMBINATIONS

Less interest in phonograph-radio combinations is evidently expected. Or set makers prefer to concentrate on volume items at lower lists, for 16 per cent of the producers include comlumations in their rew lines as against 25 per cent last year. Automatics similarly drop from 13 per cent to 8 per cent. with concerns specializing in this particular type of business putting more steam behind it than those producing diversified lines.

## AUTO-RADIO

More auto-radio husiness for the specialists is, perhaps, indicated by a slight decline in interest in this type of merchandise among home set makers. Forty-four per cent of all companies


EVER since the new all-metal radio tubes were announced by the General Electric Co. April 1, newspaper editors have consistently featured metal tubes as the big radio news of the year. Thousands of papers have printed such stories as you see here, until probably there is not a newspaper reader in the United States who has not heard about RCA Metal Tubes as the great radio tube advance, the sensational new creation that revolutionizes the tube art. Stories like these cannot be bought.

They are free because they are news but they are worth plenty of dollars to you. They help people to decide to buy new sets - metal-tube sets. Feature in your store sets equipped with RCA Metal Tubes, and cash in on the great set sales advantage of the greatest radio tube advance in 28 years.

There are still some $23,000,000$ glass-tube sets in use; feature glass RCA Radio Tubes for replacement and get the tube business of those who cannot afford new sets. Only radio tubes bearing the RCA monogram are made and guaranteed by RCA.

## Even the CHassis are



Different
listed produce car sets. Fifty-one per cent had them last season.

## $A C-D C$

Interest in tniversal models operatable on either a.c. or d.c. remains precisely as it was in late 1934. Sixty per cent of all lines include such sets.

## TUBES

The average receiver, all types lumped together, uses 7 tubes. Six was the average last year, the increase being attributed to the use of more single purpose types of the metal variety and also the manufacturer's desire to make better, bigger receivers and get more for them.

Breaking this figure down, the average console used 8 tubes, the average table 6 and the average auto-radio 6 .

## SHORTWAVES, LONGWAVES

Seventy per cent of all the new home models included in our listings tune right down into the daytime foreign transmission bands, usually without skips, although a few receivers hurdling from broadcast to dx are still seen. Another 12 per cent provide, at least, reception of police calls, aviation reports and upper anateur chamels, if not foreign reception. Which leaves only 18 per cent of our new models tuning in the broadcast band, and in this band only.

Reception of weather reports and other services particularly useful in rural districts but interesting even to people in cities led several manufacturers to include a longwawe channel last year. This season the trend has grown by leaps and bounds. Eighteen per cent of all home receivers offered tunc in this area, some as "low" as 125 kc .

## EYE-APPEAL

No need to go into detail. The photographs on these pages of fypical 1936 sets tell the story better than words. Suffice it to say that more consoles run right down to the floor, favoring semi-modernistic appearance. Many consoles are smaller, neater, to appeal to people who live in homes with small rooms and in apartments. Dials are laryer, more attractive. Cabinets go in particularly for romsled conners.

Table models remaitn much as they were last season, with respect to appearance. It's hard to tell, but the "personal" or oblong type scems to predominate. This style appears to be easier for designers to modernize.

## HOWFRD WDRLD.SEVEN <br> 

## 8 OTHER MODELS

The 1936 Howard Crystal Anniversary line includes a low priced promotional 4-tube AC-DC and a very handsome 5tube AC-DC. Both of these models have the patented UPRIGHT chassis increasing the sensitivity, selectivity and the baffle area. Others are two distinctive 6-tube ALL-WAVE models priced considerably under the market; two magnificent 9 -tube models with $100 \%$ METAL TUBES. The line is topped by the finest radio receiver ever to come from the Howard Laboratories-the 19tube Howard Grand.

Tear out a comer of this page and pin it to your letterhead for complete details on the finest Distributor or Dealer Franchise in radio history.

It is a typical value from the Howard Laboratories. It strictly follows Howard's fifteen-year-old policy of building only quality receivers. Complete all-wave coverage from 540 to 18,000 kilocycles. Designed especially for the new ALL METAL tubes. Uniform sensitivity on all bands. Automatic volume control that works on the short-waves as well. Tone control. Unique illuminated airplane dial. Three-gang variable condenser floated on rubber. Complete chassis floated on rubber. Heavy eight-inch dynamic speaker. Coils wound on Bakelite forms-not the usual paper. The same coil system as is used in the famous 19 -tube Howard Grand. Every part the finest obtainable. In a Vmatched Walnut roll front table cabinet $181 / 4$ inches high. To retail for $\$ 64.50$. Also available in a 37 inch console with 10 inch speaker at $\$ 79.50$ retail.


# THE MOST IMPORTANT NEWS ON FARM RADOO IN 15 YEARS! 

0THE FAMOUS EVEREADY AIR CELL "1000 HOUR" "A" BATTERY


FORMERLY $\$ 850$

NOW ONLY \$5 95

Think of it! Only $\$ 5.95$ for the famons Eveready Air Cell "A" Battery ! It never needs recharging throughout its life! Even if you use your radio set three hours every day, this battery will give you a full year's service. It brings you the finest, economical, trouble-free reception! Eveready engineers made this low price possible by concentruting more power-making materials into less space...giving you, also, a more convenientsized battery.
Saves $1 / 2$ to $\% 3$ your yearly " $A$ " power cost !
Your initial expense is your only expense with an Eveready Air Cell. Because it never needs recharging, the Eveready Air Cell costs only about half as much per year as the average yearly cost of charging other kinds of " $A$ " butteries, and only about $1 / 3$ as much per year as dry " $A$ " packs. And, in addition to this savinores
 This is a neproduction of nhe oing the new this campaign will This is a neppodedranouncing the ordt This cant ready for Bateries to your publications in will send in.

Your dealer now has these great new Eveready Batteries. Stop in soon and let him point out the big ad. vantages these Evereadys, have over all ath farm radio " 13 " and "C" nen (isement Each new Eveready "B" Battery and Eveready " (". Battery is equipped with a 3 -hole socket and a handy removable phag. Wires from the set are comeeted to the plug and the plug stuck in the battery-as you plugg in a radio tulne-and the correct battery connections aremade. When you need a new battery, you just pull the plug ort of the old one and stick it in the new one. No wiring troubles! 'These new plag-in Evereadys can be put right ou the set you now have, withont any change in the set.

The socket holes are arranged so that they will go in ouly the right way - you con't make a wrong eomection!

Start Now-with your present set-to enjoy the trouble-frec, economical radio entertainment these engineering feats make possible Gaitern in the customers i

## RADIO RETAILING'S

11th Annual Tabulation Of

## Set

Specifications


| Mombl | prise | 34y yez th Yis | 201.3T SyRTL | DINIESES <br> 4), 4. ${ }^{2}$ | TUBES Mealin | 1. 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atwater-Kent Mfg. Co. (Continued) |  |  |  |  |  |  |
| 285Q Console |  | 540-1712 | 2DC | $36 \times 22 \frac{1}{2} \times 12 \frac{1}{6}$ | 1C6, 34, 30, 32, 33 |  |
| 305Z Compact |  | $\left\{\begin{array}{c}540-4800 \\ 5300-16,000\end{array}\right.$ | *32DC |  | $6 \mathrm{~A}, 78,75,43,6 \mathrm{Z} 4$ | 264 |
| 565Z Console |  | $\left\{\begin{array}{l}540-4800 \\ 5300-16,000\end{array}\right.$ | *32DC | $36 \frac{1}{2} \times 24 \times 1{ }^{\frac{3}{4}}$ | 6A7, 78, 75, 43. 6Z4 | 264 |
| 776 Auto. <br> $\ddagger$ Selectivity-Fidelity switch. | -Matic. | $\begin{aligned} & 5300-16,000 \\ & 540-1500 \\ & \text { iiminator Incl } \end{aligned}$ | *6DC | $7{ }_{4} \times 12 \frac{3}{4} \times 7 \frac{1}{3}$ | 6D6, 6A7, 6D6, 85, 41, 6Z4 | 264 |
| Autocrat Radio Co., 3855 N. Hamilton Ave.,Chicago, III. (Autocrat) |  |  |  |  |  |  |
| 4C, 4M, 42, 40, 40M Compact | \$15-18 | 550-1724 | AC-DC |  | 6D6, 6C6, 43, 12 Z 3 |  |
| 42-S.W, 40-S.W Compact | $18-19$ $19-20$ | $550-4000$ $550-4000$ | $\xrightarrow{\text { AC-DC }}$ |  | $6 \mathrm{D} 6,6 \mathrm{C} 6,43,12 \mathrm{Z} 3$ | TR.F. |
| 52, 45 Compact | 18-19 | $\left\{\begin{array}{c} 550-1724 \\ 130-385 \\ 550-1500 \\ 5900-16,600 \end{array}\right.$ | $\underset{A C-D C}{\text { AC }}$ |  | $6 \mathrm{D} 6,6 \mathrm{C6}, 43,12 \mathrm{l}$ $6 \mathrm{D} 6,6 \mathrm{C}, 43,12 \mathrm{Z}, 12 \mathrm{l} 3$ | T.R.F. |
| 260-UL Compact | 46.10 |  | AC-DC | $9 \times 14 \times 8$ | 6D6, 6A7, 6D6, 75, 43, 25Z5 | 456 |
| 66-US Compact | 43.89 | $\left\{\begin{array}{l}550-1500 \\ 5900-16.600 \\ 130-380\end{array}\right.$ | $\mathrm{AC}-\mathrm{DC}$ | $9 \times 14 \times 8$ | 6D6, 6A7, 6D6, 75, 43, 25 Z 5 | 456 |
| 61-UL Table | 46. 10 | $\left\{\begin{array}{l}130-385 \\ 550-150 \\ 5900-16,600 \\ 590-160\end{array}\right.$ | AC-DC | $16 \frac{1}{\frac{1}{4} \times 12 \frac{1}{2} \times 2 \frac{1}{2}}$ | 6D6, 6A7, 6D6, 75, 43, 25Z5 | 456 |
| 661-US Table | 43.89 | $\left\{\begin{array}{c}550-1500 \\ 5900-16,600\end{array}\right.$ | AC-DC | $16 \frac{1}{6} \times 12 \frac{1}{2} \times 88$ | 6D6, 6A7, 6D6, 75, 43, 25Z5 | 456 |
| 16-AC-S Table | 44.32 | $\left\{\begin{array}{c}550-1500 \\ 5900-16,600 \\ 130-385 \\ 500\end{array}\right.$ | AC | $16 \frac{1}{8} \times 12 \frac{1}{2} \times 8.8$ | 6D6, 6A7, 6D6, 75, 42, 80 | 456 |
| 26-AC-L Table | 48.89 | $\left\{\begin{array}{l}550-1500 \\ 5000-16.600\end{array}\right.$ | AC | $16 \frac{1}{6} \times 12 \frac{1}{2} \times 8 \frac{1}{2}$ | 6D6, 6A7, 6D6, 75, 42, 80 | 456 |
| 51-UL. Table | 39.23 | $\left\{\begin{array}{c}130-385 \\ 550-1500 \\ 5900-16,600 \\ 130-385\end{array}\right.$ | $\mathrm{AC}-\mathrm{DC}$ | $16 \frac{1}{4} \times 12 \frac{1}{2} \times 88 \frac{1}{2}$ | 6A7, 6D6, 75, 43, 25Z5 | 456 |
| 25-AC-L Table | 42.23 | $\left\{\begin{array}{c}130-385 \\ 550-1500 \\ 5900-16.600\end{array}\right.$ | AC | $16 \frac{1}{2} \times 12 \frac{1}{2} \times 88$ | 6A7, 6D6, 75, 42, 80 | 456 |
| BA-41 Table | 53.33 | $\left\{\begin{array}{l}540-1714 \\ 1724-5770 \\ 5880-17650\end{array}\right.$ |  | $16 \frac{1}{4} \times 12 \frac{1}{2} \times 8 \times \frac{1}{2}$ | 1C6, 34, 33, 30, 30, 32 | 456 |
| 518 Auto. |  | $5880-17.650$ $150-550$ $150-550$ | $\begin{aligned} & * 6 \mathrm{DC} \\ & * 6 \mathrm{DC} \\ & { }_{66} \mathrm{DC} \end{aligned}$ |  |  | $\begin{aligned} & 456 \\ & 456 \\ & 456 \\ & 456 \\ & 456 \\ & 456 \end{aligned}$ |
| - 618 Auto. | 45.55 | $1500-550$ |  |  | 6A7, 6D6, 75, 41, 84 <br> 6D6, 6A7, 6D6, 75, 41, 84 <br> 6A7, 6D6, 75, 41, 84 <br> 6D6, 6D6,6A7, 6D6 <br> 6B7, 76, 6B5, 6B5, 80 <br> 6B7, 76, 6B5, 6B5, 80 |  |
| ${ }^{5}$ Auto ${ }^{\text {a }}$ Console | 33.32 70.50 | $1500-550$ $142-25,000$ |  |  |  |  |
| 910 Phono.-Comb. | 87.50 | 142-25,000 | ${ }_{\text {AC }}$ |  |  |  |
| 900 Table <br> * B Eliminator Included. | 54.50 | 142-25,000 | AC | $19 \times 16 \times 11$ |  |  |



Automatic Radio Mfy. Co., Inc., 112 Cana I St., Boston, Mass. (Automatic)

| Automatic Radio Mfy. Co., Inc., 112 Cana 1 St., Boston, Mass. (Automatic) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BIL 4 | + | 535-1750 | $\mathrm{AC}-\mathrm{DC}$ | $6 \times 7 \times 12$ | 6D6, 6C6, 43, 2575 |  |
| AC5 | $\dagger$ | 535-2700 | AC | $7 \times 12 \times 14$ | 6C6, 6D6, 76, 41, 80 | 480 |
| AC52 | $\dagger$ | $\left\{\begin{array}{c}535-1750 \\ 5300-18,500\end{array}\right\}$ | AC | $7 \times 12 \times 14$ | 6A7, 6D6, 75, 41, 80 | 480 |
| A63 | $t$ | -535-18,500 | AC | $11 \times 13 \times 18$ | 6A7, 6D6,76, 6C6, 41, 80 | 480 |
| A6G |  | 535-18,500 | AC | $11 \times 13 \times 18$ | 6A8, 6K7, 6H6, 6F5, 6F6, 5 Z 4 | 480 |
| A74 |  | 535-18.500 | AC | $12 \times 21 \times 40$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, $5 \mathrm{Z4}$ | 480 |
| Junior Auto. | $\dagger$ | 535-1750 | *6DC | $7 \mathrm{7x} 89$ | 6D6, 6D6, 6C6, 76, 41, 80 |  |
| Senior Auto. | $\dagger$ | 535-1750 | *6DC | $7 \mathrm{x} 8 \mathrm{8x} 9$ | 78,6A7, 78, 75, 41, 84 | 175 |
|  |  | 535-1750 | *6DC | $5 \times 6 \times 10$ | 6A7, 6D6, 75, 41,84 | 480 |
| * ${ }_{\text {B }}^{\text {S }}$ Eliminator Included. $\dagger$ On | ${ }^{\text {a }}{ }^{\dagger}$ | 535-1750 | *6DC | 7 x 8 x 9 | 6D6, 6A7, 6D $6,75,41,84$ | 480 |
| Belmont Radio Corp., 1257 Fuilerton Ave., Chicago, Ilt. (Belmont) |  |  |  |  |  |  |
| 401 M Table | \$22.50 | 540-1720 | AC | $14 \times 12 \times 7 \frac{1}{3}$ | 6K7G, 6.J7G. 6F6G, 5Z3 | T.R.F. |
| 404 Table | 39.50 | 540-1720 | 2DC | $16^{\frac{3}{4} \times 16^{3} \times 99^{\frac{3}{3}} \times 1}$ | 32, 32, 33, 146 | 465 |
| 540 Midget | 25.00 | 530-1720 | AC-DC | $8 \times 10 \times 5 \times \frac{1}{2}$ | 6D6, 6D $6,75,43,25 Z 5$ | 465 |
| 585 Table | 37.50 | $2550-19,000$ | AC | $15 \times 11 \frac{1}{2} \times 7 \frac{1}{\frac{1}{2}}$ | 6A8G, 6F6G, 6K7G, 6K7G, 5Z3 | 465 |
| 777 T Table | 49.95 | (525-19,100) | ${ }^{\text {AC }}$ | $17 \times 14 \times 10^{3}$ | 6K7G, 6K7G, 6K7G, 6A8G, 6H 6G, 6F6G, 5 F 3 | 465 |
| ${ }^{777 \mathrm{~L}}$ Con Console | 74.50 | $525-19,100$ $525-19,100$ | $\mathrm{AC}^{\text {c }}$ | $37 \times 21 \times 10 \frac{1}{2}$ | 6K7GG, 6K7G, $6 \mathrm{K7G}, 6 \mathrm{~A} 8 \mathrm{G}, 6 \mathrm{H} 6 \mathrm{G}, 6 \mathrm{F6G}, 5 \mathrm{3Z}$ | 465 |
| 1077 Console | 94.50 | 525-19,100 |  |  | 6F6G, 6F6G, 6F6G, 6C5G. 6C5G, 6K7G, 6K7G, 6H6G, 6L7G, $5 \mathrm{Z3}$ | 465 |
| 580 Auto. | 39. 50 | 520-1550 | *6DC | $6{ }^{\frac{3}{3} \times} \times 9 \frac{1}{2} \times 7$ | 6D6, 6A7, 75, 42, 84 | 175 |
| 680 Auto. | 44. 50 | 520-1550 | *6DC | $7 \times 98 \times 7 \frac{1}{3}$ | 6D6, 6D6, 6A $7,6 \mathrm{~B} 7,42,84$ | 175 |
| 690 Auto. | 49.50 | 520-1550 | *6DC | $6{ }^{\frac{3}{4} \times} \times 8 \frac{1}{2} \times 7{ }^{\frac{1}{16}}$ | 6D6, 6D6, 6A7, 6B7, 42, 84 | 175 |
| * 880 Auto. | 64.50 | 520-1550 | *6DC | $7 \times 91 \times 7 \frac{18}{}$ | 6D6, 6D6, 6A7, 85, 76, 76, 6A6, 84 | 175 |
| Capehart Corp., Fort Wayne, Ind. (Capehart) |  |  |  |  |  |  |
| 404-DR Auto. Phono-Comb.* | \$1,445.00 | 150-20,000 | AC | $43 \times 42 \times 22$ |  | 465 |
| 405-DR Auto. Phono-Comb.* | $1,415.00$ | 150-20,000 | AC | 4313 $\times 422^{\frac{3}{4} \times 23}$ |  | 465 |
| 406-DR Auto. Phono-Comb.* | $1,345.00$ | 150-20.000 | AC | $43 \times 42 \times 22$ | 5Z3, 5Z3, 6Z4, 6C5, 6C5, 6C5, 6C5, 6C5, 6C5, | 465 |
| 404-D Auto. Phono-Comb. | 1,095.00 | 150-20.000 | ${ }^{\text {AC }}$ | $43 \times 42 \times 22$ | GC5, 6F6, $6 \mathrm{FG}, \mathbf{6 F 6 , ~ 6 F 6 , ~ 6 H 6 , ~ 6 H 6 , ~ 6 K 7 , ~}$ | 465 |
| 406-D Auto. Phono-Comb. | 1.065 .00 995.00 | $150-20,000$ $150-20,000$ | ${ }_{\text {AC }}^{\text {AC }}$ | 43 $43 \times 42 \times 2 \times 23 \frac{1}{3} \times 2 \times 2{ }^{\frac{1}{3}}$ | 6K7, 6K7, 6K7, 6L7 | 465 465 |
| 302-D Auto. Phono-Comb. | 795.00 | 150-20,000 | AC | $42 \times 40 \times 22$ | 6C55, 6C5, 6C5, 6C5, 6C5, 6C5, 5Z3, 6Z4, 6F6, | 465 |
| $\begin{aligned} & \text { 202 Auto. Phono-Comb. } \\ & \text { * Remote control. } \end{aligned}$ | 595.00 | 150-18,000 | AC | $42 \times 383 \times 22 \frac{1}{2}$ | 6F6, 6F6, 6H6, $655,6 A 8,6$, $7,6 K 7,6 K 7,5 Z 4$ | 465 |
| Case Electric Corp., Marion, Ind. 'Case) |  |  |  |  |  |  |
| 500 Mantel | \$39.95 | $\left\{\begin{array}{c} 540-1600 \\ 5000-18,000 \end{array}\right\}$ | $A C$ | $19 \frac{1}{2} \times 16 \frac{1}{4} \times 10^{\frac{1}{2}}$ | 80, 75, 42, 6A7, 6K 7 | 465 |
| 501 Console | 49.95 | $\left\{\begin{array}{l}540-1600 \\ 5000-18,000 \\ 500\end{array}\right\}$ | AC | $37 \frac{1}{8} \times 21 \frac{1}{2} \times 10 \frac{3}{4}$ | 80, 75, 42, 6A7, 6K7 | 465 |
| 700 Mantel | 55.00 | $\left\{\begin{array}{l}540-1600 \\ 5000-18,000 \\ 540-180\end{array}\right.$ | AC | $19 \times 16 \frac{1}{3} \times 10^{\frac{1}{2}}$ | 6D6, 6D6, 6H6, 42, 6A7, 6F5, 80 | 465 |
| 701 Console | 67.50 | $\left\{\begin{array}{c}540-1600 \\ 5000-18,000\end{array}\right\}$ | AC | $37 \frac{1}{8} \times 21 \frac{1}{2} \times 10{ }_{3}^{3}$ | 6D6, 6D6, 6116, 42, 6A7, 6F5, 80 | 465 |
| 1001 Console | 99.50 | 540-21,000 | AC | $41 \times 23 \frac{3}{4} \times 13$ | 6K7, 6K7, 6C5, 6C5, 6F6, 6F6, 6L7, 6F5, | 262 |
| 1003 Console | 124.50 | 540-21,000 | AC | $42 \times 27 \frac{1}{2} \times 14$ | 6K7, 6K7, 6C5, 6C5, 6F6, 6F6, 6L7, 6F5, | 262 |
| 1000 Mantel | 79.95 | 540-21,000 | AC | $21 \times 16 \frac{3}{4} \times 10 \frac{1}{6}$ | 6K7, 6K7, 6C5, 6C5, 6F6, 6F6, 6L7, 6F5, 5Z4, 80G | 262 |




Electrical Researeh Labs., Inc., 2222 Diversey Parkway, Chicago, Ill. (Erla)
(See "Sentinel")


Fada Radio \& Electric Co., Long Island City, N.Y. (Fada) $\begin{gathered}530-1540\end{gathered}$
150 C Console $\quad \$ 59.95\left\{\begin{array}{l}530-1540 \\ 5750-15.800\end{array}\right.$
150T Table
39.95
$A C$
AC
$37 \times 22 \frac{1}{3} \times 11 \frac{1}{4} \quad 6 \mathrm{~A} 7,6 \mathrm{KF}, 75,6 \mathrm{~F} 6,80$
$16 \frac{1}{8} \times 13 \times 7 \frac{7}{8} \quad 6 A 7,6 K 7,75,6 \mathrm{~F} 6,80$




| Freed Mfg. Co., Inc., 127 W. 17th St., New | York, N. X | (Freed-Eisem |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-342 Compact | 8 | 550-155 | $\mathrm{AC}-\mathrm{DC}$ | $7 \times 10 \frac{1}{3} \times 6$ | †6C6,6D6, 43, 25Z5 | T.R.F. |
| E-341 Compact | 5 | 550-1550 | $\mathrm{AC}-\mathrm{DC}$ | $7 \times 10 \frac{1}{2} \times 6$ | †6C6,616,43,25Z5 | T.K.F |
| G-351-P Compact | 8 | *550-3500 | $\mathrm{AC}-\mathrm{DC}$ | $7 \times 10 \frac{1}{3} \times 6$ | †6C6, 6D $6,43,25 \mathrm{Z} 5.50 \mathrm{~A} 3$ | T.R.F. |
| H-357-P Compact | 8 | 550-3500 | $A C-D C$ | $7 \times 10 \frac{1}{2} \times 6$ | +6A7,6D6, 76, 43, 25, | 456 |
| H-357-L Compact | 8 | 550-3500 | AC-DC | $7 \times 10 \frac{1}{2} \times 6$ | $\dagger 6 \pm 7,6 \mathrm{D} 6,75,43,25 \mathrm{Z} 5$ | 456 |
| R-369S Table | § * | $\left\{\begin{array}{c}550-1500 \\ 5500-15.700\end{array}\right\}$ | $A C-D C$ | $15 \times 11 \times 8$ | †6A7, 6D6, 75, 76, 43, 25Z5 | 456 |
| Q-358S Table | § * | [ $\left.\begin{array}{c}550-1500 \\ 5500-15,700\end{array}\right\}$ | $A C-D C$ | 10x12 x 7 | †6A7, 6D $6,75,76,43,25 \mathrm{Z5}$ | 456 |
| T-368P Table | § | *550-3500 | $\mathrm{AC}-\mathrm{DC}$ | 10x113x 7 | †6A7, 6D6, 75, 76, 43, 25Z 5 | 456 |
| T-367S Table | § * | $\left.\begin{array}{c}550-1500 \\ 5500-15,700 \\ 550\end{array}\right\}$ | $A C$ | 10x11年x 7 | $\dagger 6 \mathrm{~A} 7,6 \mathrm{D} 6,75,76,42,80$ | 456 |
| U-363 Table | 8 * | $\left.\begin{array}{l}550-3500 \\ 5500-20,000 \\ 550-3500\end{array}\right\}$ | AC | $15 \times 11 \times 8$ | †6A7, 6D 6, 6D 6, 75, 42,80 | 456 |
| V-360 Table | § * | $\left.\begin{array}{c}550-3500 \\ 5500-20,000\end{array}\right\}$ | AC | $17 \times 13 \times 9 \frac{1}{2}$ | +6D6, 6D6, 6A7, 75, 42, 80 | 456 |
| W-380 Table | 8 * | $\left.\begin{array}{l}550-3500 \\ 5500-20.000\end{array}\right\}$ | $\triangle C-D C$ | 19x15 x11 | $\dagger$ †D6, 6D6, 6A7, 75, 43, 43, 25Z5, 12Z3 | 456 |
| W-382 Table | \% * | $\left.\begin{array}{c}550-3500 \\ 5500-20.000 \\ 550\end{array}\right\}$ | AC | 19x15 x11 | +6D6, 6D6, 6A7, 75, 42, 42, 80, 80 | 456 |
| C-310AC Chassis | § | $\left.\begin{array}{c}550-3500 \\ 5500-20.000\end{array}\right\}$ | \# AC | $18 \times 10$ | +6D6, 6D6, 6A7, 75, 76, 76, 42, 42, 80, 80 | 456 |

$\dagger \mathrm{AC}$ sets available with metal tubes. AC-DC Models available with metal and glass tubes. §on application
$\ddagger$ Also made for AC \& DC. *Also made with Long Wave Band ( 1000 to 2000 meters) for Export.


