

# RADIO RETAILING

HOME ENTERTAINMENT MERCHANDISING



**N**O GREATER SALES STIMULANT EXISTS than the enthusiasm of a customer passed on to a prospect. This always has been and is today a powerful factor in the sale of Stewart-Warner Radio sets. Furthermore, we intend to *perpetuate* this sales stimulant and to *strengthen* it as time goes on.

Ever since those pioneer days when Stewart-Warner first entered the radio field, the sets sold under this great name have incorporated the latest in radio development both in cabinet design and chassis engineering. Sales have increased steadily. Backed by great resources and years of experience in precision manufacture, Stewart-Warner Radio today, as always, presents the most outstanding values on the market.

Here is a franchise you can bank on in the future as well as the present. It is the fairest, most dependable franchise in the industry — one with profit possibilities that few forward looking dealers—building for the future—will wish to overlook. Ask your Stewart-Warner distributor for full details. Stewart-Warner Corporation, Chicago, Illinois.

## STEWART-WARNER RADIO

"A GREAT RADIO BACKED BY A GREAT NAME"

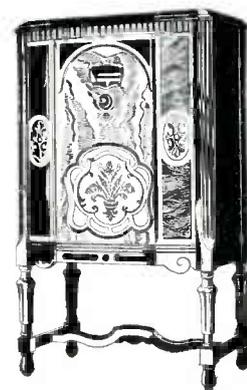


## A straight course . . . straight ahead!

Radio dealers know now that the one sure way to profits lies in the sale of merchandise that is built to sound standards of quality and is backed by a name of long-established reputation. Brilliant stars may flash across the sky . . . but they burn out while the steady, unflick-

ering light of old, standard names grows from year to year as a dependable guide to the safe and sure pathway to profits and success.

*Brunswick Radio Corporation*  
 MANUFACTURERS OF RADIO, PANATROPE AND  
 THE WORLD-FAMOUS BRUNSWICK RECORDS  
 NEW YORK — CHICAGO — TORONTO  
 Subsidiary of WARNER BROS. PICTURES, Inc.



BRUNSWICK LOWBOY  
 MODEL 15

Armored chassis with 4 screen-grid tubes and two 45's in parallel. Uni-Selector and Illuminated Horizontal Tuning Scale. Tone Control. Cabinet of seasoned and selected butternut with carved front panels. **\$13950**  
 Other models \$170 up (less tubes)

# BRUNSWICK RADIO

# RADIO RETAILING

HOME ENTERTAINMENT MERCHANDISING

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# If you could write your own Franchise!

Suppose you, a dealer, were to write the radio manufacturer's merchandising policies, under which you would operate, wouldn't you insist on —

## NO DUMPING?

*How many rebates have you had to give on lines that were dumped? No Stromberg-Carlson dealer ever has had to rebate to a cash customer for such a reason. No Stromberg-Carlson dealer ever has had to adjust a time payment contract.*

And, in writing the franchise that would protect your business — wouldn't you insist that — **CONSUMER PRICES, ONCE ESTABLISHED, NEVER BE REDUCED?**

*Stromberg-Carlson never has reduced a consumer price. The good will and respect customers have for Stromberg-Carlson never is jeopardized. A Stromberg-Carlson dealer's profit is certain.*

"NO DUMPING" and "CONSUMER PRICE MAINTENANCE" are two cardinal principles of a Stromberg-Carlson franchise. We will tell you of others in following issues of this magazine.

One of the reasons these policies have been so steadily maintained is because practically every executive and key man in every department of the Stromberg-Carlson organization are the same as when Stromberg-Carlson entered the radio receiver field. Control of Stromberg-Carlson is in the hands of its employees and their families.

Stromberg-Carlson is a line around which to build a business. It is a good product deserving a good merchant.

Stromberg-Carlson unsurpassed quality Receivers range in price from \$155 to \$369. The Multi-Record Radio (automatic radio-phonograph combination, electrical), \$645. (Prices, less tubes, East of Rockies.)

*Listen to the Stromberg-Carlson Hour Monday Evenings in a Coast-to-Coast Broadcast of the Rochester Civic Orchestra over the N. B. C. Blue Network and Associated Stations.*

STROMBERG-CARLSON TELEPHONE MFG. CO., ROCHESTER, N. Y.



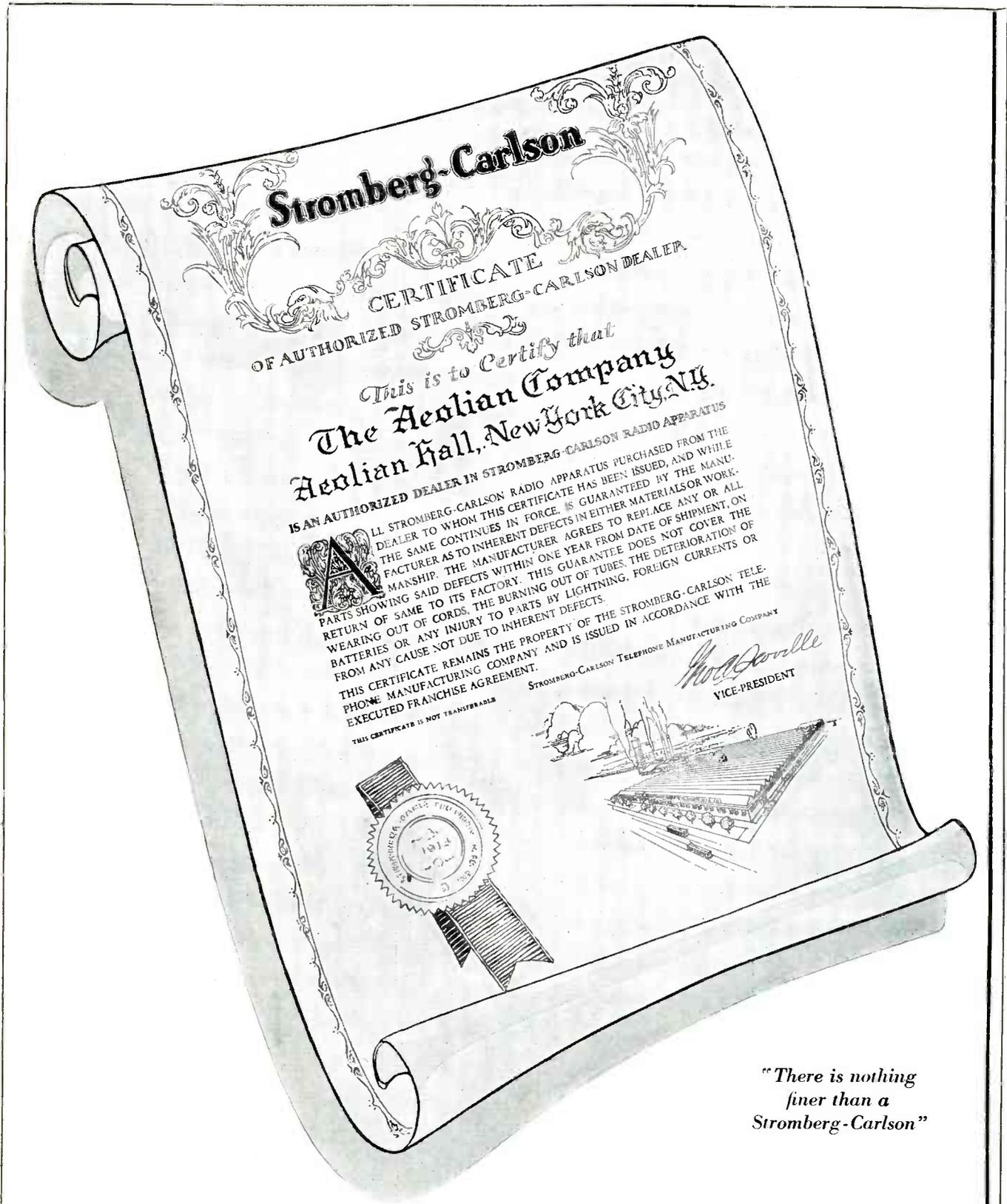
1894

# Stromberg-Carlson

MAKERS OF VOICE TRANSMISSION AND VOICE RECEPTION APPARATUS FOR MORE THAN THIRTY-FIVE YEARS



1931



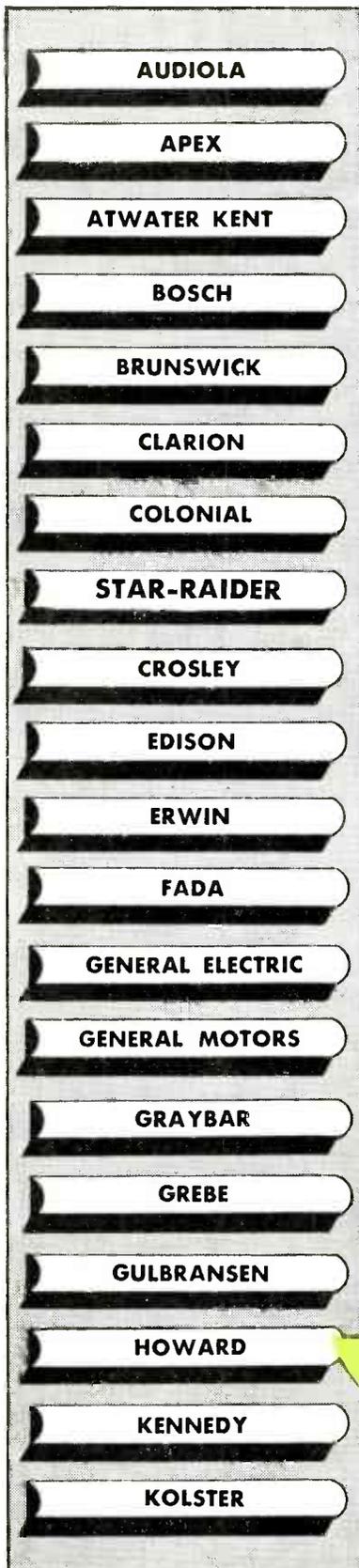
*The list of outstandingly good merchants who are Stromberg-Carlson dealers, includes:—*

- |                    |                        |                           |                     |
|--------------------|------------------------|---------------------------|---------------------|
| The Aeolian Co.    | Heaton's Music Store   | Knight-Campbell Music Co. | J. W. Greene Co.    |
| Grinnell Bros.     | G. A. Barlow's Son Co. | Edw. J. Walt Music Co.    | Levis Music Co.     |
| Sherman Clay & Co. | W. J. Dyer & Bro.      | Edmund Gram               | H. C. Prange Co.    |
| Robelen Piano Co.  | C. C. Harvey Co.       | Homer L. Kitt Co.         | Otto Grau Piano Co. |

*Watch for other outstandingly good merchants in subsequent issues.*

# SET-TESTED TUBES

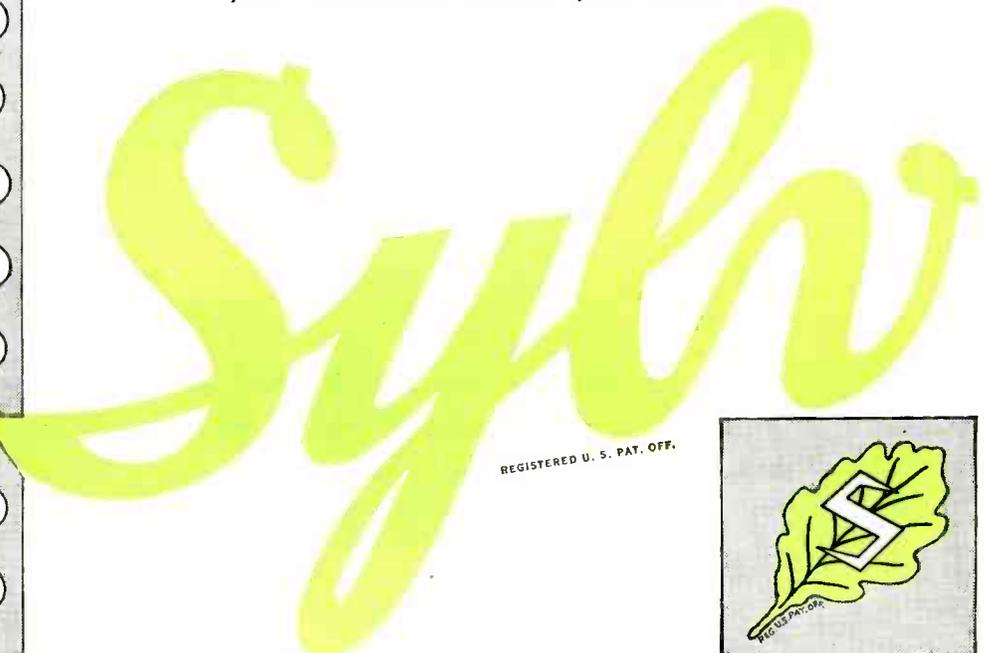
## The To YOUR customer's



**W**ATCH a man buying radio tubes. Analyse his reactions. He's puzzling over the same problem he faces when he buys gas—oil—spark-plugs for his car. He wants to know if the make you sell is right for him to use. Usually he gives up and asks you.

With Sylvania Set-Tested Tubes, you answer this question before it is asked—usually before it even comes up in your customer's mind. You tell him that Sylvania Tubes have been tried out in radios just like his—that they have passed strict tests for tone . . . volume . . . distance . . . and selectivity. You make a sale quickly and easily, because your customer knows you have what he wants.

•  
Licensed  
under  
RCA Patents







# THIS MARKET

*Must be Supplied*

WITH

# KELLOGG TUBES

Every customer of yours who owns and operates *any* of the following sets, *must* buy Kellogg 401 A. C. Tubes for replacements!

KELLOGG Sets—510, 511, 512, 514, 515, 516, 517, 518, 519, 520, 521. McMILLAN Sets—26, 26PT. MOHAWK Sets. SPARTON Sets—62, 63, A-C 7. DAY FAN Sets—5143, 5144, 5145, 5148, 5158. MARTI Sets—TA2, TA10, DC2, DC10, CS2, CS10, 1928 Table, 1928 Console. CLEARSTONE Sets—110. And the first A. C. models of the following: Bell, Walbert, Wurlitzer, Pathe, Shamrock, Bush & Lane, Minerva, Crusader, Liberty, Metro, Supervox, and Case.

The manufacturers of these sets actually designed and equipped them with *original* Kellogg tubes. This is a profitable market—representing an enormous sales opportunity for progressive dealers everywhere. Stock and display Kellogg tubes—they are the *only* tubes that can be used to maintain the good performance of these sets.

A supply of colorful advertising folders to send to your customers will be furnished to dealers and jobbers upon request. Write Department 50 for name and address of nearest Kellogg tube jobber.

# KELLOGG SWITCHBOARD & SUPPLY COMPANY

1066 W. ADAMS ST.

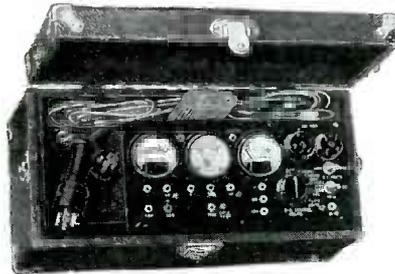
CHICAGO, ILL.

# Set and tube testing SIMPLIFIED



## No. 600 ANALYZER

Contains the same equipment as No. 700. Carrying case is lock equipped



with space for tools and tubes. Test equipment is removable and can be used for complete test panel for shop purposes. Price \$18.00 Net.

**No. 700**  
**\$15**  
**NET**

No other analyzer offers you so much testing capacity and such high accuracy at such an extremely low price as the new Readrite No. 700 Analyzer. It simplifies testing to a few simple operations. It fills every need for the expert serviceman or the beginner for radio set analyzing.

Now, in one complete unit Readrite combines three meter analyzers to take care of every tube and set testing need. It is complete in its range—simple to operate—and provides many meters in one at a price that appeals to everyone.

The No. 700 analyzer with selector switch tests voltages of plate, grid, cathode and screen grid as well as plate current, filament, line and power voltage. The grid swing test for tubes is used. Continuity tests of transformers, condensers, etc., can be made and resistances up to 100,000 ohms can be measured.

The eight scale readings of the meter may be used separately—0-60-300-600 D.C. volts, 0-10-140-700 A.C. volts and 0-20-100 milliamperes.

*Order yours today — at your jobbers . . . if ordered direct, remittance must accompany order.*

## READRITE METER WORKS

Established 1904

7 College Avenue, Bluffton, Ohio

# Champion

## POWER PENTODE

### Champion

ENGINEERS' 1930  
CREATION

PUBLIC 1931  
ACCEPTANCE



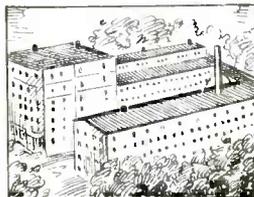
Columbia University,  
New York City

Here, over a year ago on January 15, 1931, the Power PENTODE was first demonstrated by Champion engineers.



Home of Champion Radio  
Tubes

DANVERS, Massachusetts  
For more than a quarter-century, the name CHAMPION has stood for sterling worth and integrity.



Champion Laboratory,  
DANVERS, Massachusetts

Through the untiring efforts of Messrs. Briggs and MacLeod of Champion Engineering staff the Power PENTODE attained its present perfection.

ON January 15, 1930, Messrs. Briggs and MacLeod of Champion's engineering staff, demonstrated before a distinguished gathering at Columbia University, the principles of a radically different radio tube—the POWER PENTODE. In the March 1930 issue of the "Proceedings of the Radio Club of America, Volume 7, No. 3," the following paragraph is noted: "Those who heard the demonstration of the Pentode Tube, which followed the presentation of the paper (demonstration of a Pentode by A. D. MacLeod and R. S. Briggs of the Champion Radio Works, Inc.) will recall that, etc., etc."

Then came months of study and experimenting . . . of laboratory tests . . . of intensive effort, day and night by the entire engineering staff of Champion to PROVE it's finding. Champion's new tube must meet the most rigid specifications of set manufacturers . . . it must be SUPERIOR in every way . . . greater in tone brilliance . . . more faithfully reproducing the high notes . . . duplicating every tonal inflection of the artist as though he stood before you!

Now the Power PENTODE Tube is ready! Ready for your most critical audition. Ready to demonstrate a depth of power, tonal beauty and brilliancy never before available in radio! Hear it. Decide for yourself! You'll admit—once more—Champion is FIRST.

**CHAMPION**  
Radio Works, Inc.

DANVERS  
Massachusetts



**ATWATER  
KENT  
RADIO**

**A**NNOUNCING

**THE NEW GOLDEN VOICED**

**COMPACT**

*with the* **PENTODE TUBE**

[SUPER-HETERODYNE]

# ATWATER KENT RADIO

## WITH THE PENTODE TUBE (SUPER-HETERODYNE)

SMALL ONLY IN  
SIZE AND PRICE

Atwater Kent adds another **FIRST**  
to this impressive record:

**FIRST** with Compact radio (1925)

**FIRST** with Metal Chassis (1925)

**FIRST** with complete One-dial control (1926)

**FIRST** with All-electric at popular price (1928)

**FIRST** with perfected Screen-grid (1929)

**FIRST** with evenly spaced Quick-Vision Dial (1930)

And **NOW FIRST** with perfected use  
of the new **PENTODE TUBE** in  
a **Compact Super-heterodyne**

**T**HE NEW PENTODE TUBE is a five-element power amplifier. Used as audio output in the new circuit developed by Atwater Kent for the Golden Voiced Compact, it handles as much power as two 245's plus the amplification of one 227—all three of which it replaces.

Atwater Kent now uses the wonderful PENTODE TUBE to improve audio frequency amplification just as Atwater Kent screen-grid power improved radio frequency amplification.

In short, by means of the new special

circuit designed for the PENTODE TUBE, Atwater Kent engineering has found the way of making a *small* radio of *big* performance at every point.

This is all accomplished without sacrifice of Atwater Kent standards of tone quality, super-heterodyne selectivity, sensitivity or reliability.

From top to bottom, the Golden Voiced Compact is a typical Atwater Kent quality radio. No radio has ever been made of better materials or with finer workmanship. The Golden Voiced Compact will sell easily—and *stay sold!*

**BIG IN  
PERFORMANCE,  
IN WORKMANSHIP,  
DEPENDABILITY,  
VALUE**

**THE NEW GOLDEN**

# ATWATER KENT RADIO

WITH THE  
**PENTODE TUBE**  
(SUPER-HETERODYNE)

\$ **69**<sup>50</sup>

**COMPLETE  
WITH TUBES**

*Prices slightly higher  
west of the Rockies  
and in Canada*

## 1932 Model

**MODEL 84, Golden Voiced Compact, with the Pentode Tube. Cabinet design, Cathedral Gothic. Front, matched butt walnut; sides, selected striped walnut. Dimensions: 19 x 15 $\frac{5}{8}$  x 9 $\frac{5}{8}$ . Quick-Vision Dial. New Electro-dynamic speaker. Antenna adjuster, securing full efficiency on antenna of any length. Armored chassis fully shielded to prevent radiation. Perfected super-heterodyne circuit, getting maximum selectivity, with rich, full tone.**



**VOICED COMPACT**

# ATWATER KENT RADIO

FROM THE  
PIONEER  
OF  
UNOBTRUSIVE  
RADIO



SIX YEARS AGO *Atwater Kent* brought out the first multiple-tube compact receiver.

Every radio merchant who was in business at that time remembers the "Model 20 Compact." It was no larger than a row of books on a living-room table.

The sensational success of that little model changed the whole design of radio.

Receiver and speaker were separate in those days. Now they are one. To make them work properly in a very small case requires special skill in design and manufacture.

The Atwater Kent Manufacturing Company is fortunate in having this skill at its command—and in having the many years' experience in precision workmanship required for the manufacture of such a radio.

Look inside the new Atwater Kent Golden Voiced Compact. Never before, in any radio of less than "standard size," have you seen such sturdy construction.

It's the radio you will be proud to sell and any customer will be glad to own!

The new sales value of the new Golden Voiced Compact with the new PENTODE tube, with the Super-heterodyne circuit, plus Atwater Kent public *acceptance*, plus the extremely low price, coupled with your own able selling efforts, will result in the turnover that means good net profits.

**ATWATER KENT MANUFACTURING COMPANY**

*A. Atwater Kent, President*

4700 WISSAHICKON AVENUE

PHILADELPHIA, PA.

First with perfected use of the

**PENTODE TUBE**

# KEEPING PACE

## WITH RADIO'S SWIFT ADVANCE . . .

### ARCTURUS BLUE TUBES

Throughout the radio industry Arcturus is known as a pioneer—steadily blazing the trail to new tube developments . . . always quick to offer the most advanced ideas in tubes.

Now Arcturus again demonstrates this pioneering ability by announcing two new Arcturus Tubes, that made possible marked advantages in radio set design.

#### Arcturus Type PZ Pentode

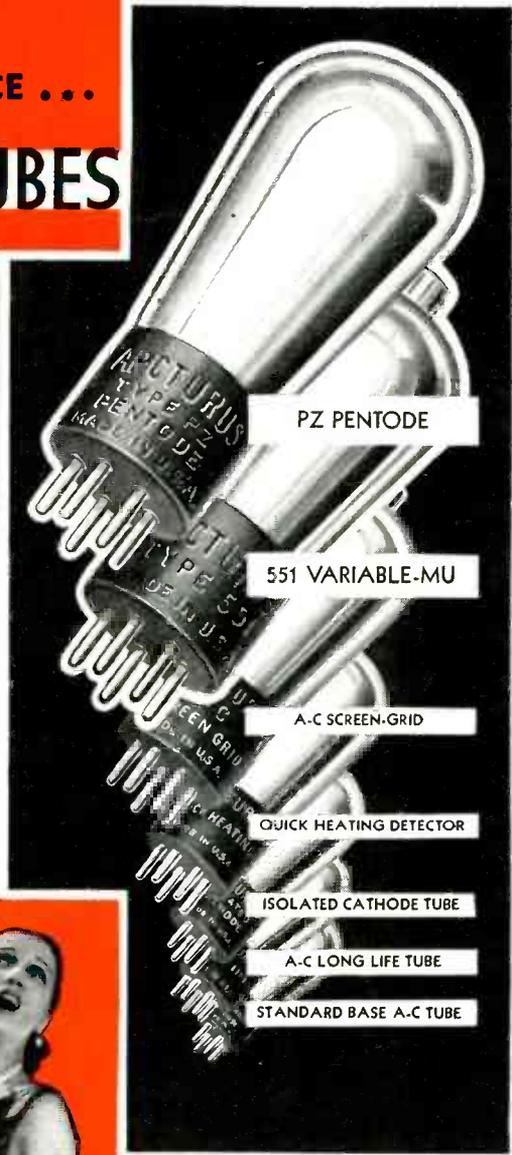
High mutual conductance, and exceptional sensitivity are features of this new Arcturus Tube. Because it is approximately 4 times as sensitive as a '45 power output tube it makes possible greater volume, minimizes distortion, and makes smoother reception a certainty.

#### Arcturus Type 551 Variable-Mu Tube

By using new principles, this Arcturus Tube eliminates the need for double pre-selectors, dual volume controls, and "local-long distance" switches. Even with signal input voltages increased 25 times, operation is free from distortion. Receiver hiss is reduced; maximum cross-talk is divided by 500. Circuits using this new tube are simpler, as well as more efficient. Arcturus' well-known quick action is an additional feature.

Leading radio set manufacturers are now designing sets using these new Arcturus Tubes. You will be selling these improved receivers soon. Many of them will come to you equipped with Arcturus Blue Tubes . . . the tubes that insure satisfactory service because of their dependability and *Life-Like Tone*.

ARCTURUS RADIO TUBE CO., Newark, N. J.



**"THE TUBE WITH THE**

**LIFE-LIKE TONE"**

# ARCTURUS

# Sweeping! America!

and sweeping DOLLARS  
into DEALERS' POCKETS



● 8-TUBE SUPERHETERODYNE mantel model. Matched walnut panel with imported marquetry inlay. Sold complete with Majestic tubes, \$69.50; less tubes, **\$47.80**



● NEW 8-TUBE MAJESTIC SUPERHETERODYNE chassis in a beautiful Tudor lowboy. Panels of matched butt walnut. Sold complete only with Majestic tubes, \$119.50; **\$97.80** less tubes



● 9-TUBE SUPERHETERODYNE in Hepplewhite highboy of beautiful matched walnut, with genuine marquetry inlay. Sold complete only with nine Majestic tubes, **\$123.40** \$149.50; price less tubes.

ALL PRICES SLIGHTLY HIGHER WEST OF THE ROCKIES

SIX AMAZING, ENTIRELY NEW SUPERHETERODYNES USING MAJESTIC'S SENSATIONAL NEW



NEVER HAVE DEALERS seen such a swing to a new set.

Orders are flooding in. The slump is over for Majestic dealers right now, and dollars are rolling in.

Imagine demonstrating in daylight on stations 1000 miles away—and getting "the coast" in the evening during store hours! They are doing it right now with an 8-tube superheterodyne that sells for only \$47.80 less tubes!

Automatic volume control, automatic station and tuning indi-

cator, noiseless tuner, static modifier, and an amazing new circuit that tunes razor-sharp! Tone free at last from hiss, hum and tube distortion! Distance that amazes every listener! It's the greatest set ever built—and the *fastest selling line in America right now.*

Put your undivided effort behind a live one. The Majestic franchise is "money in the bank" today. Phone or wire your distributor now. Grigsby-Grunow Co., Chicago, Illinois.

# Majestic

## RADIO

Licensed under patents and applications of R. C. A., Hazeltine, R. F. L., La Tour, also by Lowell & Dunmore

# Will Your Oscillator Adjust These Sets?



**130 K. C. Super-Heterodynes,  
D. C. Line Operated,  
Battery operated farm and motor car**

The Jewell Pattern 560 Radio Service Oscillator provides the serviceman with a means of making radio frequency adjustments on these and the standard types of radio receivers.

Two frequency ranges are provided: 550 to 1500 K.C. for adjusting tuned stages of all receivers; and 125 to 185 K.C. for adjusting intermediate frequency stages of all super-heterodyne receivers. This range includes the popular 180, 175 and 130 K.C. types. A simple switch allows a quick change from either range, and the output of the oscillator is adjustable to any point in either hand.

The Jewell Radio Service Oscillator operates from completely self-contained batteries of very long life. As it is independent of external power supply, the Jewell Radio Service Oscillator may be used to service battery operated farm, motor car and aviation sets, and D.C. line operated sets.

Don't buy a radio service oscillator that doesn't provide these necessary features. Write for the bulletin describing in detail the many exclusive features of the Jewell Radio Service Oscillator.

The Jewell Electrical Instrument Company builds a complete line of radio service equipment. Jewell Tube Checkers, Set Analyzers, and Portable Meters are exclusive equipment in many of the largest service organizations.

### Pattern 560 Oscillator

List Price ..... \$97.00

Dealers' Price ..... 72.75

Complete with tubes, batteries and portable output meter.

Oscillator without Pattern 559 Output Meter.

List Price ..... \$82.00

Dealers' Price ..... 61.50

Pattern 559 output meter only.

List Price ..... \$15.00

Dealers' Price ..... 11.25

*These Prices For The United States Only*

31 YEARS MAKING GOOD INSTRUMENTS  
**JEWELL**

**Jewell Electrical Instrument Co.**  
1642-A Walnut Street, Chicago, Ill.

Please send me the booklet I have checked.

Jewell Oscillator     Jewell Time Payment Plan

Name .....

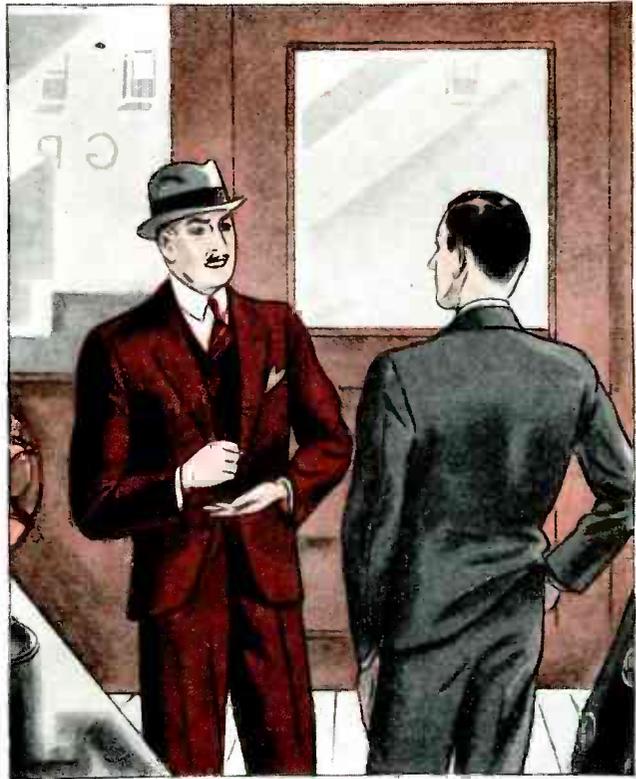
Address .....



**Write Today!**

# "I WAS AMAZED WHEN HE TOLD ME"

"Until a General Electric Supply Corporation salesman gave me his complete story, I had the idea that he just sold merchandise and supplies. Now I know that he can help me in many different ways."



You can obtain prompt delivery of *everything electrical* from a General Electric Supply Corporation wholesale warehouse near your store.

You may obtain the helpful assistance of specialists . . . in organizing sales campaigns, in planning your store for effective display, in preparing your advertising, in budgeting for financial control, and in other problems of management.

Your efforts will be more effective . . . and you will make more net profit . . . when you concentrate your selling program on his one standard, well-known line of electrical merchandise.

GENERAL  ELECTRIC  
SUPPLY CORPORATION

# **HOTTEST** *radio line of all time!*

**All Pentode, Super-Heterodynes . . . Power and performance of nine and eleven-tube sets . . . Automatic Volume Control . . . New Variable - Mu Tubes . . . Full - Vision Dial . . . Static Reducer . . . New High-Gain Super Power Tube . . . De Luxe Cabinets . . . NEW LOW PRICES AND Clarion's exclusive feature — 98% PURE TONE!**

Clarion Radio—choice of the stars of the stage, screen, and air . . . Rosa Raisa, Coe Glade, Constance Sanders, Barre Hill, Ben Bernis, George White, Phil Spitalny, Art Kiesel, David Belasco, Fanny Brice.

**TRANSFORMER CORPORATION OF AMERICA**

Ogden and Keeler Avenues, Chicago, Ill.

# Clarion

Get the low-down on Radio's hottest line — the 1931 Clarion line. Write today — now—this minute—for the new big broad-

side that describes in detail the new Clarion line, selling helps, advertising — the whole startling new Clarion story!



# IT'S ROOTS that COUNT

AS the mania for purely price selling checks itself because of its own weakness, the true situation in radio becomes more and more apparent. Under the surface there remains the great, unshaken foundation of quality buyers who form the bulwark of American industry. They are the sound customers who don't *want* distressed merchandise, who don't *buy* it, and who enable the strong manufacturers in any industry to sell their products through good times and bad.

Sparton has kept an even keel by continuing to cater to this solid market. Sparton dealers have survived the storm by tying in with this sane policy. Both are anticipating a flying start as conditions in radio right themselves, and there are still openings for dealers with the same sound outlook.

THE SPARKS-WITHINGTON COMPANY  
JACKSON, MICH., U. S. A.  
{Established 1900}

*Pioneers of Electric Radio without batteries of any kind*



The New  
SPARTON ENSEMBLE  
Model 235

A 12-record, fully automatic, combination radio-phonograph, Sparton-built throughout, for . . . . \$280 less tubes

Only SPARTON has the MUSICAL BEAUTY of  
**SPARTON RADIO**

*"Radio's Richest Voice"*

*Western and Canadian prices slightly higher*

(619)

# You have a Big Market for this New Low-priced Clothes Washer



Just plug Cinderella in any electric outlet and it does the washing in a jiffy—for only one cent an hour.



Cinderella is useful for the week's wash, and for quickly needed things that are washed every day.



Cinderella is a big seller to small families—especially to families with young babies.



Cinderella is safe for the daintiest silks and laces; it has no moving parts to injure clothes.



Cinderella is just right for apartment dwellers. It can be tucked away in small space when not in use.



This glass demonstrator shows Cinderella's "Vacuum-Action" in action, and helps you make sales.



*A big seller to small families—especially those with children*

# Cinderella \$37<sup>50</sup> Portable Electric Clothes Washer

THE Cinderella is just what thousands of women have been waiting for. A complete electric Clothes Washer they can really afford. Naturally, at the low retail price of \$37.50, Cinderella is going over big!

But low price isn't the only feature of the Cinderella. It washes by an amazing new "Vacuum-Action" principle that wins women on sight. No moving parts touch the clothes—hence there is nothing to wear out dainty fabrics or pull off buttons.

And when it comes to speed, capacity and

economy, Cinderella is a little wonder. Takes only two minutes to fill it and start it running. Then in 15 minutes the clothes are thoroughly washed and ready to rinse. It costs less than a penny an hour to run!

You can sell a lot of Cinderellas in your vicinity—and you will make a \$60 profit on each \$90 invested! For Complete Sales Plan, mail the coupon below. Cinderella is a product of the Black & Decker Mfg. Co., World's largest manufacturer of Portable Electric Tools. Send the coupon now.



Black & Decker Mfg. Co.,  
602 E. Pennsylvania Ave.  
Towson, Md.

Please send me the name of my state distributor and the sales plan on the new Cinderella Clothes Washer.

Name.....

Street No.....

City..... County..... State.....

# Ken·Rad

## Fine Radio Tubes



### *What Kind of Economy is This?*

**M**ILLIONS of dollars are spent each year by set manufacturers for engineering and development work alone—to give you dealers and distributors better radio performance to sell.

But the finest instrument possible to build can be no better than the tubes that are used. Fine tubes can make a cheap set do more than the finest set with cheap tubes.

Why, then, should you or any set manufacturer supply any but the finest tubes available? . . . This certainly is

the last place that anyone should attempt to economize—because cheap tubes always prove to be false economy.

You can get cheaper tubes than Ken-Rads—but you can't get finer tubes. You practice sensible economy when you supply Ken-Rad Fine Radio Tubes as equipment in every set you sell. And you make more money, because the better performance of Ken-Rads will get and hold more customers for you . . . May we have the opportunity of presenting definite proof? Just write us!

THE KEN-RAD CORPORATION, *Incorporated*, OWENSBORO, KY.

*Licensed Radio Tubes and Incandescent Lamps*

# RADIO RETAILING

HOME ENTERTAINMENT MERCHANDISING

O. H. CALDWELL,  
*Editor*

A MCGRAW-HILL PUBLICATION. ESTABLISHED 1925.

## *Making the Most* *of the* MIDGET

**T**HE midget now is with us in force. Probably two thirds of the receivers sold this year will be such small sets. Unmistakably the public has registered its first-blush approval of the idea behind these attractive little units, which appeal because of price and because of compactness.

*Radio Retailing* emphatically welcomes the "midget idea" as filling a need in places where a more expensive set is beyond the purchaser's reach—and as a second or third set in many homes already provided with other receivers. *Radio Retailing* heartily sympathizes with the thrifty public which wants the best buy for its radio dollar and we congratulate the manufacturers who foresaw this small-set market.

**B**UT we caution the industry (and it, in turn, should educate the public) against any type of set—either console or midget—which is deficient in tone fidelity, or which lacks the reality and tonal fullness on which permanent satisfaction with radio can only rest.

The great broadcasting stations are now delivering well-nigh perfect tone quality right up to the door of the listener. If he uses an inadequate or obsolete receiver, he is short-changing himself and his family, and missing half the show.

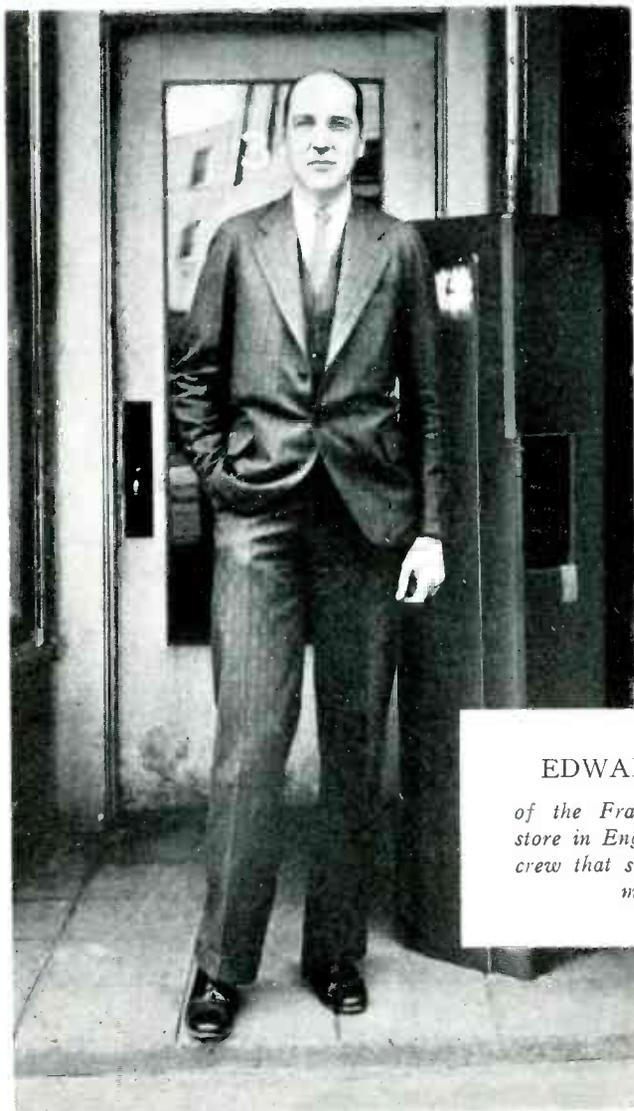
**F**AR-SIGHTED midget manufacturers recognize this need for tone quality and are exerting every effort toward wide-range tone response. They find that many populous radio areas get along well with comparatively low radio sensitivity, and the savings thus made they are partly putting into improved tone on the audio end and partly sharing with the purchaser. Such fitting of the product to actual conditions is good engineering and good business.

*Radio Retailing* only reminds the trade that above all, *tone reality* is the one final requirement in any successful set—console or midget—and that antiquated, tinny reproduction cannot be tolerated amid the high acoustic standards of 1931.

O. H. Caldwell

# He *demonstrates* *them* BOTH

By W. W. MacDonald



EDWARD C. SCHMIDT

*of the Franklin Parlors furniture store in Englewood, N. J., directs a crew that sold 644 consoles and 65 midgets in 1930*

## *They* HEAR

"**F**ORTY-FIVE per cent of our customers are first interested in midgets. If it were not for the low-priced sets we could not get a toe-hold on their business. Yet only 9 per cent actually buy and keep mantel sets. The other 91 per cent wind up with consoles. And those who do stick to their guns and order miniatures are largely legitimate prospects for small radio and should really buy nothing else. *Midgets produce profitable extra business for us and are positively the best 'leaders' that ever came down the pike.*"

This was Ed Schmidt's story and we were stuck on it. For he is doing a whale of a radio business within commuting distance of New York's gyp-row, where sets sell for cigar coupons, and he should by all rules be griping about the "repression, or sumpin." So, "Tell us more," we urged, removing a ream of note paper from a capacious inner pocket and dexterously snaring an ashtray.

"Midgets are here to stay," he observed, "and are very attractive to the public." We nodded vigorously.

"My salesmen sell them when nothing larger can be sold, taking their smaller profit without a whimper, but make doggone certain that no midget ever stays where there is room for a console and money to pay for one if any human power can prevent it.

"In our estimation there are just two conditions which prohibit the sale of consoles:

1. Space limitations.
2. Insufficient means.

"Students, teachers, chauffeurs, maids, transients, roomers and second-set buyers, who simply have not



## They COMPARE

the room for large cabinets, fall in the first category. People who, in our estimation, cannot afford to pay more than \$2 a week and those with poor credit ratings are in the second. Midgets are made for just such people and midgets are what we sell them. But there are others, very much in the majority and with plenty of room and ample earnings, who are attracted by the exceptionally low prices of the miniatures. These we religiously try to weed out and swing to better sets."

"What do consoles offer that a good midget cannot give?" we queried, pencil poised in mid-air.

"Realism, demonstrated by comparing midget against console," Schmidt replied. "We tune our best midget and the lowest price console on the floor in on WJZ or WOR, snap the antenna switch to the midget, let them listen, snap it to the console and let them make their own comparison. Ninety-nine of 100 make their decision in favor of the console. 'Only \$2 more a month,' we tell them, avoiding reference to the total cash difference."

"Midgets are pretty good," we hinted. "Maybe you're exaggerating." Anyway, we were from Missouri.

So he showed us. It took us less than ten seconds to make up our mind. A good midget is as clear as crystal. But a good console has this clarity plus realism which is only obtained by more accurate reproduction of notes in the lower register because of ample baffle area. Demonstrated alone a well-made midget sounds like perfection itself. Demonstrated against an equally well-made console the difference in depth, naturalness of reproduction must be apparent to all but the musically dumb. The reason for the difference in price between the two sets is *demonstrable*. Don't take our word for it. We didn't take Schmidt's. Try it. Try it on your

## Then BUY

family. Then try it on your customers.

"Consoles must sound better than midgets if people are expected to pay more for them," Ed resumed, "and we have discovered that they not only do but that we can prove it. Instead of pulling a lot of convivial chatter about tone, construction and cabinet on a customer who thinks all radios, large or small, are alike, we let him hear the difference and judge for himself. No midget is demonstrated in the store without the salesman turning on a console for comparison. Not a miniature goes out on trial without a larger set right beside it on the truck. And when a small set is sold and installed the salesman is back at the house within a week for permission to demonstrate something better if he thinks he has a chance of stepping up the sale.

"I could mention a number of cases in which comparative demonstrations sold larger sets to people who originally would look at nothing but midgets."

"Please do," we interrupted, just to be nasty, and Ed, who evidently has a habit of proving things, fished a sheaf of sales slips from the recesses of his desk. "Here's a good one," he informed us.

▼  
**"James Malloy**, one of the officials of the Englewood General Hospital, came into the store the other night intending to buy an \$88 midget in an undersize console cabinet. We soon found out that he owned his own home and that his wife had selected the diminutive model because she had been told that all radios sounded alike, that the only difference was in the cabinets. We rang in our usual comparison, using a new \$157 model, and he liked it so well that he telephoned his wife to tell her that he intended to take it home on trial.

"Mrs. Malloy could not see the price at all but she

agreed to let us bring both sets out that same night. When we demonstrated them in her home, the console stayed. By direct comparison, the midget wasn't good enough. She probably would have been satisfied if she had heard it alone.

▼  
 "H. G. Lowe of Tenaflly had an old Garod that had not been working for some time. He wanted a new set but because business was poor selected a \$68 midget. All he was interested in was a set that would give him Amos and Andy and speeches. Surely any radio would do that.

"We discovered that he was the president of a local paper company and decided that a midget was not good enough for him. A \$203 job went out with the midget and he was so impressed with the difference in realism, even on speech, that we eventually worked him up to a \$390 model. It took two weeks to swing it but he bought the larger console.

▼  
 "Mrs. Margaret Owen of Englewood ordered a clock model from one of the men. Her next-door neighbor had one and she was sure that it was plenty good enough. She admitted that she had not heard one of the new consoles and consented to have a \$120 model sent out on trial too. The salesman went with them, made a quick changeover from one to the other, switching the aerials, and came away with a check for the console in his vest pocket.

▼  
 "A. Gohde of Dumont also came in answer to our ad. He was so sold on the little set from the description in the paper that I think he had his hand on the \$68 in his pocket when he entered in the store. He listened to the midget, liked it, was ready to buy. We pushed a \$128 super-het under his nose and he walked from one to the other, throwing our antenna switch back and forth. He paid \$57.50 down on the console. All we did to step him up was to let him hear the difference and remind him that he could buy the better set for a couple of dollars a month.

▼  
 "Edward A. Adams of Leonia was chalked up as a midget prospect after a canvass. He wanted a set that would fit on an end-table in his bungalow and insisted that he could not clutter up the place with more furniture. Adams knew what he wanted and stuck to the small model even after we had demonstrated it against a \$128 console. So we sold him the mantel job and then left him alone.

"Ten days later we discovered that our comparative demonstration had not flopped after all even though it

did not result in an immediate step-up. For Adams telephoned that we could bring out the console if we would allow full credit on the set he had bought.

▼  
 "A Mr. Myers of Hackensack was turned in to us by one of our old customers as a good prospect. When our man called he found Myers ready to talk business, particularly price. This gentleman, like many others, thought the only difference in radios was in the cabinets. The salesman decided to leave well enough alone and arranged to ship a midget on approval.

"Myer's occupation was reported to me as general manager of a large Dairy—it looked like an 'undersale' if there ever was one. So I loaded \$128 set on the truck with the midget, under protest from the salesman who had visions of disappearing commissions, and I went out on the demonstration myself. Once again I found that it is a mistake to permit any prospect to get away with the statement that all radios sound alike. For all I did in this case was to hook up both sets side by side and let Myers compare their performance. He bought the console.

### THE BUSINESS BREAKDOWN

**Radio Sales, 1930 . . . . . \$101,000 gross**

*644 consoles @ \$135 average list  
 61 midgets (Aug.-Dec.) @ \$68  
 4 midgets with consolette  
 tables @ \$112.50*

**Radio Sales, 1929 . . . . . \$75,750 gross**

*382 consoles @ \$185 average list*

**Present Stock . . . . . 103 consoles, 19 midgets**

*Turnover last year was eight  
 times capital investment*

**Personnel . . . . . 8 men full time, 3 part time**

*Sales manager on a salary  
 and commission basis  
 4 radio salesmen; 1 straight salary, 3  
 salary and commission  
 3 furniture, appliance and radio  
 salesmen, salary and commission  
 3 radio servicemen, salary*

Outside selling produces 72 per cent of Franklin Parlors' radio business. Salesmen cover most of Bergen County, approximately 91,200 families

▼  
 "Dudley Kresskill came in and asked to see the midget we had advertised in the paper for \$60. We showed it to him, let him tune it, and then switched him to a \$120 console by letting him sell himself on the difference in tone. If it had not been for that midget ad we probably would not have attracted Kresskill. The price looked good, but when he had compared the two sets he evidently decided that a few dollars made a lot of difference."

"'Nough," we broke in, convinced. "Don't you ever miss fire on this selling-up stuff? It sounds too good to be Webster."  
 "Sure," Schmidt grinned. "We do not pretend that we bat 100 per cent. Once in a while we think we have a console lead and it is really extra midget business. Sometimes we misjudge and let console prospects get out with midgets. And we often fail to swing console prospects whom we know have the 'makings.' But when we miscue that's our fault, not the fault of the midget manufacturers. The little sets they have given us attract more prospects than we have ever known before, prospects for consoles as well as for the midgets themselves.

"It doesn't cost anything to demonstrate them both. Then, if we are not salesmen enough to distinguish between the two classes of business and to make the most of our opportunities it is nobody's fault but our own."

We thought a good deal about this last remark of Schmidt's on the way back to New York.

# Our New Presidents Address Special Messages to the Readers of Radio Retailing

## KEEP FAITH . . . . *says*

**James E. Aitken**

*President, National Federation of Radio Associations  
President, Aitken Radio Corporation,  
Toledo, Detroit, Cleveland, Dayton*

**T**HE fifth annual radio convention has passed, and with it another year of disillusion and confusion in the radio business and in the world at large.

A two-year depression in the radio industry may well cause those who are in it to stop and wonder. But let us not be discouraged. Ours is a new commercial activity. If we were to study the history of some of the older ones, many of our fears and doubts would disappear. Let us have faith—not particularly a blind faith—but a faith that is based on reason. There are more homes in the country than ever. Radio has become a necessity in them. The number of sets sold last year is encouraging. If profit was not made on them, ours is the fault and not the public's, who have always shown a disposition to buy radio.

With the improvement of general conditions, the improvement of radio broadcasting and the constant improving of radio receivers, the public will buy radio in increasing numbers. It simply remains for us to set our house in order.

It would seem that an article such as radio, produced under centralized patents, could be regulated from a production standpoint and that the stream of radio merchandising could be more purified at its source. The stream of radio distribution and merchandising can be clarified—and will be. And in the end dealers and jobbers will be refreshed by its presence.

In no way can our problems be more quickly solved than by cooperation. If we are to have maximum progress the manufacturer, jobber and dealer must unite and work together. The National Federation of Radio Associations offers the jobber and dealer an opportunity to cooperate for a common good. Every tradesman owes it to himself and the industry to become a member and bring to himself the protection and profit he deserves.

## R.W.A. CAN BECOME A GREAT INFLUENCE

*Should have frequent contact with R.M.A. says*

**Louis Buehn**

*President, Radio Wholesalers Association  
President, The Louis Buehn Company, Philadelphia, Pa.*

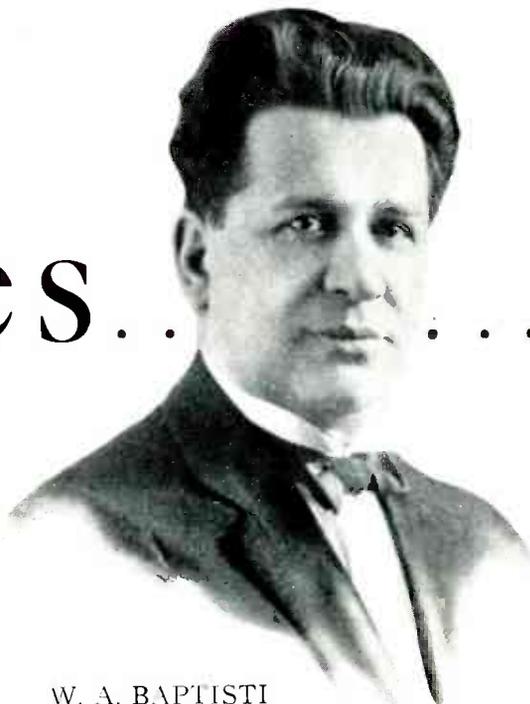
**I**N ACCEPTING the presidency of the Radio Wholesalers Association, I was influenced by the knowledge of what this organization had accomplished and the belief that it could become a great influence in assisting to stabilize the radio business. It is to this end I pledge my administration during the ensuing year.

Trade association work is not new to me as I have had the privilege of service in the old National Association of Talking Machine Jobbers. It is out of this past experience that I am willing to predict that the present Radio Wholesalers Association will be an even greater factor in the radio business and will render a worthwhile service.

Many problems are facing this industry. Problems of production, distribution, advertising, trade discounts and others, any one of which can bring about endless discussion as to what is the proper solution.

My belief is that the greatest good can be accomplished by frequent contact between our organization and the Radio Manufacturers Association and I am sure that out of such conferences a great many of our present problems can be solved.