*All chassis, excepting M33 and M33LW are available in Radio-phonograph combinations.



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## 

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1674 Broadway
NEW YORK CITY
"AMERICA'S LARGEST SPEAKER MANUFACTURER"


| Hammarlund Mfg. Co., Inc., 424 W. 33rd St., New York, N. Y. (Hcmmarlund) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Comet Pro-Standard | *\$162,00 | 1200-20.000 | AC | $98 \times 20{ }^{3} \times 12$ | 57, 58, 58, 58, 57, 58, 2A5, 80 | 465 |
| Super Pro-Standard | * 330.00 | 540-20,000 | AC | $10 \frac{1}{2} \times 18 \times 14 \frac{3}{4}$ | $6 \mathrm{D} 6,6 \mathrm{D6}, 6 \mathrm{C6}, 6 \mathrm{A7}, 6 \mathrm{D6}, 6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{~B} 7$, | 465 |
| Super Pro-Standard-Rack Type | * 367.50 | 540-20,000 | AC | $10 \frac{1}{2} \times 19 \times 14 \frac{3}{4}$ | 6D6, 6D6, 6C6, 6A7, 6D6, 6D6, 6D6, 6B7, $6 \mathrm{C} 6,6 \mathrm{~B} 7,76,42,42,42,5 \mathrm{Z} 3$. 1-Y | 465 |
| * Crystal Filter $\$ 30$ extra. |  |  |  |  |  |  |


| Howard Radio Co., 1731 Belmont Ave., Chicago, 111. (Howard) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 47-U Table | \$17.95 | *540-1700 | $\mathrm{AC}-\mathrm{DC}$ | $97 \times 10{ }^{\frac{1}{2} \times 2} 7$ | 6D6, 6C6, 43, 25 Z 5 |  |
| 57-UA-S.W. Table | 29.95 | *540-4000 | AC-DC | $88_{6}^{5} \times 1{ }^{5} \times 6 \frac{1}{}$ | 6A7, 6D6, 75, 43, 25Z5 |  |
| 67-T Table | 44.95 | *540-16,000 | AC | $16 \times 12 \times 8$ | 6D6, 647, 6D $6,75,42,80$ |  |
| 67-C Console | 59.95 | *540-16,000 | AC | $36^{\prime \prime}$ High | 6D6, 6A7, 6D6, 75, 42,80 |  |
| 77-T Table | 64.50 | *540-18.000 | AC | $18 \frac{1}{4} \times 15 \times 9 \frac{1}{3}$ |  |  |
| 99 -C Console | 124.50 | *550-18,000 | AC |  | 6K7, 6A8, 6K7, 686, 6K7, 6FG, 6F5, |  |
| Grand-Console | 295.00 | $\left.\begin{array}{r}150-350 \\ 550-18,000\end{array}\right\}$ | AC | $41 \times 25 \times 14 \frac{1}{2}$ | 78, 78, 78, 78, 78, 78, 76, 76, 76, 85, |  |
| 77-C Console <br> * Longwave range optional. | 79.50 | *540-18,000 | AC | $37 \times 20 \frac{3}{4} \times 11 \frac{1}{4}$ | 6K7, 6.4, 6K\%, 61 $6, ~ 6 F 6,5 \mathrm{Z4}, \mathrm{6F5}$ |  |
| International Radio Corp., Ann Arbor, Mich. (Kadette) |  |  |  |  |  |  |
| Jewel 41 | \$13.50 | 550-1600 | $A C-D C$ |  | $6 \mathrm{C6}, 6 \mathrm{C6}, 12.47$ | T.R.F. |
| Jewel 43 | 16. 50 | 550-1600 | $A C-D C$ |  | 6C6, 6C6, 12A7 | T.R.F. |
| Jewel 44 | 16.50 | 550-1600 | $\mathrm{AC}-\mathrm{DC}$ | † $5 \frac{5}{2} \times 2 \times \frac{1}{2} \times 3 \frac{3}{1}$ | $6 \mathrm{C6}, 6 \mathrm{C6}, 12 \mathrm{~A} 7$ | T.R.F |
| Jewel 47 | 16.50 | 550-1600 | $A C-D C$ |  | 6C6, 6C6, 12A7 | T.R.F. |
| ${ }_{26}{ }_{2}$ ewel 48 | 16.50 22.50 | $550-1600$ $550-600$ | $A \mathrm{C}-\mathrm{DC}$ |  | 666, 6С6, 12A7 | T.R.F. |
|  |  | 550-1600 |  |  | -bst, bj, | T.R.F. |
| 52 | 29.95 | 6000-18,650 | AC | $14 \frac{1}{2} \times 11 \times 7 \frac{3}{4}$ | 6A8, 6K7, 6J7, 6F6, 574 | 456 |
| 53 | 37.50 | 545-23,000 | AC | $16 \frac{1}{3} \times 12 \frac{1}{2} \times 8 \frac{8}{4}$ | 6As, GK7, 6.J7, 6F6, $5 \mathrm{Z4}$ | 456 |
| 61 | 39.95 | $545-23,000$ | $\mathrm{AC}^{\text {a }} \mathrm{DC}$ | $17 \frac{1}{10} \times 13 \frac{1}{2} \times 9$ | 6A8, 6K7, $6 \mathrm{B7} 7,2525,165 \mathrm{R} 8,43$ | 456 |
| 120 | 49. 50 | 545-23,000 | AC | $13 \frac{1}{2} \times 21 \times 10 \frac{1}{2}$ | 6K7, 6A8, 6K7, 6H6, 6C5, 6F6, 5Z4 | 456 |
| 1200 | 69.50 | 545-23,000 | AC | $38 \times 214 \times 10^{\frac{1}{2}}$ | 6K7, 6A8, 6K7, 6H6, 6C5, 6F6, 5Z4 | 456 |
| ${ }_{\text {Metal }} 72$ or Glass Tubes interchangeable. | 32.50 | 540-6800 | 20C | $18 \times 13 \frac{3}{3} \times 10^{\circ}$ | $\ddagger 6 \mathrm{C6}, 34,25 \mathrm{~S}, 30,19$ | 456 |
|  |  |  |  |  |  |  |
| Karadio Corp., 50 I 1 th Ave. N. E., Minneapolis, Minn. (Karadio) |  |  |  |  |  |  |
| 180 Auto. | \$59.50 | Broadcast | *6DC | ........... | 78, 78, 6A7, 75, 84, 41, 6А6 | 175 |
| 160 Auto. | 49.50 | Broadcast | *6DC | -....... | 78, 78, 6A7, 75, 84, 41 | 175 |
| 150 Auto. | 39.50 | Broadeast | *6DC |  | 6A7, 6D6, 75, 41, 84 | 456 |
| Sheriff's Auto. | 54.50 |  <br> 1500-2400 | *6DC |  | 77, 78, 78, 75, 41, 41 | 456 |
| Police Auto. <br> * B Eliminator Included. | 54.50 | To Specifications | *6DC | $\ldots$ | 77, 78, 78, 75, 41 | T.R.F. |
| Kingston Radio Co., Ine., Kokomo, Ind. (Kinuston) |  |  |  |  |  |  |
| 55 Table | \$19.95 | 550-1715 | $\mathrm{AC}-\mathrm{DC}$ |  | Five (Glass) |  |
| 610 A Table | 37.95 4 | 540-1765 | AC | , ... | Six (Glass) |  |
| 600B Console |  | [ $\begin{aligned} & 540-1765 \\ & 540-1590\end{aligned}$ | AC |  | Six (Glass) |  |
| 500A Table | 34.95 | \{ $6000-16.700\}$ | AC | ........... | Five (Glass) |  |
| 700A Table | 54.95 | $\left\{\begin{array}{c}540-1590 \\ 6000-16,700\end{array}\right\}$ | AC | ........... | Seven (Glass) |  |
| 700B Console | 64.95 | $\left\{\begin{array}{c}540-1590 \\ 6000-16,700\end{array}\right\}$ | AC | ........... | Seven (Glass) |  |
| Lang Radie Corp., 3611-14th Ave., Brooklyn, N. Y. (Lang) |  |  |  |  |  |  |
| 60UP Table | *\$13.50 | 540-4500 | $\mathrm{AC}-\mathrm{DC}$ | $9 \frac{1}{2} \times 10 \frac{1}{2} \times 6 \times \frac{3}{8}$ | 6A7, 6D6, 76, 43, 2575, R130 | 470 |
| 60PC Table | *39.95 | $\begin{aligned} & 540-4500 \\ & 540-1560 \end{aligned}$ | $\mathrm{AC}-\mathrm{DC}$ | $16 \times 11 \times 8$ | 6A7, 6D6, 76, 43, 25Z5, R130 | 470 |
| 80NA Table | *31.50 | $\left\{\begin{array}{l} 1600-4500 \\ 5570-16,000 \end{array}\right.$ | $\mathrm{AC}-\mathrm{DC}$ | $22 \times 12 \times 9$ | 43, 43, 25Z5, 12Z3, 6D6.6D6, 6A7.75 | 470 |
| * Dealers Cost. |  |  |  |  |  |  |
| Lehman Radio Salon, Inc., 1013 Madison Ave., New York. N. Y. (Part-O-Matic) |  |  |  |  |  |  |
| 12 Auto. Port-Comb. | \$165.00 | $146-340$ $518-1525$ | $\mathrm{AC}-\mathrm{DC}$ | $9 \times 15 \frac{1}{2} \times 23$ | 6C6, 6C6, 12Z3, 12Z3, 43, 6D6 | 115 |
| 12A Auto. Port.-Comb. 10 Auto. Port.-Comb. | $\begin{array}{r} 149.50 \\ 139.50 \\ \hline \end{array}$ | $\begin{aligned} & 538-1650 \\ & 535-1650 \\ & \hline \end{aligned}$ | $\begin{aligned} & A C-D C \\ & A C-D C \end{aligned}$ | $\begin{aligned} & 9 \times 15 \frac{1}{2} \times 23 \\ & 9 \times 15 \times 20 \\ & \hline \end{aligned}$ | $6 \mathrm{C} 6,6 \mathrm{C} 6,12 \mathrm{Z} 3,12 \mathrm{Z} 3,43,6 \mathrm{D} 6$ 6C6, 6C6, 25Z5, 43, 6D6, | 175 175 |




| Midwest Radio Corp., 909 Broadway, Cincinnati, Ohio. (Midwest) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AAI 8 Console | \$87.50 | 125-67,000 | AC | $39 \frac{1}{2} \times 23 \frac{1}{2} \times 12 \frac{1}{2}$ | *GF6, 6F6, 6F6, 6F6, 6F6, $6 K 7,6 K 7,6 K 7$, $6 \mathrm{~K} 7,6 \mathrm{~K} 7,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,524,5 Z 4$, 6H6, 6 H 6 |
| BB18 Console | 89.95 | 125-67,000 | AC | $41 \frac{1}{2} \times 23 \frac{1}{2} \times 12 \frac{1}{2}$ | *GF6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, $6 \mathrm{~K} 7,6 \mathrm{K7}, 6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,5 Z 4,5 Z 4$, 6H6, 6 H 6 |
| CC18 Console | 97.50 | 125-67,000 | AC | $44 \frac{1}{2} \times 25 \times 17$ \% | *6F6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, $6 \mathrm{K7}, 6 \mathrm{~K} 7,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,5 \mathrm{Z} 4,5 \mathrm{Z4}$, 6H6, 6 H 6 |
| DD18 Console | 106.50 | 125-67,000 | AC | $47 \times 27 \frac{3}{4} \times 16$ | *6F6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, 6K7, 6K7, 6C5, 6C5, 6C5, 6C5, 5Z4, 5Z4, 6H6, 6 H 6 |
| EE18 Console | 129.50 | 125-67,000 | AC | $44 \frac{1}{2} \times 20 \frac{3}{4} \times 31 \frac{1}{2}$ | *6F6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, 6K7, 6K7, 6C5, 6C5, 6C5, 6C5, 5Z4, 5Z4, 6H6, 6116 |
| FF Phono. Comb. | 159.50 | 125-67,000 | AC | $44 \frac{1}{2} \times 20_{1}^{3} \times 31 \frac{1}{4}$ | *6F6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, 6K7, 6K7, 6C5, 6C5, 6C5, 6C5, 5Z4, 5Z4, 6H6, 6 H 6 |
| MMIl Console | 57.50 | 124-33,400 | AC | $39 \frac{1}{2} \times 23 \frac{1}{2} \times 12 \frac{1}{2}$ | *6K7, 6K7, 6K7, 6K7, 6C5, 6C5, 6C5, 6F6, 6F6, 6H6, $5 \mathrm{Z4}$ |
| GGIl Table | 52.85 | 124-33,400 | AC | $22 \frac{1}{2} \times 11 \frac{1}{8} \times 11 \frac{1}{8}$ | *6K7, 6K7, $6 \mathrm{K7}$, 6K7, 6C5, 6C5, 6C5, 6F6, 6F6, 6H6, $5 \mathrm{Z4}$ |
| HII7 Table | 29.95 | 124-33,400 | AC |  |  |
| Ss7 Console | 39.50 | $124.33,400$ | AC | $39 \frac{1}{2} \times 23 \frac{1}{2} \times 12 \frac{1}{4}$ | *6K7, 6K7, 6K7, 6C5, $85,42,80$ |
| RT18 Chassis | 77.45 | 125-67,000 | AC | $20 \times 12 \times 8 \frac{3}{4}$ | *6F6, 6F6, 6F6, 6F6, 6F6, 6K7, 6K7, 6K7, $6 \mathrm{K7}, 6 \mathrm{K7}, 6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,5 \mathrm{~L} 4,5 \mathrm{LA}$, 6H6, 6116 |
| RTII Chassis | 47.85 | 124-33,400 | AC | $18 \times 10 \frac{1}{2} \times 8 \frac{3}{4}$ | *6K7, 6K7, 6K7, 6K7, 6C5, 6C5, 6C5, 6F6, 6F6, 6H6, $5 \mathrm{Z4}$ |



| Patterson Radio Co., 1320 So. Los Angeles St., Los Angeles, Calif. (Pafterson) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *86AW Chassis | \$59.50 | 550-20,000 | AC | $7 \frac{3}{4} \times 16 \times 9 \frac{1}{2}$ | $5 \mathrm{Z3}, 42,42,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{~B} 7,6 \mathrm{~A} 7$ | 458 |
| 186AW Table | 64.50 | 550-20,000 | AC | $14 \times 18 \times 10 \frac{1}{4}$ | $5 Z 3,42,42,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{B7}, 6 \mathrm{~A} 7$ | 458 |
| 286.1.W Console | 84.50 | 550-20,000 | AC | $40 \frac{1}{4} \times 23 \frac{7}{1} \times 12$ | $5 \mathrm{Z3}, 42,42,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{B7}, 6 \mathrm{~A} 7$ | 458 |
| 386.AW Phono.-Comb. | 134.50 | 550-20,000 | AC | $40 \times 23 \frac{1}{1} \times 13$ | $5 \mathrm{Z3}, 42,42,6 \mathrm{~A}, 6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{~B} 7,6 \mathrm{~A} 7$ | 458 |
| *106AW Chassis | 74.50 | 550-20,000 | AC | $7{ }^{3} \times 16 \times 9 \frac{1}{2}$ | $5 \mathrm{Z3}, 42,42,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{C} 6,76,6 \mathrm{~A} 7$ | 458 |
| 1106 AW Table | 79.50 | 550-20,000 | AC | $14 \times 18 \times 10 \frac{1}{2}$ | 5Z3, 42, 42, 6A6, 6D6, 6D6, 6D6, 6C6, 76, 6A 7 | 458 |
| 2106AW Console | 99.50 | 550-20,000 | AC | $40 \frac{1}{4} \times 23 \frac{7}{8} \times 12$ | 5Z3, 42, 42, 6A6, 6D6, 6D6, 6D6, 6C6, 76, 6A7 | 458 |
| 3106AW Phono.-Comb. | 149.50 | 550-20,000 | AC | $40 \times 23 \frac{3}{4} \times 13$ | $5 \mathrm{Z3}, 42,42,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{C}, 76,6 \mathrm{~A} 7$ | 458 |
| *126AW Chassis | 84.50 | 550-20,000 | AC | $7 \frac{3}{3} \times 16 \times 9 \frac{1}{2}$ | $5 \mathrm{Z3}, 6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{C} 6,76,76,76,6 \mathrm{~A} 7$ <br> 6A3. 6A3 | 458 |
| 1126AW Table | 89.50 | 550-20,000 | AC | $14 \times 18 \times 10 \frac{1}{3}$ | $\begin{aligned} & 5 \mathrm{Z3}, 6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{C} 6,76,76,76,6 \mathrm{~A} 7, \\ & 6 \mathrm{~A} 3,6 \mathrm{~A} 3 \end{aligned}$ | 458 |
| 2126AW Console | 109.50 | 550-20,000 | AC | $40 \frac{7}{2} \times 23 \times 12$ | 5Z3, 6A6, 6D6, 6D6, 6D6, 6C6, 76, 76, 76, 6A7, 6A3. 6A3 | 458 |
| 3126AW Phono.-Comb. | 159.50 | 550-20,000 | AC | $40 \times 23{ }_{1}^{3} \times 13$ | $\begin{aligned} & 5 \mathrm{Z} 3,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{C} 6,76,76,76,6 \mathrm{~A} 7, \\ & 6 \mathrm{~A} 3,6 \mathrm{~A} 3 \end{aligned}$ | 458 |
| *PR16-CTS. Chassis | 139.50 | 550-39,000 | AC | $10 \times 17 \frac{1}{4} \times 13$ | $\begin{aligned} & 6 \mathrm{F7}, 5 \mathrm{Z} 3,6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6, \\ & 6 \mathrm{C} 6,6 \mathrm{C} 6,6 \mathrm{C} 6,76,76,76,6 \mathrm{~A} 3,6 \mathrm{~A} 3 \end{aligned}$ | 458 |
| *PIII6-CTS.C Chassis | 149.50 | 550-39,000 | AC | $10 \times 17 \frac{1}{4} \times 13$ | $\begin{aligned} & 6 \mathrm{~F} 7,5 \mathrm{Z3}, 6 \mathrm{~A} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{D} 6, \\ & 6 \mathrm{C} 6,6 \mathrm{C} 6,6 \mathrm{C} 6,76,76,76,6 \mathrm{~A} 3,6 \mathrm{~A} 3 \end{aligned}$ | 458 |



 The most beauliful AC.DC compact in the woydd Auisite grilje settigg represemting precious stones. Model 41-Walnut Frakelite. .......... $\$ 13.50$
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NEW METAL tothes \$25.75



KADETTE EATTERY FODEL 72 . A 6. Hibe sharpiy selectuv, supotheterodne velume with wath besuty of fone and, unusua mabic rolume controt ind airplipe dzal celh
 Eitteries self-contained witholithe esbotit.


TUBES
The new metal tubes are interchangeable with glass tubes, providing al opporturity for chotce, with a distinct price advantage where glass tubes are prefered.

unfing foremateur and regular breadas Geautitulmakched buth-walnut with slead orfeetal malritht pitasters and selected fgured butt wainut top.

$$
\text { NEW METAL, tabes } \$ 42.00
$$

Whith glass tubes i.. $\$ 37.50$


KADETTE TAQLE BODEL 120. Striking a new note in fornifure design with graceful, harrionious lizes. Chuire figured maple and walnui are hand-ribbed to a nch plato finish, A powerfsl seven-tube, all-wave, threeband superhetcrodyne with nogap heaween batrds.

KADETTE TABLE MODEL S2. A powerfal 5 -1ube supetheterodyne with
extra band, covering gractically alt foreigen short waves. Uses metal tulues or Whis Interchangeably, Mn exquisite, hind -rubped cranet of ortental watnur and rare cintrasting woods. NEE METAL tubes $\$ 33.95$ With glass tubes . . . $\$ 29.95$

...
5...... $\therefore$ 包

KADETTE MODEL GR. Ailwave 6-tube AC.DC superheferodyme with complete
 of selected orlental and matched bitl wathut. NEW METAE tubes . . . $\$ 42.50$ Whith glase tibes........ 39.95

KADETTE TABLE MODEL 53. A. 5. tuhe, ath-wave $A C$ stapertheterofyry


KADEFTE CONSOEE MODEL 1200. A Sefocted bist walnut pud rare woods ane charm. this invesute ereation of catinet art. This powerful: 7 ube Diret band chperhetegityine has no gaps:
hetwem batds, havint coutinupus covering froms in wams meters.


# RCA pioneering wins lea 

Some poople think pionecring neves pays. Nothing could be find progress is the story of The story have had the courage to pronets. thuse who have had the pioneers in America's sted, Thenames of the pronead and other fictds ate oih, anconotive, raltond in pages of histery but written not only in the pages In radio the on great industram RCA traces is descent in proneer unden line from the great prachugh pioneer in adio, Marconi, on downomgerand theothergreatinventors. the creator of the ragreater than ever before, the ofromotrow! Grow



# Pioneering pays RCA..., 

Year after year RCA has pioneered in radio, being the first to present discoveries, inventions and developments that have made radio what it is roday. Vast sums have been made by those who followed RCA leadership-including jobbers and dealers. Still greater rewards await those who handic RCA products now and in the
furure. And that's your
Today the public is bu certain of the fact that $i$ must come to the origin: Let's look at the result . public acceptance of the are the actual figures:

## CA pioneering pays you

ce for more profits! sing more and more $y$ want the best they urce of radio-RCA: lis swiftly increising th abour radio. Here

Average console sale last yeas $\qquad$
(McGraw-Hill tgurc)
AVERAGE RCA VICTOR CONSOLE SALE \$102
Look ar that increase of \$35! That's $52 \%$ ! That's the extra money that RCA Victor dealers took in against the gencral average of the field. Nothing produced this result but pioneering, plus aggres-
sive sales and advertising methods to make the public conscious of the facts.

Thus RCA has grown to leadership in the fine ser field, dispelling forever the thought that there is money in cheapness. This year, there is no doubt we shall again far outstrip the industry, ger more money for a quality product, make more money for our dealers. Pioneering pays. It pays us, it pays you, it pays the public. If you want to make real money in radio, feature RCA Victor!

## WHAT DEALERS SAY

e were pleased to teceive, in the rm of advertising licerature, shatics showng that last year RCA ctor consoles eclipsed the avereconsole unit sale by 52" We aregrealy surprised ac this fopure e to the fact that our average RCA ictor console price averages tar mye the $\$ 102.00$ which you menm med. We have every reason to Fieve on these 1936 models, that it average console sale wilt be whe greater than last year. urer's, Newark, $\mathrm{N}_{\text {. }}$ J.

For the past twelve months our Radio Deparment has enjoyed the tnost profitable business than for any like period since 1929. We artributechistostefacthathepublic is gencrally denianding radiomerchandisenfquality, The RCA Victor "Magic Erain" line introduced Jast Fall has played an important part in building himher unie sales in our department The 1935 RCA Victor line will carry our sales roanew high this season.-Scruggs, Vanderveor: \& Barney, ©r. louic, Mo.


SEE THIS LIST OF RCA PIONEER ACHIEVEMENTS, EVERY ONE OF WHICH WORKS TO YOUR BENEFIT:

First practical superhererodyne for home usse.
First power-operatel dynamic-type loud speaker for the home.
Firsi cubes and radio powered from the light socker.
Firse cathode-ray runing indicator, the "Magic Eyc"

## The "MAGIC EYE"

The "Magic Eye" joins the "Magic Brain" and with RCA Metal Tubes gives the urade its grear triple partnership of sales fearures for 1936 , proving once more that IT PAYS TO PIONEER.