# 1,274 Set Sales.....



W. A. BAPTISTI

*There are two ways to retail radio sets. The first, the easiest and most dangerous, features price lures and depends on volume to "get by." The second is not so flashy, it requires sales stamina of a high order, but its ultimate returns are more certain and more profitable.*

*The following article covers a large scale merchandising operation of this latter type. Businesslike policies are laid down and rigidly adhered to. That now-so-necessary factor, outside selling, is employed extensively. And success, so far, has rewarded the courageous efforts of those behind this case in point.*

**B**APTISTI AND FARLING'S estimate of the importance of the outdoor salesman may be gained from the fact that last year only 7½ per cent of the 1,274 customers who bought sets from this Harrisburg, Pa., concern came to its store to do so. And many of these had been previously interviewed by salesmen. This ratio is due to the very definite reason that W. Arthur Baptisti and Lloyd Farling believe that the way to get radio business is to go out after it.

Nor does this indicate that the store itself does not amount to much. True, it is a block from the business center of the city, but the selection of a location was not a hit-or-miss affair. Both partners are sold on the "out-of-the-store representative" as the most satisfactory and most profitable radio "outlet." They are sure it would not pay them to move into the high rent district for the sake of the few additional sales which might come. The wisdom of this course is best indicated by results achieved while following it. The sale of 1,274 sets in a year which most certainly was not characterized by good general business conditions is no mean feat.

### *Handling Salesmen Perfected*

The handling of outdoor men has been developed to a high point of perfection by this concern. Nothing has been left to chance. Individual ability on the part of salesmen is regarded as highly desirable but is not taken for granted. The men are carefully selected and completely trained for the work at hand; their efforts supervised with meticulous care.

When Baptisti and Farling went in for extensive outdoor work they knew that most failures have come through lack of competent supervision. Accordingly a manager was selected who had had wide experience in the handling of door-to-door men in other lines. He brought to the company a sound knowledge of fundamentals plus a full appreciation of what the right kind of outside selling might be made to accomplish for a

responsible company that picked good men and then backed them up.

Salesmen must report on every prospect seen—and do it on the day they make the call. These reports are filed on cards provided for the purpose. In addition to giving complete information regarding his visits these reports make it readily possible to ascertain whether or not the salesman is really working.

### *A Meeting Each Morning*

Every morning the manager meets his sales force in conference. The cards turned in the previous day are reviewed thoroughly. Salesmen are encouraged to talk about their problems and every effort made to give sound advice in connection with them. If a card indicates an especially knotty sales problem he analyzes the situation and tells just how he would approach the prospect in order to close the sale. If desirable—and this frequently is the case—he goes with the salesman to visit the prospect. Not infrequently, when studying cards after salesmen have left the conference, this sales manager will decide to call on a certain prospect alone. If the sale is closed on this visit, the salesman who reported the "suspect" is credited with it—which is but another of

#### Employee

Date .....	
This is to certify that I authorize Baptisti and Farling to install a	
Model .....	
at .....	
on approval. I now have ..... aerial. It is understood I am under no obligation to buy, but will be responsible for the equipment while installed in my home. I will return entire equipment upon demand by Baptisti and Farling.	
Value of equipment .....	
Telephone No. ....	Signed .....
Final disposition .....	

# ..... 92% Outside

*Selling "the hardest way" brings best results for Baptisti and Farling—A narrative of success based on common sense*



*Organization outings promote good fellowship and help sales*



*These illustrations depict today's essential machinery for merchandising radio—a contented sales force, an alert and "mobile" service crew, and printed card records for stimulating and controlling sales effort.*

**6 POINT SALE PROSPECT CARD**

PROSPECT NAME \_\_\_\_\_ SALESMAN \_\_\_\_\_  
 RESIDENCE ADDRESS \_\_\_\_\_ TELEPHONE \_\_\_\_\_  
 BUSINESS ADDRESS \_\_\_\_\_ BUSINESS OR OCCUPATION \_\_\_\_\_  
 PLACE OF EMPLOYMENT \_\_\_\_\_ TYPE \_\_\_\_\_ YEAR \_\_\_\_\_  
 SIZE OF EMPLOYMENT \_\_\_\_\_  
 FAMILY \_\_\_\_\_  
 MODEL \_\_\_\_\_ MAKE OF RADIO OWNED \_\_\_\_\_  
 WHERE DID YOU GET THE PROSPECT \_\_\_\_\_  
 LENGTH OF TIME LIVING AT PRESENT ADDRESS \_\_\_\_\_  
 EMPLOYER'S NAME \_\_\_\_\_ LENGTH OF TIME AT PREVIOUS ADDRESS \_\_\_\_\_  
 CREDIT REFERENCES AND CHANGE ACCOUNTS \_\_\_\_\_

**PUT THIS PROSPECT THROUGH THESE 6 STEPS**

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6
INVESTIGATION	DEAL & LETTER	DEMONSTRATION ALBUM	HOME DEMONSTRATION	HOME DEMONSTRATION	BRING PROSPECT TO PLACE OF BUSINESS
DATE OF CALL _____	PREV. ADDRESS _____ DATE MADE _____	DATE _____	DATE _____	DATE _____	DATE MADE _____
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31					

## DEMONSTRATION COUPON

Set	_____
No.	_____
Lease	_____
Date	_____
Name	_____
Address	_____
Salesman	_____
Remarks:	_____

the seemingly little things that do so much to inspire loyalty and make the sales organization successful.

The salesmen all have automobiles and each carries a portable unit for making demonstrations. Portable demonstrating sets have proved very successful. They have reduced demonstration costs and have made it possible for the men to obtain numerous demonstrations and subsequent sales which would have been nipped in the bud had it been necessary to send to the store and have a truck deliver a complete outfit.

No complete set is left on demonstration longer than 72 hours. When it leaves the store it is recorded. Salesmen are naturally expected to follow up their demonstrations promptly, but here, again, nothing is taken for granted. One of the men in the store has the job of checking up on these outfits and it is his business to "pull" them at the end of 72 hours, whether the salesman has interviewed the prospect or not.

Naturally, sets are seldom if ever "pulled" without the salesman having done his best to complete the sale. The idea behind this system—and, for this radio dealer, it has worked out particularly

well—is to keep the men on their toes and to insure the company against expensive procrastination in getting definite reports. Baptisti and Farling believe that, if a set can be sold at all it can be sold within three days. To leave it in the home longer without getting a contract signed is to invite lost motion, lost prestige and an actual loss of money.

It has been found that the best hours for outdoor selling are from 9:30 until 11:00 in the morning; from 1:00 until 4:30 in the afternoon and from 6:30 until 9:30 p.m. Of these, the last three hours are by far the best and the majority of their sales are closed during this time when the man of the house is at home and radio reception is at its best.

It will be noted that the morning and afternoon hours do not conflict with meal time preparations. Nothing is more annoying to a woman than to have her lunch or dinner preparations interrupted by a salesman—and nothing is more apt to be discouraging to a salesman than her reaction to his efforts at these times.

### How Men Are Selected

When asked how men are selected for outdoor selling work, Mr. Baptisti smiled and retaliated with another question.

"If you were going hunting, what kind of a dog would you want?" he asked.

"Why, I suppose I would want a hunting dog," came the answer.

"Exactly. And you'd pick a beagle every time in preference to a greyhound. That's our method in selecting door-to-door men. We want those who are *good hunters*. Equally important, we want men who are persistent.

"At the same time, we feel it is mighty important to impress salesmen that they are infinitely more than mere door-bell ringers. No salesman can go far in his work if he gets the idea that he is just an ordinary peddler. Consequently, we sell them on the idea that the man in the field is the very heart of our organization—a fact of which we are firmly convinced. Also, while insisting that they go over their territories with fine tooth combs, we have no hesitancy about going out with them. That makes 'em feel good by proving that we are not asking them to do something we wouldn't do ourselves."

Radio also can be sold profitably to farmers by the out-of-the-store method, it appears. In going after this business it is necessary to refrain from any "high hat" methods.

"Many's the time I've dressed in old clothes and walked through plowed fields to talk radio to a farmer—and ended not only by selling the set but by being in-

vited to stay for dinner as well," said the field manager.

The necessity for evening work in outside selling was especially emphasized. Women are not so good for outside sales work because they lack persistency. It isn't every man who can keep from becoming discouraged when doors are slammed in his face and women have proved particularly susceptible to this failing.

About 40 per cent of the Baptisti and Farling home demonstrations result in sales—a splendid achievement in view of the 20 per cent records established by many dealers who regard their outdoor selling as successful.

Relative to this it was stated that the big reason for the failure of a lot of dealers to do a better outside job lies in the fact that the demonstration itself seems to be the objective of the salesman's solicitation. Instead of selling the prospect on the idea of owning a radio, he sells him or her on the idea of getting a free demonstration.

"Perhaps she may not even be thinking seriously of buying an outfit but sees no reason to refuse a generous demonstration offer which places her under no obligation. We get around this by making an installation charge but, most important of all, by insisting that our salesmen sell sets and not free demonstrations. If the prospect is first sold on radio as an adjunct to the home, then the demonstration is merely an incident in the selection of the right outfit for the particular home and location," explained Baptisti.

### July and August Key Months

"It takes a lot of diplomacy," he continued, "to keep a force of outdoor men on their toes during July and August. Then, as every dealer knows, sales are at low ebb and the sales manager's big job lies in keeping his crew intact and working. However, consistent work during this time is highly important. The daily routine of each field man must be planned by the manager.

"Men who keep plugging steadily along when the thermometer is flirting with 100 are the men who will show best results in the fall and winter. Warm weather work uncovers a lot of perfectly good prospects who may not buy until later. By contacting them every couple of weeks, our men have a decided advantage over the other fellows who wait until later to do their selling. If nothing else can be done, our men make a practice of dropping in to see prospects every few weeks just for the sake of saying 'hello' and getting their friendship. And it goes almost without saying that, after the sale has been made, salesmen also keep in particularly close touch with customers as one of the best means of uncovering other prospects."

## Average Price of Radio Sets, 1922 to 1930

IN the March issue of *Electronics*, figures for the average unit retail price per radio set were shown, based upon the total volume of set sales each year divided by the number of radio sets (consoles and midgets).

Comparable yearly averages taken for the total sales of radio sets and phonograph-combinations were given in *Radio Retailing* for March.

In order that the two sets of yearly averages may be compared, that is, averages of "sets alone," and averages of "sets and phonograph-combinations," the two series of

figures are reproduced below. Note that the influence of the combination was not apparent until 1928.

	1922	1923	1924	1925	1926	1927	1928	1929	1930
Receivers only (consoles and midgets) . . . . .	\$50	\$60	\$66	\$82	\$114	\$125	\$109	\$125	\$82
Radio receivers and phonograph-combinations . . . . .	\$50	\$60	\$66	\$82	\$114	\$125	\$118	\$133	\$87



## On The Increase

1,270,046 "fan" letters were sent Columbia last year by program listeners—a convincing demonstration of the continuing growth of interest



# The FACTS prove Otherwise

By

William S. Paley

President, Columbia Broadcasting System

FOR the year 1930 the audience mail of my company showed a quantity increase of 82.2 per cent over that received during prosperous '29. We, the broadcasters, are keenly aware, however, that in spite of this irrefutable evidence of swiftly growing public good will toward broadcasting there are some set owners who grumble at the length and character of the advertising announcements of those who pay for sponsored programs.

What are the facts?

Less than three per cent of Columbia's total time on the air is occupied by advertising matter. This confirms the leading editorial in the February issue of *Radio Retailing*. Furthermore we are exerting every effort to liven up, to "humanize"—and, if possible, to shorten—these necessary announcements. When, however, it is realized that the vast costs of operating the Columbia Broadcasting System were met by manufacturers who last year bought but 27 per cent of all our broadcasting time—receiving for this financial outlay but two minutes advertising time per sponsored program—the radio industry and the listener should temper criticism with understanding.

It is my hope that the radio dealer will marshal the truth about our mutual broadcasting problems—the necessity for advertising announcements, the comparatively small amount of time they consume, the ever improving quality of programs, and the growing interest in them.

All of these assertions are backed by evidence. What could be a better measure of listener interest than this actual data of audience response, not to any one program or any one station, but to the aggregate of all programs

broadcast over the 76 stations of a coast-to-coast network during a period of 12 months?

This audience response is not to be dismissed as "fan mail" in the ordinary sense of the word. That is, it does not consist in large part of "fan letters" addressed to radio performers in appreciation of their talent. It represents, rather, a complete cross-section of the public writing, for instance, to ask sound financial counsel for conservative investment, to approve or criticize the rendition of a Puccini opera, to request menus for home cooking, to ask advice on interior decoration, to get savings data, to request reprints of discussions on American industry and international relations, to secure classroom manuals of education.

The broadcasters will be the first to sense any let-down in this growth. The whole structure of network broadcasting in the United States is based upon giving the public what it really wants to hear, both seriously and frivolously, in the fields of education, music, art and humor. Through the medium of audience response, we are happily able to know, week by week, just how well we are doing this.

*The steady and continuing growth in audience response refutes completely any propaganda to the effect that interest in radio is diminishing, and while leading us toward no attitude of complacency, it steadily imparts new vigor to our policy of giving the radio public constantly higher levels of radio programs.*

# “Tell Us More About

# Sound

The Subject Is  
Getting Hotter...

Interest Is Keen . . . Your Questions Answered . . . .

“**W**HAT’S the present status of synchronized sight and sound for home use? And what will this development mean in my young merchandising life?” “How can I tie up with a line of projectors?” “What about the distribution of films and records?” “Costs?” “Profits?” “Experience necessary?” “Demand?”

In overwhelming numbers, radio dealers and distributors have been firing these questions at the writer—following his allusion to this new opportunity at Indianapolis last month. Obviously, the industry is intensely interested in this coming “first cousin” line—and quite properly so. And it wants more light on this subject.

Sound pictures for domestic presentation should be studied by the radio retailer and the jobber from all angles. The apparatus; film subjects and distribution; how to get started; merchandising; servicing; profit opportunities and the experience of those who are now pushing this device, must be carefully considered.

The matter of manufacturing satisfactory projectors with sound, for home use, is the least of the problems involved. This subject was discussed in our September, 1930, issue (pages 60-61). I quote from this article: “There are already on the market, or shortly will be available, many makes of home motion picture projectors equipped with a synchronous sound-reproducing attachment. These devices are well built, compact, and quite suitable for general use. They range in price from \$125 to \$700. Mechanically, synchronization of picture and speech has proved simple. Records, 16 in. wide, but turning at 33 1/3 r.p.m. instead of at

the usual phonograph speed of 78 r.p.m., are being used exclusively. Sound on 16 mm. film, another method of synchronization, has not as yet proved feasible.”

The manufacturers of these machines are now busily engaged in appointing distributors—a majority of them from the radio industry—and in arranging with the producers of film subjects for making available comprehensive assortments of subjects—juvenile, educational and feature.

## *The Film Bottle-Neck*

Films, their suitability, distribution, rental and maintenance, heretofore have been—and still are—the retarding factors to the rapid advancement of this art. Those who make the projection apparatus are not in a position to produce pictures. And film producers are not manufacturers. Hence we have two separate interests whose close co-operation is essential to the commercial success of home talking movies.

Resistance on the part of the Hollywood magnates to the re-printing on 16 mm. film, of the vast number of suitable subjects in their standard libraries, has now decreased to the point where at least four of these big producers have set up “home” departments, whose job it is to select and prepare suitable subjects for domestic use. The managers of these departments have catalogs ranging from 100 to 300 attractive subjects especially selected for family consumption. Most of these are single reel length, running 400 ft., accompanied by a 16-in. synchronized record. The running time is approximately 11 minutes. Film and disc are purchasable at prices

## FAVORABLE FACTORS

**APPARATUS**—*is ready. Simple to operate. Types for all purposes and in wide price range.*

**FILMS**—*and synchronized sound recordings, on discs, are available. 300 subjects, shorts and features, made by the big Hollywood producers. Sell for \$19.50 to \$24 per 400 ft., 11 minute presentation.*

**PUBLIC INTEREST**—*already aroused. Those who have purchased are highly enthusiastic.*

**PROFIT POSSIBILITIES**—*regular discounts prevail on apparatus. Fifteen rentals of a film pays for it. Opens the door for establishing “repeat” business.*

## BUT

**TRADE MUST**—*establish convenient film depots in every trading center of 80,000 or over and be prepared to render a film and disc rental service to the consumer comparable to that now offered the theatre owner by the producer.*

# Home

# Pictures

... By Ray V. Sutcliffe

which range from \$19.50 to \$24, according to subject. This brings us to the point of distribution. Because 95 per cent of the retailers cannot afford to purchase outright a sufficient number of subjects to constitute a local library, and because the present demand for sound film subjects is not lively enough to make such an investment worth while, films and discs undoubtedly will be purchased by financially strong radio distributors—for leasing to their dealers, or will be handled by film library specialty depots on a similar basis. A third method of distribution will be through the manufacturers of the projection apparatus. These manufacturers already have arranged for supplies of films, and, in turn, will lease or sell them to their distributors.

The process, from a dealer's viewpoint, will involve carrying a small film stock and library catalogs. The dealer will then order from the distributor and will rent, for approximately \$1.50 per 400 ft. subject, films and records to his customers. It will be the radio dealer's responsibility to check these films, to re-wind and repair them. Thus the radio dealer must master the subjects of film "patching" and of film rental bookkeeping.

Servicing will be a comparatively simple matter, inasmuch as it involves but very little additional knowledge not now in the possession of the average radio servicer.

From the above, it will be seen that the next step is for radio distributors not only to tie up with some manufacturer of motion picture apparatus, but also, and this is more important, to arrange for placing at the disposal of the radio dealer a supply of films and records ample enough and varied enough in character to make the purchase and use of a home projector an attractive proposition.

### Experience Testimony

Does actual experience confirm these deductions?

Abercrombie & Fitch Co., "The Greatest Sporting Goods Store in the World," New York City, has been featuring a \$550 device—projector, synchronized sound and radio receiver—since the first of February.

"If we don't sell at least one of these devices a day, we are greatly surprised," states Department Manager C. L. Hede. "Many of our customers buy their film features outright. Many have rented the same subject two or three times."

Hede caters to the wealthier trade. He feels that



”

**The WILLOUGHBY Film Rental Library Catalog**  
Published for 16 mm. Projector Owners by Willoughby Lovers, Rental Division  
WILLOW 17-30

This List Contains:  
 DRAMAS  
 COMEDIES  
 CARTOONS

*Sound & Talkie Pictures*

**SELL'S HEADQUARTERS** with Charles Bickford  
**Prize Four** with Bill Hooverville  
**Who Did You Hate** with George Sidney  
**Chick's a He** with George Sidney  
**Go to Misses** with Charles Murray & George Sidney

**Comedies**  
**Comedies on the Telephone** with George Sidney  
**The Millionaire Kid** with George Sidney  
**Marionettes** with Tony Sara

**LEVEL ANIMATED CARTOONS**  
**Patio Venus** Falls the Cat  
**One Good Turn** Falls the Cat  
**Joe Toss** Falls the Cat  
**Donald** Falls the Cat  
**But So Quiet** Oswald the Rabbit  
**Howdy Dimples** Oswald the Rabbit  
**But for Hollywood** Oswald the Rabbit  
**Spook** Crazy Kat  
**The Cat's Meow** Crazy Kat

**LEVEL EDUCATE**  
 (with Lecture Record)  
**Killing the Killer**  
**Fight for Life**  
**Repeal's Howland**  
**Palace of Song**  
**Partnerships Under the Sea**  
**Kings of the Air**  
 Universal Newsreel No. 4  
 Universal Newsreel No. 5

**Via Wanamaker's Talking Pictures**  
now come to your home

entertainer  
binding

in pictures  
 Talking pictures } \$550  
 Electric phonograph } without tubes  
 Radio receiving set } (deferred payment may be arranged)

Visitors will be demonstrated in the radio salons, fifth floor, south building... you will be amazed by this new form of entertainment. See how it shows motion pictures, with or without music. Reproduces talking pictures... plays phonograph records... how the radio receiver broadcasts on an 8-tube set.

Rental film... \$1.95 per reel  
16mm. wide.  
1750 BROADWAY, NEW YORK

**John Wanamaker New York**  
Wanamaker Place—Ninth Street at Broadway

dealers must not expect to make money out of the film leasing end of this business during the first six months. That amount of time necessarily will have to be devoted to the matter of acquiring a film handling technique, to building up a following and to amortizing the initial capital outlay for film and record stocks.

On the other hand Willoughbys—a very large eastern photographic supply house—has found its greatest call for a popular-priced synchronized turntable attachment for use with existing projectors. This utilized also the sound amplification system on one's radio set.

With few exceptions, radio merchants should not plan on buying films and records for the purpose of establishing their own local libraries—first cost and limited turnover will not permit. Their efforts should be directed

toward effecting a working agreement for an adequate list of subjects and for obtaining quick delivery library service. Contact should be made either with a film producer, library, projector manufacturer or, best of all, with one's own radio distributor.

One library specialist, for example, will lease feature films and discs to the dealer on a plan whereby the latter gets 40 per cent of the customer rental fee. "Block" coupon books are now very popular with the silent film trade and will be used extensively to facilitate the distribution of "talkies." One of these books, now in use, contains five coupons and sells for \$12.50. Each coupon (\$2.50) entitles its owner to the use of two reels and accompanying discs for one night. Cooperation between a group of dealers will lower film rental costs.

### *RCA's Attitude*

Of more than usual significance, with respect to the future of this new art, are the following paragraphs—which constitute a part of the annual report to the stockholders of the Radio Corporation of America, issued March 11, by Gen. James G. Harbord:

"RCA is ready to begin commercial production of home talking motion picture apparatus as quickly as the necessary associated services are sufficiently developed. These include the continuous production of motion pictures to meet home requirements, a system of distribution which eventually may be able to serve 20,000,000 "little theaters" of the home, and technical and industrial development which will bring the cost of film service within the range of the great majority of the public. . . .

"Among the various developments of the year. . . . Enlargement of licenses to competitive radio manufacturers authorizing the manufacture of super-heterodyne broadcast receivers, radio broadcast television receivers and apparatus for reproducing motion pictures and talking pictures in the home."

### *Regarding Profit*

Will this new venture be worth while? What of its profit possibilities?

Based on the experiences of those already in this business and predicated also on the fact that there will be developed a repeat business in films and discs which ultimately should exceed in volume the amount of the original sale, the answer undeniably is "Yes."

Each dealer must base his merchandising policies on local conditions. He can obtain an inexpensive projector, mechanically synchronized to a turntable, to retail for as low as \$125. This device is connected electrically with the owner's radio set, for its sound amplification. Dealers in better neighborhoods will, of course, stock the complete self-contained units, some of which include tubes and circuits for independent radio reception if desired. This same logic should be applied to the selection of film subjects.

Dealers who go into this activity must make up their minds that they must be salesmen and sales prospectors. They must contact the schools, institutions, camps and many other likely places, as well as the homes of the better class. There are countless promotional stunts which can be employed. Weekly "shows" in the dealer's store already have been used with very satisfactory results.

The business is waiting. But, unlike radio, it will have to be fought for from the beginning—it will not walk in the door.

## **WE MAKE OUR BOW**

*Radio Retailing presents the first published listing of projector manufacturers and film producers who are going after the "home" market:*

### **Manufacturers of Talking-Movie Apparatus**

#### *Cabinet Types for Home Use*

- BELL & HOWELL CO.  
1501 Larchmont Ave., Chicago  
11 West 42nd St., New York, N. Y.
- HOLLYWOOD FILM ENTERPRISES, INC.  
6060 Sunset Blvd., Hollywood, Calif.
- PATHE, INC.  
35 West 45th St., New York, N. Y.
- QRS-DEVRY CORP.  
333 No. Michigan Ave., Chicago  
630 Ninth Ave., New York, N. Y.
- SENTRY SAFETY CONTROL CORP.  
13th and Cherry Sts., Philadelphia
- SPRAGUE SPECIALTIES CO.  
Quincy, Mass.
- VICTOR ANIMATOGRAPH CORP.  
Davenport, Iowa  
242 West 55th St., New York, N. Y.
- VISIONOLA MFG. CO.  
60 East 42nd St., New York, N. Y.

#### *Portables for Commercial and Home Use*

- ACME SOUND PRODUCTS CO.  
35 East Wacker Drive, Chicago
- AMPRO CORPORATION  
2839 N. Western Ave., Chicago
- BELL & HOWELL CO.  
1501 Larchmont Ave., Chicago  
11 West 42nd St., New York, N. Y.
- PACENT ELECTRIC CO., INC.  
91 Seventh Ave., New York, N. Y.
- PEKO, INC.  
2400 W. Madison St., Chicago
- QRS-DEVRY CORP.  
333 No. Michigan Ave., Chicago  
630 Ninth Ave., New York, N. Y.
- SENTRY SAFETY CONTROL CORP.  
13th and Cherry Sts., Philadelphia
- VICTOR ANIMATOGRAPH CORP.  
Davenport, Iowa  
242 West 55th St., New York, N. Y.

### **Film and Synchronized Record Producers**

#### *16 mm. Subjects for Family Groups*

- BURTON HOLMES (TRAVEL)  
7150 Ashland Ave., Chicago
- COLUMBIA PICTURES CORP.  
729 Seventh Ave., New York, N. Y.
- FITZPATRICK PICTURES, INC.  
729 Seventh Ave., New York, N. Y.
- HOLLYWOOD FILM ENTERPRISES, INC.  
6060 Sunset Blvd., Hollywood, Calif.  
6 East 46th St., New York, N. Y.
- HOME FILM LIBRARIES, INC.  
Grand Central Terminal, New York, N. Y.
- PATHE, INC.  
35 West 45th St., New York, N. Y.
- SHOW-AT-HOME (UNIVERSAL)  
730 Fifth Ave., New York, N. Y.
- U.F.A. FILMS, INC. (EDUCATIONAL)  
1540 Broadway, New York, N. Y.

# A "Sound" SIDELINE

ETZEL-McCARTHY, Inc., 9 Snyder Ave., Brooklyn, N. Y., installs and services radios on a flat-rate basis for Abraham & Straus, A. I. Namm and Bloomingdale's, three prominent department stores. Mr. Etzel directs a crew of from 3 to 6 service men, depending upon the season. These men are not interested in the sale of sets.

About a year ago he took on the "Amplion" line of public address apparatus, investing \$400 in a single unit comprising a speech amplifier, 15-watt power amplifier, a.c.-operated exponential horn and a two-button stand microphone. Stocking this equipment purely as a sideline, without devoting any advertising or promotional effort to it other than the insertion of his name in the "Amplifier" section of the local classified telephone directory, he has since sold 5 complete jobs, ranging in price from \$525 to \$950. These five installations were purchased by: Church of St. Catherine of Alexander, Flatbush; Lock Arbor Baths, Lock Arbor, N. J.; "The Gold Mine," Coney Island; Steeplechase Park, Asbury Park, N. J., and the 27th Div. Armory, Brooklyn.

Etzel also rented one stock amplifier on 10 separate occasions to such people as the N. Y. Polish Legion and the local Rialto and Kingsway Theatres at \$75 per night.

### **Low Stock Investment**

Public address equipment is a most profitable sideline for this organization. The investment is low, the equipment is easily installed either permanently or temporarily by the same men who service radios, though Etzel usually supervises such jobs himself, and little trouble is experienced with the amplifiers when they have once been installed.

To date the concern has handled only the small amplifier sizes. Estimates for equipment which is to be sold are based upon at least a 40 per cent markup on the \$400 apparatus, plus an extra charge for additional speakers and the estimated cost of installation labor. Simple temporary jobs usually take 2 men from 2 to 5 hours to complete while permanent installations may require from



*Etzel-McCarthy, Brooklyn service specialist, sold 5 public address systems for \$3,250, rented one for ten \$75 one-night stands in a year*

one-half to 2 days, depending upon the location of the speakers and practical difficulties encountered on the job.

Etzel finds it advisable to remain with the equipment on its one night stands, when the amplifier is installed on a rental basis. While close attention is not usually required he finds that speakers have a tendency to wander around in the vicinity of the microphone and that someone must constantly remind them that it is necessary to remain in a fairly central position before the stand. His presence also produces new business and guards against possible failure of the equipment at the crucial moment due to mishandling of the controls.

"Inside jobs are much easier to handle," he tells us. "The local noise ordinance has made it inadvisable for us to go after outside business in the last few months. Public address equipment has proven to be the best sort of sideline for our particular type of business."



# The

THE TIME: . . . .

THE PLACE: . . . .

THE PLOT: . . . .

**I** HATE to admit it, but up to last Saturday I was associated with one of the tube racketeers mentioned last month in *Radio Retailing's* editorial "Building on Sand." The Blank piano and radio store, by whom I was employed as a serviceman during December, January and February, sold 446 tubes with sets and a lot more on service calls *without buying a single one in that entire time!* There were about 100 tubes of various makes and types on the shelves when I joined the company and this skeleton stock was still intact when I left.

How did this racket work? The service manager instructed us to pick up all the old tubes we could lay hands on. Their age didn't matter. The defects made no difference. And he did not care a whoop if they had been sold by the store or not. "Just bring in old tubes and don't ask questions," we were told, and this we did to the tune of about a dozen a day per man.

Three bins were provided for them in the shop, one each for two very well known lines and a third for the other makes. Into the proper bins we dumped our spoils at the end of each day, carefully scratching off all labels before doing so. At the end of a week or ten days the first two were usually full. The third took us about a month to fill.

When this quantity had accumulated the service manager went to the phone and notified the proper jobbers, with whom the company did business, to call for "defectives." Pick-up trucks arrived invariably within three

days after our phone call and carted the tubes off, to be

shipped back to manufacturers for credit I suppose.

Not once were we questioned about our returns and the policy of the jobbers was so lax—probably because it was easy for them to induce manufacturers anxious for business to replace—that it was not even necessary to ship the tubes back in their original cartons. We often returned them in the inside wrappers alone and I do not recall ever having seen a checkoff sheet which indicated that we received other than 100 per cent replacement. New tubes came back for old ones within one week after the jobbers picked the duds up. Some of our returns were more than 18 months old.

**I** HAVE figured that the profit which the company made on tubes received from gullible jobbers to replace those which I collected, few of which were originally sold by the store, paid more than half my salary! We got our tubes for nothing but the customers paid for replacements if they had had their set more than 90 days.

Our returns were so abnormally heavy that I cannot understand why the jobbers did not smell a rat. Here is our record of three months replacements:

MAKE "A"	MAKE "B"	MAKE "C"
54-227's	30-227's	21-227's
35-226's	22-226's	12-226's
22-280's	13-280's	4-280's
45-224's	29-224's	12-224's
22-245's	13-245's	5-245's
22-171A's	22-171A's	19-171A's
200	129	73

About 2 per cent of all the tubes we returned for replacement were really legitimate defectives. The balance were racketeered.

# TUBE RACKET

*The present*

*A large eastern city*

*Servicemen collect 401 worn-out tubes, from 6 months to a year old, in 90 days. Dealer obliterates date labels—returns lot to 3 jobbers—gets 100% replacement, no questions asked*

*By*

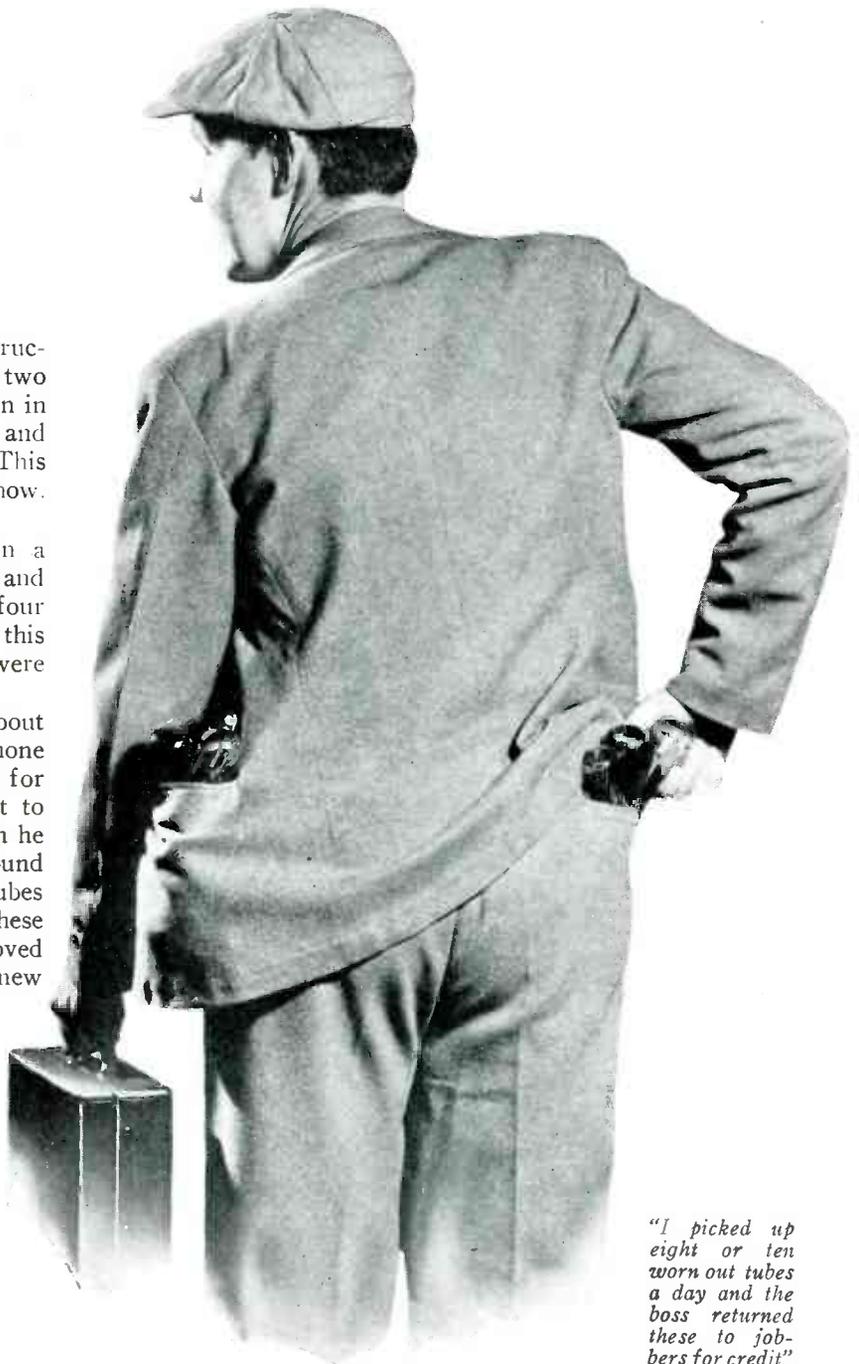
C. Schafer . . . . *SERVICEMAN*

I recall one case in which, acting on instructions from the service manager, I picked up two 224's at Mrs. M——'s. Both tubes had been in use for more than a year in a Stromberg and bore the familiar S-C etching on the glass. This etching is easily removed if you know how. They went into our bin.

Mrs. C—— reported weak reception on a Victor 32 and I sold her two 226's, one 227 and a 245 at full price list to replace duds. All four of them went back to jobbers for credit and this set was not even one of our own sales. We were just called in to service it.

Mr. A——, a Zenith dx fan, kicked about lack of pep and we advised him over the phone to buy new tubes as the set had been out for some time. He agreed and I was sent out to install them and replaced all but a 280 which he had recently bought. While checking up I found four spares laying loose in the cabinet, tubes which had been discarded months before. These went into my bag, along with those removed from the sockets. Some jobber gave us new ones for them within 10 days.

Mr. R——, who lives about 20 miles from the store, bought a set and wanted it delivered at once. None of us were around to take the set out so the boss put it in his car with all tubes in their sockets and drove it out. When he arrived at the house half of the tubes were so microphonic that it was necessary for me to follow-up and replace them. I called his attention to the danger of transporting sets with the tubes but he remarked that so long as it was just tubes he wouldn't worry!



*"I picked up eight or ten worn out tubes a day and the boss returned these to jobbers for credit"*



An up-and-coming dealer has put a Silver-Marshall power amplifier to work broadcasting between-chukker announcements at the Evanston, Illinois, polo field. This is just one of many uses for such sideline equipment.

## FOLLOWS UP LEADS

**B**ABSONS, New York, dealer in home motion-picture equipment, uses this effective card to follow up on prospects reported by the manufacturer as inquiring about the apparatus.

Although worded to attract the putative purchase of cameras and projectors, with slight changes the message which accompanies it would be applicable to the field of radio.

The text of the letter sent with the card is as follows:

"Some time as you wrote to the Bell and Howell Company of Chicago, concerning their Filmo motion-picture equipment. You have since received literature from them, and you have formed some idea of these perfect little machines.

"Nothing, however, can prove to you their simplicity and general excellence as well as an actual demonstration. Will you not allow us to offer our services to provide this?"

## WORDS, WORDS, WORDS

**F**ADA dealers have just been through a veritable epidemic of word-building contests, designed to obtain publicity for the line. In Waterloo and Dubuque, Iowa and in Rock Island, Keokuk, Minneapolis and St. Paul, Minn., they sponsored contests which involved the writing of store names and the trade name of the set as many times as possible on one side of a government post card. Thousands of replies were received and in one instance a winner squeezed in more than three thousand.

In metropolitan New York and Northern New Jersey another contest was conducted with essays limited to one hundred words on the subject, "Why I would choose a Fada for my next radio." Davega, in New York, ran a similar contest based on the number of words which could be built from the letters in the words "Davega Radio". Word-building contests have also been staged in Cleveland, Columbus, St. Louis, Chicago, Buffalo and Rochester and it is reported that over 18,000 replies were received in Cleveland alone by the George Worthington Company.

## SIDEWALKS OF 'FRISCO

**T**HE Eastern Outfitting Company of San Francisco has a recessed doorway flanked on either side by deep show windows. During Radio Week last fall it occurred to the manager of the radio department to take advantage of this lobby as a place to display his wares. So he lined the space with sets, twelve in all, representing his best lines. Across the store front a sign reading "Radio Show" was suspended.

There were no salesmen in attendance and, quite deliberately, no prices on the sets. The public was attracted in large numbers to the display which was so easy of access. Those who were

# M o n e y

just curious were satisfied with this viewing and passed on but others interested in buying a set wanted to know more. In particular they wanted to know how much the various models cost. And so they did what they were expected to do—stepped inside the store to inquire. According to manager H. K. Marrion, the store did a record radio business that week.

## TAG

**"RADIO DOC"** of Los Angeles, who specializes in service and repair work, believes that out of sight is out of mind so far as his customers are concerned. So he has distributed little one inch square pink stickers bearing his name and 'phone number with the advice that these be pasted in some out of the way corner of the radio for future reference.

When something goes haywire the customer naturally looks within his set and instantly sees the sticker. "Doc" also takes a supply of them along and does some of his own pasting.

## SLAM

**GARRITY** and Shiels of Dallas can trace at least 25 set sales to their practice of staging periodic bridge parties in their downtown store. Their wives invite friends and these friends bring other women, so keeping up a continuous circle of prospects. The store furnishes score cards, light refreshments and simple prizes.

The parties often tie in with broadcast bridge lessons, the women playing the hands announced over the air to improve their game. No direct sales effort is made during the parties but naturally the names of the players are recorded and these are eventually followed up for business. Little difficulty is experienced in obtaining attendance due to the efforts of the wives.

*F. John Harriman of Appleton, Wis. is chiefly interested in the service business he can obtain from local radio dealers. This letter, with its sample labels, has put money in his pocket*

413 N. Clark St.  
Appleton, Wis. Phone 42114  
Open Evening

**CENTRAL RADIO SERVICE**  
*Radio Tube Headquarters*

**SUBJECT: Free tube labels**

It doesn't cost you a cent to have YOUR tube labels on each tube that you have tested on the Type H-100 Shop Test Panel.

Dealers who are using our test and repair service report that it results in greatly increased tube sales, a substantial and repeat form of profit.

Your customer will stay with you, and recommend you and your service, if you make it easy for him to do so, thru YOUR tube labels, which we furnish free, with all tubes tested by us.

The Supreme portable tube tester and the Type H-100 Shop Test Panel are your assurance of accurate testing, they are in our shop, and for your better radio service.

Here you get service only, we don't compete with you by selling sets, but we do help you sell, thru better service and offering TUBE LABELS, WITH YOUR NAME AND AD.

1. Dealers Service Station,  
HARRIS' RADIO SERVICE,  
F. John Harriman

# Practical Advertising . . . . . Display

# Makers

## SOFT-SOAP

A MIDDLE west firm obtains business in this manner: A local woman is employed to compile a list of people who have recently moved into town. For this work she is paid 10 cents a name obtained by consulting application lists at the gas, telephone and electric light company offices.

Shortly thereafter a letter goes forth to these people.

"We welcome you to Sedalia.

"The writer hopes you will grow to love our city the same as he has. If you will call in person with this letter we will be glad to present you with a 75 cent phonograph record as a modest greeting to one of our newest citizens."

The idea, according to our informant, pays.



When 9 p.m. arrives there is always a crowd on the sales floor at the Public Service Company of Colorado's Denver office listening to Amos and Andy. Tired business men working late in the Gas & Electric building frequently take time out and passing window shoppers drop in to swell the audience. The night watchman plays host on these informal occasions to which many floor sales can be indirectly traced

**TRUTH** Stranger Than Fiction

90 percent of inhabitants of Cresswell, England are named Brown!



It Is Also True

THE appearance and performance of Radiola 66 are monuments to the skill of the engineers and artisans who designed it, and what is of no less interest is the fact that it has been possible to produce this Super-Heterodyne receiver with a built-in RCA Electro-Dynamic Loud-speaker at a very modest price.

**\$196.50**  
Complete

Est. July, 1920

**The Radio Store**  
564 E. Colo. TE 3281

Come in and Ask for Proof

"Come in and ask for proof", invites the canny proprietor of The Radio Store, Pasadena. And this is just what many of the people who read his intriguing "Truth" copy often do—to the decided advantage of his business

## CARBON COPY

"NOW ain't dat sumpin'!" exclaimed H. E. Gray, impersonating the voice of Amos of radio's famous comedy team, when he was presented with a home-recording Radiola as the winner of a publicity contest held recently at the Orpheum Theater in Los Angeles.

The contest, sponsored by the Leo J. Meyberg Company, was held for the purpose of finding some individual whose voice bore the closest resemblance to that of the lovable and amusing Amos. Mr. Gray and other contestants were required to make a recording of their voice impersonation on the home-recording apparatus of a combination model. Three Superior Court Solons acted as judges of the contest.

The stunt aroused a great deal of local interest in the home-recording combination.

## SIX "AUDIBLE DISPLAYS"

A NOVEL method of obtaining effective publicity has been worked out by the Christanelli Music & Electric Shop, AK dealer in Norway, Mich. The store is located in the middle of the town's business block and Christanelli has induced six other

merchants in the same block to permit him to install speakers in their stores, operated by a central set in his own.

When reception is good, Christanelli provides the six stores with radio programs. At other times he uses the combination and plays records, sandwiching in a demonstration record at regular intervals. Hundreds of customers in the other stores make inquiry concerning the set used and the fact that it can be found right in the same block is a big advantage in prospect-pulling.

## POSTCARDS PULL

C. B. BEIDLER, manager of the Knight-Campbell Music Company's radio department in Denver, installed an "Acremeter" tube testing machine and sent out penny postcards offering to test tubes free, even to supplying a carton in which to carry them to the store. Nine out of every ten people who answered this direct mail offer bought new tubes, the average sale being \$12. "They brought the cards in with them, too," says Beidler.



Bill Dickinson of the Dickinson Piano Co., Missoula, Mo., secured the names of 600 prime prospects by inviting 1500 home owners to see a free show at the local movie palace consisting of a news picture, short comedy reel and a radio film supplied by the RCA-Victor Company. Field men checked homes without airdials and Dickinson invited these people to come to the store for tickets

..... and Management Ideas

In ENGLAND it's "Wireless Receiver"

In DENMARK it's "Radio Modtager"



"Marconiphone" a.c. model 560. Two cathode type screen-grid r.f. tubes, power detector, filament type pentode audio amplifier. 38 Guineas, complete (\$194)



"Lissenola" transportable four. Battery operated, two screen-grid r.f. stages, detector and one audio. 33 Guineas, complete (\$168)





Single wavelength control, t.r.f. table model

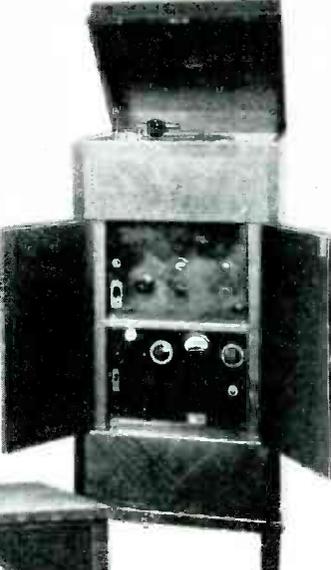


Tuned radio frequency semi-lowboy console

They're  
Not Called **Radio Sets**



"Siemens" screen-grid phonograph combination. 15 watt amplifier



"Siemens" four tube, screen-grid table model





"Telefunken" 31. 3 tube, a.c., loop operated model. 300 Schilling (\$42)

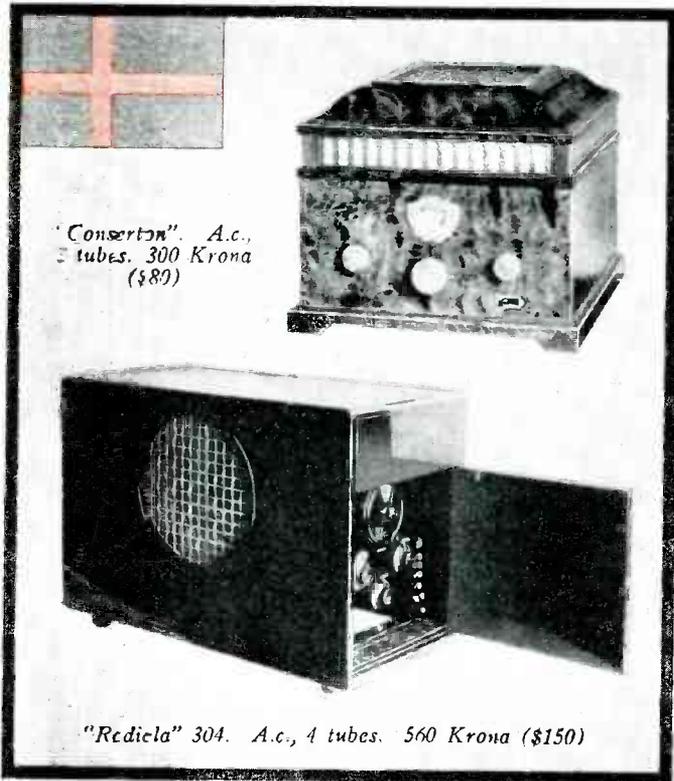


"Arcofar" radio and phonograph combination

In GERMANY it's "Rundfunk Empfänger"

In AUSTRIA it's "Rundfunk Empfänger"

In SWEDEN it's "Radio Mottagare"



"Conserton". A.c., 3 tubes. 300 Krona (\$89)

"Rediela" 304. A.c., 4 tubes. 560 Krona (\$150)

In HOLLAND it's "Radio Ontvang Toestel"

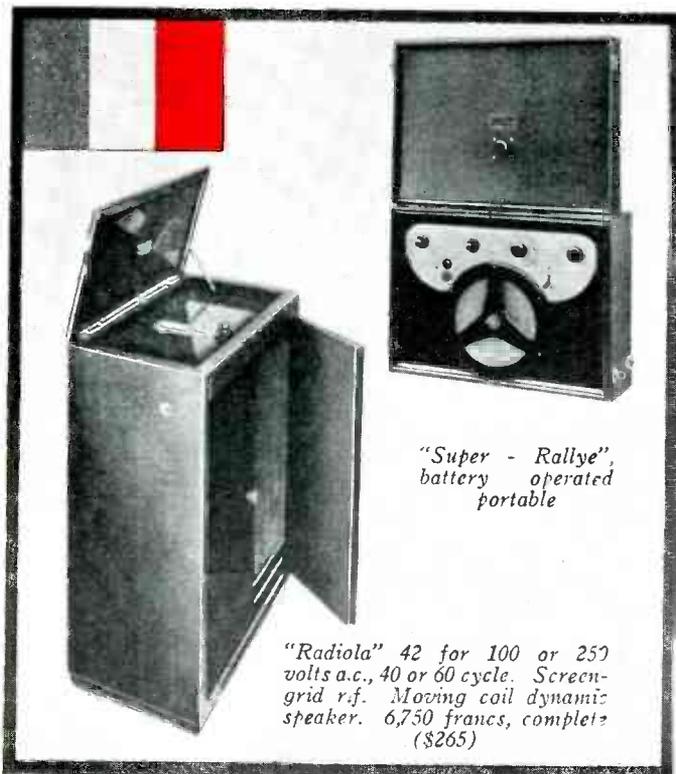


Van der Heem & Bloemsma radio gramophone combination for use with external dynamic speaker

Van der Heem & Bloemsma 4 tube, a.c. receiver. Moving coil dynamic speaker

Additional pictures of new, foreign sets will appear in an early issue

# in EUROPE



"Super - Rallye", battery operated portable

"Radiola" 42 for 100 or 250 volts a.c., 40 or 60 cycle. Screen-grid r.f. Moving coil dynamic speaker. 6,750 francs, complete (\$265)

In FRANCE it's "T. S. F. Récepteur"



Photo courtesy Società Industriale Telefoniche Italiane, Milan

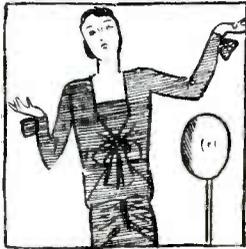
Photo courtesy Società Anonima Bru-net, Milan

In ITALY it's "Radio Ricevente"

# Selling RECORDS

*As in the Good Old Days*

**STERN BROTHERS**  
42nd 43rd STS. WEST OF FIFTH AVENUE



Now—Make Your  
**Speak-o-phone  
Record**

to send abroad for  
Christmas

**75c**

For double-faced record

Send your friend wintering on the Cote d'Azur this "personalized" greeting. You could send nothing that would be more welcome than a record of your own voice wishing him a "Merry Christmas" from across the Atlantic.

People in public life are coming to Stern Brothers to hear themselves as others hear them! If you are a singer, a public speaker, an actor here is the test which will reveal to you every inflection and every tone of your own voice.

Other Speak-o-phone Records  
1.25 to 2.75



**SPEAK-O-PHONE SALON—  
FIFTH FLOOR**

**I**N THE "good old days," as phonograph pioneers reckon the passage of merchandising eras, the clerks behind the record counter knew each transcription by its first name and its pedigree back to Adam. And in those days the customer line formed on the right.

"Ah me! Those days are gone forever," the old timers tell us.

But are they?

On the fifth floor of Stern Brothers department store, New York City, Bessie B. Steele has her radio and record department. Assisting her are three saleswomen who know their phonograph records. These three women are kept busy day after day and month after month selling records and combination radio-phonographs. Frequently the line does form at the right in front of the record counter.

Boiled down, it amounts to two things: first, trained clerks—who have been selling records for years and whose opinion on recorded music is sought and respected and, second, the consistent running once a week in the local papers of a one-column advertisement which features a bit of live news about the latest records.

Miss Steele keeps her fingers on the pulse of the buying public through the suggestions of her sales force who are ever watchful to keep their stock equipped with what customers are demanding, be it an old record of Caruso's, Chevalier's latest song hit or an album of Christian Science records.

**E**IGHT spacious demonstration booths line one side of this compact music department, each with a large outside window. At the end of this line is a large room, comfortably furnished, for the display of radio and combination sets where quiet and comfort may be had.

At the other end of this line is a room for making amateur recordings on special discs. Here singers make records of their voices, children stage talkie programs for future generations to enjoy, orchestras record samples of their best numbers to be used in getting engagements, and public speakers hear themselves as others tolerate them. In fact, everyone and his brother finds this booth interesting. The best prospects are singers who want to find the flaws in their voices and can often be sold a combination with which to listen to themselves. Many sales have been traced directly to this source.

Behind the counter the records are filed for quick finding and easy handling—no fumbling for a number while a customer waits. Many patrons of this department have stated that, after hunting in other establishments for a sales person thoroughly conversant with the various arias and albums they invariably return to Stern's and send their friends there also. These sales people suggest tactfully the purchase of additional records.

And then this matter of "switching" the prospect from a radio set to a combination. The secret here is to emphasize the matchless tone of a record played on a modern combination. The depth of tone and its quality, through electrical transcription, is skillfully emphasized. The combination is not overtalked. It is simply presented as the only logical instrument for the real music lover.

**STERN BROTHERS**  
42nd 43rd STS. WEST OF FIFTH AVENUE

Direct from  
London!