Pilot Radio Corp. (Continued)
CX68 Console
PX 68 Phono-Comb.
CX1I4 Console
PX 114 Auto. Comb.

| $\$ 94.50$ | $545-18,800$ |
| :--- | :--- |
| 150.00 | $545-18,800$ |
| 165.00 | $545-18,800$ |
| 149.50 | $530-23,500$ |
| 395.00 | $530-23,500$ |


| DC | $41 \times 25 \frac{1}{2} \times 13$ |
| :--- | :--- |
| AC | $41 \frac{3}{3} \times 26 \times 17$ |
| DC | $41 \times 26 \times 17$ |
| AC | $43 \times 27 \mathrm{3} \times 14 \frac{1}{4}$ |
| AC | $45 \times 40 \frac{1}{2} \times 19$ |

6D6, 6D6, 6A7,75, 43, 43
6D6,6D6, 6A7, 75, 42,80
6D $6,6 \mathrm{D} 6,6 \wedge 7,75,43,43$
6D $6,6 \mathrm{D} 6,6 \pm 7,75,43,43$ 6D6,6D6, 6D6, 76, 76, 6A7, 85, 42, 42, 5Z3, 6C6 $\quad 456$

Radiobar Co. of America, $\dagger 7100$ McKinley Ave., Los Angeles, Calif. (Radiobar

## *107 Radiobar * 507 Radiobar <br> * 528 Radiobar

*536 Radiobar
*510 Radiobar
Phr Radio Chassis used


+ Warehouse \& Showroom at 13 E. 47 th St., New York.


| RCA Mfg. Co., Camden, N. J. (RCA Victor) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BT6-3 Table | \$39.25 | 540-6900 | 2 DC | $37 \frac{1}{4} \times 23 \frac{1}{8} \times 11 \frac{18}{16}$ | $1(6,34,1155,30,49,49$$1 C 6,34,1 B 5,30,49,49$ | $\begin{array}{r} 460 \\ 460 \end{array}$ |
| BC6-4 Console | 58.50 | $\left\{\begin{array}{c} 540-6900 \\ 540-1720 \\ 5400-18,000 \end{array}\right.$ | 2DC |  |  |  |
| BT6-5 Table | 64.95 |  | *2DC | $20 \frac{3}{16} \times 14 \frac{7}{16} \times 9 \frac{3}{13}$ | 1C6, 34, 75, 30, 49, 49 | 460 |
| BC6-6 Console | 83.95 | $\left\{\begin{array}{l}540-1720 \\ 5400-18,000\end{array}\right.$ | *2DC | $38 \times 24 \times 12$ | 1C6, 34, 75, 30, 49, 49 | 460 |
| BT7-8 Table | 62.95 | $\left\{\begin{array}{c}540-1720 \\ 5400-18,000 \\ 540\end{array}\right.$ | 2DC | $18 \frac{1}{2} \times 14 \frac{5}{8} \times 11$ | $1(6,34,34,30,30,32,19$ | 460 |
| BC7-9 Console | 78.95 | $\left\{\begin{array}{c}540-1720 \\ 5400-18,000\end{array}\right.$ | 2 DC | $39 \times 25 \frac{1}{2} \times 14 \frac{1}{2}$ | 1C6, 34, 34, 30, 30, 32, 19 | 460 |
| T4-8 Table | 20.00 | -540-1720 | $A C$ |  | 6A7, 6F7, I-V, 41 | 460 |
| T4-9 Table | 24.95 | 540-1720 | AC | $9 \frac{1}{2} \times 17 \times 6 \frac{1}{4}$ | 6A7, 6F7, 1-V'41 | 460 |
| T4-10 Table | 19.95 | 540-1720 | $\mathrm{AC}-\mathrm{IC}$ | $8 \times 10 \times 4 \frac{1}{2}$ | 6C6, 6D6, 38, 76 | T.R.F |
| T5-2 Table | 29.95 | 540-3500 | $A C$ | $14 \frac{1}{16} \times 13 \frac{3}{16} \times 84$ | 6A7, 6B7, 6D6, 41,80 | 460 |
| 117 Table | 32.95 | $\left\{\begin{array}{r}540-1720 \\ 2250-6850\end{array}\right.$ | AC | $16 \times 13 \frac{1}{4} \times 9 \frac{1}{4}$ | 4I, 80, 6A7, 6B7, 6D6 | 460 |
| 214 Console | 44.95 | [ $\begin{array}{r}540-1720 \\ 2250-6850\end{array}$ | AC | $37 \frac{1}{4} \times 23 \times 9 \frac{1}{4}$ | $41,80,647,6137,6 \mathrm{D} 6$ | 460 |
| 125 Table | 39.95 | $\left\{\begin{array}{c}540-1720 \\ 5400-18,000\end{array}\right.$ | AC | $17 \frac{1}{2} \times 14 \frac{1}{4} \times 10$ | $41,80,6 \mathrm{~A} 7,6 \mathrm{B7}, 6 \mathrm{D}, 6 \mathrm{O}) 6$ | 460 |
| 225 Console | 54.95 | $\left\{\begin{array}{c}540-1720 \\ 5400-18,000\end{array}\right.$ | AC | $38 \times 24 \times 11$ | 41, 80, 6A7, 6B7, 6D6, 6D6 | 460 |
| T8-14 Table | 79.95 | 540-18,000 | AC | $19 \frac{3}{16} \times 16 \times 111 / 1$ | 6L.7, 6.J\%, 6K7, 6K7, 6H6, 6F5, 6F6, 5Z3 | 460 |
| C8-15 Console | 100.00 118.50 | $540-18,000$ $540-18,000$ | AC AC | $39 \times 25 \times 124$ $40 \times 26 \times 11^{3}$ | 6L7, 6.J7, 6K7, 6K7, 6H6, 6F5, 6F6, 573 | 460 460 |
| T10-1 Table | 99.50 | 540-18,000 | AC | $20 \frac{3}{16} \times 17 \frac{5}{8} \times 13 \frac{3}{4}$ | 6L7, 6J7, 6 K 7 , 6K7, 6H6, 6C5, 6C5, 6F6, | 460 460 |
| C11-1 Console | 150.00 | 540-18,000 | AC | $41 \times 26 \times 14$ | 6F6, 5 Z3 <br> 6L7, 6J7, 6K7, 6K7, 6H6, 6C5, 6C5, 6Ff, 6F6, 5Z3, 6F5 | 460 |
| C13-2 Console | 189.50 | $\left\{\begin{array}{l}140-410 \\ 540-60.000\end{array}\right.$ | AC | $41 \times 27 \times 15 \frac{1}{2}$ | 6L7, 6J7, 6K7, 6K7, 6K7, 6H6, 6C5, 6C5, 6C5, 6F6, 6F6, 5Z3, 6E5 | 460 |
| CI5-3 Console | 250.00 | $\left\{\begin{array}{l}140-410 \\ 540-60,000 \\ 140-410\end{array}\right.$ | AC | $42 \times 298 \times 15 \frac{5}{8}$ | 6L7, 6J7, 6K7, 6K7, 6K7, 6K7, 6H6, 6Нб, 6C5, 6C5, 6C5, 6F6, 6F6, 6E5,5Z3 | 460 |
| D9-19 Phono-Comb. |  | $\left\{\begin{array}{c}540-1800 \\ 6000-18,000 \\ 140-410\end{array}\right.$ | AC | $42 \times 26 \frac{1}{8} \times 16 \frac{1}{4}$ | GL7, 6J7, 6K', 6K7, 6H6, 6F 5, 6F6, 6E5, $\mathrm{L}^{3}$ | 460 |
| D11-2 Auto. Comb. | -...... | $\left\{\begin{array}{c}140-410 \\ 540-1800 \\ 6000-18,000\end{array}\right.$ | AC | $43 \times 30 \frac{1}{2} \times 18 \frac{1}{2}$ | 6L\%, 6J7, 6K'7, 6K7, 6H6, 6C5, 6C5, 6F6, 6F6, 6E5, 5Z3 | 460 |
| D22-1 Auto. Comb. |  | $\left\{\begin{array}{l}140-410 \\ 540-60,000\end{array}\right.$ | AC | $43 \frac{1}{2} \times 38 \times 20 \frac{9}{15}$ | 6L7, 6L\%, 6.J7, 6K7, 6K7, 6K7, 6K7, 6H6, 6H6, 6H6, 6C5, 6C5, 6C5, 6C5, 6C5, 2 A 3 . $2 \mathrm{~A} 3,2 \mathrm{~A} 3,2 \mathrm{~A} 3,5 \mathrm{Z} 3,5 \mathrm{Z} 3,6 \mathrm{E} 5$ | 460 |
| M-101 Auto. |  | $540-1600$ | *6DC |  | 41,6A7, 6B7, 6D6,6D6 | 175 |
| M-104 Auto. | 49.95 57.95 | $540-1600$ <br> $540-1600$ | *6DC | $\begin{array}{cc}9 \times 1 \\ 6 \frac{1}{4} x & 9 \frac{1}{8} x\end{array}$ | $41,6 \mathrm{~A}, 6 \mathrm{B7}, 6 \mathrm{D} 6,6 \mathrm{D}$ $41,6 \mathrm{7}, 6 \mathrm{B7}, 6 \mathrm{D} 6,6 \mathrm{6}$ | 175 175 |
| M-109 Auto. | 74.95 | 540-1600 | *6DC | $6 \frac{1}{\frac{2}{4} \times 1} \times \frac{7}{8} \times 7^{8}$ | 76, 84, 6A6, 6A7, 6B7, 6D 6.6 D 6 | 175 |
| R-93 Record Player | 16.50 |  | AC-pla | hru radio. |  |  |
| * Inbuilt Vibrator. |  |  |  | , |  |  |
| Remler Co., Ltd., 2101 Bryant St., San Francisco, Cal. (Remler) |  |  |  |  |  |  |
| 26 Portable | \$34.90 | 540-4100 | $\mathrm{AC}-\mathrm{DC}$ | $6 \frac{1}{6} \times 10 \times 5$. | 6A7, 78, 77, 43, 25Z5 | 450 |
| 36 Auto. | 59.50 | $540-1715$ $2200-6800$ | $\dagger 6 \mathrm{DC}$ | $7 \times 11 \frac{1}{2} \times 7 \frac{1}{2}$ | 6D6, 6A7, 6D6, 75, 76, 41 | 250 |
| 40 Portable | 29.90 | $540-4100$ | AC | $6 \frac{1}{6} \times 10 \times 5 \frac{1}{4}$ | 6A7, 6F7, 41, 84 | 450 |
| 41 Portable | 34.90 | $\left\{\begin{array}{r}540-1715 \\ 2200-6800 \\ \hline 540-1715\end{array}\right.$ | Ar | $6 \frac{1}{2} \times 10 \times 5 \frac{1}{4}$ | 6A8, 6K7, 6.J7, 6F6, 5Z | 450 |
| 43 Table | 49.50 | $\left\{\begin{array}{l} * 540-1715 \\ 5400-17,000 \end{array}\right.$ | AC | $10 \frac{1}{2} \times 15 \frac{1}{2} \times 8$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, 80 | 450 |
| 62 Table | 36.50 | $\left\{\begin{array}{r}540-1715 \\ 2200-6800\end{array}\right.$ | $A C$ | $10 \times 14 \times 7$ | 6A8, 6K7, 6J7, 6F6, 524 | 450 |
| 88 Table | 79.50 | $\left\{\begin{array}{c}540-1715 \\ 5400-17,000\end{array}\right.$ | $A C$ | $17 \frac{1}{2} \times 16 \frac{1}{4} \times 10$ | 6K7, 6A8, $6 \mathrm{~K} 7,6 \mathrm{~J} 7,6 \mathrm{II}$, $6 \mathrm{~A} 6,6 \mathrm{~A} 6,2 \mathrm{~A} 3,2 \mathrm{~A} 3,5 \mathrm{Lt}$ | 450 |
| * Also 2400 Ke. †B Eliminator Included. |  |  |  |  |  |  |
| Royale Radio M.fg. Co., 1417 W. Pico St., Los Angeles, Calif. (Royale) |  |  |  |  |  |  |
| 48 Table | \$14.95 | 550-1750 | $A C$ | $7 \frac{1}{3} \times 10 \frac{1}{2} \times 6$ | 80, 42, 76, 6D6 |  |
| 48A Table | 15.95 | 550-1750 | $A \mathrm{C}$ | $7 \frac{1}{2} \times 10 \frac{1}{2} \times 6$ | $80,42,76,6 \mathrm{D} 6$ |  |
| 53A Table | 19.95 | 550-1750 | AC | $8 \times 11{ }^{1} \times 6 \frac{1}{3}$ | 80, 42, 76, 61)6, 6C6 | 465 |
| 63A Table | 29.95 | 530-16,000 | AC | $10 \times 17 \frac{1}{2} \times 8 \frac{1}{2}$ | 80, 42, 76, 6D $6,75,6 \mathrm{C} 6$ | 465 |
| Sentinel Radio Cory., 2222 Diversey Pkwy., Chicago, Ill. (Sentinel) |  |  |  |  |  |  |
| 32B69 Table | *\$29.95 | 540-1720 | 2DC | $17 \times 14 \frac{1}{2} \times 12$ | 1C6,34, 1135, 33 | 465 |
| 33B70 Table | *39.95 | $\left\{\begin{array}{r}540-1720 \\ 2300-6300\end{array}\right.$ | 2 DC | $21 \times 15 \frac{1}{2} \times 13 \frac{1}{2}$ | 1C6, 34, 1B5, 30, 13 | 465 |
| 33B71 Console | *59.95 | $\left\{\begin{array}{r}540-1720 \\ 2300-6300\end{array}\right.$ | 2DC | $37 \times 22 \times 12$ | IC6, 34, IB5, 30, 13 | 465 |
| 35B70 Table 35B72 Console | $\begin{aligned} & * 49.95 \\ & * 69.95 \end{aligned}$ | $540-18,100$ $540-18,100$ | $\underset{2 \mathrm{DC}}{2 \mathrm{DC}}$ | $\begin{aligned} & 21 \times 15 \frac{1}{21} \times 13 \frac{7}{2} \\ & 39 \times 24 \times 13 \end{aligned}$ | $\begin{aligned} & \text { IC6, 34, 34, 30, 30, } 19 \\ & 1 \mathrm{C} 6,34,34,30,30,19 \end{aligned}$ | $\begin{aligned} & 465 \\ & 465 \end{aligned}$ |
| 34B73 Table | *49.95 | $\left\{\begin{array}{r}540-1720 \\ 2300-6300 \\ 540-1720\end{array}\right.$ | $\ddagger 6 \mathrm{DC}$ | $16 \times 12 \frac{1}{2} \times 8 \frac{1}{2}$ | IC6, 34, 1B5, 38 | 465 |
| 34B71 Console | *69.95 | $\left\{\begin{array}{r}540-1720 \\ 2300-6300\end{array}\right.$ | $\ddagger 6 \mathrm{DC}$ | $37 \times 22 \times 12$ | 1C6, 34, 185, 38 | 465 |
| 31B74 Table | *59.95 | $\left\{\begin{array}{c}540-1740 \\ 5800-18,300\end{array}\right.$ | $\ddagger 6 \mathrm{DC}$ | $17 \times 13 \times 9 \frac{7}{2}$ | 1C6, 34, 34, 30, 30, 19 | 465 |
| $31 B 72$ Console | *79.95 | $\left\{\begin{array}{c}540-1740 \\ 5800-18,300\end{array}\right.$ | $\ddagger 6 \mathrm{DC}$ | $39 \times 24 \times 13$ | 1C6, 34, 34, 30, 30, 19 | 465 |
|  |  |  |  |  | Coutinued on page ty |  |

# Ken-Band Radio Tubes 

## because of Ken-Rad Engineering



Glass mud Metal Radio Tubes

The first step in the manufacture of quality radio tubes is quality engineering. Ken-Rad engineering staff is one of the best in the country. No slip-shod methods. No short cuts at the expense of the product. Every detail must live up to the excellent reputation that Ken-Rad has always maintained.

Dealers handling Ken-Rad Radio Tubes know that they're giving customers the best. Building good will. Establishing prestige. Increasing business. Write us for our complete dealer plau.

# NDITBGO Radio Tubes IDEPENDABLE LONG LIFE 

THEKEN-IRD CORPORATION, Inc., Owensboro, Ky. Division of The Ken-Rad Tabe and Lamp Corporation. Also Mfrs-of Ken-Rid/ncandescent Electric Lamps.


Simplex Radio Co., Sandusky, Ohio. (Simplex)
4Z Compact
Y Compact
Y Table
5 Console
5 D Table
5 D Table
5 D Consol
5 DA Table
5DA Console
5DB Table
5DB Console
5DF Table
5DF Console
6G Console
6G Console
6GM Console
8J Table
8J Console
8.JM Table
8.JM Console

T Auto.
TA Auto.
6GII Table
6GH Console

* B Eliminator Included.

Sparks-Withington Co., Jackson, Mich. (Sparton)

|  | part |  |
| :---: | :---: | :---: |
| 506 Compact | \$29.95 | 550-6000 |
|  |  | / 550-1500 |
| 516 Table | 39.95 | $\left\{\begin{array}{l}1600-4000 \\ 5500\end{array}\right.$ |
|  |  | -5500-15,500 |
| 616 Table | 49.95 69.95 | $530-20,000$ |
| 666 Console 716 X Table | 69.95 79.50 | $\begin{aligned} & 530-20,000 \\ & 530-20,000 \end{aligned}$ |
| 766 Console | 79.50 89.50 | $530-20,000$ $530-2000$ |
| 966 Console | 110.00 | 530-20,000 |
| 1086 Console | 200.00 | 540-20,000 |
| 1166 Cunsole | 170.00 | 150-20,000 |
| 1466 Console | 240.00 | 150-20,000 |


| $\mathrm{AC}-\mathrm{DC}$ | $7 \frac{3}{4} \times 10 \frac{1}{4} \times 5 \frac{1}{2}$ |
| :--- | ---: |
| AC | $15 \frac{1}{2} \times 13 \times 7 \frac{3}{4}$ |
| AC | $17 \frac{3}{2} \times 13 \frac{1}{2} \times 8 \frac{3}{2}$ |
| AC | $36 \frac{1}{2} \times 20 \times 10 \frac{1}{2}$ |
| AC | $19 \times 16 \frac{1}{2} \times 10 \frac{1}{4}$ |
| AC | $37 \frac{3}{4} \times 22 \times 12$ |
| AC | $39 \times 23 \times 11 \frac{3}{2}$ |
| AC | $30 \times 14 \frac{1}{2} \times 45 \frac{1}{4}$ |
| AC | $40 \times 24 \times 11 \frac{3}{4}$ |
| AC | $39 \frac{1}{4} \times 29 \frac{3}{4} \times 13 \frac{3}{4}$ |



special cabinets designed by water reague to be announced later

Stewart-Warner Corp., 1853 Diversey Pkwy., Chicago, Ill. (Stewart-Warner)

| 1401 Table | \$32.50 | 540-4600 | AC | $13 \times 9 \frac{3}{4} \times 7$ i | 6, 7, 6D6,75, 42, 80 | 456 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1301 Table | 44.50 | $\left\{\begin{array}{c}530-1600 \\ 5700-18,200\end{array}\right\}$ | AC | $17 \times 135 \times 8 \%$ | 6A7, 6D 6, 75, 42, 80 | 456 |
| 1302 Table | 42.50 | $\left\{\begin{array}{c}530-1600 \\ 5700-18,200\end{array}\right\}$ | $A \mathrm{C}$ | $11 \frac{1}{4} \times 7 \frac{1}{2} \times 8 \frac{1}{4}$ | 6A7, 6D6, 75, 42, 80 | 456 |
| 1306 Console | 57.50 | $\left\{\begin{array}{c}530-1600 \\ 5700-18.200\end{array}\right\}$ | AC | $36 \times 22 \times 1{ }^{\frac{3}{3}}$ | 6, 77, 6D6, 75, 42,80 | 456 |
| 1345 Console | 69.50 | $\left\{\begin{array}{c}545-1750 \\ 2200-6800\end{array}\right\}$ | AC | $38 \frac{1}{8} \times 23 \frac{1}{4} \times 12 \frac{9}{10}$ | $6 \mathrm{D} 6,6 \mathrm{~A} 7,6 \mathrm{I}) 6,75,42,80$ | 456 |
| 1361 Table | 69.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000\end{array}\right\}$ | AC | 1912 $\times 14 \frac{3}{8} \times 10 \frac{7}{8}$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, 57 t | 456 |
| 1362 Table | 74.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18.000\end{array}\right\}$ | $\mathrm{AC}^{\text {c }}$ | $13 \times 18 \frac{3}{4} \times 10 \frac{3}{4}$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, 5Z4 | 456 |
| 1365 Console | 94.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000 \\ 545-1750\end{array}\right\}$ | AC | $38 \frac{1}{2} \times 23 \times 12 \frac{1}{4}$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, 5R4 | 456 |
| 1366 Console | 89.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000 \\ 140-400\end{array}\right\}$ | AC | $38 \frac{5}{16} \times 24 \frac{1}{2} \times 13 \frac{1}{8}$ | 6K7, 6A8, 6K7, 6H6, 6J7, 6F6, 5 Z 4 | 456 |
| 1375 Console | 119.50 | $\left\{\begin{array}{c}540-4800 \\ 1800-18000 \\ 140-400\end{array}\right\}$ | AC | $40 \frac{1}{3} \times 24 \times 13 \frac{3}{4}$ | 6K7, 6A8, 6K7, 6H6, 6C5, 6C5, 243, 2A3, 83 | 456 |
| 1376 Console | 129.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000 \\ 140-400\end{array}\right\}$ | $A C$ | $3998 \times 24 \times 13 \frac{8}{8}$ | 6K\%, 6A8, 6K7, 6H6, 6C5, 6C5, 2A $3,2 \mathrm{~A} 3,83$ | 456 |
| 1385 Console | 144.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000 \\ 140-400\end{array}\right\}$ | $A C$ | $41 \frac{9}{16} \times 265 \times 13{ }^{\text {a }}$ | 6K7, 6A8, 6K7, 6K7, 6H6, 6H6, 6J7, 6C5, $2 \mathrm{~A} 3,2 \mathrm{~A} 3,83 \mathrm{~V}$ | 456 |
| 1386 Console | 159.50 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000 \\ 140-400\end{array}\right\}$ | AC, | $43 \times 25 \times 15 \frac{1}{4}$ | 6K7, 6A8, 6K7, 6K7, 6H6, 6H6, 6J7, 6C5, $2 \mathrm{~A} 3,2 \mathrm{~A} 3,83 \mathrm{~V}$ | 456 |
| 1388 Console | 275.00 | $\left\{\begin{array}{c}545-1750 \\ 1800-18,000\end{array}\right\}$ | AC | $37 \times 40 \mathrm{xl7}$ | 6K7, 6A8, 6K7, 6K7, 6H6, 6H6, 6J7, 6C5, $2 \mathrm{~A} 3,2 \mathrm{~A} 3,83 \mathrm{~V}$ | 456 |
| 1391 Table 1395 Console | $\begin{aligned} & 42.50 \\ & 57.50 \end{aligned}$ | $530-1750$ $530-1750$ | $\frac{2 \mathrm{DC}}{2 \mathrm{DC}}$ | $\begin{aligned} & 18 \frac{3}{5} \times 13 \frac{1}{2} \times 12 \frac{1}{2} \\ & 37 \frac{1}{8} \times 20_{2}^{2} \times 11^{4} \end{aligned}$ | IGI, 30, 30, 30, IR5, 1A6, 34 IGI, $30,30,30$, IB5, IA6, 34 | $\begin{aligned} & 456 \\ & 456 \end{aligned}$ |



| Troy Radio Mfg. Co., 721 So. Main St, Los Angeles, Cal. (Troy) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TR4 Table | \$15.95 | *550-1750 | AC | ........... | 6D6, 6C6, 42, 80 |
| TR4A Table | 16.95 | *550-1750 | AC |  | 6D6, 6C6, 42, 80 |
| TR5A Table | 23.95 | *550-1750 | AC |  | 6A7, 6D6, 85, 42, 80 |
| TR71I Table | 29.50 | *550-1750 | AC |  | 6A8, G1K7, 6H6, 6F5, 6FG, 5Z4 |
| TR63 Table | 39.50 | 550-19,000 | AC |  | 6A8, $6 \mathrm{~K} 7,6 \mathrm{6H6}, 6 \mathrm{F5}, \mathbf{6 F 6 , 5 Z 4}$ |
| TR84 Table | 69.50 | $550-19.500$ | $\stackrel{\mathrm{AC}}{4}$ | . ........... | 6D6, 6D 6, 6A7, 85, 76, 42, 42, 80 |
| TR86 Auto. | 39.90 | 550-1500 | $\dagger 6 \mathrm{DC}$ |  | 6D6, 6D 6, 6A7, 75, 41, 84 |
| TR513 Table |  | 550-1750 | 2DC | ........... | 1A6, 34, IB $5,30,19$ |
| TR63B Table |  | 550-19,000 | 2 DC |  | 1C6, 34, 1B5, 30, 30, 19 |
| TR74B Table | . $\cdot$..... | 550-19,500 | 2 DC | ........... | 34, 34, 1C6, 30, 30, 30, 19 |
| TR151 Table |  | 550-1750 | $\mathrm{AC}-\mathrm{DC}$ |  | 6A7, 6D6, 75, 43, 2525 |
| TRI63 Table TR184 Table |  | $550-19,000$ $550-19,500$ | $\xrightarrow{\text { AC-DC }}$ |  |  |
| * Police Switch. | $\dagger B$ Eliminator Included. | 500-19,500 | $\mathrm{AC}-\mathrm{DC}$ |  | 6D6, 6D6, 6A7, 85, 1V, 43, 43, 25 25 |