**THE RECORD  
OF THE WEEK**

*Jack Hylton and  
His Orchestra play*

## "Body and Soul"

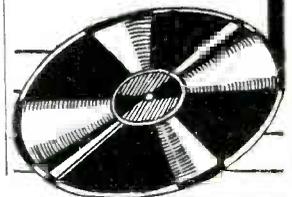
He made it what it is today — the smartest musical hit of the entire season! Now when everyone is playing it, singing it, whistling it—hear it as it was originally sung in England by Jack Hylton accompanied by his own orchestra. Recorded abroad and just received for your popular record music repertory!

On the other side is "With a Song in My Heart" also by this orchestra.  
12-in. record **1.25**

*Do you want a breezy new dance record? A favorite operatic aria? A brisk march? A glorious symphony? Stern's takes pride in its complete stock of domestic catalogued Victor records.*

*"The music that you want when you want it on Victor Records"*

STERN'S VICTROLA SALON  
FIFTH FLOOR



*The above advertisement is typical of the space treatment employed. Note how effective and distinctive narrow copy can be made. This regular Friday notice gets as much reader attention as a "hot" news item.*

*The Speak-O-Phone copy at the left is full of human interest and is the kind of stuff that "pulls"*



*Your radio client list is the logical basis for refrigerator, washer, cleaner and electric clock prospecting operations*

Now Sell Her An

# Electrical Appliance

**T**HE 1930 sales figures are now available. *Radio Retailing* and *Electrical Merchandising*, sister magazines, have published the saturation statistics on their respective industries. And from these figures emerges a significant fact: For every 1,000 radio receivers in American homes today there are in use only 175 electric refrigerators, but 480 electric washers, and less than 610 vacuum cleaners.

Why is this of interest to the radio merchant? The answer is simple and obvious.

Who buys radio sets? The home-loving person who enjoys the creature comforts of life and intends to have them. And who is the best prospect for home labor-saving equipment? Answer, that very same type of individual.

To the radio dealer, therefore, who is expanding his activities into the domain of the electrical appliance field, the logic of using his radio customer list is clear.

What is the first step? Obviously, a complete and accurate list of one's own radio customers—and of other radio users in town, if possible—should first be compiled.

With this as a basis, use the telephone to pave the way. These persons know you, they should be friendly and receptive—especially if you tell them that your purpose is to make certain that the radio receiver is operating at its fullest efficiency.

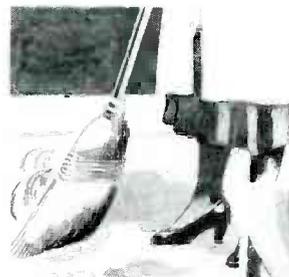
This "entree" also should be made the occasion for house calls by your service and sales men. Have them take along an electric clock—it's a wonderful curiosity exciter and door opener.

These natural and conversational approaches will logically lead into a discussion of washing machines, refrigerators or cleaners.

Recently a big national magazine asked its readers to state what they intended to buy during 1931. Thirty-one per cent plan to buy an electric refrigerator—a total of \$39,500,000 worth of electrical refrigeration.

"The radio dealer was attracted to refrigeration dur-

OUT OF EVERY 1,000 SET OWNERS IN YOUR TOWN . . .



40% need CLEANERS

52% haven't WASHERS



83% still use THE ICE BOX



ing 1930," states W. D. McElhinny, vice-president of the Copeland Sales Company, "but many proved not up to the new task. First, because they expected to sell refrigerators on the same basis and appeals on which they sold sets and secondly, because they only went into the new game part way."

Adopting the ideas outlined in the fore part of this article will go far toward making the radio dealer and music merchant a success with major appliances.

*If the Set Doesn't Work—*

*Are* **YOU**

*Is there a difference between*

*Expressed and Implied Guarantees?*

**WHEN** *you sell a radio*

*To What Extent Are You Responsible?*

**A** REVIEW of recent higher-court decisions discloses that the majority of litigations involving radio equipment result from the purchaser being dissatisfied with the set. This circumstance may occur when the seller fails to fulfill the terms of a written guarantee expressed in the contract of sale, or where the purchaser merely contends that he is not satisfied with the operation, workmanship, or service rendered by the radio equipment.

Generally speaking, guarantees are classified as *expressed* guarantees and *implied* guarantees. An expressed guarantee is one in which the buyer and seller have orally, or in writing, agreed to the *exact* terms of the warranty. An implied guarantee is one where the seller does not make a warranty, but the circumstances are such that a court implies that a warranty exists.

In other words, frequently the character of a contract is such that a purchaser is compelled to rely upon the honesty of the seller to supply equipment reasonably fit for the intended purposes. Under these circumstances, the courts imply a warranty on the part of the seller that he will supply a radio having quality reasonably in consideration of the price paid.

A complaining party in a suit involving an implied guarantee is required to introduce convincing testimony to prove to the satisfaction of the court that the equipment positively failed to render reasonably good service, as may have been expected by other prudent users, under identical circumstances. With this testimony, the courts will imply a guarantee on the part of a seller.

Also, it is well to understand that the usual and well established laws relating to ordinary contracts are applicable in deciding a controversy involving an expressed guarantee, whereas since an implied warranty *never* is agreed upon by the parties to a contract, it is not a contractual obligation, but a common law right invocable by the buyer under certain conditions.

Moreover, although a radio is adapted for a general purpose, the seller is liable for an implied guarantee that it will perform a special service if he knows the purchaser intends to use it for this special purpose.

#### LEGAL EFFECT OF SILENCE

**F**EW persons realize that mere silence on the part of a seller may be interpreted by the courts as affirming that a radio will perform in a certain predetermined manner. This is particularly true if the purchaser makes a remark as: "If this set cannot bring in great distance clearly, I do not want it," and the seller, knowing that the set is not adapted to such performance, remains silent.

For example, in a very recent leading case (134 Atl. 62), a higher court, in holding a seller bound by an implied guarantee, where it was proved that the buyer was deceived by failure of the seller to impart information of known defects in a machine said:

"A seller of merchandise may not do anything to conceal from the buyer a material fact affecting it, or say or do anything to divert or forestall an intended inquiry by him, or deliberately hide defects, for in so doing, he is not merely remaining silent, but is taking active steps to mislead."

Probably, the most important higher-court case decided in several years on implied guarantees is *Universal v. Snow*, 140 S. E. 652. In this case, a seller accepted an order believing that the equipment would perform with reasonable satisfaction. However, later development disclosed that the buyer was not satisfied and, therefore, he filed suit to recover the purchase price contending that the seller was liable for an implied guarantee that the equipment would perform with reasonable satisfaction in consideration of the purchase. This court held the seller liable and explained the law on this subject, as follows:

# Liabile?

By

L. T. Parker

Attorney at Law



"Where the buyer purchases the goods for a particular purpose, a warranty is sometimes implied that the goods are fit for that purpose. If the seller contracts to furnish goods for a specified object, it is often proper, on a construction of the contract itself, to hold that he has agreed to furnish something that will accomplish the object desired. When one contracts to supply an article in which he deals to be applied to a particular purpose so that the buyer naturally trusts to the judgment or skill of the vendor, there is an implied warranty that it shall be reasonably fit for the purpose to which it is to be applied; and the better doctrine is that this rule applies to dealers as well as to the manufacturers, and not to manufacturers alone."

#### WAYS TO EXCLUDE IMPLIED GUARANTEE

**I**T IS well, therefore, to know exactly how a radio dealer may avoid liability on an implied guarantee.

Also, it is quite important to know that a written guarantee does not depreciate the effectiveness of the implied warranty, unless the expressed warranty specifically indicates that this effect was intended by the buyer and seller.

Moreover, the fact that a contract of sale contains a simple guarantee against defective workmanship and materials does not preclude the purchaser from invoking the implied guarantee rule should the radio fail to give a reasonable satisfaction.

However, the legal effect of an implied warranty is

*"The set you put in my house doesn't sound like the one I heard here in the store and I want my money back."*

destroyed by a written or verbal agreement between the buyer and seller in which it is clearly understood that the seller does not impliedly guarantee his product.

For instance, in *International Co. v. Bean*, 169 S. W. 549, the contract, after distinctly specifying an expressed guarantee, stated: "This express warranty excludes all implied warranties."

The court held that this clause prevented the buyer from relying upon the law that a seller implied a warranty in addition to the expressed guarantee.

In still another case, *Dowagiac Manufacturing Company v. Mahon*, 101 N. W. 903, the language construed as excluding the implied warranty was: "It is understood the goods are warranted *only* against breakage caused by manifest defect in material."

In this contract the word "only" restricted the meaning of the word "warranted."

In *Somerville v. Gullet Company*, 194 S. W. 576, the language construed as excluding an implied warranty was that the merchandise is sold "subject to the warranty expressed on the back hereof and no other." On the back of the order was printed a guarantee which gave in detail the machine's quality.

# TWO NEW TUBES

## 1. The "Variable-Mu"

EARLY this year news of a new "variable-mu" tube filtered from a laboratory. No definite specifications were available as the type, said to embody a modified control grid structure, was still in an experimental stage. It was pointed out that this tube might supersede the 224 in new sets due to its ability to function with appreciably less modulation distortion on strong input voltages while retaining satisfactory sensitivity to weak signals and its comparative freedom from cross-talk complications.

Two set manufacturers have since incorporated variable-mu tetrodes in their 1931 line and others are known to be playing with them. Also, RCA, Arcturus, CeCo, Cunningham, Majestic and De Forest have gone into production on the modified screen grid type, so it is evident that its importance was not over-estimated. Unfortunately, these tube manufacturers have not standardized, as the following listing of characteristics will show. In addition to the differences which will be noted between two variable-mu screen grid tubes bearing dissimilar type numbers there are, in some cases, minor differences between tubes bearing identical type numbers but produced by different companies.

### TENTATIVE RATINGS

	225	551
Fil. volt.	2.5 v.	2.5 v.
Fil. cur.	1.75 amp.	1.75 amp.
Plate volt.	180 v.	180 v.
Screen volt.	75 v.	90 v.
Grid volt.	-1.5 v.	-3 v.
Plate cur.	9 mls.	5.5 mls.
Screen cur.	1/2 plate cur.	less than 2 ma.
Plate resist.	200,000 ohms	300,000 ohms
Mut. Cond.	1100 mhos.	1000 mhos.

### Interelectrode Capacitances

Grid to plate.	.010 mmfd.	.006 mmfd.
Input Cap.	5 mmfd.	
Output cap.	10 mmfd.	

These tubes are identical to 224 types externally, having the control grid terminal on the glass envelope and standard five-prong UY type bases.

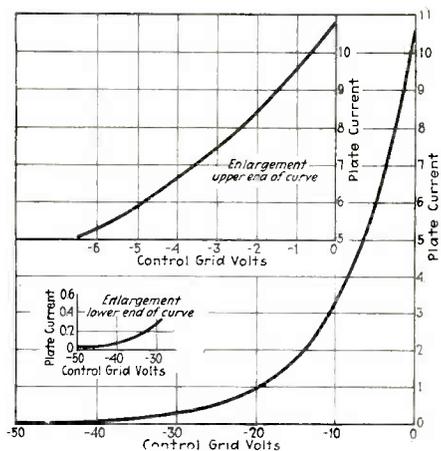
### What It Does

The 224 type screen grid tube has a particularly high voltage amplification factor, hence a relatively small grid swing produces distortion. High-gain screen grid

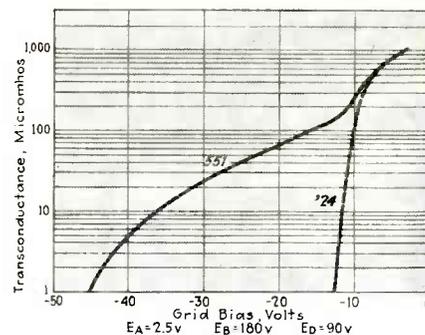
receivers were in difficulty because of this fact soon after their introduction as strong local signals drove the r.f. amplifier grids so far negative that plate current cut-off resulted. This often modulated the desired program with an undesired signal, which produced annoying cross-talk. Use of pre-selector circuits between the antenna and first r.f. stage, double section volume-control resistances and better power pack design relieved this situation somewhat.

The variable-mu tube, some of whose characteristics are presented in these pages, fits into a disturbing situation particularly well. It has a long plate current-grid voltage characteristic, enabling it to handle high negative grid biases before the plate current is reduced to zero and its curve does not suffer from bad curvature throughout the useful range. The tube is only slightly less sensitive than a 224.

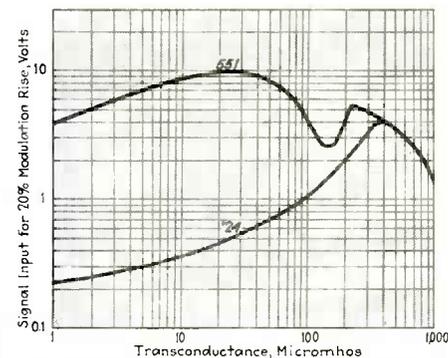
In practice a signal fed to the r.f. stages by the antenna system selects a part of the characteristic upon which it chooses to work, this spot being fixed by the carrier voltage of the signal, and because there is no appreciable inflection of the characteristic (demodulation (detection) does not take place in the r.f. stages. A strong local signal may drive the grid as far negative as 30 volts while the desired signal may be working about a point only a few volts or tenths of a volt negative.



An unusually long plate current-grid voltage characteristic identifies the variable-mu screen-grid tube



Comparison of mutual conductances of the standard screen-grid tube and a variable-mu type which may replace it



Modulation distortion is materially lessened through the use of the new tetrode as these comparative curves show

This tetrode is especially useful in the design of midsets, as it dispenses with pre-selection, double volume controls and similar apparatus which complicates compact design. Its value is not, however, by any means limited to such small sets. Its ability to handle large signal voltages due to the fact that mutual conductance varies exponentially with grid bias indicates that a much more uniform control of volume is possible. In receivers using automatic volume control the range over which control is secured is increased by a factor of 20. Other important advantages are: the input voltage may be increased by a factor of 20 before distortion results; cross-talk may be reduced several hundred times; hum on the carrier due to modulation in r.f. tubes will be decreased; the receiver will seem quieter due to the fact that less loss is introduced in the r.f. amplifier with pre-selection and antenna gain control omitted; thereby improving the ratio of signal to circuit noise.

### Not Interchangeable

Although standard screen grid tubes and variable-mu tetrodes may be interchanged in most circuits without actual danger to power pack or to the tubes themselves the advantages of the new tube are not obtained when it is used in a set designed for 224's and the use of the ordinary screen grid tubes in a circuit developed for the variable-mu type renders that circuit somewhat less efficient.

The 224, used in a set designed for variable-mu's, is apt to improve sensitivity to weak signals but usually renders the volume control partially or wholly inoperative, hurts tone and causes some cross-talk trouble if the set is used in the vicinity of a powerful local. Variable-mu types, operated in a set designed for 224's, usually reduce the overall sensitivity of the circuit and produce erratic volume control operation.

## 2. The "PZ" Pentode

By Paul W. Charton

Arcturus Radio Tube Co.

While to our knowledge only three American receivers now employ power pentodes (not to be confused with the r.f. pentodes about which there was such a hullabaloo in 1929) it seems likely that several nationally known companies will produce such sets in time for the June trade show. This being the case Mr. Lewis' description of a typical pentode will be of interest to servicemen, to whom "Radio Retailing" takes pleasure in presenting this material well in advance of the actual need. Power pentodes having slightly dissimilar characteristics may ultimately be introduced by other manufacturers.

THE ordinary three electrode power tube is designed to deliver a comparatively large power to an output circuit. This power, however, is obtained at a sacrifice to the gain of the output stage. Higher gains can very readily be obtained through the introduction of tubes having increased amplification factors, but this high gain results in a reduction in power. The pentode obviates this undesirable factor by combining large power output and high stage gain.

Figure 1 shows in symbolic form the arrangement of the elements and circuit of the Arcturus Type "PZ" Pentode, with the electrodes arranged in the order of procession from the cathode to the plate.

C the cathode (filamentary)  
G1 the control grid (triode grid)  
G2 the space-charge grid (tetraode grid)  
G3 the cathode grid (pentode grid)  
P the plate or anode

Except for the provision for space charge grid potential the "PZ" Pentode circuit is identical with the circuit of any other power amplifier tube, due regard being given to the current and voltage ratings. The load impedance must be, however, almost twice as high as that of a type '45 tube. Special output transformers are necessary for best operation.

The tube is identical in dimensions of bulb and base to the '45, except for the fact that a standard 5-prong base is provided. The identification of the terminals is shown in Figures No. 2 and No. 3. The cathode grid is electrically attached to the center of the filament inside the tube; hence no external terminal is provided for this element.

### Electrical Characteristics

The recommended operating potentials for the tube are:

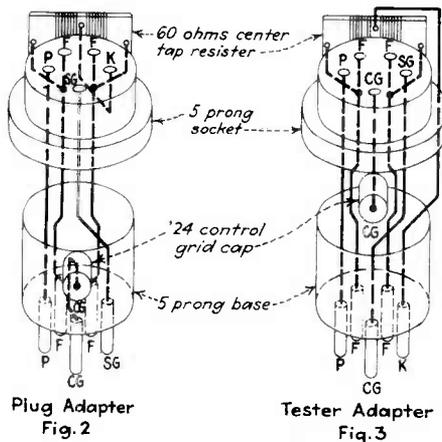
Fil. volt.	2.5 volts
Fil. cur.	1.5 amps.
Plate volt.	250 volts
Plate cur.	32.5 mls.
Control grid bias.	-16.5 volts
Space-charge grid pot.	250 volts
Space-charge grid cur.	.7 mls.
Cathode grid potential	0*
Plate Impedance	38,000 ohms
Transconductance	2,500 micro-mhos
Amp. factor	95
Power output	2.5 watts

\*As the cathode grid is connected to the center of the filament the potential is substantially zero.

The efficiency of a triode is limited by the fact that a space-charge is accumulated between the cathode, or the filament, and the anode or plate, i.e., a great proportion of the electrons that leave the cathode do not reach the plate.

In a screen-grid tube, a shield has been added to neutralize the effect of this space-charge. The positive potential applied to this grid dissipates the space charge and at the same time accelerates the flow of electrons to the plate. The space charge grid of the pentode accomplishes the same purpose.

But, the impact of the electrons on the plate is the cause of a secondary emission of electrons from this electrode. A good part of these secondary electrons return to the plate while the balance go to the shield grid. Because of this phenomenon the plate current drops rapidly when the plate voltage is decreased below the shield grid voltage. This naturally limits the pos-

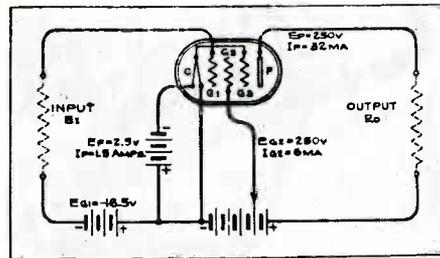


sible swing of the plate voltage because of the distortion introduced by the accentuated curvature of the plate current-voltage curve.

In order to overcome this limitation a third grid, the cathode grid, has been introduced in the pentode between the plate and the space-charge grid. This grid is kept at zero potential by an internal connection to the center of the filament, and picks up most of the secondary electrons which would otherwise reach the space-charge grid. Under these conditions the plate voltage can be lowered far below the space-charge grid voltage before any sharp bend occurs in the plate current curve. This explains why a much larger swing in the plate voltage is therefore possible with the pentode. Because of the high efficiency of this tube, a relatively small input signal on the control grid gives a large undistorted output in the plate circuit.

### Service Data

The efficiency of the tube depends largely on the space-charge grid voltage, the output being practically proportional to the latter. But, should the space-charge grid voltage become larger than the voltage sup-



plied to the plate, most of the space current will flow to the space charge grid; if the difference between those two potentials becomes large, this grid will become white hot and possibly be distorted, or may evolve gas. Therefore, care should be exercised in experimenting with the pentode that the space-charge grid voltage should never be applied without plate voltage at the same time. This condition may be created if the speaker is disconnected while the tube is in operation, for example.

Naturally, should the control grid bias be removed, both the space charge grid and plate current will reach excessive values. It is to be noted that the tube may eventually have one or two half-turns of the space charge grid dull red without it being objectionable; this is due to the relative position of the various grid turns allowing a greater inflow of electrons to the grid at that point.

Should a pentode tube be found inoperative it is suggested that the following pertinent causes and symptoms of this type of tube be checked:

- failure of control grid bias, shield and plate current are high, space-charge grid may become very hot.
- failure of space-charge grid bias, no space-charge grid current, no plate current, no output.
- failure of, or insufficient, plate voltage, low or no plate current, high space-charge grid current, grid hot, low or no output.

### Testing Methods

In testing a pentode receiver an ordinary circuit analyzer may be used with two special adaptors. The type '24 connections of the analyzer must be used with these adaptors; one for the set socket, the other for the tester socket. These are easily made with an "Eby" socket or equivalent, glued on a standard 5-prong tube base. A '24 control grid cap and a filament center tap (60 ohm.) should be provided as shown. Figure 2 illustrates the "plug" adapter and figure 3 the set "socket" adapter construction.

The "plug" adapter is inserted in the receiver socket with the '24 control grid lead clipped to the control grid cap. The tester's adapter is inserted in the tester's socket with the '24 control grid connection also made on the extra cap on the side of the adapter. The plate and shield grid voltmeter scales should read at least up to 250 volts, and a control grid bias voltmeter with a 0 to 20 or 25 volt scale is advisable. The plate current meter should read up to 50 milliamperes. If a shield-current meter is provided, a 0 to 15 ma scale is desirable. If these ranges are not covered by the meters provided in the set analyzer, multiplier-shunts can be easily added to the meter, with suitable switches to change from one range to another.

To test the tube itself in an ordinary tube tester, the type '24 connections can again be used provided the meters cover the ranges indicated above: the "tester" adapter must then be used in the regular socket to provide proper connection to the tube's terminals.

# SERVICE SHORTCUTS



## Building a Portable Oscillator

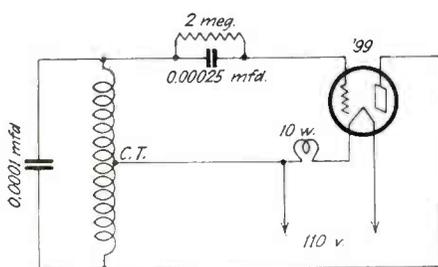
By Stephen J. Ripich

An oscillator is essential for aligning t.r.f. sets and has many other uses so I designed one small enough to be carried around in my bag. It is 4½ in. high to the top of the tube and the bakelite base is 2½ in. by 1½ in. It operates on 110 volts.



a.c. or d.c. When used on d.c. it is necessary to switch the line plug until the positive leg is connected to the plate lead of the tube.

The floating part of a Benjamin socket is screwed to the small piece of panel and a 1½-in. coil form, about 3 in. long, fits snugly over it. Fifty-six turns of No. 26 double silk covered wire, wound tightly on the



form and shunted by a .0001 mfd. fixed condenser tunes to about 225 meters. A

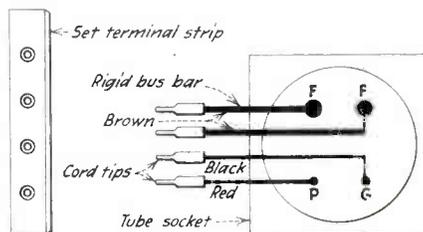
ten-watt lamp in series with the filament of a 199 tube produces sufficient voltage drop to operate the tube filament at about normal rating. A grid-leak of from 2 to 4 megohms is necessary to make the tube oscillate freely, depending upon the particular tube used.

## A Speaker Adapter Plug

By M. Schneider

Crosley model 42's were originally equipped with terminal boards designed to fit cord tips of an 85-mil. dynacone. Later, a 45-mil. speaker was designed and it is often desirable to use this new speaker with the 42. The new type is equipped with a terminal cord socket which resembles a tube base, however, while the set has a strip type terminal board.

An adapter can be made to solve this



problem from a tube socket. Solder rigid, insulated bus-bar to the socket terminals as shown, spacing these so that they will plug into the set terminal strip. Plug the 45-mil. speaker into the tube socket.

## Making Your Own Output Meter

By M. G. Goldberg

A method of using an ordinary d.c. milliammeter as an output meter, where a standard instrument of this type is not available, is shown in the accompanying schematic

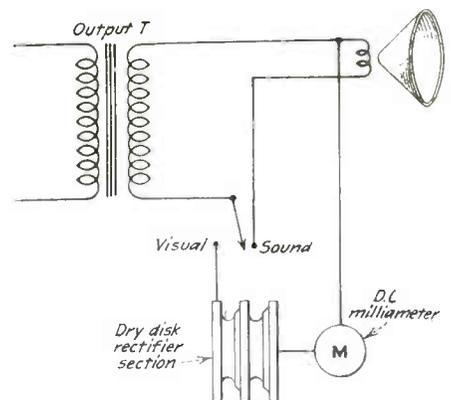


diagram. This method makes use of an old copper-oxide rectifier disc that still has some rectifying properties left, or, if easily obtained, a new disc.

A standard output transformer is used, or the meter and disc are connected in series with the speaker voice-coil of the receiver under test. One small section may be removed from "Kuprox," "Elkon," "Westinghouse" and similar dry rectifiers where meters having a range of about 250 mils. are used. Where the milliammeter has a 10- or 25-mil. scale, several discs or even the entire rectifying unit may be used to advantage. The larger stack of discs increases the circuit resistance and prevents the set output from overloading low range meters.

If, after the instrument has been connected it reads in reverse, reverse the leads to it or the leads to the rectifier.

## A Tricky Trouble-Light

By Alfred Eberhardt

I use a service extension light which is very convenient and will be of interest to other servicemen. It can be used in any four-prong socket of a set chassis provided a pilot lamp requiring the same voltage as the tube filament is available.

Drill a small hole in a four-prong tube base between the filament terminals and close to the bottom surface. Solder the ends of a length of lamp cord passed

through this hole to the filament pins, inside the base. Connect a Christmas tree light socket, which takes a standard radio pilot light, to the other end of the lamp cord.

Next, take the contact, or floating, portion of a Benjamin spring socket and cut the springs off close to the composition.



Solder four lengths of rigid bus-bar about two inches long to the springs as shown in the photograph and press it into place within the tube base, with the bus-bar leads passing through the tube base pins. Cut the bus-bar off flush with the bottom of the pins and flow solder into these to make positive connection at all four points.

When using the extension light remove a tube from the set, plug the gadget in its place and replace the tube in the top, in the Benjamin socket.