| United American Bosch Corp., Springfield, Mass. 04 Table$\$ 17.95$ |  | (American Bosch) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 540-3600 | AC-DC | $7 \frac{1}{2} \times 10 \times 5 \frac{3}{8}$ | 6D6, 6C6, 43, 25Z5, 185RS |  |
| 05 Table | 29.95 | $\left.\begin{array}{r} 540-1600 \\ 5800-16,500 \end{array}\right\}$ | $\mathrm{AC}-\mathrm{DC}$ | $9{ }^{9} \times 11 \frac{7}{8} \times 6{ }^{\frac{7}{8}}$ | 6A7, 6D $6,75,43,25 \mathrm{Z} 5,185$ | 465 |
| 505 Table | 29.95 | 540-3300 | AC | $8 \frac{7}{7} \times 14{ }^{3} \times 7 \frac{5}{16}$ | 6F7, 6D $6,75,42,80$ | 465 |
| 510 Table | 34.95 | $540-3300$ $540-1750$ | AC |  | 6F7, 6D 6, 75, 42, 80 | 465 |
| 430T Table | 39.95 | 2000-2600 | AC | $17 \frac{3}{3} \times 16 \times 7{ }^{\frac{3}{4}}$ | $6 \mathrm{~A} 7,6 \mathrm{D} 6,75,42,80$ | 450 |
| 510 E Console | 49.95 | 3 $540-3300$ | AC | $375 \times 23 \times 10 \frac{3}{1}$ | 6F7, 6D6, 75, 42, 80 | 465 |
| 430J Console | 54.95 | $2000-2600$ | AC | $36 \times 20 \frac{1}{8} \times 10$ | 6A7, 6D6, 75, 42, 80 | 450 |
| 575F Table | 65.95 | 540-18,500 | AC | $21 \times 165 \times 10$ | 6K7, 6K7, 6A8, 6H6, 6F5, 6F6, 80 | 465 |
| 585 Y Table | 79.95 |  | AC | $21 . \frac{5}{8} \times 16 \frac{7}{8} \times 10 \frac{1}{4}$ | 6KK7, 6K7, 6A8, 6H6, 6F5, 6F6, 6C5, 80 | 465 |
| 575Q Console | 85.95 | 540-18,500 | AC | $39 \frac{1}{2} \times 23 \frac{3}{4} \times 10 \frac{2}{4}$ | 6K7, 6K7, 6A8, 6H6, 6F5, 6F6, 80 | 465 |
| 585Z Console | 99.50 | $\left.\begin{array}{l} 120-350 \\ 540-18,500 \end{array}\right\}$ | AC | $43{ }_{3}^{3} \times 24 \times 13 \frac{3}{6}$ | 6K7, 6K7, 6A8, 6H6, 6F5, 6F6, 6C5, 80 | 465 |
| 595P Console | 139.50 | $\left\{\begin{array}{l}120-350 \\ 540-18.500\end{array}\right\}$ | AC | $42{ }_{8}^{5} \times 26{ }_{2}^{1} \times 14 \frac{1}{6}$ | 6К7, 6К7, 6К7, 6А8, 6H6, 6F5, 6F6, 6F6, 6 C5, 80 | 465 |
| 480 D Console | 155.00 | 540-22.500 | AC | $38{ }_{2}^{1} \times 24 \times 15 \frac{3}{8}$ | 78, 78, 78, 77, 76, 6B7, 42, 6A6, 6A6, 83V | 456 |
| 595M Console | 169.50 | $\left\{\begin{array}{l}120-350 \\ 540-18,500\end{array}\right\}$ | AC | $43 \frac{3}{3} \times 27 \frac{1}{2} \times 14 \frac{3}{16}$ | 6K7, 6K7, 6K7, 6A8, 6H6, 6F5, 6F6, 6F6, (iC5, 80 |  |
| 385 Table | 39.95 | [540-1600 | 2 DC | $17 \frac{1}{2} \times 15 \frac{1}{8} \times 8{ }^{1}$ | 1A6, 34, 34, 32, 33 | 463 |
| 386 Table | 59.95 | ${ }^{2300-2600} 5$ | 2 DC | $19 \frac{1}{3} \times 16 \frac{5}{8} \times 9 \frac{1}{3}$ | 1C6, 34, 34, 30, 32, 33 | 463 |
| 376N Table | 69.90 | 540-1600 | 2DC | $38 \times 23 \frac{1}{1} \times 12$ | 1A6, 34, 34, 32, 33 | 456 |
| 524 Auto. | 43.95 | Broadcast | ${ }^{\text {+6DC }}$ |  | 6A7, 78, $75,42,84$ | 456 |
| 634 Auto. <br> $\dagger$ B Eliminator Included. | 48.95 | Broadcast | $\dagger 6 \mathrm{DC}$ |  | 77, 77, 78, 75, 42, 84 |  |
| United Motors Service, General Motors Bldg., Detroit, Mich. (Delco) |  |  |  |  |  |  |
| 1101 Table | \$34.50 | 540-1725 | $\mathrm{AC}-\mathrm{DC}$ | $7 \frac{1}{2} \times 11 \times 5 \frac{1}{2}$ | 6F7, 6B7, 25Z5, 78, 43 |  |
| 1105 Table | 25.00 | 540-4500 | AC | $12 \frac{1}{2} \times 10 \frac{1}{2} \times 7 \frac{1}{2}$ | 6D6,6D6, 635, 76, 80 | 450 |
| 1106 Table | 34.50 | $\left\{\begin{array}{r}540-1725 \\ 2300-6300\end{array}\right.$ | AC | $16 \times 12 \times 9$ | 6A7, 75, 80, 6D6, 42 | 465 |
| 1107 Table | 49.50 69.50 | $540-15,500$ | $A C$ | $\begin{aligned} & 18 \frac{1}{2} \times 13 \frac{1}{2} \times 10 \\ & 38 \times 22 \end{aligned}$ | 6A7, 75, 80, 6D $6,6 \mathrm{D} 6,42$ 6A7, $75,80.6 \mathrm{D} 6,6 \mathrm{D} 6.42$ | 450 490 |
| 1109 Console | ${ }_{99} 950$ | 540-18,000 | AC | $41 \times 25 \times 12^{\frac{1}{2}}$ | 6D6, 6D $6,6 \mathrm{C5}, 80,6 \mathrm{~A}, \mathbf{6 F 6 , 6 C 5}, \mathbf{6 F 6}$ | 450 |
| 1110 Console | 137.50 | $\left.\begin{array}{l}150-410 \\ 540-18.000\end{array}\right\}$ | AC | $42 \times 25 \times 13 \frac{1}{3}$ | ${ }_{80}^{6 \mathrm{D} 6,6 \mathrm{K7}, 45,45,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C} 5,6 \mathrm{C5}, 6.77 .}$ | 450 |
| 3205 Table | 49.50 | $540-4000$ | $\dagger 32 \mathrm{DC}$ | $16 \frac{1}{3} \times 12 \times 9$ | 6D6, 6A7, 85, 48, 48 | 450 |
| 3206 Table | 69.50 | $\left\{\begin{array}{l}150-390 \\ 540-15,300\end{array}\right\}$ | $\dagger 32 \mathrm{DC}$ | $18 \frac{1}{2} \times 13 \frac{1}{2} \times 10$ | 6D6, 6A7, 85, 76, 48, 48, 48, 48 | 450 |
| 6010 Table | 44.50 | $\begin{array}{r} 540-1725 \\ 2300-6300 \end{array}$ | *6DC | $16 \frac{1}{2} \times 12 \times 9$ | 34, IB5, IC6, 38 | 465 |
| 3207 Console | 89.50 | $\begin{aligned} & 150-390 \\ & 540-15,300 \end{aligned}$ | *32DC | $37 \times 22 \times 12$ | 6D6, 6A7, 85, 76, 48, 48, 48, 48 | 450 |
| 626 Auto. | 49.50 57.50 | $540-1550$ $540-1550$ | ${ }_{* 6 \mathrm{D}}^{*}{ }^{\text {\% }}$ | $7 \times 9 \times 7 \frac{1}{1}$ $7 \times 9 \times 7$ | 6D6, 6D6, 6A7, 6B7, 42 | 262.5 262.5 |
| 628 Auto. | 67.50 | 540-1550 | *6DC | $7 \times 9 \times 7 \frac{1}{3}$ | 6D6, $6 \mathrm{D} 6,6 \mathrm{D} 6,6 \mathrm{~A} 7,85,6 \mathrm{~A}$ ¢ | 262.5 |
| 629 Auto. |  |  | *6DC |  |  | 262.5 |



| MODEt | Prus | 5invez 4. | Bexis: sury | Elyzurors <br> $4,5 \cdot 5$ | 4U8E3 vetilus bet | 18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Wells-Gardner \& Co., 2701 N. Kildare Ave, Chicago, IIl. ${ }^{\text {(Wells-Gardner) }}$ |  |  |  |  |  |  |
| 375510 Mantel |  | $\left\{\begin{array}{l}535-1730 \\ 5750-18300 \\ 50\end{array}\right.$ | AC | $18 \times 15 \times 10$ | 6КК7, 6К7, 6К7, 6F6, 6B7, 76, $8 \%$ | 456 |
| 37J560 Console. |  | $\left\{\begin{array}{l}535-1730 \\ 5750-18.300\end{array}\right.$ | AC | $36 \times 21 \times 11$ | 6K7, 6K7, 6K7, 6F6, 6B7, 76, 80 | 456 |
| 37 Cang Mantel |  | 年$535-18.300$ <br> $535-18.300$ | ${ }_{\text {AC }}^{\text {AC }}$ | $18 \times 16 \times 10$ |  | 456 456 |
| ${ }^{3700566}$ Console |  | S35-18,300 $535-18.300$ | ${ }_{A C}^{A C}$ | $36 \times 22 \times 11$ $38 \times 23 \times 14$ |  | 456 456 |
| $32 \mathrm{C570}$ Console |  | 535-18,300 | AC | $39 \pm \times 23 \times 12 \times 1{ }^{\frac{1}{3}}$ |  | 456 |
| 36F552 Console |  | 535-46,000 | ${ }^{\text {A }}$ | $43 \times 27 \times 14 \frac{1}{3}$ |  | 456 |
| $35 \mathrm{G510} \mathrm{Mantel}$ |  | ( $\begin{aligned} & 526-1750 \\ & 526-1750\end{aligned}$ | ${ }_{20}^{2 \mathrm{DC}}$ | $18 \times 15 \times 10$ | 30, 32, 34, 34.19 | 456 456 |
| 35G560 Console 37508 Mantel | ..... | - | ${ }_{2 \text { 2DC }}^{2 \mathrm{DCC}}$ | 36 ${ }^{3} \times 21 \times 11$ | $30,32,34,34,19$ $106,19,30,30,34$, | 456 456 |
| $37 H 566$ Console | ..... | - $535+16.000$ | 20. 208 | 36 $\times 22 \times 11$ | $1 \mathrm{C6,19,30,30,34,34,34}$, | 456 |
| $39 \mathrm{C568}$ Console |  | $530-16,000$ $535-16,000$ | ${ }_{* 2 \mathrm{DCC}}^{2 \mathrm{DC}}$ | $38 \times 23 \times 11$ $18 \times 16 \times 10$ $\times 10$ | 19, $10,30,30,30,34,34,34,34$ | 456 |
| ${ }^{3755508}$ Mantel |  | - $\begin{array}{r}\text { S35-6,000 } \\ 535-16,000 \\ \hline\end{array}$ | ${ }_{*}^{* 2 \mathrm{DCC}}$ | 18 $18 \times 16 \times 10$ | CC6, $19,30,30,34,34,34$ | ${ }_{456}$ |
| 36 D 510 Mantel |  | 530-1750 | ${ }^{32 \mathrm{DC}}$ | $18 \times 15 \times 10$ | 6A6, 6A7, $6 \mathrm{D} 6,6 \mathrm{Db}, 43,85$ | 456 |
| 36D 560 Console |  | ( $\begin{array}{r}530-1750 \\ 530-1650\end{array}$ | 32DC | ${ }^{36 \times 21} \times \times 1110$ |  | 456 175 |
| * ${ }_{\text {B }}^{26 \mathrm{RlIm} \text { Aumatoor } \text { Included. }}$ |  |  |  |  | 84, 75, 41, 6D6, 6D6. 6C6 |  |
|  |  |  |  |  |  |  |
| WR 101 Midget | 39.95 | \{ $\begin{aligned} & 540-4700 \\ & 5500-15,000\end{aligned}$ | $\mathrm{AC}-\mathrm{DC}$ | $10_{\frac{8}{8} \times 14 \frac{1}{1} \times 73}$ | 75, 43, 25Z5, 6A8, 6K7, 6к7 |  |
| WR201 Table | 19.95 | $540-3200$ | AC | $14 \frac{18}{} \times 114 \times 88$ | 6D6, 6D $6,76,42,80$ |  |
| WR203 Table | 44.95 | ${ }^{5540-4700}$ | ${ }^{\text {A }}$ C | $166_{1}^{3} \times 12{ }_{5}^{\frac{5}{5} \times 8} 8$ | 75, 80, 6А8, 6К7, 6К7, 6F6 |  |
| WR303 Console | 59.95 | 540-4700 | AC | $37 \times 23 \times 11^{\frac{1}{3}}$ | 75, 80, 6А8, 6К7, 6К7, 6F6 |  |
| WR 204 Table WR304 Console | 85.95 85.95 | $540-18.500$ 540.88 .500 | ${ }_{\text {AC }} \mathrm{AC}$ | $20 \times 16 \times 9$ $39 \times 24 \times 12^{2}$ 21 | 6A8, 6K7, $\mathbf{6 K 7 , 6 F 5 , 6 \mathrm { HE } , \mathbf { 6 F 6 } , 8 0}$ 6A8, $\mathbf{6 K 7}$, $\mathbf{6 K 7}$, $\mathbf{6 F 5}$, $\mathbf{6 H 6}$, $\mathbf{6 F G}$, 80 |  |
| WR205 Table | 79.95 | $120-370$ <br> $540-18,500$ | AC | $21 \times 17 \times 10$ |  |  |
| WR305 Console | 99.50 | $120-370$ $540-18.500$ | AC | $41 \frac{1}{2} \times 25 \times 131$ | 6A8, 6К7, 6K7, 6C5, 6H6, 6F5, 6F6, 80 |  |
| WR306 Console | 139.50 | $\xrightarrow{\substack{\text { a }}}$$120-370$ <br> $540-18.500$ | ${ }_{\text {AC }}$ | $43 \times 272 \times 14$ | 6A8, 6K7, 6K7, 6K7, 6C5, 6HG, 6F5, 6F6, 6F6, 5 Z 3 |  |
| Wr601 Table | 34.95 | $540-3900$ 540 50 | 2DC | $20 \frac{18}{} \times 15 \times 148$ | 1C6, 25S, $30,33,34$ |  |
| WR602 Table |  | $540-1750$ <br> $500-16,000$ | *6DC | $16{ }_{6}^{2} \times 12{ }_{5}^{2} \times 8 \times$ | 1A6, 34, 34, 25S, 30, 19 |  |
| WR500 Auto. <br> W Vibrator Included. $\dagger 91$ Diameter, $7 \frac{1}{2}$ |  | ( $\begin{array}{r}540-1500 \\ 540-1500\end{array}$ | ${ }_{*}^{* 6 \mathrm{DCC}}$ |  | $77,77,78,75,42,84$ $78,78,6 A 7,85,41,84$ |  |
| Witex-Gay Corp., Chariotte, Mich. (Wilcox-Gay) |  |  |  |  |  |  |
| 3JE5-93 Table | \$23.95 | ¢ $545-1710$ | AC-DC | $14 \times 12 \times 6$ | 647, 78, 77, 43, 2585 | 175 |
| 5B5-89 Table | 34.90 | $545-4000$ <br> $6000-16.600$ <br> 00 | ${ }^{\text {AC }}$ | $16 \times 13 \times 8$ | 6A7, 78, 75, 42, 80 | 456 |
| 5B5-800 Console | 44.90 | $545-4000$ $6000-16,000$ | AC | $37 \times 20 \frac{1}{2} \times 12$ | 6A7, 78, 75, 42, ع0 | 456 |
| 4JC6-84 Table 4JC6-780 Console | $\begin{aligned} & 49.90 \\ & 69.90 \end{aligned}$ | $\begin{array}{r} 150-21,400 \\ 50-21,400 \\ \hline \end{array}$ | $\begin{aligned} & A C-D C \\ & A C-D C \end{aligned}$ | $162 \times 14 \times 8$ $38 \times 202 \times 13$ | 6A7,75,78,78, 43, 25Z5 6A7, 75, 78, 78, 43, $25 \mathrm{Z5}$ | 456 456 |
| 5E7-91 Table | 44.90 | 545-4000 6000-16.600 | AC | $17 \times 14 \frac{1}{2} \times 8$ | 78, 78, 76, 77, 75, 42, 80 | 456 |
| 5E7-780 Console | 59.90 | $545-4600$ $6000-16.600$ | AC | $38 \times 20 \frac{1}{2} \times 13$ | 78, 78, 76, 77, 75, 42, 80 | 456 |
| 546689 Table | 39.90 | 545-1710 | ${ }^{2 \mathrm{DC}}$ | $16 \times 13 \times 8$ | 1A6, 30, 30, 33, 34, 34 | 456 |
|  | 49.90 19.95 |  | ${ }_{2}^{2 \mathrm{DC}}$ | ${ }^{371} \times 2020 \times 12$ | ${ }_{1}^{146.30,33,34,34,34,34}$ | 456 |
| 5F8-90 Table | 54.90 | 545-4000 | *6DC | $18 \times 15 \times 10$ | 34, 34, 34, 34, 30, 30, 33, 84 | 456 |
| 5F8-790 Console | 69.90 | 545-4000 | *6DC | $361 \times 23 \frac{1}{2} \times 11 \frac{1}{2}$ | 34, 34, 34, 34, 30, 30, 33, 84 | 456 |
| 4H13-840 Console | 150.00 | 150-21,400 | AC | $40 \times 24 \times 13 \frac{1}{2}$ | 80, 80, 45, 45, 45, 45, 6F5, 6F5, 6Н6, 6К7, бк7, | 456 |
| 4B6.2Auto. | 44.90 | 545-1500 | *6DC | $10 \frac{1}{} \times 6 \times 78$ | 78,78,77, $75,41,84$ | 175 |
| 4G8-840 Console | 99.90 | - $\begin{aligned} & 150-350 \\ & 545-23,000\end{aligned}$ | AC | $40 \times 24 \times 13 \frac{1}{3}$ | 6K7, 6K7, 6K7, 80, 6F5, 6F6, 6H6, 6C5 | 456 |
| Zenith Radio Corp., 3620 Iron st., Chicago. Ill (Zenith) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 4 4 51 Console | ${ }^{39} \mathbf{3 9} 95$ | $540-300$ $540-3700$ 5 | ${ }_{\text {AC }} \mathrm{AC}$ | $\frac{14}{35 \times 22 \times 11}$ | ${ }^{6} \mathrm{AB}$, $6 \mathrm{P7}, 6 \mathrm{Ft}, 5 \mathrm{5Y} 3$ | 456 |
| 5 S 29 Table | 39.95 | $535-4450$ <br> $800-18,500$ | AC | $18 \times 13 \times 9$ | * $6 \mathrm{~A} 8,6 \mathrm{K7}, 6 \mathrm{B6}, 6 \mathrm{F6}, 5 \mathrm{Y} 3$ | 252, |
| 5556 Console | 59.95 | ${ }^{5835-4450}$ | AC | $40 \times 22 \times 12$ | ${ }^{*} 6 \mathrm{~A} 8,6 \mathrm{K7}, 6 \mathrm{B6}, 6 \mathrm{Fb}, 5 \mathrm{Y} 3$ | 252] |
| 6 S 27 Table | 59.95 | ${ }^{5830-4450} 5$ | AC | $23 \times 17 \times 13$ | *6A8, 6K7, 6K7, 6H6, 6F6, 5 Y3 | 252 ${ }^{1}$ |
| 65552 Console | 69.95 | ${ }^{5830-4450}$ | AC | $39 \times 24 \times 13$ | *6A8, 6K7, 6K7, 6H6, 6F6, 5Y3 | 252 ${ }^{\frac{1}{1}}$ |
| 7528 Table | 75.00 | $\left\{\begin{array}{l}550-1780 \\ 2100-23.000\end{array}\right.$ | A | $22 \times 17 \times 13$ | *6K7, 6K7, 6K7, 6A8, 6H6, 6F6, 5 Y 3 | 456 |
| 7553 Console | 89.95 | $\left\{\begin{array}{l}550-1780 \\ 2100-23,000\end{array}\right.$ | AC | $41 \times 25 \times 14$ | *6K7, 6K7, 6K7, 6A8, 6H6, 6F6, 5 Y 3 | 456 |
| 9 S 30 Table | 85.00 | [ $\begin{aligned} & 550-1780 \\ & 2100-23,000\end{aligned}$ | As | $22 \times 16 \times 12$ | *6K7, 6K7, 6A8, 6H6, 6C5, 6C5, 6F6, 6F6, 5Y3 | 56 |
| 9554 Console | 99.95 | $\left\{\begin{array}{l}\text { 550-1780 } \\ 2100-23,000\end{array}\right.$ | A ${ }^{\text {C }}$ | $41 \times 24 \times 14$ | *6K7, 6K7, 6A8, 6H5, 6C5, 6C5, 6F6, 6F6, 5Y3 | 36 |
| 9555 Console | 119.93 | $\left\{\begin{array}{l}550-1780 \\ 2100-23,000 \\ \\ \text { 20, }\end{array}\right.$ | AC | $42 \times 26 \times 16$ | *6K7, 6K7, 6A8, 6H6, 6C5, 6C5, 6F6, 6F6, 5Y3 | 456 |
| 12A57 Console | 139.95. | $\left\{\begin{array}{l}550-1780 \\ 2100023000 \\ 141-735\end{array}\right.$ | AC: | $41 \times 25 \times 15$ |  | 456 |
| 12 A58 Console | 159.95 | $\begin{gathered} 141-375 \\ 550-1780 \\ 2100-23.000 \end{gathered}$ | AC | $42 \times 26 \times 16$ |  | 456 |
| 16 A 41 Console | 375.00 | $\left\{\begin{array}{c} 141-375 \\ 250-1780 \\ 140-2300 \\ 141-375 \end{array}\right.$ | AC | $47 \times 28 \times 16$ |  | 456 |
| 16463 Console | 450.00 | \{ 55001780 | AC | $43 \times 30 \times 18$ |  |  |
| Stratosphere Console | 750.00 | 535-63,600 | AC | $50 \times 2929 \times 19$ |  76, 85, 79, 42, 42, 5Z3, 5Z3, 5Z3, 45, 45, 45. | ${ }_{48}{ }^{48}$ |
| 4V31 Table 4 V 59 Console | 39.95 59.95 | $550-1800$ $550-1800$ | ${ }_{\text {+6, }}^{+6 \mathrm{DC}}$ | $15 \times 13 \times 10$ | ${ }_{*}^{*} 15,15,75,38,758$ | 456 456 |
| 6V27 Table | 69.95 |  | $\dagger 6 \mathrm{DC}$ | $\times 23 \times 17 \times 13$ | *15, 15, 6A7, 75, 76, 19 | 456 |
| 6 V 62 Console | 89.95 | 寺$50-1780$ <br> $2100-23000$ | F6DC | $29 \times 24 \times 13$ | *15, 15, 6A7, 75, 76, 19 | 456 |
|  | 39.95 | 535-1600 |  | $7 \times 9 \times 68$ |  |  |
| ${ }_{6}^{666}$ Auto. | 49.95 54.95 |  | ${ }_{\text {+60. }}^{66 \mathrm{DC}}$ |  |  |  |
| *Meta-Glas. $\dagger$ B Eliminator Included. | 8 Speak | parate. |  |  |  |  |



Music lovers everywhere have been noting these imagiriative posters, in full color, which record dealers have been displaying in their windows

## FEATURES! MODELS! PRICES!



Console With-3ults. Standard, Podice nud Curopean Short Wave. Jande


Table Monlel, WR-203. Standard, Poblics an mid Eubropean Short Wave Ifianda

 ard Forcign and Polies 13ande. With I'retionior Suter aned Metal Tubee


Table Mudel. WR - 201 . "Nthe Mighy Mide:t"...Standard and


Talble Model. WR-205. Weather. Standartil Police, Puropan Qhor Glands. Previcion
and Notal Jtalee


Furm set, y Recot. Stand aral and Pollie: Bands

## Westinghouse gives you every talking point-for every type of customer

Here"s the radio line you don't have to "piece out" . . . with a model here to satisfy the price-minded customer . . . a model there to mect the demand for one of the popular new features. The Westinghonse lise is complete! Complete in quality! Complete in performance! Complete in features and prices!
No wonder so many dealers are "going Westinghouse" this season . . . taking advantage of the extra profit, the lower inventory, that comes from standardizing on a single high-quality line.

## FEATURING

## The PRECISION TUNER

An anazing controf unit that
 anomatically rules ont the val riables that distort ume, introduce moise and affect exact dial settings. Makes possible reeption will true precision on every broadeast hand.

## The new

## ALL-METAL TUBES

Wrstimertasehas the new metal
 worlh-while ionposcoment in ratio alesign and construmtiom.




Prices Start with Mighty Midget at $\mathbf{\$ 1 9 . 9 5} \mathbf{u p}$ to Super Deluxe at $\$ 139.50$
(Slightly higher west of the Rockies)

## Westinghouse

Radio

# Another Foreign Invasion! 

# EUROPEAN SHORTWAVERS AFTER AMERICAN AUDIENCES 

John Royal of NBC Interviewed by "Radio Retailing"Says New U. S. Programs also Packed With Interest Value

NEW YORK-"Radio is the healthiest thing in Europe today. Governments may disagrec-and do, but," said John F. Royal, NBC vice president in charge of programs, who has just returned from a two months' tour of England and 16 continental countries, "radio is an international factor for good will."