## Pilot Light "Wrench"

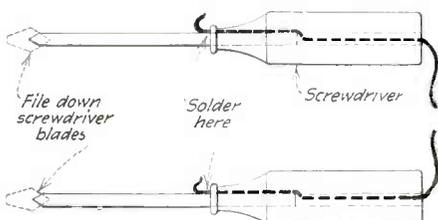
By A. O. Crim

Pilot lights are notoriously hard to install, owing to the out of the way positions in which sockets are placed. A "wrench" which will make this work easier may be made from a short length of rubber hose, just large enough in inside diameter to permit the entry of the glass envelope of a pilot lamp. Woven "loom" of the type used by electricians in covering certain types of exposed wiring may also be used, the end of  $\frac{3}{8}$  in. stuff being split open to permit the lamp to enter.

## Homemade Test-Pros

By Clarence W. Trost

I needed a new set of test-prods, so I made a pair out of two small screwdrivers and a speaker cord. First, I purchased two screwdrivers about  $3\frac{1}{2}$  inches long and removed the driver blades from the handles. Using a drill smaller than the blades the holes in which they were inserted were continued on through the back of the handle. Then, I took the spade end of the speaker cord and ripped the braid down about 12



inches, re-sewing it at this point to prevent unraveling.

The spade ends were cut off and one inch of insulation removed from each one. One lead was inserted in each handle, from the back, and about  $\frac{1}{4}$  in. returned over the ferrule. Next, the blades were replaced and the projecting ends of the leads soldered and cut short. The ends of the screwdriver blades were finally filed to a point.

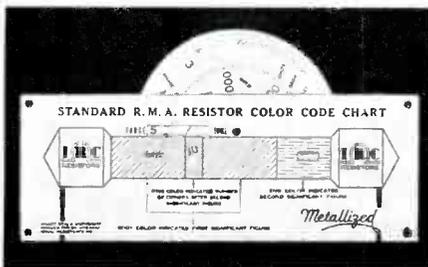
## Clearing Noisy Condensers

By Harold C. Dey

Variable condensers often become annoyingly noisy at certain points of their scale due to the accumulation of metallic flakes between the rotor and stator plates. Such short circuiting particles can often be removed by applying high d.c. voltage across the condenser and rotating it slowly throughout its entire capacity range. The shorting particles have high resistance and usually burn away quickly. Naturally, this method of clearing condensers cannot be resorted to if the short is caused by warping of the plates or bearing wear.

High voltage for this purpose may be obtained from any old power pack, preferably one which is no longer useful for other purposes, and should under no circumstance be the output of the pack in the set in for repair. The pack used should be well fused. Despite the high resistance of the shorting particles the current drain is apt to be severe where condensers are badly shorted.

## For Color-Coded Resistors



This handy little celluloid gadget, prepared for servicemen by the International Resistance Co., 2006 Chestnut St., Philadelphia, identifies resistor values by their colors. Spin the wheels to the proper color combination and the resistance in ohms pops up in another square if the resistors are marked according to the RMA standards. The majority of those used in nationally sold sets are. Write the IRC, mention Radio Retailing, get one free.

## How Do YOU Do It?

Radio Retailing will pay \$3 or more for acceptable letters from experienced servicemen describing original methods, or equipment of interest to other shops.

Schematic diagrams and drawings need not be artistic, merely clear—we redraw them anyway.

Mail "kinks" to W. MacDonald, Technical Editor, Radio Retailing, 10th Ave. at 36th St., New York City.

## Replacement Parts Sources

TRADE NAME	SUPPLY SOURCE
A. C. Dayton	United-Earl Radio Co. 43 William St., Newark, N. J.
Ambu	Supertone Radio Serv., 807 N. Wells St., Chicago
Apex	U. S. Radio & Tel. Corp., 3301 S. Adams St., Marion, Ind.
Arborphone	Gray Elect. Co., Kylelectron Div., Springfield, Ohio
Arcadla	Wells-Gardner & Co., 816 N. Kedzie Ave., Chicago
Balder	Balder Radio Corp., 80 Fourth Ave., New York
Barty	Barty Radio Co., 66 Jamaica Ave., Jamaica, N. Y.
Bremer-Tully	Brunswick Radio Corp., Tech Serv. Div., Muskegon, Mich.
Browning-Drake	Browning-Drake Corp., 224 Calvary St., Waltham, Mass.
Burad	Supertone Radio Serv., 807 N. Wells St., Chicago
Case	U. S. Radio & Tel. Corp., 3301 S. Adams St., Marion, Ind.
Courier	Gray Elect. Co., Kylelectron Div., Springfield, Ohio
Crescentync	Crescent Radio Mfg. Co., 1026 2nd Ave., Minneapolis, Minn.
Day-Fan	General Motors Radio Corp., Dayton, Ohio
Earl	Freed Sales Service Co., 16 Hudson St., New York
Edlson	Thomas A. Edison, Inc., West Orange, N.J.
Emerson	Emerson Radio & Phono. Corp., 641 Sixth Ave., New York
Eveready	National Carbon Co., 10 E. 40th St., New York
Federal	National Radio Serv. Co., 758 Broadway, Buffalo, N. Y.
Freed-Elsman	United Earl Radio Co., 43 William St., Newark, N. J.
Freed, Freshman	43 William St., Newark, N. J.
Granada	Wells-Gardner & Co., 816 N. Kedzie Ave., Chicago
Keystone	Radiok Co., 563 W. Randolph St., Chicago
King Cole	Anylite Elect. Co., Ft. Wayne, Ind.
Kolster	Kolster Radio Corp., 200 Mt. Pleasant Ave., Newark, N. J.
Marvelo	Keystone Radio Labs., Inc., 154 Whiting St., Chicago
Kylelectron	Gray Elect. Co., Kylelectron Div., Springfield, Ohio
Magnavox	Thompson Price 6005 Adeline St., Oakland, Calif.
Marti	Marti Radio Corp., Springvale Ave., & N. 18th St., East Orange, N. J.
Monroe	Radiok Co., 563 W. Randolph St., Chicago
Nassau	Nassau Radio Co., 20 Bergen St., Brooklyn, N. Y.
Operadio	Operadio Mfg. Co., St. Charles, Ill.
Peerless	Gray Elect. Co., Kylelectron Div., Springfield, Ohio
Pioneer	Pioneer Radio Corp., Plano, Ill.
Sleeper	Sleeper Radio Repair Serv., 31 36th Ave., Long Island City, N. Y.
Superflex	Radio Products Corp., Inc 3816 N. 28th St., North Birmingham, Ala.
Supertone	Supertone Radio Serv., 807 N. Wells St., Chicago, Ill.
Temple	Temple Radio, 2515 West 59th St., Chicago
Walbert	Nick Keilburg, 2112 Hudson Ave., Chicago
Welty	Wm. A. Welty & Co., 36 S. State St., Chicago

Repair parts for these and other receivers may sometimes be obtained, also, by consulting the Searchlight section in the back of this magazine

## Supreme, Model 90, Is \$78.50

The Model 90 set analyzer, manufactured by the Supreme Instruments Corporation, Greenwood, Miss., sells to radio dealers at a net price of \$78.50. Under a cut of this instrument, on page 7 of our February issue, it was erroneously priced at \$73.50.

# EDITORIAL OBSERVATIONS

## *Fading and "Mushing" That Cannot Be Corrected*

FROM all parts of the country radio men have been receiving complaints that after nightfall, this season, strong stations near the listener suddenly fade badly or cut new capers in distorting or "mushing" every few minutes.

In "mushing," the station signal, while still heard, suddenly becomes unintelligible. The voice sounds as if the performer had a mouthful of hot mush. A few seconds later the conversation is as clear as ever. Thousands have ascribed such symptoms to a fault in their own sets. Countless complaints to dealers and service men have resulted.

This difficulty, however, is not in the receiver but is due to the same conditions in the upper atmosphere which have been giving us such exceptional long-distance reception this winter. During the past few months the great horizontal radio reflecting plane of electrons—the Heaviside Layer, 100 miles above the earth's surface—has been comparatively quiescent and smooth, owing to the absence of magnetic disturbances from spots on the sun. As the result, this layer reflects back the "sky waves" from broadcasting stations near and far. In the case of stations nearby, the waves at the present time strike the ground in much greater strength than heretofore, with the result that they interfere with the waves coming directly from the station, and this interference now occurs at locations much nearer than before.

The radio waves which have made the longer journey, even though travelling at 186,000 miles per second, arrive a few thousandths of a second behind those coming direct. If the impulses coincide "in phase," the sound in the radio is increased. But a few seconds later if the sky-waves and ground-waves arrive out of phase so that one cancels the other, the listener gets only silence and the station appears to have "faded away." As the reflecting layer of electrons drifts higher or lower, the two sets of waves alternately reinforce, then cancel each other, so that the station sounds first loud, then soft.

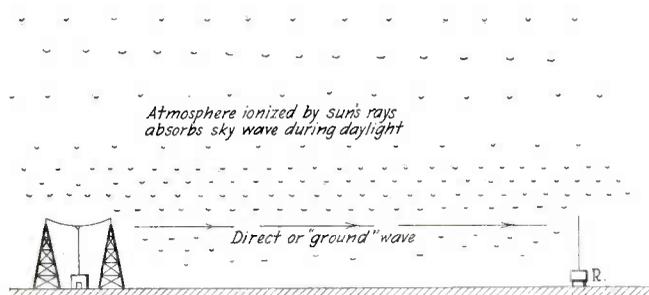
Formerly this fading, for most stations, took place at distances from 100 to 150 miles from the broadcast transmitter. But during the present winter season, the reflected waves sent down by the quiescent Heaviside Layer have been so strong as to interfere, with the ground wave at points within 30 to 50 miles of the transmitter.

Not only is there complete "in and out" fading but also often the "mushing" already mentioned. This "mushing" may be caused in either of two ways: (1) by "in-and-out" fading so rapid that it actually reaches an audio frequency and so introduces a flutter which breaks up the speech or music, or (2) by the unequal fading of different frequencies in the voice signal, so that the central carrier wave may be faded out and missing momentarily while the "side bands" continue, producing the garbled voice sounds which have been so exasperating to 50-mile listeners.

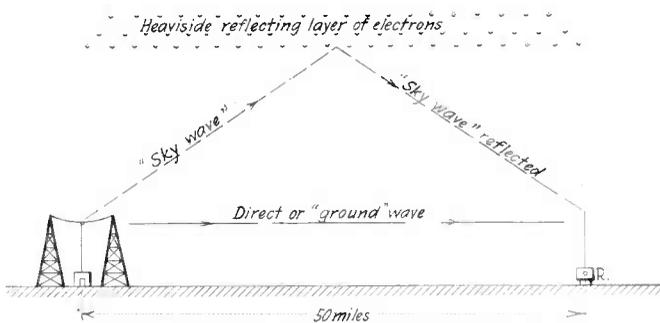
### *Why Trouble Does Not Occur During Daylight*

It should be noted that none of these fading effects occur in daytime when the reflecting power of the Heaviside Layer is temporarily broken up by the ionization

## Conditions Which Produce Unexcelled Long-Distance Reception



Broadcasting conditions during daylight. Only ground-wave received, undisturbed



Present night reception. Ground and sky waves interfere at 30 to 80 miles from station

of the lower atmosphere by the sun's rays. During such daylight hours only the direct waves from the broadcast station reach the listener, and since these suffer no interference, the listener is undisturbed by fading or mushing.

The effects thus reported are of course only temporary in character and will clear up with the return of more sunspots which are soon due back again according to their regular eleven-year cycle. Radio listeners who are temporarily plagued by this annoying fading will then have relief, and the return of former conditions, with fading taking place not nearer than 100 to 150 miles.

Meanwhile there is nothing that the broadcasters, the manufacturers, the dealers, the service men or listeners can do about it. But the true nature of the trouble should be explained to the public, so that broadcasting stations or radio sets will not be blamed for a condition wholly within the ether itself.

### The Business Office—a New Prospect

**M**ERLIN AYLESWORTH, president and energizing genius of the National Broadcasting Company's two nation-wide chains, assures the editors of *Radio Retailing* that big plans are now in the making for "news hours for business men," each weekday morning. He has underway elaborate arrangements to put on Business Men's Periods, with the same completeness and usefulness that characterize other hours of the great chain services.

To the radio dealer and distributor this action will mean the opening up of a brand-new field for selling radio sets—to business men in their offices. It will add thousands of prospects to present markets.

And the business man who installs a radio alongside his desk will find his outlay justified by valuable morning programs, market reports, general news flashes, important public addresses—not to mention diverting summer-afternoon baseball games!

### To Build Dollar Volume in 1931

**U**NMISTAKABLY, the widening trend of merchandise lines for the radio dealer is apparent wherever men of the trade get together and discuss conditions. The sessions of the wholesalers' and retailers' conven-

tions at Indianapolis revealed the increasing thought being given to electrical appliances and allied lines by radio men.

The radio trade is facing a situation of having its gross income cut virtually in two by the reduced unit prices of the new sets although the cost of handling will be practically the same as before.

Dollar volume is the paramount need if the individual dealer is to prosper throughout 1931. The advice given on all sides by the sages of the radio trade at Indianapolis, was sound counsel. Add seasonal and related lines—home-talking movies, electrical appliances, electric clocks, refrigerators, sporting goods—and build up dollar volume in 1931.

### In "Home Talkies" the Radio Dealer Has the Inside Track

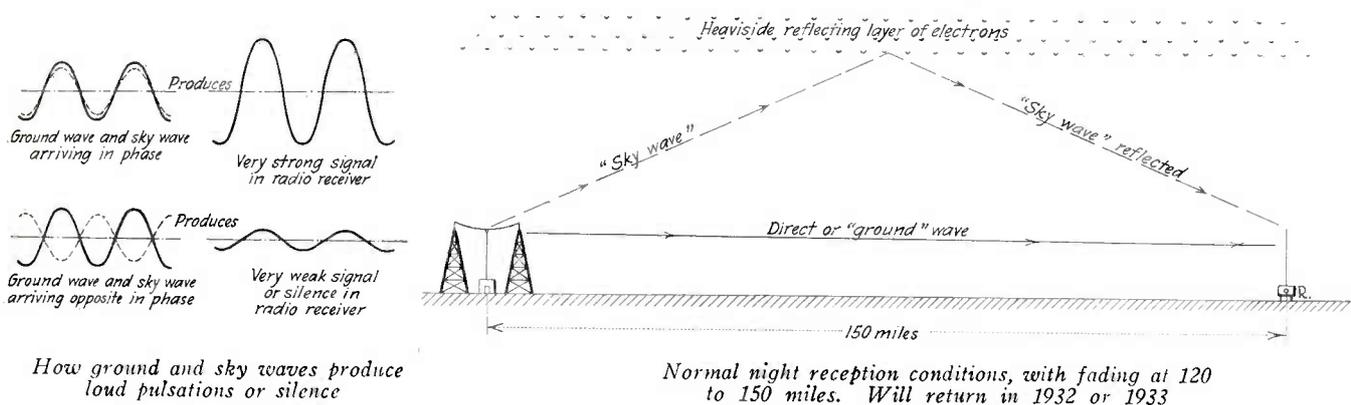
**S**ALES of silent "home movie" outfits have been handled in the past largely through photographic dealers, because the problems of selling film and developing and printing pictures were chiefly photographic in nature.

But with the coming of "home talkies" and electrical accessories, the situation has pretty completely changed. In the home sound projector, the problem is mostly that of audio pick-up and amplification, harking back to the first principles of radio sets. Here the radio dealer is once more on his own ground. Not only can he sell the new home talkies at an advantage, but his service department is equipped to care for any troubles that develop. He is also better fitted than anyone else to add sound attachments to the quarter-million silent home movies now in use in American homes.

### A Bugle-Call to Business

**W**IDESPREAD comment and approval has followed the publication of the McGraw-Hill "Platform for American Business," which accompanied the last issue of *Radio Retailing*. Expressions coming into the editorial offices here indicate that the Platform is regarded as thoroughly conservative, and as involving no ideas or policies which have not in some place or form already passed the experimental stage.

Also Cause Annoying Fading and "Mushing" of Stations 30 to 80 Miles Away



# THE TRUE STORY OF AN NATIONAL UNION



THE  
STANDARD  
TUBE  
FOR  
STANDARD  
SETS

MADE IN U.S.A.  
UNDER  
R.C.A.  
PATENTS

**NATIONAL**  
UNION

RADIO  
TUBE



NATIONAL UNION  
CORPORATION

LICENSED  
ONLY TO  
BEHOLD  
INDICATED ON  
THE ENCLOSED  
INSTRUCTION  
SHEET

BRAND

NX

AN  
B

# AMAZING ELEVEN MONTH TUBE RECORD!

**Unknown 11 months ago TODAY The National Union Tube is Standard Equipment in more sets than any other.**



Dr. R. E. Myers: Vice-President, in charge of Engineering

## TO THE RADIO TRADE:

This is a true story of success. Amazing success. Rapid . . . but built on the firm foundation of performance and acceptance. It's the story of how in 11 short months the National Union Tubes came from out of the mass of unknown independent tubes and is now standard equipment in more sets than any other tubes made.

It was in March, 1930, when National Union brought out their first tube. It was a tube that was designed to be the finest tube that money could buy. The finest group of engineers had been assigned to produce it. And produce it they did. Thanks to the genius of Dr. Myers and his staff, the fifteen experts who had been his assistants at Westinghouse.

And now at the end of only eleven short months National Union has reached an enviable position in the radio tube industry. Proof of this lies in the fact that set engineers have approved National Union Tubes as satisfactory equipment for shipment with their sets.

Such an acceptance is the result of a product of unusual excellence, fair policies and vigorous sales assistance. Does not the 11 month record of National Union assure a still greater year in 1931?

This is the tube set manufacturers select for their sets upon which their reputations and fortunes depend. You should know about it. If you have not investigated the possibilities of this exceptional quality tube, you should by all means do so at once. Write to us today for further information.

### PENTODE TUBES

Have you seen the samples of the new National Union Pentode Tubes?

They have performed amazingly in laboratory tests. All tests indicate that our engineers have perfected a Pentode Tube that is superior not only to former American style Pentodes but also the European creations. Ask your representative to show samples of the New National Union Pentode.

## NATIONAL UNION RADIO CORPORATION

400 MADISON AVENUE, NEW YORK CITY



# Highlights on the

April, 1931

Arranged for

## ENGLISH RADIO EXPERTS VISIT U. S.

*Claim Technical Progress Abroad is Abreast of U. S.*

Following a 14-day visit to our shores, during which a survey of American radio manufacturing methods and of broadcasting conditions was conducted, R. Milward Ellis, and T. A. W. Robinson, chairman and executive counselman respectively of the Radio Manufacturers' Association, of England, sailed for London, March 14. Our distinguished visitors were accompanied by C. O. Stanley, a London radio consultant.

"There is no overwhelming superiority in American radio manufacturing as compared to that of England," Mr. Robinson stated to a representative of *Radio Retailing*. "There are many useful, interesting and instructive phases in the American industry, but we can teach you gentlemen certain points with respect to technical advancements and the building of quality radio receivers."

Mr. Ellis also claimed that Great Britain maintains a sounder state of affairs in its merchandising policies, pointing out that many drastic price reductions on American sets have no parallel in the English market.

Mr. Stanley ventured the assertion that manufacturing efficiencies and the quality of the finished article on radio tubes were also in advance of the conditions he had observed at first hand on his visit to American tube factories.

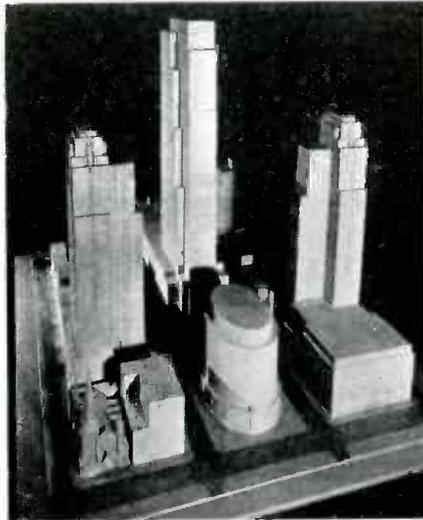
While commercialism on the air is taboo in England, it is felt that some day this tight little island must embrace sponsored programs in order to guarantee the future structure of broadcasting on a sound financial proposition. It was admitted by these gentlemen that, on the whole, our programs are superior to those received by English listeners. It was their unanimous opinion, however, that the quality and quantity of advertising on the American air was not in the best interest of listener goodwill, and should be modified.

## Radio Board More Strict

The policy of the Federal Radio Commission to eliminate all undesirable broadcasting stations has gained momentum by the release of a general order to all broadcasters making it plain that further violation of the rules will not be tolerated.

With this in mind the radio examiners have unflinchingly rendered adverse reports when it was shown at hearings that stations had failed to observe regulations. While these reports have not always been upheld by the commission, indications are that they will be followed more closely hereafter.

The commission is handicapped in many ways in enforcing its rules. Under present law a station whose license has been revoked has the right of appeal to the District of Columbia Court of Appeals. Almost invariably the court grants the station a stay order, and it continues to operate as usual.



"Radio City"

Wherein will be housed many radio interests, broadcasting studios galore and other temples for the advancement of art, music and entertainment in general. This is a photograph of the architect's model.

"Radio City" is made possible by the Rockefeller millions. Promoted by RCA, NBC and Radio-Keith-Orpheum. Location, three city blocks, 48th to 51st Streets, Fifth to Sixth Avenues, New York.

## Radio Jobbers Incline Toward Refrigeration

The following announcements of leading radio distributors who recently have completed arrangements to handle also a line of electric refrigerators indicates the strength of the trend in that direction:

Harper-Meggee, Inc., Seattle, Portland and Spokane, will distribute Servel.

The Cleveland Talking Machine Co., is another radio jobbing outfit who recently has gained the Servel franchise.

The Copeland refrigerator division of the Leo C. Beckwith Co., Milwaukee, will be in charge of T. B. Hannan.

The Sampson Electric Company, Chicago, took a delegation of over 200 of its dealers to the plant of the Williams Corporation the middle of last month. The object of this motor caravan was to obtain further sales education covering the Williams' line of "Ice-O-Matic" refrigerators.

Brown & Hall Supply Co., St. Louis, have signed with "Ice-O-Matic" according to Fred Wiebe, president of this firm, and also recently elected president of the St. Louis Radio Trades Association.

Onondaga Auto Supply Co., Syracuse, N. Y., recently appointed distributor for Norge, held its first dealer-refrigeration convention at the Hotel Syracuse, March 23.

Ernest Ingold, Inc., has taken on a line of electric refrigerators made by the Holbrook, Merrill & Stetson Company, as northern California distributor. Distribution of Cinderella washing machines in this territory is also in the hands of Ingold.

## MUSIC MEN ALTER CONVENTION DATE

*To Coincide with Trade Show—Success of Latter Affair Assured*

A change in the original plans by the National Association of Music Merchants as to the date and hotel for its thirtieth annual convention has been announced. This affair now will be held at the Palmer House, Chicago, Monday, Tuesday and Wednesday, June 8-10—coincident with the opening dates of the Radio Trade Show. In previous years this gathering has extended over a period of four days.

A luncheon meeting was held in New York March 18, attended by Morris Metcalf, president, and Bond P. Geddes, executive vice-president of the Radio Manufacturers Association; C. Alfred Wagner, Mark P. Campbell, Harry Meixell and Delbert L. Loomis, at which plans for cooperation between the Radio Association and the Music Industries were discussed. A strong desire was expressed to bring about as close relations as possible between the two interests.

Arrangements will be made so that convention badges of the Music Merchants Association and the other associations connected with the Music Industries will constitute passes of admission to the radio trade show and open meetings held during the radio convention. Cards of identification held by radio dealers and others attending the radio show will be honored for admission to the Merchants' meetings during their convention. The Music Industries Convention will be bulletined in the various hotels controlled by the radio interests and the radio show will be bulletined at the Palmer House.

## Show Space Largely Subscribed

Advance reservations of radio manufacturers for exhibit space and demonstration rooms at the Stevens already insure the success of the trade show. An unusually large advance reservation of hotel rooms also is reported by all four hotels under contract with RMA.

Additional applications for exhibit space are being received daily, according to Major H. H. Frost, chairman of the Show Committee, and nearly all of the principal receiving set manufacturers, as well as tube, accessories and parts manufacturers, are now enrolled for exhibit of their wares.

Space will be assigned to exhibitors about May 1, when it is expected that the final rush of applications will be in.

Plans for the show and the seventh annual RMA convention and business meetings at Chicago were considered at a meeting of the RMA Board of Directors, March 27, at the Hotel Statler, Buffalo. President Metcalf presided.

While business will be the keynote of the show and convention, ample entertainment for the thousands of radio visitors will be provided by L. S. Muter, Chicago, chairman of the RMA Entertainment and Reception Committee. June 8-12 is the date.

# News of the Month

Busy Readers

New York, N. Y.

## G-G TO ACQUIRE ASSETS OF M.H.U.

*Stock to be Exchanged on Even Basis—Majestic Refrigerators Now Assured*

At a meeting of the stockholders of the Grigsby-Grunow Company, held March 10, the proposal to acquire the assets and business of Majestic Household Utilities Corporation was approved. At an earlier meeting the stockholders of this latter concern approved the proposal to convey the assets of its business to the Grigsby-Grunow interests for an exchange of stock on a share for share basis.

This action will make possible the immediate manufacture of Majestic refrigerators. It is stated, thus providing a year around business for distributors and dealers.

Already G-G has increased its labor payroll by several thousand names, in addition to the 5,500 persons employed by its set and tube making departments.

As we go to press Majestic's new \$5,000,000, 6 per cent 5-year first mortgage bond issue has been more than half subscribed to by its distributors and other intimately interested parties. Warrants have been mailed to all stockholders extending rights to subscribe to the remaining amount which include a participation in Grigsby-Grunow capital shares.

## Synchronization Successful

Actual operation on the same wave length simultaneously of two net-work stations has been in experimental operation for the past three weeks. Results obtained have demonstrated the feasibility of the idea. After a few minor technical problems have been solved the same wave length operation of two or more high-powered broadcasting stations within a limited area will be a regular part of channel allocations.

The present transmitters are the key stations WEAF and WJZ which are synchronized with WTIC, of Hartford, and WBAL, of Baltimore, respectively.

## Now It's the Remler Co.

Remler Co., Ltd., manufacturers of Remler radios, has been incorporated to carry on the business formerly handled under the co-partnership of Gray & Danielson. Although the company's name has been changed, there has been no change in personnel or ownership, and manufacturing operations will continue at 2101 Bryant St., San Francisco.

George Soule, formerly with the Pacent Electric Company, Inc., as general sales manager, has resigned to accept a similar position with Radio Master Corp.