Intervicwed by the editor of Rodio Retailing immodiately of his return to his native land, Mr. Royal continued: ${ }^{6}$ Every country I visited is radio-conscious to an amazing degree. In Cermany they are broadcasting to the world 24 hours a day. So is Russia-and England. Every country wants a large North and South American audience, for political or trade purposes. I predict that, within the next 18 months, we will witness the greatest program competition in the history of radio. By that time all the European countries will be equipped for short wave sending and receiving. This, together, with further improvements in American shortwave reccivers, will mean that the American family will thave the world in their living roon,"

Likewise, Mr. Royal pointed out, every European country is clamoring for U. S. programs. "In Russia they asked me for American brondeasts that would feature week=old popular dance tuncs. They can't get them quick enough or hot enough."

As for programs NBC will re-broadcast during 1935-36 from Europe: "Probably from the near-war zone in Ethiopia." When pressed by your reporter, Mr. Royal admitted NBC was making every effort to establish direct short wave transmission from the field of battle, if and when as.

Another innovation will be the broadcasting to America of ancient history lessons; actual historic scenes, reenacted right on the spot where they happened, the Roman Colosseum, the Grecian Acropolis, etc
Then there will be farst time pickups from Greenland, Iceland and other new locations. Also more frequent exchanges with the British Broadeasting Corporation. Other sidelights: Germany is planning a huge building for shortwave broadcasts only; 52 studios and two new and powerful transmitters. Purpose: to sell Germany to the world. Italy broadcast 250 operas last year. Many of these will be heard in America this season. Many foreign stations broadcast daily les-
sons in the speaking of English. Mr. Royal expects that language lessons will be available on this side in 1936 .


New Type Sparton Console, by Teague, to be<br>Unveiled at New York Radio Exposition

What's under this silken cover? lt's a new kind of radio cabinet, created by Walter Dorwin Teague, one of America's foremost designers. Does the curved top give a clue?

Now a secret, this revolutionary console will be introduced at the Sparks Withington exhibit, Radio Show, New York, next week. A total of 19 radio concerns will have booths at this exposition. See page 20 for Details

## THREE-SIDED RADIO NEWS BUREAU BATTLE RAGES

NEW YORK-The recent virtual break-up of the Press-Radio pact has brought the whole matter of the collecting and elishing out of news to radio listenors into the open again. Three large news services are involveri; the United Press (UP), the Trans-Nadio Press Service, and the International News Service (INS)

Inasmuch as some 116 of the nation's 600 radio stations are owned by newspapers or closely affiliated with a publishing concern, the UP at last has realized that here is a new outlet for its news service which has profit possibilities.

For the present the three big chains continue to support the Press-Radio Bureau in New York City, although both NBC and Columbia are subscribing
to other more elaborate news services for individual stations and are contemplating featuring chain circuit news on a more satisfying scale than at present.

In the meanwhile TransRadio and International continue to sign up independent stations, the former claimitg 250 clients, and the latter (INS) now over half a hun-

Why Walk, Mr. Arnold?


And with a car waiting right at your front door! Perhaps L. C. Arnold, D. M. For General Electric Supply Corp., St. Louis, is keeping in trim for the "big Push"
dred. Another finger in the pic was interjected last month with the signing up by Columbia of a new "March of Tine" series, to be sponsored alternately by Time Magazime and Remington-Rand, Inc. These 15 -minute news dramatizations will be on the air five nights a weck on the Columbia chain. This move is not regarded as a violation of the Press Radio pact, since, it is believed, the dramatic treatment is a sufficient departure from straight news reporting to keep the program out of this category.

Editor's Note-As We Go To Press - The following news relcase has just been reccived from the Transradio Press Scrvice, Inc:: "The greatcst news story since the World War is about to break, When it doos, Transradio's large clientele will have a coverage unsurpassed by any news-gathering organization on earth. Its war correspondeuts will flash the news, via shortwave, not only from the heart of Abyssinia but from border points in six surfounding colntrics and fromz Italy."

For those who like their daily fare of news predigested radio will offer the listener many "interprcters." For example: Gabriel Heatter will begin a Saturday and Sunday news review over NBC's WJZ Blue network starting Sept. 21 at 5:45 P.M. (EST).

## Billings Belts the Ball

CHICAGO-Here's the saga of radio's greatest golfist, as we get it from RR's Chicago representative - who was among those present:

The scting was the 18th hole-not the 19th. Place: the St. Charles Country Club, at the August 8 get-together of the Radio Industrics Golf Club, Chicago chapter. This hole is 135 yards, tee to green, with plenty of water in between and on tliree sides of the green.

One hundred players gathered on the clut side and wagered on the chances of each drive-would it land in the drink or on the green. Few accomplished the latter. In the last foursome appeared P. S. Billings, president of the Belmont Ratio Co., Chicago. "P. S." decided to give the boys a real bet; offered $\$ 10$ to all takers that he could place ten consecutive balls on the green. The whole gallery wanted a piece of this change.

President Billings placed his first five pills well on the grech, one within two feet of the fole. From then on the crowd was his and he didn't let them down. With machine fike precision he placed

## Cleveland Campaign

CLEVELAND- $A$ sales promotion campaign, designed to sell 25,000 modern radio sets to Cleveland families, began this month with a large advertising program by the Electrical League in Cleveland's metropolitan, conmunity and foreign language newspapers. An extensive cooprative dealer campaign is being carried on at the same time.

According to recent estimates

P. S. Billings
the remaining five fairly on the green-and collected his bets while the crowd said, "I'll be dammed!"

Now the Chicago boys are backing Billings against all comers. What say, you East-erners-and you Milwatike picknickers?
there are over 200,000 radio sets in homes in greater Cleveland, and of these at least 50 per cent are over fout years old and, therciore, do not provide listenets wilh moderth radio recention. For that reason the promotional program foatures the greater selectivity, better reception, and fhe all-wave features of the moxlern sets, and Clevelanders will be urged to replace old sets with new sets so that they may enjoy their radios to the fullicst.

## STROMBERG-CARLSON HOLDS GENERAL SALES CONFERENCE

Introduce "Carpinchoe" Leather Speeker and "Acoustical Labyrinth" to 150 Salesmen and Distributors

ROCFIES'ER - With 150 Dr. R. II. Manson described the salcsmen and distribators' repre- new Carpinchoe leather speaker sentatives in attendance, the fitst Stromberg-Carlson general sales conference held in several years got off to a flying start on Saturday, August 24.
General Manager George A. Scoville greeted the assemblage and outlined the purpose of the conference. Fre stated that the Stromberg Company is in an unusuaily sound funncial condition, having show: a profit during the first six months' business of this year with steadily increasing yolume. Flexible merchandising and finance plans have been developed to meet the requirements of every dealer and organization landliny the Strom-berg-Carlson line
Twenty-e1ght distribution points have been set up in the past few months in addition to the Stronberg-Carlson branch offices and representatives, enabling at more nearly perfect national coverage.

Lee McCanne, secretary, introduced the complete fall line stressing the point that in the 15 models there is ane in each price class from $\$ 59.50$ to $\$ 285$. IIe stated that the merchandlising possibilities of the line are unlimited because of this musually long price range. FTe furtiser said that no dealer should expericnce difficulty in "seling up" with Stromberg-Carlson because in every model there is a good and logical reason for the increase in price over the next lower priced model.

During the afternoon session
which makes possible high fidelity reproduction at a popular price. For the bencfit of new members of the organization he outlined the advantages of Stromberg - Carlson's exclusive Acoustical Labyrinth which is used in the higher priced high fidelity models.
Lee McCame then outlined the merchandising possibilities. of the line shating that his company now had the longest price range in the industry, offering the dealet an unprecedented opportanity to meet every demand of prospective customers.
Edwin C. Roworth, treasurer, then described a new finance plan which is to be offered S.C dealers, and which will greatly ethlarge their opportunity for time payment sales and enable them to make terms far more convenient to the purchaser than has been possible in the past. Mr. Roworth stated that the Stromberg-Carlson credit plan is far more liberal than is general in the radio business.

Jenjanin Gross and L. L. Spencer, of Gross Sales, Inc., New York City representatives, also addressed the convention, deliveriag two sales talks of great practical value.

A concluding banquet was given by the company at a Rochester Club. G. A. Scovilic was toastmaster, Otfo Thurm and lis Bavarian Orchestra, heard weekly over $\mathbb{N B C}$ irom Stromberg - Carlson Station WHAM, entertained.

## And a Darn Good Ad for the Little Ford Too



Not content with its trailer publicity, Thurman \& Boone, Roanoke, makes this poor ole Ford push a Wincharger all over

Virginia. This is just about the most advertising on wheels we've seen since God knows when.

## TUNE IN ON THESE

- fter len years of refusal:. Iguace Paderewski, world famous panist, has at last rapitulated and will be heard in this country on October 12 in a 90 minute recital of Chopitn"s works will be shortwaved westward from Switzerfand and rebroadeast be wiz and associated stations.
In connection with this subiect of shortwave broadcasts their growth in mam ber and in quality - Radio Retailing's readers should know that wer got local newspapers now receive regtularly, and in finc for publication, very complete progran listings of foreign stations. This splendid publicity, and necessary stimubant to the sale of the shortwave feature provided in American sets, is made possible through the efforts of the Radis Mambacturers issuciation.


## "March of Time"

Noted among the pre-fall programs originating in local studios and indicative of the good things to come, was the resumptioty, Monday, Aug.
26. of the ever pumblar "March of "lime." 'This year it's on the air foue nights a week, at $10: 30$ FiST.
A few more domestic innorations, by way of what to expect: The WOR program "For Women Only," with Kosalise Greene annonncing, received excellent commendafion from the Women's National Radio Committee recently ' The amatears will relearse together, for Conti Eroducts Sunday evenine series-on the Mutaral Chain. The plan is to present a finished radio revue, a unit show rather than a haphazats hodge podge. Even the commercial antooncentents will be done by atmateurs, What a relief.

And for those who tite of retating every 1 minutes. there"s the Lux Radio "lheatre, every Monday, nine fo ten p.in. on Columbia net-work-a solid hour of dranat.
Last by way of a sampler of what's original, is the Stromberg-Carlson new program over its 50,000 watt station WHAM every week day morning af 7:40. The "Radio Reporter" nutlines the onl
tanding prugrams to be heard during the day over all three of the major networks. gives a review of shontwave reception conditions and a summary of the $s$ wy programs to be heard within the next 24 hours from the most easily recened foreign stat tions. A mighty fine idea from whatever angle you vew this sales bulder.

And from Washingrom, over the Mutual System, will come spicy "low downs on the high ups." "J'bese programs of political news commentations, by Drew Pearson and Robert Allen, start Tuesday evening, Ort. 1 , at 7:45.

Pearson and Allen are responsible for the famons book and newspafer colthrin. "\Vashington Merry - (inにomad."

## Louis-Baer Bout on Air

since Toe Jouis anc Maxi Baer were matched to fight in New York, Sept. 24, the metmorks have heen racing to hncate at sponsor. WEAF anl WIZ wit ont.

## New Program Schedules Available

Radio Retailing has m filo mimengraphed sheets giv-
ing the advance list bof lall prenieres on both the NBC and Columbia networks. This valuable sales anmmenithon will he mailed to its readexs furn request.

## With Wurlitzer Stores



Ray S. Erlandson, for the past two years sales manager of the Auto Radio Division, Zenith Radio, has just joined the Rudoloh Wurlitzer Company, of Cincinnati, as assistant general sales manager

## We should thank the radio industry but they're thanking us...for" $\mathrm{G}^{\prime \prime}$ Tubes!

For rhe arake's very splendid reception of " $G$ " tubes (glass conurerpart of metal tubes) that has caused out plant ro work at capacity, we say "Thath You,"
Deluging us, however, are thousands of "Thank You"s' from:
Set Manufactuters-hecause they are enabled to go into quantity production of sets that can use metal tuhes, hat using " $G$ '' Tuhes-built on tried and proved principles;
Jobbers, Dealers, Servicemen-for flacing them in a position to cash in, now, on the public's great intercse th this developmetrs.
" $G$ ' Tubes embody all the merirs of metal tubes hut are built on time-
tested, experience proved principles. A few importane features of " $G$ ' Tubes include:

1. Chaructrristios iden iod toall metal suhes. 2. Pin comections and bas some as all. metal tuber.
2. Type numbets surrespond to all-metal tuber (exrept ont SY'3 is a comenterpart of the SZ4).
3. Pasitively imterchangedils with wll-metal twhes.
4. Proved efficiency: built dong conventiond matnufathring peactiocs; not on experiment. 6. Arablable stote in quantities.
5. Currently used as initial equipment by reveral loading set manufacturers.

Cbaracteristic Chart on "G"' Tubes available on request. Avoturus Radio Tube Co., Newark, N. J.


Showing gencral "ptacuftucs of the " $G$ " Lins Tuber, whb alt-metaltube base connections and guide pin

## LOCAL SHOWS

Radio \& Appliance Show Minneapolis, Minn. Sept. 30 to Oct. 5 Winder management of Harry 11. Cory, who promises ten cruwd-pulling features plus a tie in with the food processors.

Electric \& Radio Show Philadelphia, Pa . Oct. 7 to 12
leaturing a six-county contest for a complete homo electric laundry and publicized by three lirwadcast stations.

Radio \& Food Show Milwatee, Wis. Oct. 21 to 26 E: W. Greusek president of We Wisconsia Radio, Rcirigeration \& Appliance Assuciation.

who advises that the Association plans to tie in with the Mil wankee Food Show, sctreduled to open October 21 to 26 at the Anditoriun.

This Bank Sells Washers
JORT WAYNE-A sales prow thotion plan which dramatizes the savings made with honte lamdering equipment and overcomes price resistance is now being made available to dealers in Horton washers and ironers. Ahnouncement of the sew plan bas just been made by W. 'I'. White, general sales manager of the Horton Manufacturing Co., liort Wayne, Ind.
lasic equipment for the plan


Showing type of newspaper copy used
Same idea could be applied to radios
is a heat and attractive savings lank, constructed in the form of a small book. The bank carries the title "Horton Washers and froners Save Money, Clothes, Time, Work, Health."

In announcing the savings bank plan to the trade Mr. White points out that it may be used in various ways, for instance: As an adyertising hook tw bring yrospects into the store; to dramatize home launderings savings; to meet the objection "no money tor down prayment;" and as a goud will gift to cash buyers.

## Federal Taxes Continue

WASHINGOON - Whthout M-
cratse in present rates, federal excise faxes, including the 5 per cent radius tax, 2 yer sent antunotive and 5 per cont lax on electric refrigerators, will be centineal for abother two years. All were duc to expire Jume 30 but now comblime to June 30 , 1937. Since the 5 per cent radio Lax became effective in 1032 , mannteturers have paid (upto Nay of this year) the governm40t $\$ 8,788,559$.

## Scott Sticks to Glass

E. IJ. Scott Radio Laboratot ries. Chicasu, states that atl its momels will be continued, as in the past, with fual complements of glass tubes. This is to eorred an erroneous iisting, in the Angust issue of Radio Retuiling, to the effect that Scott woukd "undountedly" use netal tubes.

Canty is Cleveland Mgr.
NEW YORK - Leomard Canty, iormer western manager of Radio Merchant, has joined

the McGraw-Hill Company at Cleveland business manager for Radio Retailing. Mr. Canty succeeds W. K. Beard. Ir., who has been appointed manager of the MeCraw-Hill [mblication, Electrical World.
Following "Len's" gr"aduation from college and initial experience as a newspaper reporter be received a very extensive field experience in radio trade publishing as western manager of Talking Machine World and Rudio Merchant previonsly mentioned. Recently he has been western manager for two other trade publications.

## TNCREASB sults xpiofils

Actual experiences are proving every day that Wincharger, the world's standard 6 -volt battery charger, is the boon farm radio dealers have long been seeking. The profit sheets of thousands of radio dealers this year proclaim the fact that Wincharger has stimulated farm radio sales to an amazing degree, opening up as it does a practically unlimited sales field in millions of farm homes.
Wincharger not only increases the volume of farm radio sales -it makes the sales more profitable and more satisfactory. No comebacks. No service bills. No lost customers. That's why radio dealers everywhere are availing themselves of the priceless opportunity offered by Wincharger the hard-hitting, convincing answer to the farmer's demand for city radio performance without the expense of battery up-keep.

## WHAT WINCHARGER IS:

The Super De Luxe 6-Volr Wincharger gives an excess of putar to keep the fatm radio battery continuously charged without cost, assur ing she farmer what he has long been demanding-the all-elecri radis.
The De Luxe Wincharger is built for service-rigidly constructed of nenerator is specially designed and buit for wind charging purpuses by bne of the latgest manufacturers of generators in America.


## WINCHARGER CORP.

2704 HAWKEYE DRIVE, SIOUX CITY, IOWA.
 Wintlayker. Ant interested us


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H゙irtis Nathe
My Namに
street
(1.19y

Matiat ulf Kaxdin Nruw Liabulled
WINCHARGER CORPORATION


## Stern \& Co. Host to 400 Grunow Dealers

HARTFORD - Four hundred Grunow dealers and their wives, comprising the largest group of the kind ever to gather at the Tumble Brook Country Club, Hartford, Conn, met for an annual sales meeting and outing as guests of Stern \& Company, Aug. 7.

Dealers from Connecticut, western Massachusetts and Vermont participated in a program of outdoor sports in the afternoon, with prizes awarded to winners.
One of the chief features of the affair was a pre-showing of the 1936 Grtunow radio models, while another was the awarding of a Fortl V-8 sedan to the winner of a contest confucted between January 1 aud July 1 . The winner was John Barstow of the Farstow Radio Shop, South Manchester. Another contest will be held. Francis E. Stern announced, from Scptember 1 to January 1, with a car again the prize.
The speakers tncluded II. C. Bonfg, vice-president of the Gencral Ifousehold Utilities Corporation, and Pazl Eflison, arlvertising manager for Hy -Gradc-Sylvannia.

## V. A. Searles with Intemational

ANN ARBOR - W. Kcene Jackson, sales manager of International Radio Corp., Ann Arbor, Mich., announces the

appointment of V. A. Searles as advertising and sales promotion manager. Previous to this appointinent Mr. Searles served as advertising director for the Sparks-Withington Co. for a period oi cight years.

Under Mr. Searles' able direction it is expected that the well-known line of Kadette radios will experience an evert more extensive sale this coming season than the wide distribution which this line enjoyed last year.

## Radio Boosters Meet

LOS ANGETES-At a regular meeting of the Radio Booster Club, Southern Cali-


## Trying It Out in the Old Home Town

Laura Judd Bryant (second from left) home service director for the Union Gas and Electric Co., Cincinnati tells her staff all about the new Crosley Coach, This traveling demonstrator played an active patt in the recently concluded Zoo Cooking School-sponsored by a local newspaper, the lighting company and Crosley dealers in Southern Ohio and Northern Kentucky
iornia Branch No. 1 , on Ats gust 5, the following officers were clected: presiclent, J. T. Hill; vice-presixlent, J. J Ferlunuth; sccretary-treasturer, Harry $A$, Lasure: directors, Carl Stome and Don Wallace.
'The Radio Booster Club is composed of executives engraged in the distribution of parts, sets, and accessories, with the object of close.cooperation among its memsbers, and between manufacturers, wholesalers and deal ars for the general betterment of the radio inclustry.

## "Teleflash" Announce

NEW YORK-A possible competifor of radio, for news service in public places, is seen in the advertising announcement, August 14, Now York Times, of a special "Teleftash" service for hotels, clubs, etc.

This service outrports to bring to sport fans and others, via wire, a word-by-word description of prize fights, horse races, basclall and football games. etc, broadcast from the actual scene of battle.

The apparatus is advertised as being installed and maintained by the local telephone company. The rental charge is "a few cents a day:"

## Arvin-New York Corp.

NEW YORK - Noblitt-Sparks Industries, Inc., who recently enteted the home receiver field, will be represented in New York bv the newly organized ArvinNew York Corp. with offices at 2.3. West 59th Street. Henry D. Felsen will be manager. Mr. Felsen was formerly district manager for the Philadelphia

Radio \& 'Television Cornoration
This new fin mis affiliated with the Autonobile Necessities Co. which has represented Nob-litt-Sparks to the automotive trate for a number of years. Arwin-New York will distribute heaters as well as radio sets in Manhattan, the Bromx and Westchester commties. Complete service facilitics will be available.

## Scheel with Case

For many years export head of the Grigsty-Grunow Cornpany, H. J. Scheel is now looking aiter the destmes of the Case Electric Corp. in forcign natts, Case, at anmounced lass month, is in ratio, at home as well as abroad, with serions intent. Uxder the leadership of president Arthar Casc, rapid progress in the completion of its distribution picture and a very considerable influx of orders is reported.

## Wessner National Union Sales Manager

NEW YORK—S. W. Muldowny, chairnan of the board of National Union Radio Corporation of New York, announces the appointment of F. J. Wessner as general sales manager to succeed H. A. Hutchins, who has resigned to cnter the advertising field.

Mr. Wessner has been engaged in sales promotional work with National Union since the formation of the company in 1929. He has played a prominent part in the development of the National Union Service-Dealer Selling Progran and was one of the leaders in agitating for a higher list price, fair profit arrangement. This lead to the establishment of the National Union 10c. higher list price two years ago.

## El Paso Dealer Wages War on Metal Tubes

II I PASO--Last April readers of the New York Timos were grected with a full page advertisement, by the Phitco Radio \& Television Corp., cautioning the public suainst the too hasty acceptance of the new netal tube.

Last month Eid Paso, Texas, citizens were greeted with a 6 -col. reproduction of this ad, over the signature of Car Parts Depot, Inc, Philco jobbers for that area.

Thas is the lube tile being carried to the far corners of thesc United States.

George H. Payne, Federal Communications Commissioner, has warned against permitting radio broadcasting to become a "political power" or "a fiftle estate in our govermment."

Milwaukee Jobber Popularizes GE "Bandwagon"


The General Electric Supply Company, Milwaukee, pulled a clever advertising stunt coincident with its dealer meeting July 8. Taking the lead from the factory's "bandwagon" advertising, which appeared in "Radio Retailing," the jobber converfed the idea into a consumer promotion stunt with a real bandwagon, horses and all. He played up metal tubes by affixing a large replica of one to each horse!

## En Route with RVS

NEW YORK-Dropped in at the Waldorf (it's getting to be a habit) for Crosley's, New York showing. Noted the little "Fiver" in the line per usual.
"This makes the third year for this veteran," said manager Fielding Robertson, "and it's going better than ever."
Which only goes to show that if a model rings the bell it's not necessary to throw it out the window when next season's line is announced. "The Fiver" was announced in 1932 at $\$ 19.99$ and still sells at the same price. Of course, it has been greatly improved, which means that a better set can be sold toclay at the same price as its less perfected counterpart of three years ago.
J. H. Herrick, president of the Polymet Mfg. Corp., New York City, advises that the recont investigation and indictments relative to the sale of that company's stock in no way involves the present management -which has fully cooperated with the Federal authorities.

Zenth clams to have scooped the fueld by virtue of a complete deparlure in cabinet finish. The nere line is available, in wdition to the regular zualuut finish, in ebony. This contrast of black and chrominm fuls admirably into modern decorative schevtes. tits suid.

Heard at "Camp Merchandise". (General Electric rally) : "In thesc days of aggressive competition you must analyze each jobber salesman as to his assigned territory, fixing concrete quota responsibility on sets in ratio to the industry available in those areas."
"We are not interested in merely placing merchandise on the dicaler's floor. We want a plan that will move it into consumer's homes-hence the great need for the active use of our monthly sales promotion material."
"General Electric national newsbaper advertising is of little avail moless dealers are listed os a source of purchase." RALPH J. CORDINER, In Charge of Radio.

Kiefer-Stewart Co., Crosley distributor, Indianapolis, introduced the new 1936 Crosley radios to more than 200 dealers and salcsmen at the Hotel Antlers in a two-day meeting tecently. The business scssions were directed by Oscar C. Maurer.

The RCA verstas Philco lazusuit over patent rovaly prayments is not dend-"but slepheth." Will be fought out carly this fall.

CHICAGO-Advance orders nlaced for fall delivery at the national convention of radio distributors recently held loy the Stewart-Warner Corp., in Chicago, were the largest in the company's history, F. A.

Hiter, vice-president and gencral sales manager, stated recently and were 300 per cent greater than at the distribu tors ${ }^{\prime}$ convention held last year.

CHICAGO-B. C. Murphy formerly sales manager of $L$ Tatro Raclio Co, has associated himself with the Zenith Radio Corp. Mr. Murphy will be in charge of the sales of the new Zenith farm radio line under the direction of E A. 'Iracey.

Have just returned front first "Dealer and Wife, No Business, Strictly Pleasure' cruise of GE's eastern re tailers. A buge success. We prophesy this cruise inea will be repeated by GE and copied by other outfits.

Two introvations in the holding of dealer-jobber meetings were pulled at the joint presen tation of the RCA.Victor lint in New York City, August 14
(a) The affair was held in broadcasting sterdio 8 H , National Broadcasting Company head quarters in Radio City. Thus, is tangible masmer bringing home to retailers the inter-clependence of broadcasting and the sale of sets. And what is more, the big family relationship of NBC and RCA-Victor.
(b) The decision to divorce business from pleasure. The mid-August session was strictly for the stady of the new line At a later date an entertainment festival (see news item) will lee pulled, where joy, unalloyed with butiness cares, will reign supreme.

Ralph S. Cron, for the past two years nonager in New England for the Victor Talking Machine Company, has been appointed manager of the Eastern Radio Company, RCA Victor distributors, with headquarters at 88 Pearl Street, Boston. Mr. Cron began his business career with the Victor company 17 years ago.