## HERE'S YOUR CHANCE TO "DO SOMETHING ABOUT IT"

*Like the weather, many are the complaints about the length and quality of today's radio advertising announcements. Little, however, is being done about it.*

*Dealers, jobbers! "Radio Retailing" now offers you a chance to help correct this evil.*

*What sponsored programs are found objectionable in your territory? Write us the firm names and addresses of those companies whose "puffs" you consider to be killing listener interest. State why. Please do not advocate eliminating altogether these necessary publicity statements—the advertiser is entitled to a reasonable amount of air time for his support of broadcasting expenses. Just give us the facts.*

*"Radio Retailing" will contact directly those sponsors and advertising agencies whose selfish enthusiasm has warped their good judgment and who are offending their radio audience with tiresome blurbs.*

## Four Aces



F. H. LARAEBE  
A  
Cunningham  
driving force



ALLYN HECK  
Triumphing  
tricks  
for Ken-Rad



"IRISH"  
O'HALLORAN  
MRTA  
Executive



E. H. MCCARTHY  
New Sales  
Manager  
for Sylvania

## A-K BRINGS OUT A MIDGET MODEL

*New "Compact" Scores Hit at Distributor Convention*

Practically every distributor of the Atwater Kent organization reported at the Bellevue-Stratford Hotel, Philadelphia, March 19, for their annual spring convention. And all expressed their hearty approval of the new A-K midget—christened the "Compact," model 84. This latest member of the "manteleers" will sell for \$69.50, complete. It will be priced, advertised and sold, all the way down the line, with tubes. For detailed specifications please turn to page 56.

While it was felt that adding a small set to the Atwater line was essential there was evidenced a marked sentiment for upholding tonal quality and for making every effort to raise the average unit sales transaction.

Charles O. Weisser has been advanced to the important post of Divisional Sales Manager for the Pacific Coast. This announcement was greeted with loud cheers.

The value of pushing centralized control, multiple speaker equipment, particularly for schools and other institutions, came in for more than usual consideration. Likewise the vital matter of the proper time to introduce new models. But once a year, in late spring, was felt to be the answer to this problem.

## UNIFICATION IS SEEN IN RECENT RADIOLA-VICTOR JOBBING DEALS

A marked trend toward the consolidation of distribution outlets is seen in the following announcements of new jobbing set-ups whereby the same concern will handle both Radiola and Victor products:

The Radio Distributing Corporation, "Radisco," with headquarters in Newark, N. J., has purchased the Victor distributing business of Collings & Co. Inc., also of Newark. This purchase includes Victor instruments, records and accessories. The former has functioned as a Radiola representative for the past twelve years. "Radisco" will act immediately as the wholesale outlet for both Radiola and Victor lines.

From Cleveland comes the announcement that the Cleveland Talking Machine Company has been appointed exclusive distributor for the R. C. A. Victor Company and of Radiola receivers.

And Chicago is the date line for yet another news item of similar import.

E. A. Nicholas, Inc., and the Chicago Talking Machine Company have combined their radio distributing activities, operating under the name of E. A. Nicholas, Inc. The latter has been jobbing Victor products for many years. The former was organized about one year ago to wholesale R.C.A. Radiola sets. Each line, it is understood, will be marketed under separate divisions of the E. A. Nicholas company.

### Visionola Now Has California Distribution

W. E. and W. H. Jackson, with offices and warehouse at 255 Ninth St., San Francisco, Calif., have been appointed northern California distributors for the Visionola, according to William Landis, sales manager of the Visionola Pacific Company.

The dealers of northern California will soon have an opportunity of seeing a demonstration of home talkies as the Visionola cabinet will soon be shown at various localities by the Jackson organization.

## WHOLESALE

Distribution of Brunswick merchandise in the Los Angeles territory has been discontinued by the Western Radio, Inc., of California, Los Angeles, following the establishment of a branch to coordinate the various Warner Bros. activities in Southern California. Western Radio will continue to act as distributor for radio and allied merchandise as in the past, and plans to take on more lines.

*The Electric Corp., Los Angeles and San Francisco, has been made exclusive Pacific Coast distributor for Lyric.*

E. F. Roberts, well known in electrical and radio circles, is managing the radio department of the Justus Auto Supply Co., recently appointed distributor for Clarion in the Columbus, Ohio, district.

*N. C. Goldman, president of The Commercial Electric Company, Toledo, announces the relinquishment of the distribution for the Toledo area of Radiolas on account of the recent consolidation of the RCA Victor lines. Commercial will continue to distribute radio sets; several outstanding lines are under consideration for the 1931-32 season.*

Fada has added four new distributors to its list. They are: Benton Bailey Co., Richmond, Manhattan Electric Supply Co., Chicago, Ignition Supply & Service Co., Albany, and King & Dexter, Portland, Me.

*Economy Auto Supply Co., Boise, Idaho, is now wholesaler for United American Bosch, operating under the Pacific Coast branch.*

Adirondack Radio Corp., Albany; Auto Equipment Co., Omaha; Benjamin Fisch, Newport News, Va., and the Star Radio Co., Richmond, are now distributing the Zenith line.

*Perryman Electric, North Bergen, N. J., is now represented on the Pacific Coast by the Howard D. Thomas Co.*

# DETECTOR LISTENS IN and hears that . . . .



Electrical household appliances will occupy their full proportionate share of the limelight at the fall public radio shows, according to G. Clayton Irwin, general factotum. These affairs will stagger along under the burden of carrying the following impressive titles: Eighth Annual Radio World's Fair and Electrical Exposition, New York and Tenth Annual Chicago Radio Show and Electrical Exposition.

*Zenith recently appointed several new regional sales managers. They are: W. K. Vollborth, Detroit, and W. H. Shirk, Minneapolis, both formerly with Grigsby-Grinson; L. J. Horan, St. Louis, previously with Stenite and U. S. Radio & Television, and V. L. Summers, Dallas, with All-American Mohawk prior to his new connection.*

Gross income of the Radio Corporation of America and its wholly-owned subsidiary companies from all sources for the year 1930 was \$137,037,596. The net income of the Corporation for the year was \$5,526,293. Regular dividends on all classes of preferred stock, amounting to \$5,206,000, were paid during the year. No dividends have been paid on the common stock. The net income for the year was \$320,293 in excess of dividend requirements of the preferred issues.

President Morris Metcalf of the RMA gave a luncheon at the Astor, New York, to the delegation from the British Radio Manufacturers Association of London, who have been visiting radio industry leaders and factories here. The British visitors, headed by R. Milward Ellis, included T. A. W. Robinson and C. O. Stanley.

*There were 3,411,910 radio listeners in Great Britain at the end of December, 1930, as indicated by the number of licenses issued. In December alone, the total rose by 85,012.*

The Mountain States Music and Radio Trades Association has elected C. M. McDonald, Intermountain Electric Co., as its president for the coming year. J. C. Dwyer, Standard Furniture Co., is the new vice-president, and V. P. Felt, Felt Radio Co., treasurer.

Detroit radio dealers are reorganizing their trade association. Frank Bailey, president of the Bailey Music House, heads this activity.

*Thomas Doran is manager of the new eastern division sales office of Tung-Sol at 57th St. and Broadway, New York City.*

A recent survey conducted by Arc-turus in 60 countries throughout the world where this company's tubes are sold, reveals that a good many foreign jobbers are utilizing modern American advertising methods. Besides newspaper and magazine advertising, sponsored radio broadcasts are being used quite consistently.

Walter, nee "Irish," O'Halloran has been appointed by the Board of the Midwest Radio Trades Association as executive vice-president. He will devote his immediate efforts to inducing all Chicago retailers to adopt the "Code of Standard Practices" recommended by this revitalized association. Headquarters will be maintained at 32 West Randolph Street, Chicago.

The Radio Dealers Association of Billings, Mont., has chosen the following officers for this year's administration: president, A. A. Nicolaus; vice-president, C. M. Lindamood; and secretary-treasurer, A. R. Morgan.

The elimination of radio interference is one of the main objectives of the association, which has announced its willingness to install equipment, without charge, in an effort to improve radio reception.

*The head man in Majestic's "Pace-Making Night Contest," H. W. Balsley, dialed in an even 150 stations the other night from his little house by the side of the road at North Liberty, Ind.*

A chain of twenty exclusive tube stores in Los Angeles and Hollywood is being opened by R. R. Bovee, formerly of Everett, Wash. These stores will be known as Bovee's Radio Tube Shops and nothing but tubes will be sold in them.

John Boothe, a former officer of the National Music Merchants Association and of the Radio and Music Trades Association of Southern California, has been made manager of the piano and radio department of Barker Bros., Los Angeles.

*Allyn R. Heck has joined Ken-Rad to contact dealers and distributors in Michigan, northwestern Ohio and northern Indiana. His headquarters will be in Toledo.*

C. E. Carpenter has been appointed manager of the tube and dry battery division of Philco. His headquarters will be at Philco's main stem in Philadelphia.

*The Acrometer Company, manufacturer of tube-testing equipment and tube-selling plans, has appointed Edwin W. Earl its representative in Southern California, with headquarters in Hollywood.*

Reorganization of the Baldwin Pacific Company, Ltd., in Los Angeles, to manufacture and market radio and electrical specialties has been announced. E. F. Baldwin, formerly Fada Pacific Coast manager, is president; J. T. Hill, formerly district manager for DeForest, is vice-president and treasurer. The company maintains offices at 138 West 17th St., Los Angeles.



# V OICES FROM THE MARKET PLACE

## *Tube Manufacturer Complains of Waning Interest in Programs*

Editor, *Radio Retailing*:

**H**IS HOLINESS, Pope Pius XI, spoke over the radio from Vatican City recently, in the greatest of all hook-ups. Here in America alone some 150 stations carried the Pope's words and their translations to millions of listeners. At every loudspeaker crowds of persons stood or kneeled while the Pontiff solemnly spoke his message of justice and peaceful relations.

Radio broadcasting companies vied with each other to make it possible for every listener to benefit from this unique program. For once there was no advertising ballyhoo. Here was a real, big event on the radio.

But there was no advance announcement of this sterling event over the radio. As far as I know the broadcasting companies left it for newspapers to build up the desire to hear the program, and to supply all information about time, length, and facilities for translation. And a few minutes after it was all over we all went back to our traditional programs.

I point to the Pope's address as an example of the possibilities of radio, and as a lesson and a warning to broadcasters. How many persons wished to hear His Holiness, but had no set? There must have been tens of thousands. Certainly it was not worth it to them to purchase a set for one program, no matter how unusual that one was. And they knew that, after a few fleeting minutes, nothing more exciting would come into their homes than the appeal to buy Wimple's Gadgets.

Radio has become monotonous as bill-boards. One bill-board strikes the eye but a wall of them only breeds contempt. In the ancient days of ten years ago any radio program was enough to cause a fight over the headphones. But today there is a steady stream of good ones—and every one an advertisement.

Good ones, mind you, but very, very few great ones. The broadcasting companies have been content to let advertisers build up and sponsor programs, and the government has encouraged this arrangement. Mighty private interests have been permitted to usurp the channels of the air, without accounting to the public. Under our system nothing else could have been done, most likely. And any improvement on the air in this country must come from within the vested interests which are well entrenched.

There has been a growing discontent with broadcasting, as it flowers today. This discontent is reflected to some extent in the 1930 sales of sets and tubes.

I believe that unless a radical improvement is made in broadcasting the next few years will see a terrifying

drop in the number of hours of listening. To be sure, the current period of depression has had much to do with the falling off in sales, but I think the drop has been entirely out of proportion to the stringency of the public's purse. People always have found and always will find the money with which to buy those things they want most.

More than the depression, I think, the waning interest in radio is to blame. And the waning interest is caused by the kind of programs presented.

New York City. E. A. TRACEY, *Vice-president*  
*National Union Radio Corporation.*

## *Midgets Are My Meal Ticket*

Editor, *Voices from the Marketplace*:

**W**HEN people can afford bigger sets they'll buy them if the larger ones can outperform the midgets.

In the meantime, the gaunt-faced, hollow-eyed boys in the service business are passing up a swell meal ticket if they neglect these junior sets as a side line. As I have been selling an average of one for every five battery sets I am called upon to service, I intend to run a special feature for a month of 50c. for a standard \$1.50 service call on any battery set (aerial work not included). I'll carry two or three midgets in the car on these calls. Three midgets a week look mighty sweet to me on top of the service business and tube sales.

South Bend, Ind.

J. P. KENNEDY.

## *We Want to Sell!*

Editor, *Voices from the Marketplace*:

**S**UPPLEMENTING the remarks of G. B. German on "What Price Franchise?" in the February number, I feel that the manufacturer sets out with the wrong idea as far as the franchised dealer is concerned.

Here is our position: February 16, new models not on the floor as a complete line, factory rushing; February 27, line complete; March 3, enter the customer, 30 bucks down, \$100 on the arm; April 1, the first payment—and—the chains start to cut. By this time, word has passed around that the new model due in June is a knockout.

We must have the line a whole year, if the public is not to be scared off entirely by continually hearing "that model has been discontinued."

The only answer is one line in July. We don't want to buy! We want to sell!

Roselle, N. J.

CHARLES W. EMMS,  
*Radio Electric Service.*



# New Products for

This editorial section is prepared purely as a news service, to keep readers of "Radio Retailing" informed of new products.



## Ottawa Furniture Co. Receivers

MOUNTED in a series of attractive and unique cabinets, quite different from the ordinary run of radio furniture, the line of radios just brought out by the Ottawa Furniture Co., Radio Division, Holland, Mich., offers the radio dealer something new and different.

At the present time, seven models are ready ranging in price from \$84.50 to \$110, complete.

The Oxford, the \$84.50 model, has book and bric-a-brac shelves above the set, and stands 61½ in. high.

The Cambridge has an open bookshelf above the set, and a closed section beneath it. \$94.50.

The Coed is a bookcase model without legs, with the set at the top, the speaker grille, with electric clock, in the middle, and bookshelf below. \$94.50.

The Pembroke is an attractive



pier bookcase, with three bookshelves at the top. \$89.50.

The Harvard is a bookcase model with a full width shelf at the floor level, and four narrower shelves above, two on either side of the set. It is 38 in. high and has a clock in the speaker grille. \$98.50.

Model 206, of Flemish design, has four book shelves. \$98.50.

The Cape Cod is a grandfather clock model, with three bookshelves, and a clock in the speaker grille. \$110.

The set installed in these cabinets comprises four tuned stages of r.f., two stages of resistance coupled audio, taking four 224's and two 227's, a 245 and a 280. Each has a full range tone control and the speaker is a 7-in. dynamic.—*Radio Retailing*, April, 1931.

## A-K Midget With Pentode Tube

A NEW set, known as the Golden Voiced Compact with pentode tube, has been announced by the Atwater Kent Mfg. Co., Philadelphia, Pa. It is designated as Model 84 and employs, according to the announcement, the first perfected use of the new pentode tube in a superheterodyne circuit. It lists at \$69.50, complete.

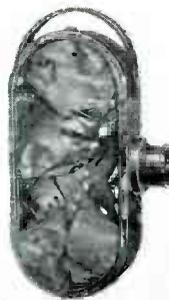
Three 224's, a 227, a 280 and one pentode make up the tube complement. The new pentode tube is a five-element power amplifier. Used as audio output it handles as much power as two 245's plus the amplification of a 227, all three of which it replaces.

The cabinet is Cathedral Gothic in design, with a front of matched butt walnut and sides of selected striped walnut. The dimensions are 19 x 15½ x 9½ in.—*Radio Retailing*, April, 1931.



## Cathedral Console

A NATURAL organ tone which can be modulated to suit the particular acoustics of funeral chapels may be obtained with the new Cathedral Console, especially designed for funeral homes by the Western Electric Piano Co., 850 Blackhawk St., Chicago, Ill. All units of this amplified, automatic instrument are contained in a walnut cabinet, taking up but two by three ft. floor space. The Western record-changing chassis of thirty selection plays, permitting pre-arranged programs, special amplifier, speaker, tone-control, outlet for four extra speakers, microphone plug-in and control, are included.—*Radio Retailing*, April, 1931.



## Stewart-Warner Home Movie Camera

CALLED the "Hollywood" model, the new movie camera being produced by the Stewart-Warner Radio Corp., Diversey Blvd., Chicago, Ill., is said to be the lightest camera yet offered amateur movie makers, (8½ in. high by 5 in. wide by approximately 2 in. thick). With full 100-ft. film, it weighs three and a half pounds.

The proper amount of light is admitted by a simplified five-stop gauge attached to the lens. A sound counter that audibly "clicks" as each foot of film passes the lens, is another feature. It is supplemented by a visual footage indicator dial.

This camera is made of duralumin throughout, and enclosed in an etched satin finish case, with gunmetal satin-finished lens mount. It uses standard 16 m/m film. The price, complete with a leather bound carrying case and strap, is \$50.

Plans of the Stewart-Warner Corp. also anticipate a new home projector and special screen as accessories to the present camera, these three products to be offered as a unit at a very popular price.—*Radio Retailing*, April, 1931.



## Rotary Radio Log

A ROTARY radio log is being made by Gardner & Hepburn, Inc., 2100 Washington Ave., Philadelphia, Pa. It is neat, compact, and encased in a walnut-finished metal case.

The call letters, kilocycle reading and location of 635 stations in the United States, its possessions and Canada, are listed, with a blank column for inserting the dial reading. List price, \$1.50.—*Radio Retailing*, April, 1931.

## Clarion Superhets With Pentode and Variable-Mu's

CLARION'S new sets are designed to take three variable-mu tubes and a pentode in a superheterodyne circuit. A choice of two chassis and four cabinets is offered by the Transformer Corp. of America, 2309 S. Keeler Ave., Chicago, Ill.

Briefly summarized the line embraces: Model 80, 7-tube mantel set, \$67.50; Model 81, 7-tube console, \$84.50; Model 90, 8-tube mantel style, \$79.50; and, Model 91, 8-tube console, \$99.50; all prices complete.

Both chassis have static reducer and the 8-tube sets have automatic volume control.

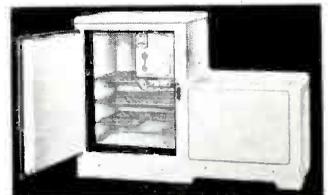
The miniature models are simple and attractive in design. They are made of figured butt walnut and stand 19 in. high.

Model 81 console is 35 in. high and Model 91 stands 3 in. higher. Both are open face low-boys of high-lighted, two-tone effect walnut.—*Radio Retailing*, April, 1931.



## Norge Sink-Type Refrigerator

A NEW sink-type refrigerator, Model 51-S, has been added to the 1931 line of the Norge Corp., Detroit, Mich. This model is built to fit the needs of "compressed apartment living." Right and left models are optional. The ice-making capacity is three trays of 18 cubes each. It is styled in the modern manner, with non-tarnishing chromium-plated hardware. The Norge "Watervoir" may be had as extra equipment.—*Radio Retailing*, April, 1931.



*Radio Retailing*, April, 1931

# Dealers to SELL

All announcements appearing on these pages are published without advertising considerations of any kind whatsoever.



## Sentinel Superhett Midget

FOUR 224's, a 227, a 245 and a 280 are used in the new Sentinel Model 108 superhett midget of the United Air Cleaner Corp., 9705 Cottage Grove Ave., Chicago, Ill.

Double-action volume control, with tuned antenna and coupled-type pre-selector, reduces cross-talk tendencies to a minimum, the manufacturer claims. The speaker is an electro-dynamic.

Made of walnut, the cabinet measures 18½ in. high by 11¼ in. deep, by 14 in. wide. \$57.50, less tubes.—*Radio Retailing*, April, 1931.



## Graybar Superhett Midget

GRAYBAR'S new superheterodyne midget takes eight tubes, namely: two 235's (the new super-control screen grid's), a 224, two 227's, two 245's and a 280. The dark walnut veneer cabinet with front panel of matched butt walnut measures 18½ in. high by 13 in. wide. A tone control is standard equipment. It is available for 25 or 60 cycle operation. Graybar Electric Co., 420 Lexington Ave., New York City.—*Radio Retailing*, April, 1931.

## RCA "Superette"

ENCLOSED in a cabinet practically the same as that of the Graybar midget illustrated on this page, RCA-Victor Corp., Camden, N. J., places on the market the "Superette," an eight tube superheterodyne junior model employing two of the new Radiotron super-control amplifier tubes. The cabinet may be had in butt walnut or Georgian brown finish. \$57.50, less tubes.—*Radio Retailing*, April, 1931.

## GE Junior and Junior Console

AN authentic adaptation of 18th century clock furniture in satin finish butt walnut, with folding antique bronze handle for easy portability, houses the new junior model of the General Electric Company, Bridgeport, Conn. Its companion model is the "Junior Console."

The eight tube, screen grid, superheterodyne circuit incorporates the new super-control Radiotron. The speaker is an 8 in. dynamic. Terminals are provided for electrical phonograph attachments. The midget lists at \$62.50, less tubes. Midget with clock, \$72.50; Junior console, \$82.50.—*Radio Retailing*, April, 1931.



## Philco Batteries

PHILADELPHIA Storage Battery Co., Philadelphia, Pa., has added three dry batteries to the list of products it manufactures. The batteries are a 4½ volt C-battery, a 45-volt standard B-battery and a 45-volt extra heavy-duty B-battery.—*Radio Retailing*, April, 1931.



## Jackson-Bell 68

SOME of the features incorporated in the new 8-tube Jackson-Bell midget, Model 68, are a local and distance switch, tone control, Magnavox dynamic speaker, and two 245 tubes in push-pull.

The cabinet of this new set, the product of the Jackson-Bell Co., 1682 W. Washington Blvd., Los Angeles, Calif., is somewhat larger than the previous model but is still in the midget class and easily portable. The dimensions are 19½ in. high by 16½ in. wide by 11 in. deep.—*Radio Retailing*, April, 1931.



## Dial System for Tuning

THE dial system, similar to that used with telephones, may occupy an important place in the home of the future if a new system of remote control by means of which radio programs and recorded music may be brought into different rooms of a house by dialing simple number combinations, comes into extensive use.

This new system has been developed by the RCA-Victor Co., Camden, N. J.

The dial control is installed in desirable locations throughout the house, and connected to a master phonograph-radio outfit located in the attic or basement.

Up to 18 different stations may be pre-tuned. A code number is dialed to bring in a certain radio program, to raise or lower the volume, to start and stop the radio music, and to play or reject records.—*Radio Retailing*, April, 1931.

## Lincoln Two-Volt Tube Set

EIGHTY meter band short-wave reception, in addition to regular broadcast reception, may be had on the Model DC-8 "Super" radio set built by the Lincoln Radio Corp., 329 S. Wood St., Chicago, Ill., by simply dropping a switch. This set uses the new 2-volt d.c. tubes and aircell A-battery.

Shortwave coils may be used if desired, but reception on shorter wavelengths is not guaranteed.

The price of the laboratory-built chassis is \$80. The batteries, tubes, speaker, etc., are extra. A semi-lowboy console in which the set may be placed is \$50.—*Radio Retailing*, April, 1931.

## Stiktube Socket Washers

A NEW product of the Sampson Industries, Inc., 4225 Olive St., St. Louis, Mo., is the "Stiktube" socket washer. This device consists of a wool felt, double coated on each side with adhesive. It securely retains the tube in the socket.—*Radio Retailing*, April, 1931.

## Crosley Superhets

THREE console models, at a price range of from \$109.50 to \$189.50 complete, are offered in the new superheterodyne series introduced by the Crosley Radio Corp., Cincinnati, Ohio. These sets come in cabinets similar to the previous line, and are priced as follows:

Super-Administrator, \$109.50, complete; Super-Rondeau, \$119.50, complete, and Super-Sondo, a combination, \$189.50, complete.

The chassis utilizes four 224's, a 227, two 245's, and a 280. Static and tone controls are embodied in these models as is a local-distance switch.

The "Pliodynatron" circuit, used in combination with a 224 screen grid oscillator tube, is a new development with Crosley. A new system of tone control practically eliminates ground noise, the maker says.

The "Johnny Smoker" at \$47.50 complete, is another addition to the line. It has a midget chassis, using three 224's, a 245 and a 280, and is a smoking stand model, finished on all four sides.—*Radio Retailing*, April, 1931.



## Kato Konverter and A.C. Current Plant

FOR operating a.c. radios on 32-volt or 110-volt d.c. the Kato Engineering Co., Mankato, Minn., offers a new Konverter with the a.c. and d.c. windings installed in the same armature core, which reduces losses to a minimum. The specially designed filter system eliminates all interference from brushes and commutator, thus insuring better reception, it is said. This new Model-132 Konverter has a capacity of 117 watts.

The a.c. current plant is made in four different capacities, from 350 watts to 2,000 watts. (\$190 to \$395.) It consists of a single filament, 4-cycle, air-cooled gasoline engine, coupled direct to an a.c. generator. The speed is 1,800 r.p.m. It will operate a.c. radios as it is equipped with a filter system. 110-volt, 60-cycle a.c. is produced, giving lights that are bright and steady.

Plant No. 1A is especially suitable for a.c. radio demonstrating, sound trucks, radio amplifying, etc., and is light and compact. \$175.—*Radio Retailing*, April, 1931.



### Stewart-Warner Consoles

EQUIPPED with a standard E-S-W 8-tube chassis, console models 12 and 14, just placed on the market by the Stewart-Warner Corp., 1826 Diversey Blvd., Chicago, Ill., are priced at \$104.75, complete.

They are made of 5-ply American walnut combined with lighter Oriental walnut for decorative purposes. Model 12 is the smaller of the two, standing 37 in. high while model 14 is 41 in. from the ground.—*Radio Retailing*, April, 1931.

### Portable Talking Picture System

PACENT Electric Company, 91 Seventh Ave., New York City, has announced a complete 16 mm. portable talking picture system. The portable equipment comprises three individual units: the projector unit, the amplifier and speaker unit, and the sound screen. The projector unit in-



cludes a high grade projector, synchronous turntable, and electric pick-up, as well as the controls for both projector and sound operation. The projector is operated by special induction motor equipped with an adjustable speed control, and reverse control for re-winding film. The turntable is securely mounted on one cover of the projector case and folds up with the projector when in the closed position. The electrical pick-up unit is a Phonovox. The amplifier-speaker unit can be had in two types: Type "A" where an audience of 150 or less is to be served, and Type "B" for an audience not exceeding 300. This equipment is designed primarily for industrial and educational uses. It is equipped with provisions for microphone pick-up, which may be used when desired.—*Radio Retailing*, April, 1931.

### Dongan Replacement Transformers

A FULL line of replacement A transformers for radio sets can now be obtained from the Dongan Electric Mfg. Co., Detroit, Mich.—*Radio Retailing*, April, 1931.