"QUIET" $\qquad$ is the insistent demand of millions who today own all-wave receiving sets. Give them what they want, by installing


This remarkable unit, A.A.K. paiented and engineered with traditional CORWICO thoroughness, is building sales and good will for dealers and service organizations everywhere.

## FOR EVERY SET AND LOCATION

"NOISE-MASTER" picks up and strengthens feeble oversea signals, straining out the "manmade" stafic that sometimes seems to make radio a curse instead of a blessing. Minimizing the noise caused by household appliances near the set "NOISE-MASTER'" improves broadcast as well as shortwave reception. It successfully operates more than one sel from a single aerial. We guar antee that "NOISE-MASTER" will eliminate noise when praperly installed, and urge you to recommend it at every opportunity. describing this and other up-to-the-minute antenna unils.
CORNISH WIRE CO., Inc.
30 Church Sfreef
New York City


- For some time we have been supplying the requirements of leading set manufacturers with a complete line of Metal Tubes for original equipment.
Beginning September 3, several thousand tubes a day have been shipped against orders from leading jobbers for replacement purposes. These shipments have been made up of balanced quantities of all types now being used as original equipment.
Our success with the neze metal tubes has enhanced the position which we have held for over three years as the largest supplier of glass tubes for original equipment.
Inquiries regarding tubes for original equipment will be promptly answered if addressed to our New York Office at 500 Fifth Avenue.
Jobbers, take no chances- carry SYLVANIA tubes and be ready to take care of your trade!
Dealers and service men will profit by dealing thru a SYLVANIA jobber. Communicate with our factory for $F R E E$ Technical Supplement on the new metal tubes. Address Hygrade Sylvania Corporation, Dept. J-1, Emporium, Penna.


## SYLVANIA

## THE SET-TESTED RADIO TUBE

## JOBBER GOSSIP

The Ignition Service \& Supply Co., Albany, N. Y., will represent Fada exclusively in castern New York State and Berkshire Connty in Massachusetts. Heary I Zehner is president of this live outfit.

Moto Radio Distributing Co., Pittsburgh, Pa., will look after Fada's distributing interests in western Pennsylvania and northwest Virginia. Partners Bryson and McCutcheon, experienced radio men, were previously with the Pittsburgh Auto Erquipment Co.

The Federal Oil Burner Co. has been appointed a new distributor for Sparton radios. This concern headquarters at Newark, N. J. General manager Harry M. Feinsilver was particularly intrigued by Spar* ton's new set designs - the brait child of artist Walter Dorwin Teague.

Hughes - Peters Electrical Corp. will job Sparton radio products in the Colnmbus, Ohio, area. President Welch was attracted by Sparton's group of price leaders.
Auto-Rad Supply Co., Cincinnati, Ohio, are among the new jobbers added to the strong wholesale organization of the Howard Radio Co. Chicago.

Another strengthening of Howard's distribution is seen in the appointment of the H. C. Haenggi Co., of Dayton, Ohio.

Baumgardner Distributing Co., Toledo, Ohio, former RCA outlet, have been appointed distributors for Stew-art-Warner. Jitn Baumgardner was highly enthusiastic about the new line and placed a substantial order for refrigerators as well as new S-W radios.

Electric Lamp \& Supply Co., St. Louls, will represent Stewart-Warner in the St. Louis territory. H. S. Hollander and his entire sales force attended the recent $S-W$ convention at Chicago. This oltfit held open house for atl its dealers the fore part of August.
BUFFALO - The Ontario Electric Co., Crosley jobber introduced the new 1936 line to 200 dealers and salesmen at a meeting held in Buffalo, August 8. J. L. Block acted as master of ceremonies. Howard E. Richardson, sales manager for Crosley, delivered an inspiring address on advertising and sales promotional plans in characteristic Richsonlat fashion.
PITTSBURGH - Approximately 400 Crosley dealers and salesmen attended the
presentation of the new 1936 Crosley radios by Anchor Lite Appliance Co., at Pittsburgh, Pa., August 9. Harold Goidstein, presicient, is noted for his tnique dealer neetings and this one was up to his previous gatherings in every respect.

## These Five Booklets are worth writing for

"On the Air"-a compact review of broadcasting develop-ment-is full of interesting pic tures and text showing how radio grew to its present man's estate.

National Broadcasting Co Sales Promotion Dept 0) Rockefeller Plaza New York City

Yaxley's No. 2 Replatement Volume Control Mamal and Service Guide is off the press160 pages of catalog and helpist data.

> P. R. Mahlony \& Co. Indianapolis, Ind.

## -

"Tube Talks" is the title of Raytheon's elaborate service and merchandising manual. Chuck full of tube dope-and planned to be self-expatiding as new

pages are issued. There's a price on it of 50 cents-but it looks worth it. Write:

Raytheon Production Corp. 30 East 42 nd Street
New York City
Radolek's new catalog (4,000 more items than the previons edition) combines extensive service data with a wide range of merchandise listings. "This catalog will be limited to a mail. ing of about 25,000 servicemen who have given satisfactory proof of being legitimately engaged in the resale or service of radio eguipment," says W. C. Braun, president.

Radolek Company
601 W. Randolph st. Chicago, Ill.

Electrad offers a new Volume Control Guide and 1936 catalog of resistors. Lists alphabetically all radio reccivers, model numbers, makers ${ }^{3}$ names, catalog numbers of proper Electrad replacement controls, resistance values and list prices.

175 Viectrad, Inc.
New York City

## NE W

## MERCHANDISE



Stenoart Warner Model 1.888

## Stewart Warner Sets

The "Ferrodyne" chassis deStepart Warrer Corp., 1826 Diversey Blvd., Chicago, has a rigid, all-metal, rust proof shortwave aertal terminals, a.v.c. dutomatic station register, Magic Dial, dual-line filter ard sound difusion systom and is desimned for ind-metaid tube equipment. "The cabinets are "Craft-Euilt" combining heauty
and correct acoustical design.


Stewart Warner Model 1 Sis
All sets in the $S$-W lire but one, Model, 1401, are "round-theworld molets.
Mocel 1388, illustrated, is an 11 tube set housed in a fout fioor console Twin dynamic speakers are employed, the largest of which is 14 in. soetaker Utility shelves are provided back of the two side
doors. come
mingel 1386 also an 11 tube
set, has a 12 in. spertier with


Stavart Warner Model 1362
curvilinear cone which adds an rdditional octave to the audir response.
1385 in ard 11 tuber is Model the "floors type. With 9 tube chassis, there are former in the "solid" cabinet
and the latter in a six-legged Models 1366 and 1365 are 7 tube sets. Model 1366 is housed in a. six legged cabinet and 136 in a down-to-the-floor cabinet Model 1345 is a 6 tube foor type console with 12 in. speaker. Stewart Warner's table set include the following: Model 1361, upright style, 7 tubes Model 1062 which comes in an unusually well designed cabinet with "off center" dial panel of burl walnut; Model 1301 an upright receiver, and Model 1302 , in a unique cabinet wit distinctive grille treatment
The only standard broadcast radio in the lime is Model 1401 superheterodyne with shortwave police aireraft calls, etc.-Radio Retailing, September 1935 .

## International "Kadettes"

The new Iadette "Met-Octal" radio line has just been piaced on the market by the International Radio Corp, Ann Arbor, Mich These sets use the new octal base tube so that either the all-metal or glass counterpart may be used interchange. .

Model 120 is a 7-tube all-wave sot covering from 13 meters rikht through to 555 meters. The cabinet is designed to harings and yet fit in the most modestly furnished liome.
Model 52 is a five tube set, covering the broadcast band as well an the 16 to 50 meter band. This is a table set in a curly maple and wainut cabinet.
Model 26 is a 4 -tube t.T.f. set differing radicatly from the con-


Fadette Model $\operatorname{si}$
a new oapacitively-coupled antenna systerm is employed. Tho cabinet is a table style particwarly adapted for the enc table Medroorr om mantle.
Model 5 is a fire-tube all wave set with superheterodyne circuit. It covers from 1 名 to sabinet is of the upright table cabinet is of the uprght table
Model 61 js a six-tube superheterodyne for cither a.c. or d.c. Harmonious combinations of selected typers of walnut grain are used in this upright table cabinet.
The Jewel compact, Model 40 series, brought out a year ago sobeing retained aue to its ments in the chassis, the introduction of two new de luxe plaskon cabinet models as well as a downstard revision of prices on the de luxe model are


Madette Morle 1 zo
announced. This is an a.c.-d.e compact, measuring six7ax33 lin. The walmut bakelite mode plaskon models at $\$ 16.50$. fa alo Retailing, September, 1985.

## Westinghouse Radios

The "Precision 'Juner" is being featured in the 1936 lime of Supply Co., 150 Varick St., New Yorls City. Metal tubes of course, are also used. There are 8 table sets and 4 console in which are included models


Westinghouse Monel Ios
for battery operation in adidition to two auto-radios, The lable sets are Model tubos, a, c, -d.c.s $540 \rightarrow 4700$ kis. WR-101, 6 tubes three band 000 ke ) a.c. set with 3 metg 000 ke, a.c. set with ${ }^{3}$ metrl Midget" 5 tubes, "Mighty Mo. Mrget, 20 , 6 tubos including 4 of the metal troes 54n-16.000



Westionghouse NTalel 20.5
48,500 kc, precistion tumer; and Yr-200 a companion model to 305 and utilizing all its desirm able teatares, subes, precision turne consoles include: Model WR-603, asoles include: Mode with 4 all-metal tubes at populat price; WR-304, 7 tube super with all-metal tubes, preeision tuner, $540-18,500$ Ke.
$W 73-305,8$ tubes, scparate oscil-
lator tube to eliminate the necussity for returing on the sitivity with to increase sen noise, precision tuner: and, wR306 , a de luxe, all-wave controlled high fidelity set using 10 tubes, the calibrations of the four binds being marked


## Westinghouse Model \$05

cxtra large dial, oversize 14 in . concert speaker, 120-370 and 40-18,500 kc.
There are two battery table sets, WR-601, completely battery operated with all batteries enclosed in the cabinet. May be used with a dry A pack for filament power, adapters are available to allow use of an ait Cell, 2 volt storate cell o\% 0 volt Model Wra-602 is a fore volt set Model Wri-602 is a bormeat set and the principal Fumopean shortwave channels.
Westinghonsers auto - radion are Madel WR-500, of the "round" or drum type, and WR-50I, 6 tube single unit re-celver.-Radio Retailing, Septtember, 1935.

## Freed-Eisemann T-367-S

A new powerful two band a.c. suporbet encased in a hand polshed wamut weer are preed ifo co Inc 127 W 17t ct N"w Fork citr The get has a full vision ail= blane dial printed in four colors to indicate the locations of ratious types of reception. rubes arv 6A7, 6D6, $75,16,42$ and $\$ 0$. Frequency range Wै 1,506 and 5,500-15,700 kc
This set is also made for anc.-d.c. operation as well os with broadcast and Europeank long wave band ( 1000 to 2000 and $200-550$ meters).
The a.c. models are avaliable with all-metal tubes and the with some metal and some giass tubes - Radto Retailizu September. 1935.


Foved Fisematan travis


Crosley＂Travo＂

## 1936 Crosley Line

By incorporating the very neers of thents，the e bilo Corp．，Cineinnati，Ohio，have done their shave to make effec－ tive the company slogan， soth matal and arass tey． we available，giving the dealer a choice of viruatly paralle models in the a．c．line incor－ porating glass or metal tubes except in the fower piriced brackets．The respective mod－ els have been specitically engi－ of tube．
A new velvet action two speed dial，triple－tuned i．f．trans


Crosicy Clipper and Constitution
airplane dial and color hand de－ signation are some of the high－ lights．There are models for medium 5 hort and mediurn Waveband reception and many Owave receivers．
one the the most interesting Travo，a four tube superhet medium wave，for ene．superhet ation．A carrying hande is provided and may be seen over the speaker grille in the illus tration．$\$ 25.0$ four 5 tube sets
There fare


> Croslegr Conseir
> and ingromad
（\＄13．99 to $\$ 4.50$ ）six 6 tube sets（\＄39．96 to \＄59．35），four rive receivers（\＄5 to $\$ 85$ ）
 $\$ 97.50$ ），and 4 tube table ant console（ 88 and $\$ 100$ ），and at shadow tuning（5 bamds，will－ wave） 2909 and $\$ 115$ Wowe）$\$ 99,95$ and $\$ 115$ ．
Fot battery operation there molels and three consoles．$\$ 19.95$ to $\$ 84.50$.

Crosley also makes a 32 volt way d．c．table and console set．$\$ 47.50$ and $\$ 64.50$ ．
In addition there are two Fouh are－Al4 and A155． the single unit construction and the single init construction and dial saf． 95 ind remote control cial adapter panel to fit in ine－ ash tray or glove box of severad new model cars is available at new model exrsis available at Retailitg，September， 1035.


Detco Model 1109

## 1936 Delco Radios

＂Fiobot controlled Delco syn－ （ro－tuninc＂is the talking point Motors Seas Wise Detroit，Ulich This robot matches the circuits to preduce better madio recep－ tion，Individual circuits，which must be synchronized perfectly for maximum efficiency，are controlled by precisely cati－ brated capacitors．A twist of the dial ana the robot tumel takes hold，brimgins every circuit isto restratice－producing maxi－ mund to the 1 meter foreiun broudeast band．meter forcign An umusual


Delco Model 1110
simplify shortwave station find－ those metal tubee which Toleo ensineers recommendad after rigid tests are used．Future use of other new types of metal or gless tubes depends on the re－ sults of laboratory tests by Deleo．
Four table sels and three consoles make un the line，all branded＂Deleo．
fi getas Models 1107 ， G gaxs tubes，three bands； Il05，5 elass thoes，two bands： arad 1101,5 Elass tubos． 1110 consoles include：Modes foter bands covering from 540 ko，to 18 me plats $150-390 \mathrm{Kc}$ ． 1109,4 㗊lass ard 4 metal tabes， thuee bands； 1108 ，onlass tuhes， three bancts giving complete oovarage from 540 kc to 18 mc ． phacul on the abinets this been pracelimo frels purchasers of new matos ane going to be more interwsed that ever in attracm tive furniture dissign．－Radro Retallimg．September， 1935.


RCA Vietor Model Dz2－1
1936 RCA Victor Sets
Four fundamental nowly de－ signed and engintered chassis are mmployed in the 1936 tine of the I？CA Mfg．Co．s Inc． camden，N．J Large speakers distinctive cabinet stylmer anc wo new rype hals are other sed or the lower pried item nuticates each barid in a dis inet color and the Selector Dial attiomatically switclies into view the band in use． Metal tubes are uned，of


RCA Victor Model C8－15
the Magic Brain and Macyic Fre． There are two table models 18－14 and T10－1， 8 and 10 tubes The consoles are miode Q8－15， 8 tubes $546-18,000$ kc． down－tompor gabinet；$C$－ 4 ， 8 tubes，Music Eye；Cis－1， 11 tubes，Maric Eye，Selector Dial Also Model Ulis－2 which brings in ean on the $40-410$ we．band and provides for cove erage of the ultria shortwave lanad from $30,000-60,0+6 \mathrm{ke}$ In this modal is introdeked an antomatic sensitivity booster super－fidelity asd improved out clyned turing panel behind double doors．Model c15－3 is a stiper de luxe instrument witi

same bind coveratge．This is a 15 tube $j 0 b$ in a master eabinet The ring desisn．
The radio－phonogranhs in－ clucle Model D8－18 whicti has The 8 tulue chassis employed in lifference in band coverase Instead of coveriner the inter mediate band， $1800-6000 \mathrm{ke}$ ．it features the $X$ bamd－ $140-410$ ke：Mronel D11－2 is equippen
records，has 11 tubes，Magic Eye and Selector TYpe dial．
Model D22－1 is the super de Model D22－1 is the super de lithas the cib－s chassis．This It has the clb－3 chassis． instrument uses 22 tubes，has de lixe Mand 000 covers Magic Tyo Selector Dial Musie speech control 2 super fldelity speeakers．Also has＇wolame ex tender＂using three tubes．This extender eliminates the limita－ tions of recording，bringing back irto the reproduction the full original range and scope of vol． ume Home recording is also movided．
RCA also lies improved bat－ tery models，both table and



Stromberg－Carlson Model 6：

## Stromberg－Carlson Metal Tube Sets

＇Two now models with metal tubes have just been announced by the Strombery－Carlson Tel． will be known as Mlodels 62 and 63．The 58 neries，Stromberg＇s low priced models，are now available with either metal or glass tubes．
Model 62 is a console cover－ ing tell wave lengeths from $540-$ $18,000 \mathrm{kc}$ ．High fidelity is pro－ vided by means of a special band widener device，This set has the＂Solectorlite＂dial which indicates the frequency range in ase by changes in itmminationl． indivalually illumineted art for the stand huminated while the entire dial to illuminatel An automatic antema solector． similar to that usell on the higher priced models is pro－ vided in conjunction whth the range switch．
Mrodel 63 console is similar in oberating features with the ex－ ception of a visuai tuning meter which has been incorporated． Ratio Retailing，September， 1935.

## Garod Battery Radio

Announcement has been re－ ceived from the Garod Radio Corpr， 34 T． 12 th St．，New York City，that their new battery madio，Model No．$s$ ，is now ready， This is an 8－tubo air cell re－ ceiver，three bands（15 to ${ }_{2}$ watts．Jifament consumption is 54 amp．and $T$ battery con－ sumption betwoen 20 to 90 mil－ liamperes，depending on volume
Tile tube equipment consists of $3-34,1 \mathrm{C} 6,1 \mathrm{E} 5$ ，amed 3 m 30 ．Th中 set is equipped with the＂rmas－ ter control＇radio frequency stage on each band．
This model will be followed Shortly by at similar set com－ plstely fowered from a 6 －vol ape batter
soth aro available as table grath combitiation radio－bhono－要aikith Soptember， 2935 ．


Pietce-Airo Monel 610SA

## Pierce-Airo Line

For the new season, Pierce Airo, Inc, 510 Sixth Ave., New rork city, is bringing out auto-radio in two models. The table sets come in botit the compact and upright type cabinets and range in eize from a stube, a,c, d, c, t.r.f. set to a 6 tube a.c. superhet. Metal tubes are available in certain models. There are round-theForld, skip band sets: ulira sensitive hi-fidelity allwave
models; broadcast and police call receivers, etc. and police Both consoles are semitmodern in line and of the down-to the-floor tylo. They may be had to cover from $18-560$ meters or from 18-2, 000 meters.
rhe abtorradio, marketed unaer the trade stme diotortone, is a 6 tube high-gain supertiet with remote enntrol. As Model A.605 it covers from $180-555$ meters and ats Model A607L W it gets ualls from 190-2,000 meters. $\quad$ "rodio Retatiag, Sep(ember, 1935.

[ierce-Airo Model 8040

Proctor Piezo Reproducer
Difficuties inherent in other phonoprapth piek-wps have been overcome in the new Piezo oped by the R. A. Proctor Co. Inc., 315 W. 68 Lh St. New Xork City, employing a Piezo-blectric crystal as the reproducing ele-
ment.
mispecially suited for p, a. and centralized radio work where a high desreo of ficelity and onsistent performance dmust be maintained.
The entire unit, including tone arm, is solidly build of edst Scptember, 193 .


## Pilot "Phoramatic"

A ten-record automatic phonograph and li-tube superheterodyne radio with bi-acoustic from the irilot Radio Corp. 370636 th St., long lsland City, JX-110 Fhoramatic and may be used in homes, schools and auditortums The a atomatic changer handes ten records efther $10-$ or 12-inch size Specially dasigred ohbimet for bi-twoustic reprochuction has two balanced ploaker ura audio amplifier soction special audio amplifier soction. fit comes in two models, Entropean use only, $18-550$ and T50-2,000 meters. - hadio Retailing, September, 1935

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## ATR DC-AC Inverters

A new and improved line of inverters to be used in operating standard a.c. radios, p.a. atc on farme and it a dis fricts is how ready at the plant of the Aumerican Television and Radio Conest. Iaul. Mimn.
Aaclo ${ }^{\circ}$ s inverters have a number of outstanding Rdvantares. they are noiseless in operation, compaet and need no oiling or greasing. Othor features in clude: full-wave imput operation, plug-in vilurator unit, 4-point voltage resulator, pilot light indicator and resilient mounting feet. Encased in an attractive brown crackie finish metal cab-



## Remler PA System

[^1]

CASH IN on this tremendous market. Sell the Brownie All-Wave Antenna. There's a real profit for the dealer on every Brownie sold. And you'll be making real friends too.

The Brownic All-Wave Antenna has been tested repeatedly. These tests proved the Brownie to be unsurpassed in quality and performance. It is sensitive to the faintest signals, bringing them in with astonishing volume regardless of the hour or location of the set. Man-made interference is eliminated. Local stations attain new high fidelity.

The Brownie is made by an old line manufacturer in the electrical field. It is constructed on the Balanced Doublet System with a new type, super-efficient, matching transformer, and comes complete with quality parts for a quick, easy installation.

Backed by a national advertising campaign starting soon in the Saturday Evening Post and Colliers, the Brownie will soon become one of your best profit items. Mail the coupon today for details of our attractive, money-making offer.

Porcelain Products, Inc., Findlay, ohio

## Mail this Coupon roday

Porcelain Products, Inc Dept. A Findlay, Ohio
If there's real merit to your antenna, I'm interested. If there's a real profir for me, I want to make it. Rush me your proposition

Name
City__ State
My Jobber is


## Ampli-Phone

The specifications of the hodel 142 Ampli-phone of the Ampli-Phore Co, 874 Broadway, Now Yo:g City, are all electric. amplifier, three tubes, six ineh dynamic speaker, General Flectric induction motor, spectal matehed light morlel pick-lup.
The Instrument will plas twoth 10 and $\frac{12}{2}$ inch records, Size 118 1616 dx 8 , Fist price, $\$ 35$. To operace on a.c. or d, ce the price is slightly higher:-Rad

## New Jefferson Parts

.Teiferson Elcetric Co., Bellwood, Ill has recently started production on a complete line of transformers, chokes and other products designed partic4n,rly for the l"adio amateur. This line incorporates conbitity which will be auprecintad and includes over 130 numbers - Radio Retnidno Sentomber 1035.


## Walco Sound Recording Instruments

A complete line of pick-upe, cuting heads, feed sorews, mophones, amplifiers, aluminum blanks, cellulotd blinks, chtting teedles and fibre neodles are available from the Eleetrical Laboratories Co., Inc., 49 F. 2 ist St. New York City.
Of especial interest is its pickups suitable for 78 or $33 / \mathrm{rmm}$. meats listing at $\$ 12$, cutting heads, s8, reeording feed mechanisms, $\$ 25$ and at recording \$300

The Walco also offers a comt plete chassis for recording on blank aluminum records which is ideal for home recording. S 127 - Radio Retaiping, Senternher, 1935 .

## Hand Sets in Colors

The French phone hand set made particularly for five meter sets ard transceivers by the Universal Microphone Co., Intrylewood, Calif.. may now be had cluding pink, red, oreen, orange, browng pink, red, green, orange other modernistic shaies and combinations- Rndio Retailing. Sentember - 1935.

G-H Augmented Line
Girard-Hopkins 1437 23xd A ve, Oakland, Calif., amnounces our additions to its $193 b^{2}$ line. New space-saving midget alectrolytic condensers wro espectary fearirca. Many of these are avalable in both hiot anc ore avaltares in both hiph and 1 mprovame
o G-H dry paner wound made rolytic replacements, Added ca wacity and safety are featured. The new uncased condenser are conservatively rated with a 1 in 1 safety tactor. Decidedly small, these highly compact and serviceable units are provided with push back leads and are completely sealed against molsture in cellophane and wax.
mproved transmitying conbensers including sold pack smaller and mores are now placelmeth bands auto condews erse amo new histr condens mon-inductive carbon resistors ronnd out the now completely standardized $\mathbf{G}-\mathrm{IT}$ line- Radio Retailing. Sontember, 1035.


## Aerovox "Midget" Electrolytics

Without sacrificing workbty coltafe, filif mpacity value on
service life, yet taking full advantage of a new development su the treatment of alumimum foil, the engineers of the Aerovox Corp., 70 Washington Es. Prooklyri, $N$. Y. announce it great rednction in the bulk of ary electrolytic condersers Known as Mirter electrolytics these umits are avankable 271200 Dacities of 2 to 16 mfi, Redfo Retgiltu of Spentember, ins.

## Williams Midget 'Superrenches'

A revised assortment of Lnidret "Spuperrenches" and "Supersockets" has just been announced by J. J. Williams \& City, of the many features of One of the many features of axtension-driver with revolving.
ockable handie. its destrn permits the knurlen hantile to revolve freely, yet a slight downward pressure locks it automatically, allowing the driver to opprate on
principle.
The complets set contains gight of the rew straight wall sockets with $9 / 32$ in. square renches" and a mideret "Superplier." Set No. 1268 F is identical except for the omission of the "Superrenches." - Roulh Retailong, Spptember, 193 5.


Line Filter Choke and Pre-Selector

For the ahead of is shortdor eceiver in raise weak $D$. froas, a high sain, two-slage .f. amplifier has boen cesigne miller congineers of the S. Nain St. Ios Angeles, Calif. It is available completely wired and housed in a metal cabinet. There is also available a kit. which includes antenna coil, r.f. coil, r.f. choke trimmer condensers The tur price of the coil kit is 88 : meta prbinel \& 50 . Tist orise of all parts, includine three tubes filtals approximately, $\$ 35$.

Elimination of high frequency isturbance from power supply littes is accomplished by the thew line fiter choke which the Miller Company has developed for use with recelvers, transmitters or any source of in terference. List prices range from $\$ 1$ for the z-fmpere type $n$ adio nerailiug, septermber. 1985.

## RCA Beat Oscillator

With the new RCA beat oscillator attached to short wave superheterodyne home set, it is bossible to listen to the many continuous wave code signals that would otherwise we inetudible It is also useful for tuming any weak sismal by th sensitive "birdie" method.
This is a compact, urn=modu lated C-W oscillator having a frequency range of from 415 kc . to 700 kc \$7.00, RCA MfE, No. triling. September", 1 nst.


IRC Insulated Resistors
Retaimins all the advantages of the familiaj type " $\mathrm{F}^{*}$. Metal lized resistors, the now insulater
resistors (Type B) have complesisto high woltage insulation protection and are constructed without metal ends. They carl contact other parts without danger of shortinc. Utilizing an improved mietallized resist ance element. they have an extremely low noise lovel and represent a distinct improvement in ossential resistor characteristics suck as accuracy and durability under all operat ing conditions. Jnternational Resistance Co., 2100 Arch St. Philadolphia, Pa, Nethon Retrotfrig. September, 1935.

## Automatic Cut Out

The "F'use-Frer" automatic citant of Henry C. Forstar Co. 1307 So, Michigan Ave., Chicage, Ilk may be installed any place where there is a fuse plug 310 cartridge fuse and requiras cost for installation Con Controls cost for instalation. Controis to and including 20 amps. This dintomatic cut-out provides proteotion Rgrinst short circuits and overloads. It is a switch, l'use, motor and line guard in ond device. $\$ 2.50$-Fadta Kc triming. Septermber. 1gs.


## Macy Directional Speaker Baffle

The new floor stand aisl directional speaker baffle manuing Co, $145139 t h$ St Brooklvn ing Con 1451 3gth St., Brooklvn. N. Y. is suitable for rental ol temporary instalation The hiree-pointbase will set evens hase area and weight of 24 lb . offers a steady support for the heaviest cone speakers.

The top section and support is dwailable separately for use in mountinf at locations where the floor stand is not required. List price complete as illus. fated, 40 , bane and rousms alone, soptember, 1935.

## Crowe Products

Tho Erowe Name Plate \& Mfs. Con he grace st. Cheazo. rols esentcheons name nlates. instrument dials, to armoninces the following additions to its line:
A special remote control for instrument panel mounting on General Motors cars: instrument panel mounting kit for Crowe thiversal heads on 1930 Fords + instrument panel mounting kits for crowe universai heads ats well as the universal heads themselves in four ratios.
Crowe is also amnowncing a new line of dial plates and Friobs tor pancl mountingRadio

## Lenz R.F. Circuit Hookup Wire

A. new type of hook-up wire known as radio frequency hookup wite has been developed by the Lenz Electric Mfg. Co., 1751 This wire Ave. Cnicago, min. with wire has been cesisnen lent performance at high fre. quency.

The dielectric characteristics consist of exceptionally low losses, high insulation resistance is claimed. The company states that excellent tests were obtained at 25 meters ( 12 mera-cycles).-radio Fotaimma. Septemher. 1135.


## Victor Projector

a new enclosed, cablist-type of silent 750 -watt projector has tur Animatograph Corp., Davenprot, Iowa. It is known as Model 21 and will probably list al *185. It is equipped with 1600 ft . Teel arms, so hat a onehour presentation may be made without stopping to change the ilim, Smaller reels may be used if desired. Faraio Retailitg.

## Radio Interference Suppressor

A special suppressur resistor for quieting the radio disturbance which originates iu the distributor of Ford V-8 cars may be obtained from the ConThental Carbon, Inc, 129 ot Lorain Ave., Cleveland, Ohto This suppressor is made fin The shape of the frition cosl circuit of a Fubt v-8 distributor and replaces this brush contant, replaces this brush contast The ignition circuit has the effect of dampine the oscillatory distharge without apprectably weakening the intensity of the spark. The retail list price is 30 cente - Radio Retailing, Septए19ber, 1935 .


## Solar Dry Electrolytics

A new series of dry electrolytics which bring ultra-comipactness to the service trade is 99 roadway Yew Yosk City noder the trade name "Litte miant." They are about half the size of prevlous "midget" types. The voltage ranges are availnble, 450 volts and a 200 volts worikng, in all usual capacitles, lhickness has been kept to a Mlnimam so that these condensers will fit anywhere for rapid repalrs.-Radio Retollity. september, 1935.

Variable Impedance Modulation Transformer

A tuansformer for use in radio transmitters which permits coupling the 500 -ohm output of any audto amplifier to any r.f. plate milliamperes of not over 210 made by the Thordarson fle made by the 500 w Chicago. It will hande up to Sh watts of audio power
This is the first lime, according to Thordarson, the universal system of cokplizg, popularized its small radio output transformert, has been applied to at large unit employed in transmit ter circuits.-Radio Fetaimeng.
seprelnber, 1935.
Radio Retoiling, Seplember, 1935

## Trimm Group Hearing Aid

A group hearing aid, connpluter in every detail, has jusit been arnounced by the Trimm Radio Chicaso ${ }^{2}$, Armitage Ave. a number of outstandine fers tures not heretofore found is equipment for this service, sta the manufacturer
A higl quality mierophone tequiring ho power supply is nsed in combunction with an amplifying unit that is entirely selfcontained, requiring nu extri chokes or transformers. Trimm reatherweight earphones and bone conduction oschators are beed - Rarlio Refailing, Septerm ber, $193 \%$.


Shure Microphones
Two of the Shure Bros. Co.r 215 W. orystal lapul microphoue (diat phratm tyue) which wairle less than type which welighs is only in diameter, $\$ 25$; and a dia. phragm tyles erystal namorophote especially designeal for highly effective commnunisitions service in atrways, police, commer= cial and amateur radiophone systems known as motel 70s and furnished with a convenient. desk moknt and wo-conductor shelded cable $\$ 25-R a d i o R e-$ tailing, September, 1935 .
"Speedway" Turntables Dealers wishing to get animation ha their window and in the line of Speedway "fleapower motors, turntables and display mechanisnts made by the Speedway MLg. Co., $18: 4$. $52 n d$ Ave., Cicero, I?1.
This company has just announced as new line of cast steel turntables, capable of supportins up to 150 lb, complete witin 120 valt motors and speed reducers. They list from $\$ 6.50$ up. ras Fotrilh g September,



g


Duco-Noise Filter and Aerial Eliminator

An all-wave line notse fllter. and aerjal eliminator has been placed on the market by the Bumont Flectric Coot Incos wid may be used on any set a-c. or d.c. and all waves, short wave, medtum or long, from 6 to 2,000 meters. The list price is $\$ 5$ -
Radio


The PIONEER Air-Flo a windoperated charger
-that really works!

For perfect cuscomer satisfaction sell the Air-Flo, a completely engineered, utterdy pracrical, wind operated charger. It is entirely built in the Pioneet plant, withour as sipple te-manufactured pari used in its assembly.
With its scientitic operation, the Air-Flo will charge ar low wind velocity. Your custumers needn't wait for a gale to charge their batterics. Sell the Air-Flo confidently, is will raily deliver the service claimed for it. TEAR OUT this ad and pin to your treterhead tor complece information. He

## sered tor Lifo

 neer's ecomplets eircular on a now line of high voltase dynamotors 4nd Gus lingiae Drivernlynamotors.
PIONEER GEN-E-MOTOR CORP.
458-J West Superior St.
Chicaqo, Illinois

มี่


FAMOUS SINCE BROADCASTING BEGAN Himiquarters for Qualivy Rudio Sets ut Low Irices Capitalize on this world renowned name-always associated with the highest yuality fypes of radio sets.


M101NEF. T-306-13


 Now yuta can sell "rreedyopatior prtcess, within the reach wall.
This hew Hue hus evarything nteded in pupular priced radlo to help you do substantial basinetss at a Food proft. 5 Ra I0 Lube Supurheterodyne models. Broadeasí Bands.
Tateast cubinet designs with wany ittractive features, lots of eye thue anl unsurpassed perform-"F'reed-Fisemann" seta-at prlees that will surperse youl
All these teatures combine to ehable the progressive and atert rado balyet to do a substanta!
vulume at a mure profte Cash la on the good-wII and reputation of the 'Freed-Elsemann' natue

## PREVATE ERAND SETS

A cumplete litre of Ther sels for sales and promotional pharposes tur till the need for low priced leaters apd round out a complete llue. Single Wand and mull lhand sets attractively styled. Licensed under 1BCA and Hazeltine pateme

for weluite und ptces
FREED MANURACIURING COMPANY, INC.
127 West 17th Street
New York, N. Y.

Cable: litudiofreed, N. Y.

# Three New Tube Types 

(Continued from page 16)
has the new octal base and is interchangeable with the metal tube of similar model.
"Further, we are far from convinced that this new glass tube of ours is a 'transition' tube. First, it must be established whither this 'transition' is tending. Personally, I believe that the metal tube may work out successfully but I am far from convinced that the tube of the future is the present metal tube."

## Oin ro Tife Fire

"Gocl knows, and I am sure the tube manufacturer knows, that the industry already is sufficiently confused and disturbed with the introduction of the metal tube. Injecting any publicity into the situation on the so-called metal glass or intermediate tube will add oil to the fire."
(Editor's Note: RR's obligution to its dealer readers is to acquaint them with every pertinent development in the industry.)

## A Questron

"There is a question as to whether it is wise to make this more or less temporary move. I believe if the subject is covered merely to clarify the situation and mark this so-called metal glass as a temporary expedient, it will answer the purpose."

## Are Actualiy Metal Tubes

"We do not desire to publicise our tubes as 'metal glass' types inasmuch as we contend that they are actually metal tubes since they have all the intcrnal capacities and general characteristics of the ordinary metal tube with the exception that, instead of our product depending upon the eight glass beads at the point of the prongs for protection against loss of vacuum, we protect the tulbe with ant entire glass envelope inside of metal."

$A^{s}$Sof September 1, the manufacturing policies of the industry's ten leading tube makers are as follows: Six companies have installed special machinery for

## Metal Shielded Tube A.C.-D.C. RADIO

## Made to sell for $\$ 16.95$

- REvolutionizing mabidi Metil tuhe and metal-thielded tube sela are making radio history. Al mest every maker hag joined the metaltule pirade
- finminis ininge the pitice mown to EARTH: We necured a modent-size ect, with 4 inctal shielded tubes, in a handsome walnut-finishicd cabinet... at an introductory low price that everyone can aflorit!
- Wht ahe metal tuble anig nietal SHIELDHIS TUBES BETTERY The Bhielding protectes the glane and the inside eloments. Leas noise inderference, lens static; better tone Rigid construction; haile to resiat vibrations
- SELF- dontained aEibial . . Juet drop it out the window.
- GUARANTEED by Cimbele and by the manufecturen
- Mall AND PHONE ORDERS HILIED

CIMBELS-Radios-Siuth FIaor

Clipped from the Aug. 14 issue of the New York Evening Sur, this ad., by Gimbel's department store, may or may not be the forerunner of a new technique for eashing in on the trend toward metal tubes.
the manufacture of the original design metal tube, under GE licensing agreement. At least four of these concerns are now on a limited production basis on all but two types of the GE tulbe. Another is on a large scale production schedule.
Concensus of opinion of these concerns: "There still remains certain production problems to be solved, but these are not insurmountable and should be cleared up in the near future."

Four of these six tube manufacturers also are experimenting with other, modified, types of octal based tubes using glass envelopes.

The four remaining tube concerns are confining their manufacturing efforts, for the present, to the production of counterpart tubes.

Ali companies are continuing the manufacture of the older types of glass tubes to take care of the replacement and new set demand.

FROM the preceding it would appear that a fairly adequate supply of GE type metal tubes and an adequate number of satisfactory "counterparts" should be available for every receiver manufacturer not tater than some time in October.

Whether or not one or all of these glass and metal combinations will pass out of the picture-or remain as an accepted and superior product time alone can tell.

## MORE NEW MERCHANDISE

## Toledo Sound Equipment

The Toledo Sound Equipment Laboratories, formerly Bud Speaker Co.. 1138 Jacksom st., Toledo, Ohio, offer a line of portable sound systerns, electrophoses, amplifiers, 4,5 and 6 ft phones, amplifiers, 4, 5 and 6 ft . pets, field excters, air columi horns and low and high frequency units for wide range theatre use.
This company is also making a new speaker assembly with all aluminum bafte housing and adjustable wall mounting bracket to meet all indoor requirements. An improved baftle design greatly increases mineaker efficiency and reduces feed-back possibilities September, 1925 . Wadio Retaing. September, $10 \% 5$.


New Tobe Filterette
The new filterette being marketed by the Tobe Deutschmann Corp. Canton, Mass, is of the inductive capacitive type con-
taining honvy duty inductances taining heavy duty inductances capable of carrying the funt load current of a inthout introduch objectionable voltage drop, The frequency range covers from on attentation provided over this
range is approximately 100 decibels.

The illustration shows the comparison between the small Filterette and this new IS kw. model.Fadio Retailing, Septem
ber, 1935.


## High Speed Grinder

With a speed of 25,000 r.p.me the de luxe "Hardi-ee" primder
of the Chicago Wheel ${ }^{\text {S }}$ Mfrof the Chicago Wheel ${ }^{\text {C }} 1101$ MigCo., 1101 W. Monroe St. Chi-
cago, has ample power to drive cigo, has ample power to arive
a. variety of accessories. The maker claims it wilf do in minmaker a number of jobs that would otherwise require hours or even days the weight has been reduced fo 15 az. Heat has been eliminated by a new type of fan mounting. A Radio Retailing. September, 1945 .

## Mica Dielectric Condensers

A new serics of mica diclecbeing made by the Leichner Dlectric Co., 2026 Fairfield Ave. Ft. Wayne, Ind. The mica units are made in higher capacities than the glass dielectric condensers and may be had in five capacities from .003 mfd. through 01 mfd. and in twn $2,500 \mathrm{~d}$ - Madio Retolina September, 1985.




## Ex-Stat Products

Arnong the specialties for by the Titon Electric Corp, 1.5 W. 26 tin St., New York City, are dry electrolytic condensers in the cardboard filter, cartridge by-pass types and rourd aluminum can lypes; paper cartridge condensers, replacement volume controls volume and tome control fixed wire-wound resistors, and adfustable wire wound resistors riilton also makes two resistor kits to equip the average radio service shop to meet all replacement calls immediately. Type 48 kit (1 watt) contains a balanced assortment of 48 resistors in the exact thirty-four values tikely to be called for with duplicates of those most often used, ient package size, contains one
each of the 24 most frequently used values ${ }^{3} 4+30$. for all makes filter equipment available. September, 193 adio Retailing, September, 1935.

## S.O.S. Cinemaphone

The "Cinemaphone" consists of a 16 mam. projector, complete has full a.e. amechanism and namic speakor, necessary tulbes aricl $65-\mathrm{ft}$ voice cable from speaker to amplifier.
This type of equipment is particularly suitahle for use in theatres, schools, churches, colleges and at fraternal meetings as well as for sales demonstration work.: Sales on Sound York, 1600 New York. Fadio Retaling, Septem-

## It <br>  <br> <br> YEARS

 <br> <br> YEARS}T takes years to build the exceptional distributor, dealer, service man and industry reader confidence and following that makes Radio Retailing-now in its eleventh year of editorial, circulation and advertising leadership-the outstanding publication in the radio field today.

## 1 W

Dozens of radio magazines have come and gone during the past ten years. But through the strife and turmoil, the ups and downs of the fast moving history of the radio industry, Radio Retailing, backed by the complete facilities of the McGraw-Hill Publishing Company, has stuck to its guns-constantly improving its service to the radio industry.


During the coming important months in radio merchandising, Radio Retailing will publish some of the most
constructive, useful issues in the history of the paper. This means that your advertising message in these issues will reach, and bave the attention of the leading distributors, dealers and service men during the best selling months of the radio industry-with the result of increased sales and profits for you this fall.

Manufacturers alert to the increasing opportunities in the present radio market will run $f$ wll schedules in Radio Retailing during the next three months - October, November and December. Many manufacturers-rather than scattering their shots-will find it economical and profitable to CONCENTRATE their trade paper advertising in Radio Retailing.


What space shall we reserve for you? Forms for the October issue close September 25th.


## 

## THE <br> 

554-A ALL-WAVE SIGNAL GENERATOR

READRITE engineers have incorporated into this new, advanced 1936 All-Wave Signal Generator all the improvements and advantages of presentday engineering. It is designed expressly for speed and accuracy.

All frequencies of the Model 554-A are fundamentals and thoroughly stabilized. It is completely shielded and tube-modulated. The 554-A features a plug-in type coil for each of the five frequency bands, with readings from 100 to 21,000 Kc. This wide range and long sweeping scale assures accuracy and flexibilify.

Model 554-A, Dealer's net

READRITE MODELS Dealer's
Model $430 \quad \begin{gathered}\text { Direct Reading Tube Tester } \\ \text { (with Triplett meter). . . }\end{gathered}$ (with Triplett meter).... \$18.00
" 431 Direct Reading Tube Tester (All Readrite Meters)... 14.40
:554-A All-Wave Signal Genera-
tor. ................... 14.40
" 710.A Set Tester................ 16.50
" 712-A Set Tester (with Triplett DC Voltmeter)........ 22.20
" 720-A Point-to-Point Tester..... 15.00
" 730-A Point-to-Point Tester (with Triplett DC Voltmeter).. 18.60

A very attractive additional feature is the exceptionally low price quoted on the Readrite No. 554-A All-Wave Signal Generator. Look around - compare prices! Nowhere else will you find such amazingly fine performance, high quality and low price.

The 554-A All-Wave Signal Generator is furnished in a black Portable Leatheretre covered case. Self-contained batteries and two types '30 tubes. Calibration curves supplied for each band.
$\$ 14.40$

## SEE YOUR JOBRER <br> Write for Iiterature

THE READRITE METER WORKS
181 College Avenue Bluffton, Ohio, U.S.A.

[^2]
# SERVICE SECTION 

## CIRCUITS of the MONTH

IED. NOTE: Servicemen wrill find these columns of partictular interest this month as the newe 1936 sets, just announced, are especially rich in technical interest. Details of all neve circuit features are not yet available but we endeavor to pass along as maty as possible white they are still heres.


## Volume Expander

Volume expansion is something entirely new to the serviceman. RCA plans to use it in a phonograph combination, we understand, but details cannot be obtained until late this month or early October. The following advance explanation and skeleton diagram is the best we can do at this early date and is in line with Radio Retailing's policy of printing technical news while it is still "hot."
When phonograph recordings are made volume peaks are monitored, or heid down, to avoid breaking the groove walls. So reproduction cannot re-create these peaks unless some form of compensation is used. In the proposed wolume expansion system a diode rectifier driven by the audio system cuts the amplifer's btas when peaks of volune are present. 'Thus, when a particularly loud passage is played the amplifier gets to work and makes it silll lotter. One might almost call this thing a form of audio regeneration.

Yolume peaks are monitored in broadcasting too. So the idea is undoubtedly: applicable to radios as well as phonosraphs.

## I.F. Broadener

Fairbanks-Morse broadens i.f. tuning by electrical rather than mechanica?

## Differences (If Any) Between " $G$ " Tube And GE Metal Type Characteristics

\begin{abstract}
"G" tubes . . . types using the new octal base but dispensing with the G.E.-inpired bead-seals and all-metal envelopes . . . have been placed on the market by a number of mantiacturers. All of these $G$-appended bottles differ from the Bridge. port design in physical size and shape, And there has been much guessing with respect to possible differences in clectrical characteristics.
Complete characteristics of all makes of $G$ tabes cannot yet be obtained. But we do have National Union's. Close study indicates that this particalar line has electrical characteristics identical to those of the GE-type tubes, with one notable exception. And that exception is inter-electrode capacity.

Following is our tabulation of comparison between the NU (s types and the RCA metal line. Measurements were made with form-fitting shields in place:
means. In one particular super-de luxe chassis there are two i.f. transformers so treated.

Referting to the diagram of a single stage $P$ and $S$ are the conventional primary and secondary coils. They are

| Oseillator input | 880 | 648 |
| :---: | :---: | :---: |
| Osciliator mputput. | 8.0 | 5.5 |
| Oscilator grid $\mathrm{G}_{1}$ togrid $\mathrm{G}_{2}$ anoce | 1.1 | 0.8 |
| R.f. input. | 9.3 | 12.0 |
| Mixer output | 12.5 | 12.5 |
| Grid Gr to plate. | 0.3 | 0.03 | rather loosely coupled and in series with 1 ' is a very low inductance $A$, which is only a few per cent of the inductance of $P$. Wound over this is a coil, $B$, having the sance inductance as $A$, and spaced a small distance away is coil $C$, having the sane inductance as $B$ to within one per cent.

When the switch $W$ connects $C$ in series with $S$ the overall sefectivity of

the set is very sharp, being about 3 kc . wide at two times mput and 20 kc . wide at a thousand times. When the switch $W$ is connected to $B$ the coils are consitierably over coupled and the over all selectivits of the set is 16 kc , wide at two times and about 35 kc . wide at 1,000 . This provides a two position adjustment fron selectivity to high fidelity, called by the manufacturer "Third Dimension Tone.

Retrimming would undoubtedly be necessary when replacing a 6A8G with a 6A8 unless very large losses in sensitivity, particularly at the high-frequency end of the band could be tolerated. In circuits requiring particularly fine adjustment of oscillator tracking interchanging might not be advisable at all. And, in addition, owing to the additional height of the 6 A 8 G and the resulting longer built-ith grid lead the slack wire nitght conceivably cause feedback. A top shield on the 6A8 would help.

Grid to plate (minef).

$\begin{array}{rr}6 \mathrm{CBG} & 6 \mathrm{CH} \\ 2.2 & 1.8\end{array}$

The differences may bc significant where this tube is used as the oscillator in a superfet, affecting calibration and tracking, particularly at the high end and, perlaps, reducing the range in ficquency slightly:

The 6D5G and the 6D5 are idention in electrical characteristics.

The 6F5G and 6F5 arc identical in electrical characteristics. Because these are high-gain triodes, the G type being a little larger physically than the allmetal, the length of the grid lead should be watched to avoid feedback when interchanging.

The 6F6G and the 6F6 are identical in elcetrical characteristics. If you use


Supreme says it with the camera. Shows the new versatility and speed inherent in all its 1936 Instruments. Leading jabbers display them with the statement, "The instruments the radioman who wants most progressive equipment, will choose." Above is the Supreme 339 DELUXE Andyzer. Recognized as the finest testing equipment selfing under $\$ 75,00$. Super analyzer with direct resistance ranges up to 20 megs-melf-contained power supply. Price $\$ 39.95$. The 339 STANDARD is priced at $\$ 29.95$. To the right above is the 189 Signal Generator, distinguished for handsome finish and serviceability. 3 tubes... 4 controls elecfron coupled circuit, Price $\$ 36.95$,
In the Supreme 385 AUTOMATIC, below, the modern
serviceman finds his ideal equipment for precision service. Truly a portable laboratory. Features of the 339 DELUXE Analyzer and the 89 DELUXE Tube Tester are combined through the exclusive Supreme "Uni-Construction." Result, an instrument of amazing simplicity. So fast, so positive-automatic diagnosis. Price \$77.95. Other Supreme instruments include the already renowned 89 DELUXE Tube Tester, in portable or counter designs, $\$ 45.95$; 391 P.A. Analyzer, $\$ 69.95$; the Supreme 89 STANDARD, $\$ 34.95$; the Supreme 310 Meter, $\$ 13.00$. Get a demonstration from your iobber-write Supreme Instruments Corp., Greerwood. Miss., for diagramatic manuals that give you the inside story of the instrument of your choice. Truly "Supreme by comparison" and the instruments for up-fo-date servicing work.


## SERVICE SECTION

a glass－shelied type and insisi on a metal shield，make it a black one and not a nice，shiny jacket to facilitate heat radiation．

Thput to each diwde phate（moul．） Plate to plate


These differences are probably not great enugh to catus any trouble．

|  | fitici | 6.77 |
| :---: | :---: | :---: |
| Grid to plate（inasi．） |  | 0.005 ： 1 ： 5 |
| Input． | 4.8 | 7.4 |
| Output | 12.5 | 12，4 |

When replacing a 6 J 7 G witls a 6 J 7 a top shied may be needed．It may be de－ sirable to shield the lengthemed grid leat， or at least to place it in a shiekd．

|  | 6K74： | 6hy |
| :---: | :---: | :---: |
| Grid woplible（tami．） | 1． 007 mat ． | 3．005 106ば |
| Impul | 4，6 | 7.4 |
| Ou：put | 12．j | 12.0 |

Retrimung will obvionsly be reumed if the 6 K 7 is substituted for the 6 K 7 G ． This will be particularly true हैl i．f．am－ plifers using small shant capacitits across the i．f．colls and also tor a greater extent where the coils have high Q． Substituting of one tube for the other in r．i．amplifiers will cause detcuing at the ligh end and require realigning． ＇Hob caps may be necessary on substi－ tuted metal tubes．Griut lead adjust－ ments nay have to le made to avoid icedback．
The 5 Y ，incidentally，is an octal lased type just out．Its characteristics are the sulne：exactly，as those of an 80 ．
So manufacturets taing the $G$ lines and anticipating possible replacenent wht GF－sponsored types at semme later date will（we hope）take care of me－ dhanical placement oi sockets，shields and whatnots so that we don＇t have to wory about getting the things into the nockets，anyway．

And that＇s something．

## TRF or Superhet At Will

High fidelity reception is proviled in a nowel iashion in new（il： 20 －tubers These offer a choice between normal all－ wave，highly selective and sonsitive re－ ception and high fidelity receution with A Pliberately limited sensitivity．
When the instruments are set fim ligh fidelify reception they commrise at singte l．r．f．stage．diode detector asul two separate audio channets haviag very low overafl distortion．The low fre－ rurency channel feeds two sywakers of fonvemtional design，connected in paral－ lef，white the high frequeney chanmel feeds a special high frequency speaker so designed that a wide horizontal dis－ tribstion of sound is obtained．
When the instrumethes are switelect to the selective，sensitive comdition tho high－frequency speaker is shorted ont． other minor changes are thack in the andio system and a converter，a doxble stage i．f．amplifier and a．s．c．system are inserted between the rit．slage and the diode Jetector．

New Mechanical Features


ACOUSTIC CL．ARIFIERS used by Philco are small cones resonant around 100 cyctes．A small one is placed each side of the speaker，a large one beneath，with the result that distortion due to low－íre－ quency cabinet resonance is tessened by their damping action．The clarifiers are not connected in any electrical cucuil work against small strips of rubber－like material which may be seen at the uper． or the large unit


HIGH－FIDELITY SPEAKER used with the clarifiers described above．It uses an aluminum voice coil，whose mass responds readily to high frequencies，and a heayy． and－thin paper composite cone


PERMALINER，used by GE，is a totally enclosed air dielectric trimming con－ denser of interesting and unique design． Adjustment by rotating strew on top of unit，moving the uppel group of eups


1．F．EXPANDER，in one of its many forms．This particular system is used by Zenith．Note the rack and pinion．On the sharp position（i．f．primaries and secondaries widely separated）：ejection ratio of the set is 10,000 times at $121 / 2$ kc．over the cartier．The channel broadens gradually until at 75 per cent knob rotation it is flat to 8000 cycles． Further rotation raises the response above 3000 cycles and finally both low and high motes are boosted

## Four New Glass Tubes

Hygrade－Sylvania has just amonnced fou new glass tubes，the 1A4 tetrode auplifier with a 2 volt， 0.06 ampere fila－ ment．the 6 A .3 output triode with a 6.3 wolt， 1 ampere filament，the $6 B 5$ power nutput amplifier（a triple－twin type） with a 6.3 volt， 0.8 ampere heater and the 6E6，a double triode power ampli－ fier with a 6.3 volt． 0.6 ampere heater．
irguial eliaracteristics are as follows：

|  | $\mathrm{AH}_{18}$ | $\underset{250}{ }$ | $\begin{gathered} 8 \mathrm{Ht} \\ \text { Ont. } 300 \\ \text { Inta. } 300 \end{gathered}$ | $\begin{gathered} \text { GEG } \\ 250 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Sereell roll 4以 | 67.5 |  |  |  |
| Gmibias ．．． | 3 | 45 |  | 27.5 |
|  | 2.3 | 69 | $\begin{aligned} & \text { Ont } 4 a_{2} \\ & \text { Inp. } 8 \end{aligned}$ | 18 per phatin |
| $\begin{aligned} & \text { srreen } \\ & \text { relut. .ur } \end{aligned}$ | 11.7 |  |  |  |
| Quplitioutin linetar．． | 721 | 4.2 | 60 | 6 |
| Nuluth ．．．．． | ＊750 | 5.250 | 2，300 | $1,700 \text { puer }$ |
| 1＂lither rexisal ： $114 \%$ ． | \＄011．000 | 819 | 26，000 | 3,500 per plate |
| 1 whed remint ： 144 |  | 2，500 | 7，000 | $1 \neq 000$ plate to wlate |
| P＇over oulpat <br> ＊ 15 miveron <br> ＋With $5 \%$ <br> + Trpui síp | 1ו4 ：Lll 15 anind ha 115 volt | $+3.3$ <br> wolta <br> monic <br> A． 5 pe | hins. $14$ cent or | $1.6$ <br> as tutal dis |


sucker comberelions of the 1 A 4 ， reading clockwise from large flanent pins beneath smail 4－prong base：fila－ nuent．Fiament．screen，plate．Cap is srid．（onnmotions read simitarly on


## BRINGS <br> YOUR anairzer up.toc late

WESTON
SELECTIVE ANALYZERS priced for every need


Model 698 low price Selective Sat Serticer, complete with Sachet Selprior Sel, learls. carrying case, efc.


Model 665 Soluctive Analyzer (rotary swith model) - for those who want the finest in analyzur emmimment.


Model 665 Solective Analyarr (pin jach modeli)-has as serips of pin jorks imstead of the rotary swited, had is offerent at lower cost


## THE WESTON SOCKET UNITS FOR THE NEW METAL TUBES

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## Weston <br> Radio Instruments

## SERVICE SECTION

6A3, frond beneath medium 4-pin base: filament, filament, grid, plate. Connec. tions of the 6B5; heater, heater, cathode, input grid, input plate, output plate. Connections of the 6E6: heater, heater, plate 1, grid 1, cathode, grid 2, plate 2.


## Another I.F. Variation Method

Here's the way Hammarlund controls variable-coupling i.f. transformers (photos of the transformers themselves and response carves appeared on page 45 of the April issue) from the front pancl of a new moclel.

The transformers are avalable for set building.

# Notes on Iron-Core I.F. Transformers 

By W. J. Halligan The Hallicrafters, Inc.

Radio engineers have long been familiar with the fact that increasing the permeability of a transformer core, providing the losses in the core used are low, increases the efficiency of the device. Less wire is required for a given inductance, thereby lowering the R.F. resistance and also the distributed capacity. This results in a higher " $Q$ ".
Since the losses at r.f. increase as the square of the frequency, the problem is to make a coil with sulficiently high permeability but with a minimum of loss. To do this an i.f. core has been developed using powdered iron, moulded with bakelite, haying approximately 90 per cent iron content. Fine division of the iron breaks up its magnetic structure and reduces eddy carrent losses. The coil is wound directly on the core and an optimum form size has been developed which is a compromise between distributed capacity and iron core dimensions.
Various types of coupling have been developed, both of the magnetic and nonmagnetic types. The non-magnetic type is more compact. Both methods are very sensitive to strong capacity, resulting from positions of the leads, trimnters, etc., pro-
ducing an over-coupled condition. So considerable care must be taken to reduce this to an absolutely minimum by the use of spacers and the proper placement of leads.

We have found it possible, through the use of the special cores described above, to design coils having a $Q$ of approximately twice that of air-core coils. And since the voltage in any circuit is equal to QE, the voltage gain is likewise approximately double. Two i.f. amplifiers were constructed in our laboratories, one using a single "Ferrocatt" iron-core transformer, the other using two air-core, airtunled transformers. Overall sensitivity favored the single stage. By using a 75 or 85 second detector we found it possible to develop a sensitivity of better than 5 microvolts, for a 50 milliwatt output reading.

The selectivity difference between the two amplifiers was as follows:

INPUT
BANDWIDTH

|  | Air | Iron |
| ---: | :---: | :---: |
| 10 | 13 | 7 |
| 100 | 21 | 14 |
| 1000 | 31 | 24 |
| 10000 | 62 | 44 |

Both systems were operated at 465 kc .
Sensitivity of the two-stage air-core unit was about 25 microvolts from the grid of the first i.f. tube. That of the single-stage iron-core unit was 15 and the noise ratio of the two systems was approximately 2 to ] in favor of the iron.

## SHOP SHORTCUTS

Measuring Meter Resistance<br>By D. G. Fink

It is well known among servicemen that even relatively high-resistance voltmeters give incorrect readings when used in certain circuits. If the internal resistance of the meter is known, however, allowance may be made for such errors. But the meter resistance must first be known. If the manufacturer of the instrument cannot readily be queried it may be measured by the serviceman himself.
The simplest way to measure the resistance (in obms-per-volt) is to set the meter on a high scale, say 100 or 200 voits, then connect its two terminals to an ohmmeter. The pointer on the voltmeter will probably move slightly when the measurement is made but this makes no difference. Read meter resistance direct. To obtain the meter sensitivity divide the resistance value read on the ohmmeter by the highest number on the scale used, 100 volts or 200 volts, depending upon which one you have selected. The quotient is the meter sensitivity in ohms per volt.
If only one test instrument, such as a unifversal meter, is on hand, the above procedure cannot be carried out due to lack of a separate ohmmeter. In this case meter resistance and sensitivity may still be measured by an indirect method. A good $22 \frac{1}{2}$
vole battery and a $0-50,000$ ohm control will be needed in addition to the analyzer. Connect the equipment as shown in Fig. 1, with the analyzer connected as a voltmeter on its 25 or 50 volt range. Turn the volume control to "off" (no resistance in series with the terminals). The voltmeter will read the full battery voltage. Now turn the control on gradually, inserting resistance. When the meter reads exactly half the battery voltage disconnect the battery and connect the terminals of the volume control to the analyzer. Reconnect the aralyzer as an olimmeter and measure the resistance of the portion of the volume control used. This will be equal to the meter resistance for the scale used in making the initial measurement. To obtain meter sensitivity divide the meter resistance in olms by the full scale value of the scale ansed ( 25 volts or 50 volts) and the result will be sensitivity in ohms per volt.

There would not be much use in meas-



Actuar voltage $=\binom{$ Vortage reading }{ on ineter }$\left(\frac{\text { Series resistor }}{\text { Meter resistance }}\right)$
uring meter resistance amincss we had some use for it after we had found it out. The figure happens to be very useful. If it is found to be below 100 ohms per volt the instrument is obviousty not very useful for most phases of radio service work. If it is high, between 500 and 1,000 ohms per volt the value is still useful as we can now correct for efror when working in certain high resistance circuits.
Suppose we must measure voltage across high resistances without error, resistors such as those used in serics with pentode screens. Or those in the plate circuits of resistance-coupled amplifiers. Meter readings will be inaccarate because the meter resistance, while high, is still low compared to the resistor across which the measurement is made, the meter, acting as a shunt, decreasing the apparent voltage frop. To guard against such error first turn off all power and measure the value of the resistor across which voltage is later to be measured. Select a fixed resistor ten times as large as this value and connect it in series with the voltmeter. Now reconnect the voltmeter back in the circuit as shown in Fig. 2, turn on the power and take a reading.
Determine the nieter resistance for the

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ful, modernistic two-tone walnut case. The panel is sloping-with metal charts, on each side, giving instructions for testing tubes. The case has a removable cover, and may be used for either portable or counter testing. Available for immediate shipment,

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## SERVICE SECTION

scale used, as outlined above. Divide the meter resistance into the value of the resistance in series with the meter. Multiply the result by the voltage indicated on the meter and the result will be the actual voltage drop across the dropping resistor in the receiver circuit, with very little crror.

Needless to say, this method cannot be used when very low voltages are to be measured as the meter indication will be too small to read. Fortunately most circuits of this kind have from 50 to 250 volts or more across resistors ranging from 50,000 ohms to 500,000 ohms and restilts sufficiently accurate for service work are possible.

Shunt Resistance Curves for 1 M.A. Meters<br>By E. F. Stanton

Two binding posts added to standard ohmmeters or analyzers with ohmmeters provide for low resistance measurements.
Connect the two binding posts to the movement of the 1 M.A. meter. With the regular ohmmeter terminals shorted and the battery compensator set for full scale deflection, connect any value of resistance between 1 and 1,000 ohms across the new binding posts. A lower reading will appear on the meter.

On the uniform milliampere or volt scale of the meter trace up to the proper carve on the accompanying chart, deter mined by the type of meter or the resistance of its movement. The hori-

zontal line at that point indicates the resistance. If unable to identify yous meter, take a 50 ohm resistance known to be quite accurate and observe the reading which should come between 0.5 and $0.65 \mathrm{M} . \mathrm{A}$. The curve which intersects the 50 ohm line at the observer reading of the scale is the onc to use on all readings.

By using the chart printed herewith it is possible to plot on a regular meter scale the major points, such as 5,10 . $25,50,100$ athel 500 oltmes, for the cxtra ohmmeter scale.

## Speaker Glues and Varnishes

## By John M. Thontson

Some servicemen have reconmmented coltodion or ordmary glues for speaker coil and similar unit repairs. They have also recommended shellas for doping voice coils and speaker cones.

The disadvantages of such substances are: Collorion, due to its composition, detertorates fery rapidly. Ordinary glues harden and crack and are usualty affected by humidity and temperature changes. Shellac and most varnishes are not sufficiently flexible and have a tendency to distort speaker cones and voice coils due to uneven drying. They will, also, usually peel or crack off die to vibration.
DuPonts Houschold Cement and clear lacquer, thinned with lacquer thimer. have mone of these disadvartages and have the added advantage of gutick drying. Both faving the same base, they will adhere to each other. which is not trae of ghies and varnishes.

To use lacquer correctly and avoid warping of cones and coils it shonld be sprayed on evenly. not brushed. A small hand sprayer is most convenient. The lacquer should be thinned with about 50 per cent of the lacquer thinner.

## Coloring Pilots

$B_{y}$ E. P. Waldo
When coloring pilot lights with matil polish or the special flud now available be sure and have the bulbs lit. If they are not watm when the liquid is applicd the coloring will "bloom" or "frost."
"Natural" polish can be usce to thin blue or green if these colors are too dense to Tet the light through.
-

## "Strap" for Remote Control Cable By Boris S. Namark

Many an anto-radio installation has been spoiled in appearance by the use of friction tape to sccure remote control cables in the desired position.

A mucl neater job can be marle by using

## In the New York Manner

This interesting little gadget, peddled on the sidewalks of New York af one dime, ten cents, is said to eliminate static. We were especially infrigued by the fast that

it had only one connection. 'Just hang it on the antenna," bawled the salesman. So we bought one, broke it open, found that it contained... just one ounce of swell beach sand and about the same amount of tar to hold the sand in place!
the narrow, tin strips used to hold coils of antema and lead-in wire in place during shipment. These are about six iti. long, $\frac{1}{2}$ ins. wide and do the job neatly.

## Neon Condenser Test Kink

## By Kenneth A. Richardson

The following "trick" effect has been noted in connection with neon type condenser testers, those where the roltage is 200 d.c. or over.

A low capacity condenser. say . 02 , which is held by the operator at its one end and attached to the positive test lead at its other end will not test for charge, i.e.: the neon light will not flash when the end operator holds is attached to the minus lead, but will show an open (no flash) becanse the ground effect of the operator partially charges the condenser through his body.

The remedy is, of course, to attach the condenser under test to the minus lead first.

## Charger Makes Good Bench Field Supply

By Arthur C. Donowan

In order to repair dynamic speakers it is often necessary to remove them from the chassis and to operate right on the test bench. Unless the chassis acconpanies the speaker it is necessary to fur nish field supply from some externa source.

A battery charger of the "Tungar" type makes an excellent external field supply. Many such chargers liave an out-


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## SERVICE SECTION

put of slightly above 6 volts d.c., which may be used for field supply in conttection with low voltage speaker types. In addition, many such chargers also have a high voltage tap which delivers about 100 volts for charging "B's." This can be used to excite high voltage fields.

Tire Static<br>By R. N. Von Gelder

Most annoying cases of tire static in auto-radio equipped cars are frequently due to much-patched inner tubes. If the patching material has a coating of aluminum paint on the tube side, noise will develop when rolling over dry concrete or stone surfaced roads but will not oceur when such roads are wet.
The noise may be iflentified as a rasping sound, the frequency of which depentis upon the number of tire patches and the speed of the car. Install now tubes in the shoes.

How to Cure "House-Noises"

By Herbert J. Mayer

Radio interference is sometimes noticed when certain boards in the foor of a frame building are trod on, a door slammed, the furniture moved or the building jarred by passing traffic. $B X$ or conduts carrying clectric wiring usually cause such trotble when they are not thoroughly bonded or grounded, particturly in newly re-wired old buildings where the service is in grounded tigid conduit and the wiring is in flexible $B X$ fished througt the wails.

I have generally found in such cases that
the main feeder cables to the lights were grounded but electricians frequently fail to bond the FX rumning to the switches, which may be pulled through the same compartment as the grounded feeders. Naturally, the ungrounded switch legs lying on the grounded feeders, when not positively connected to them, produce interference if moved. clue to the difference in potential between them.
Connecting all the cables together with bare copper wite will generally clear up the trouble and it is worthwhile even if it is necessary to take up the floor board previously removed by the electrician installing the new wirtug. This same type of interference is also noticed sometimes when electric fixtures move or sway, particularly the chait type of Exturcs. To clear up this trouble clear the lacquer fuish from each link at the points of contact, using fine sandpaper. "This places the whole chain at about the sante potential. Potential will be ncarly at ground if the fixture stud is grounded through the conduit feeding it. Another way is to apply another coat of Lacquer to each link at point of contact and thus insulate the whole chain. Or insulate the whole fixture by taking it down and installing an insudating coupling between the fixture and the ceiling stud. Sce if the local buidding inspector objects to this practice first. however.

## To Improve Midget Selectivity

## By 1. Rnight

Most four tube midgets suffer from lack of selectivity when used in the vicinity of strong locats. To increase sharphess of thaing remove the coils, cut a piece of busbar abotut 3 inches

## Modern Chicago Shop? Nozzir, It's In Honolulu!



Step up and look it over, all you boys who think we're far ahead of anybody else right here in the states. It belongs to Nylen Brothers, Honolulu, T. H.


#### Abstract

Air-Cell Pilots The 60 milliampere pilots designed for use on Air-Cell sets frequently are not marked. Killing of the baltery is frequently reported, due to replacement of such pilots with 2.5 volt types drawing 500 mils.


long and solder one end of the bus to the plate lug of the primary coil, rumning it up the side of the coil to withir $\frac{1}{2}$ in. of the top of the secondary, encircling the winding at this point with one turn.
Insulate the turn with paper. Do this to both coils and then replace them in the receiver. Readjust compensating condensers and gang condenser.

## Necessity for Good Input Transformers

By IF, M. Plymowh
I have found that it pays to buy the best input transformers on the market. It is good economy. This is particularly true when purchasing a ribbon mike to grid, or line to grid job.
A cheap transformer not only frequently wrecks frequency response of a pre-amplifier but also picks tip hum from any a.c. wiring in the building which is not run in grounded rigid conduit, Hum pickup from this source may be noticeable when a ribbon microphone is in one position and may disappear when the pickup angle is changed.
Also, the efficiency of chap input transformers is usually so poor that the output of an otherwise good microphone is lost before it ever gets to the first grid. While it is Eencrally possible to eliminate hum pickup from open acc. wiring by mounting the inpett transformer in a grounded double shield made of 16 gauge sheet irou with 1 inch between the two sections, this make a bulky job which cannot be tolerated if the rig is to be at all portable.

## Temporary Band-Dial Drive

## By S. Bend

Ordinary half-inch medical tape folded up the middle of the sticky side makes a quarter inch wide strip of fabric which may be used as a substitute for bronze band dial drives.
This makes a good temporary repait for many early types of the AK line and Gilfillan receivers using a similar type of control. If the fold is not completed at one cud of the tape it is ok to splice the strip. forming a complete circular band.


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## SERVICE SECTION

## TRICKS of the TRADE

AK 37.
'I'" iuctease selectivaty
Mount three-gang trimmer on top of tuning gang and re-balance with these trimmers conmected in the circuit. Nake sure that the rotor section is well grounded. Stunt also ok on Note] 40.

BELMONT 71C. Audto frequency meveralation of oscillator, audible all over dial ... Replace 56 grid leak with woper size it has probably increased in value.

CROSLEY 129. Oxcillation at bish irequencies after ustal tosts have shown up mothing .. Check value of fixed bortion of volume control. It shotld be 200 ohms and is critical. If mecessary, put in a 25 olfm resistor in series, raising the value of the fixed turit fo 225 olims.

EMERSON U6D. l'Lumeme drift reduriag constand retanitug in the broadcast range . . . Vrequently trouble will not appear when chassis is removed irona cabinet and placed on bench but will reappear agairs in the cabinet. Irouble is in midget type conpensating condenser in series with broadeast oscillatar coil. Drill ${ }^{8}$ inch holes in the cabit net bast near this condenser to ventilate it and drift, dte to heatitge, will disappeat:

GM 120, 130, 140 . Intermittent drop in rolune but set does not go dral Tighter screws holding stator putates on wang cundenscr. Both top and botions strews should be tightened. Or, solder wine lead between top and botton lugs. same trouble common in other sets. stedas U. S. Kadio 27, where grid lead is conmected to one side of stator plates athe comil is enmateded to grosite side.

GRUNOW. Capacity of condensers markud onlg with patit number

| NUABELK | (apacory | volutat |
| :---: | :---: | :---: |
| 28717 | . 002 | 700 |
| 28714 | $00+$ | 70.0 |
| 28724 | 005 | 704 |
| 28721 | 01 | 500 |
| 28722 | . 04 | 400 |
| 28723 | . 15 | 404 |
| 28720 | . 1 | 404 |
| ${ }^{28724}$ | . 5 | 100 |
| 28876 | , 42 | 540 |
| 29135 | .1 | 100 |
| 29170 | 0.17 | 500 |
| 29453 | 01 | 400 |
| 29564 | . 175 | 100 |
| 29567 | . 02 | 400 |
| 29662 | 15 | 200 |
| 29812 | . 14 | 500 |
| 29813 | (10) 4 | 700 |
| 29818 | . 10.3 | 700 |
| 29990 | , 12 | +00 |
| 30145 | .15 | (10) |

KENNEDY $4 \mathrm{AC}-\mathrm{DC}$. Jrumble w 25-cycle lines.. . Always use a vollage regulator and set it on the bowest voltage tap providec. Withond this the set will almost alwats develop hato ripple, completeg bluring out receptions.

MAJESTIC 70B. Nogrid readingon 71's. (Tucte pilon light sucket. It


MOTOROLA 77A. J.otul whiste and distorted reception in tardy mondels (iencratly cansed by breaking of solich wire conntection between tone cuntrol and small fixed condenser mombex ot chassis directly behind control. "Ine wire is covered with colton braid and frequently appears to be ok. Contimuty lest shows tup defect. Replace with flexible wire, such as is used in later models, Dead set. . . Suspect the vi lirator lirst. Remove from fousing and check the two .007 condenser shamed across the rectifying vibrator puints. "Ihey frequently shot. Replace witla 1600 volt, 007 , oil-filled tuits. Static when cat is in motion. .. Sumetimes catsed by brokell soblhed juint bedwen
antenna eril shicld and chassis. Or by comrosion of sperim contact grounding the variables. Bont rotors to chassis For promaneat repatr.

PHILCO 96. Serions oscillation not 1 tacrable to open condenser or resistor Replace screen feeder resistor with 50,000 ohan, 1 watt replacement and bypuss with 2 mid, Bypass the a.c. line with 001 . Add a . 1 mike to center of grid resistur wetwork in the audio Chatmel.

SILVER MARSHALL. To make reblacentut of dial cable a half-hour iol, . . . kennove all tubes, then remove shisld anoumal r.f. section. Now uncolder all combections to gang conhanser. Ramove three screws holding fown comdenser and remove entire gang with the drum. String on new cable, lime atbout 5 mintos, and replace the asedubly. Auy bller way takes about fhre tillto ats kmg.

## Wanted: Appliance Data <br> Our "sister" paper, "Electrical Merchendising," now publishes an appliance semice section. <br> Have you any data on the adjustmeni or repair of household refrigerators, washers, cleaners, oil-burners or minor appliances? <br> Send them in to the Service Editor, "Electrical Merchandising," 330 West 42 nd Street, New York City. <br> "Merch" will pay for all accepted items, iust es we do, of course.

ZENlTH 35-P, 40-P. Noisy reception ... Look for high resistance ground an secondary of original a.f. transformer, Green corrosion is fregutntly fonnd under the terminal lags. Ohmmeter tests rarely show ap this mrixi,


MIDGET ELECTROLYTICS

 - ${ }^{+}$yol sately fistors Pematin aslequate. In 200 -
 itt these dight places. . .sise money and time and forper your comadoner headiches:

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above editorial is a typical comment in current engineering papers
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MERCHANDISE DEPARTMENT GENERAL EIIECTRIC COMPANY BRIDGEPORT, CONNECTICUT


A late cool sprinis. Deople pul offo
 But-il is followed lyy a late leot stmblor al stomer that will go fart into lall. Like ane explosion. so swiflly canme bhe peati setamon


#### Abstract

so swiflly has come an umprecedented ilemand for shelvador. For Crowley abalers at bumper rrop of husiness . . . a longer har-  the fill months.


Thousands of women have their minds made up to buy an electric refrigerator this summer...


PRLCES INCLUDE DELIUERY. . IMSTALLATION ..
ONE YEAR FPEE GESVICE

Soldom, if ever, has an equal opporlmity presernerd itsoll lo Crosley doalers. A season that diditi grow up like "Topsy: bit ome that came alome with the inpatel ol' a freight train. One day-and it was cool, late, sprime peoplo hodding off Inveing their Shelvador Eleceric Pafrigcrators as they hedd off bayiny their hot-wo ather clothes. The mext day-and a swelterimes sun beat upon a people who wanted ice cuhes and palm heach suits right now.
Then the surge bo buy. Not just an urere-but a surge. The hoosewives who had becon looking at ennd asking aboul Shofotlog and admiring ils smarlmess and many fratures, now DEMAND the Shelvador.
Sad the season has larely started. The cealendar will say late lall white the thermomeder will still say swelterithe summer-inat il's the finemometer, not the cealendar, that puts people in the haying mood. You can' kid the Hiermoneler.
The fied is white and ready. 'The harvest is rich-athed it's just *harted. Cut Youla swath in this fiedd. The somber you shatl. the more son profil. Your Cosesey distributer has the amsure


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