### Readrite Model 700 Analyzer

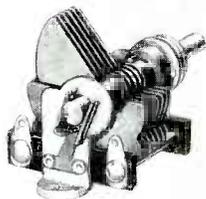
EQUIPPED with a practical selector switch for checking all parts of the tube circuits by connecting to the set sockets, the Model 700 analyzer of the Readrite Meter Works, Bluffton, Ohio, fills a definite need. Selection for testing voltages of plate, grid, cathode and screen-grid is done quickly. Plate current, filament volts, also line and power supply volts, are measured. The grid swing test for tubes is used. A 4½-volt grid battery is furnished. The eight scale readings of the meters may be used separately with the jack terminals provided. The scale readings are 0-60-300-600 d.c. volts, 0-10-140-700 a.c. volts, and 0-20-100 milliamperes. Twenty-five dollars is the list price, and the net price to the dealer is \$15.—*Radio Retailing*, April, 1931.



### Robbins & Myers Rotary Converter

A ROTARY converter to change d.c. into a.c., may be obtained from Robbins & Myers Sales, Inc., Springfield, Ohio. Model 275-A, has an output capacity of 75 watts; Model 106, 125 watts, and Model 537A, 150 watts.

The precision bearing design forms a foundation for smooth performance, employing the latest wool yarn type lubrication system. A filtering device insures quiet radio operation. They are available for use on 32, 115 or 230-volt d.c. circuits.—*Radio Retailing*, April, 1931.



### Midget Type Tuning Condenser

A SERIES of midget type tuning condensers ranging in capacity from 19 mmfd. to 322 mmfd., having the well-known "Midline" characteristics, has just been developed by the Hammarlund Mfg. Co., 424 West 33rd St., New York City, for manufacturers' use.

A series of straight line capacity models have also been produced.

These condensers incorporate many new features which make them especially adaptable to their particular use. The models are made in both clock and anti-clockwise fashion, for base or one hole panel mounting.—*Radio Retailing*, April, 1931.



### Presto Home Recorder

A SMOOTH disc, which cuts its own grooves as it records, is used with the home recorder of the Presto Corp. of America, 117 N. 7th St., Philadelphia, Pa. It is claimed that this assures a more accurate and lasting record than can be obtained with pre-grooved records. 6, 8, 10 or 12 in. sizes are available.

This instrument comes complete with motor, turntable, volume control, microphone, selector switch and radio-phonograph switch, all housed in a compact portable leatherette case. Price, \$85.

A recording attachment kit, model 2, for use on radio-phonograph combinations, consisting of recording head, feed mechanism, microphone and selective switch is offered at \$39.50.—*Radio Retailing*, April, 1931.

### Universal Washer

AN OUTSTANDING feature of the new "self-emptying" Universal washer of the Landers, Frary & Clark Co., New Britain, Conn., is the non-clogging pump which empties the water from the tub in less than two minutes.

Model E-1150P is equipped with one-piece blue porcelain enameled tub. Model E-1250P has a solid copper nickel lined tub finished in blue. Capacity, 6 lbs. dry clothes.—*Radio Retailing*, April, 1931.

### Weston 571 Output Meter

MODEL 571 output meter, a product of the Weston Electrical Instrument Corp., Newark, N. J., is a rugged portable instrument especially useful in checking radio sets, sound projection equipment and public address systems.

The equipment consists of a five range copper oxide rectifier type voltmeter. The ranges (150, 60, 15, 6 and 1.5 volts) are brought out to two binding posts through a dial range-selector switch which is mounted on the front of the instrument. It has a non-inductive impedance of 4,000 ohms for all ranges. The power output of the radio set can be computed and adjustments can be made on the set to give the highest operating efficiency.

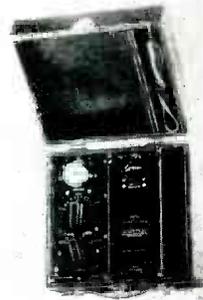
Model 571 comes in a 5½x3½x2½ in. case, weighing 1 lb. 10 oz. The list price is \$30.—*Radio Retailing*, April, 1931.



### Dayrad Test Oscillator and Output Indicator

A LOW-PRICED test oscillator is announced by The Radio Products Co., Dayton, Ohio, to be known as the 330 multi-frequency oscillator.

It is calibrated for transmitting self-modulated signals of 130, 175 with vernier, and 180 kilocycles for intermediate fre-



quency adjustments on superhets. Two settings are available for simultaneously transmitting a number of self-modulated frequencies (harmonic system). One simultaneously transmits 750, 1,000, 1,200 and 1,500 kilocycles, and another 600, 800, 1,000, 1,200 and 1,400 kilocycles. This instrument is thoroughly shielded and equipped with volume control. It uses a type '30 tube, four flashlight cells, and one small 22½-volt battery. The dealers' price is \$27.50.

Type 50 output indicator has also been announced to go with the 330 oscillator or to be used separately as an output meter. This device, which is a direct current milliammeter equipped with a series single wave rectifier, is a three range instrument, the scale being marked from 0-50 merely registering the signal output in arbitrary figures. The total price to the dealer of the 330 oscillator and the type 50 output indicator is \$37.50.—*Radio Retailing*, April, 1931.

### Amertran Sound System Panel

SOUND system panels made for 14 different applications, have been brought out by the American Transformer Co., 178 Emmet Street, Newark, N. J. These panels may be assembled in various combinations on standard mounting racks to make up complete sound systems. They have been designed to permit extreme flexibility. The equipment may readily be enlarged or reduced whenever new conditions make a change advisable.

Amertran panels are mounted on solid aluminum panels of standard 19 in. width, but varying in height in 1½ in. multiples, the edges being notched to facilitate assembly in the most convenient position on standard mounting racks.—*Radio Retailing*, April, 1931.

### DeForest Quick- Heating Tubes

DEFOREST 427 and 424 Audions are now of the quick-heater type. The heating time is well under 10 seconds, the manufacturer claims, depending largely on the circuit in which they are employed.—*Radio Retailing*, April, 1931.

# PENTODE

## The A. C. Tube first demonstrated by CeCo Engineers in January 1930

**T**HIS new type tube . . . that delivers a greater undistorted power output . . . is a development pioneered by the CeCo Laboratories.

Over 15 months ago—on January 23, 1930—CeCo Engineers demonstrated the first A.C. Pentode receiving set, using the newly developed Pentode Tube.

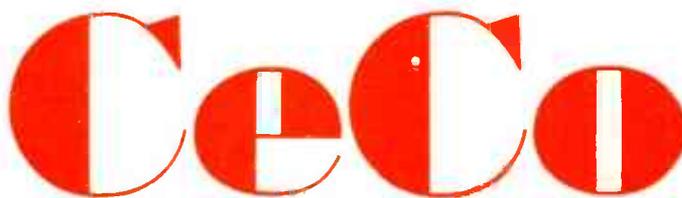
Since the introduction of the first A.C. Pentode, the CeCo Laboratory has also pioneered two additional Pentode Tubes—the P-1 and the P-5. Both of these tubes were used in a receiving set demonstration at the R. M. Trade Show at Atlantic City in June, 1930. That was 9 months ago.

Recently the Radio Tube-Sub-Committee of the Radio Manufacturers Association suggested standard specifications to popularize the Pentode. These standard specifications will permit the adoption of this tube by receiving set manufacturers.

The new CeCo Pentode Tube—Pentode Type P-3—is in conformity with these specifications. It is a product of the laboratories that pioneered the Pentode. CeCo Mfg. Co., Inc., Providence, R. I.



**CeCo Engineers pioneered the A.C. Pentode Tube January 23, 1930**



## Radio Tubes

Licensed Under Patents of Radio Corp. of America

# They're Better or You Don't Pay

# HOT Numbers

About the Latest Popular Records—the "Rumba" Trend

EVER since the release of the prodigiously popular and persuasive "Peanut Vender," dance record enthusiasts have not failed to notice the Latin-American character of many of the best sellers. The "rumba" and the "danzon," of Cuban and Central American origin, have considerably colored the aspect of our own native fox-trot. We now have the "rumba fox-trot," a style of increasing popularity involving fascinating cross rhythms and voluptuous melodies reminiscent of old Havana. "Mama Inez" and "African Lament," both on Columbia 2422D, introduce Enrique Madriguera's Havana Casino Orchestra, a new novelty band specializing in "rumba fox-trot" playing. "Mama Inez" and its coupling contain many of the characteristic "shaker" and percussion effects which have delighted the followers of this new dance trend. "African Lament" hasn't come into its own yet, but we predict that it will reach great sales. Both "rumba" pieces have plenty of the real stuff.

## European Flavor in Vogue

Of late, Germany and France are vying with Broadway in the production of current hits. From the latter country comes "Under a Roof in Páree," a beautiful waltz with an agreeable old world flavor, first heard in the successful French talking picture "Sous les Toits de Paris." This piece is coupled, on Brunswick 6066, with "By the River Sainte Marie," a smooth fox-trot. Both are played by the Brunswick Hour Orchestra and can be recommended for their exotic appeal. Marlene Dietrich, the German actress who has captured the hearts of America's movie public, made an enormously popular record some time ago of "Falling in Love Again," from the impressive talkie "The Blue Angel." The success of this German tune is assured and Johnny Hamp's Orchestra, on Victor 22638, have naturalized it in characteristic American style. "Two Hearts in  $\frac{3}{4}$  Time," from the German movie of the same title, fills the reverse with a delightful waltz. Al Jolson's new show "The Wonder Bar," which just opened on Broadway, introduces another foreign hit, "Oh Donna Clara." It is a tango fox-trot—again the Spanish influence—and after a triumphant success in European

capitols it is bound to be appreciated equally well here. Guy Lombardo and His Royal Canadians play it, together with "Elisabeth" from the same Jolson show, on Columbia 2423D, in the smooth Lombardo manner which will continue to keep his record sales among the leaders. A truly exotic version of "Oh Donna Clara" may be obtained from the Columbia export list, record 4424X, containing the International Marimba Band's version with a romantically alluring vocal refrain in Spanish. Here it is played strictly as a tango—a delightful one too! It will be good business to be posted thoroughly on this continental trend—a movement which bids fair to become a permanent musical fixture.

## The Popular Numbers

BRUNSWICK'S list starts off with "Minnie the Moocher," Cab Calloway and his orchestra in a marvelous recording. (6074) A "lowdown" novelty in fast time and a flash opening that will attract attention from the first note. The vocal chorus is a wow. "Doing the Rumba" is on the reverse side. The feature of recording No. 6067 is the theme song of Charlie Chaplin's current picture success, "City Lights." "Who'll Buy My Violets" is by the composer of "Valencia" and is played in the attractive semi-tango arrangement. The coupling, "Amapala" is a standard Spanish selection played in fox trot tempo.

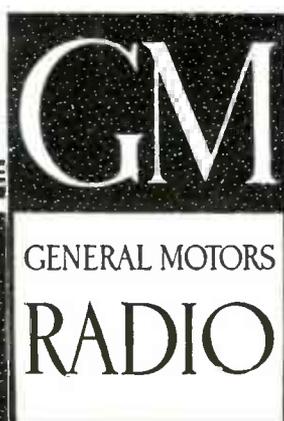
COLUMBIA gives us Smith Ballew with another grand orchestration job in his rendition of the fox trots "We Can Live on Love" and "I Hate Myself For Falling in Love With You." (2406-D) For the real stuff in rumbas, stock and demonstrate record No. 2422-D, "Mama Inez (Oh! Morri-e-nez)" with the reverse featuring Enrique Madriguera's Havana Casino Orchestra playing "African Lament."

VICTOR features some peppy dance tunes. For rhythm that fairly makes the feet tingle, dealers will find no recent recording ahead of "I've Got \$5" (22627). From the new Broadway show "America's Sweetheart," this record leads the sales of popular numbers in such stores as Stern's, New York. Point out the piano duet work by Victor Arden and Phil Ohman. Another Victor hit is "Hello, Beautiful," Wayne King and orchestra. "One Little Raindrop" is on the reverse side of No. 22642.

also "By Special permission (of the Copyright Owners) I Love You," a fox-trot from the musical comedy "The Gang's All Here." Brunswick 6055. This merry tune with the longsome title will be heard a lot these spring nights and it might be well for dealers to lay in a good supply. Hal Kemp and His Orchestra handle the piece expertly, and the coupling "Would You Like to Take a Walk?," a fox-trot from the show "Sweet and Low," has considerable appeal—the individual touches put into the music make the tricky little number still more fascinating. Add to the above for popularity, "Hello! Beautiful!" and "Walkin' My Baby Home," sung by the inimitable Maurice Chevalier in his characteristic, intimate manner . . . Victor 22634. The intriguing rhythm of the "Peanut Vender" as played by Don Aspiazu keeps this fascinating melody leading Victor's best sellers. 22483.

## Hits from Broadway Shows

But this eminent European flavor has not by any means kept Messrs. De Sylvia, Brown and Henderson and other Broadway composers from turning out hits in their usual distinctive manner, as may be heard from the following: "When Your Lover Has Gone," and "One More Time," both fox-trots played by Ben Bernie and His Orchestra. Brunswick 6063. "One More Time," by the trio mentioned above, is of the "mean" variety: low-down, played in a low-down manner and with a low-down vocal refrain by Frankie Sylvano. It is an excellent demonstration number—as is



# GENERAL MOTORS RADIOS

*maintain*  
their outstanding value

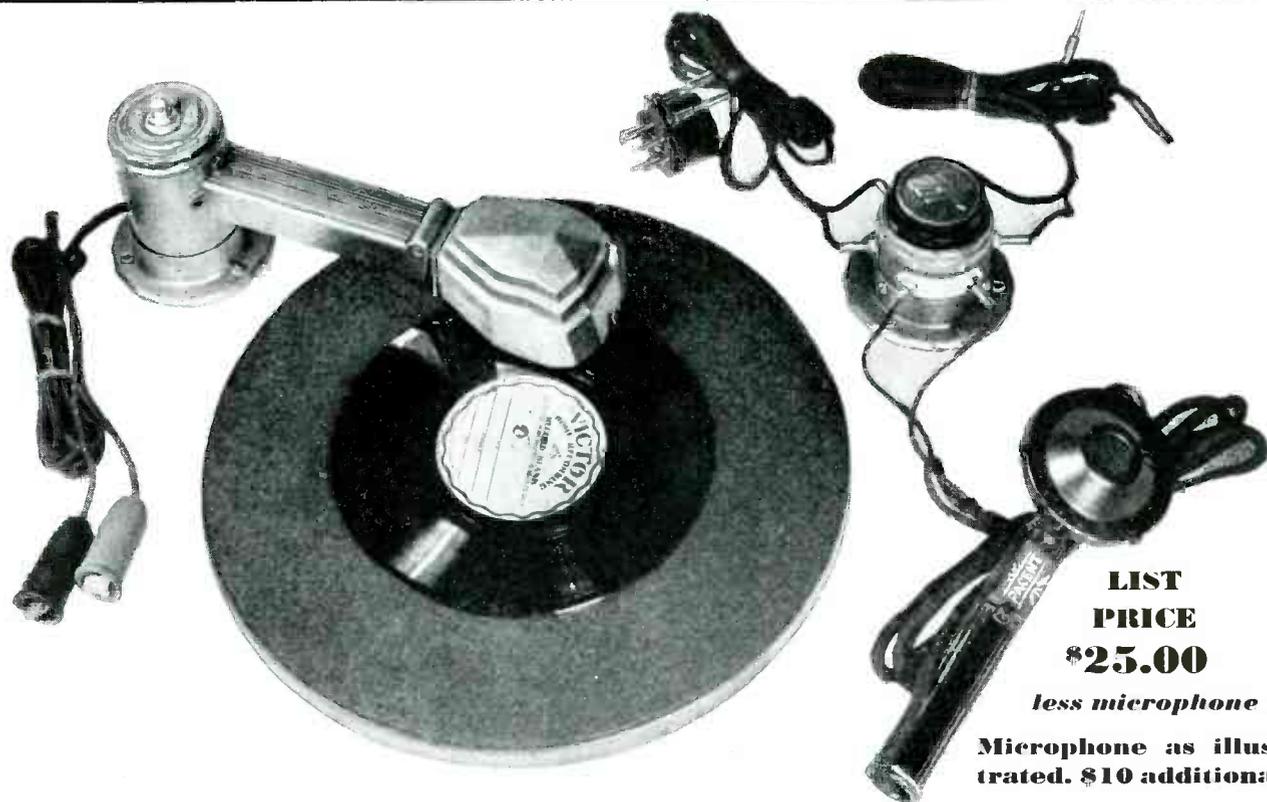
There are few sales points in radio today so effective with prospective buyers as this . . . Anyone can purchase a General Motors Radio with the assurance that his investment is *protected*.

Not only is every technical feature completely modern, but the distinctive Period console cabinets can be regarded as permanent furniture. Any future chassis or speaker will be designed to permit installation in the console cabinets purchased previous to such development.

Outstanding value in nine models ranging from \$74.60 to \$270 including tubes. Write or wire for information about the profit advantages of a General Motors Radio franchise.

GENERAL MOTORS RADIO CORPORATION, DAYTON, OHIO

# HOME RECORDING MEANS MORE PROFITS FOR YOU!



**LIST  
PRICE  
\$25.00**

*less microphone*

**Microphone as illustrated. \$10 additional**

**S**OMETHING that every customer will want—THE PACENT RECORDOVOX. Phonograph records made at home with professional results and without the necessity for expensive apparatus. Tell your customer it will provide a permanent album of the voices of his family and friends or radio programs he wishes to preserve.

THE PACENT RECORDOVOX assembly consists of the RECORDOVOX, furnished with clips, a special adapter and the selector switch illustrated above, together with the necessary connecting cords. Price \$25.00. The hand microphone illustrated will be supplied only when requested, at an extra cost of \$10.00 list.

THE PACENT RECORDOVOX is designed to operate with the pre-grooved type of records which are available everywhere at a small cost. It is a quality product, made by the manufacturers of talking picture equipment now operating satisfactorily in over 2,000 theatres throughout the world.

Public Address System Manual containing last minute data on amplifiers, microphones, loud speakers, together with useful information concerning the planning of sound systems will be sent free of charge upon request.

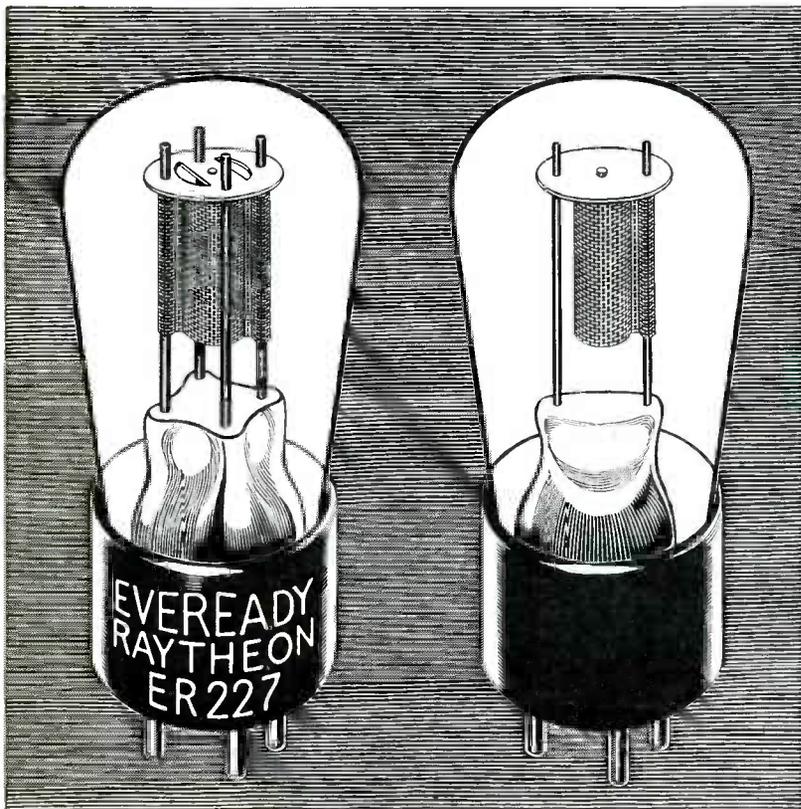


**The new Master Phonovox Catalog No. 107. Contains 12 features that make it the greatest value in pick-ups today. List price \$15.00.**

**PACENT ELECTRIC CO., INC., 91 SEVENTH AVENUE, NEW YORK, N. Y.**  
Pioneers in Radio and Electric Reproduction for over 20 Years. Licensee for Canada: White Radio, Ltd., Hamilton, Ont.

# PACENT

**“... REMARKABLE INCREASE IN SALES WITH 4-PILLAR  
EVEREADY RAYTHEON TUBES,” SAYS MANAGER  
OF RADIO SALES COMPANY, INC., CAMDEN, N. J.**



THE NEW

Notice the *four* strong pillars. With this solid foundation, the many fragile parts in the tube can be assembled with watch-making accuracy, and cannot move a hair's breadth from their fixed position!

THE OLD

In ordinary tubes, the many delicate parts have only a two-legged foundation. *Two* supports instead of *four*! Jolts, bumps, vibration from dynamic speakers—all can impair their *vital* accuracy.



AMONG the many comments received from dealers everywhere, one point stands out: 4-pillar tubes sell themselves to customers because of their superior construction and performance. Every dealer, who has followed the suggestion to demonstrate complete sets of 4-pillar tubes in the customer's home, reports a great increase in tube sales! Read this letter from the Radio Sales Company, Inc., of Camden, N. J.

“We are prompted in writing you at this time as a result of the remarkable increase in sales of your ‘four-pillar’ EVEREADY RAYTHEON TUBES.

“In the past Eveready Raytheon has been just another good standard brand tube we felt should be on our shelves.

“Your advertising campaign has delivered a message, we believe all dealers heartily welcome. It has created demand for clean-cut merchandise. Merchandise that will not back-fire and create that dreaded friction between the dealer and the consumer.

“We hope you will continue this good work and make conditions more pleasant for the dealer.”

Eveready Raytheons come in all types, and fit every standard A.C. and battery-operated radio in present use. Tell your customers to replace their old tubes with a complete set of 4-pillar tubes. Give them a free demonstration, at home . . . that's the way to build up your tube business! See your jobber, or write our nearest branch.

★ ★ ★

*Service-men!* Information and sales helps, designed for service-men's use, will gladly be sent to you free. Among them is a blue-print giving complete engineering data on 4-pillar tubes. Thousands of service-men are using this material to advantage. Write our nearest branch.

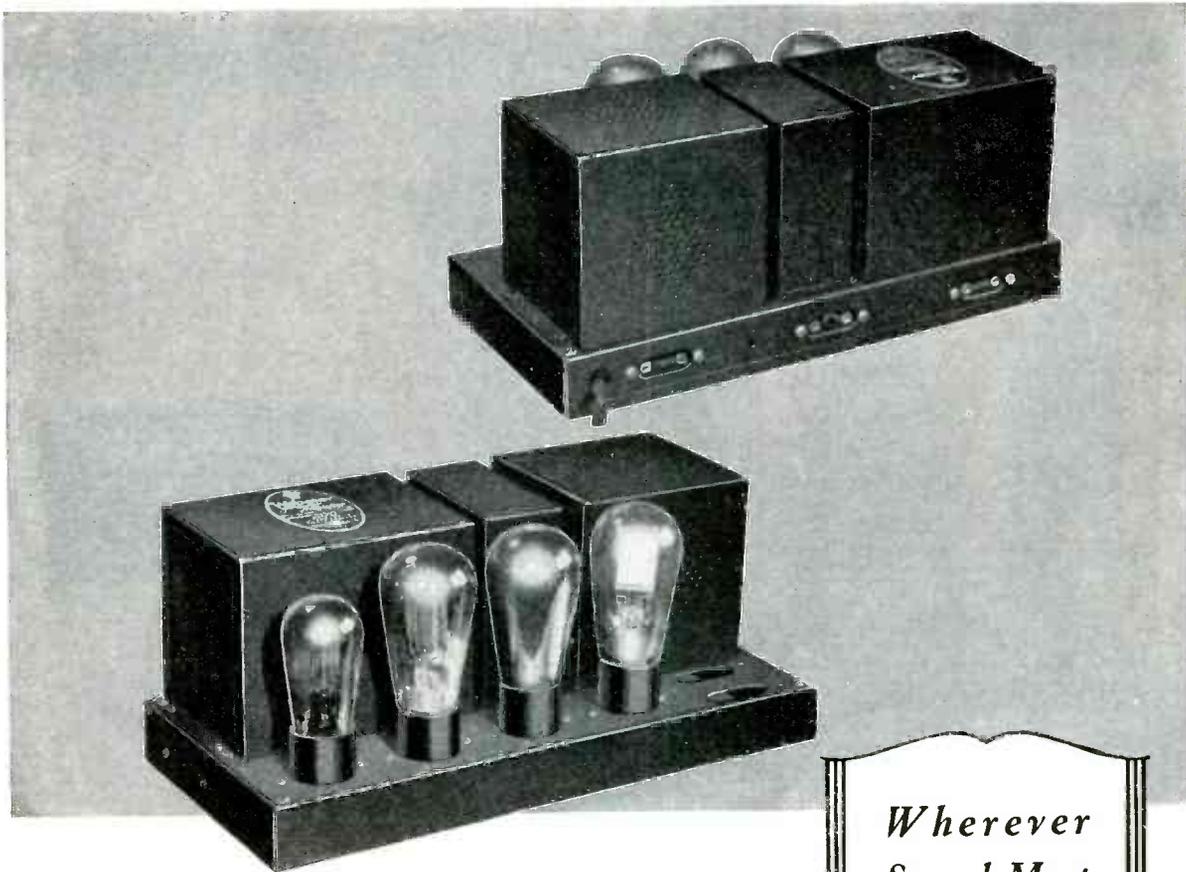
NATIONAL CARBON COMPANY, INC.

General Offices: New York, N. Y.

Branches: Chicago Kansas City New York San Francisco

Unit of Union Carbide  and Carbon Corporation

# WEBSTER ELECTRIC CO.



**A** NEW TYPE of Webster Amplifier, the two-stage Model 245 illustrated above, is now introduced for use in homes, small halls, stores, and for adaptation to portable sound- or motion-picture equipment.

Though compact in size and light in weight, this new amplifier retains the same richness and quality of tone, full-frequency response range and volume found in larger and higher-priced amplifiers.

A partial list of the numerous applications to which the established line of Webster Amplifiers has been adapted is given at the right. Over twenty-two years of development in the electrical field has qualified the Webster Electric Company to design and manufacture standard and special equipment to meet a wide range of sound amplification and distribution requirements.

Well-established organizations are offered the opportunity of increased business development with Webster Equipment. We solicit inquiries.

*Wherever  
Sound Must  
Fill Great  
Spaces*

**Webster Electric**  
Power Amplifiers

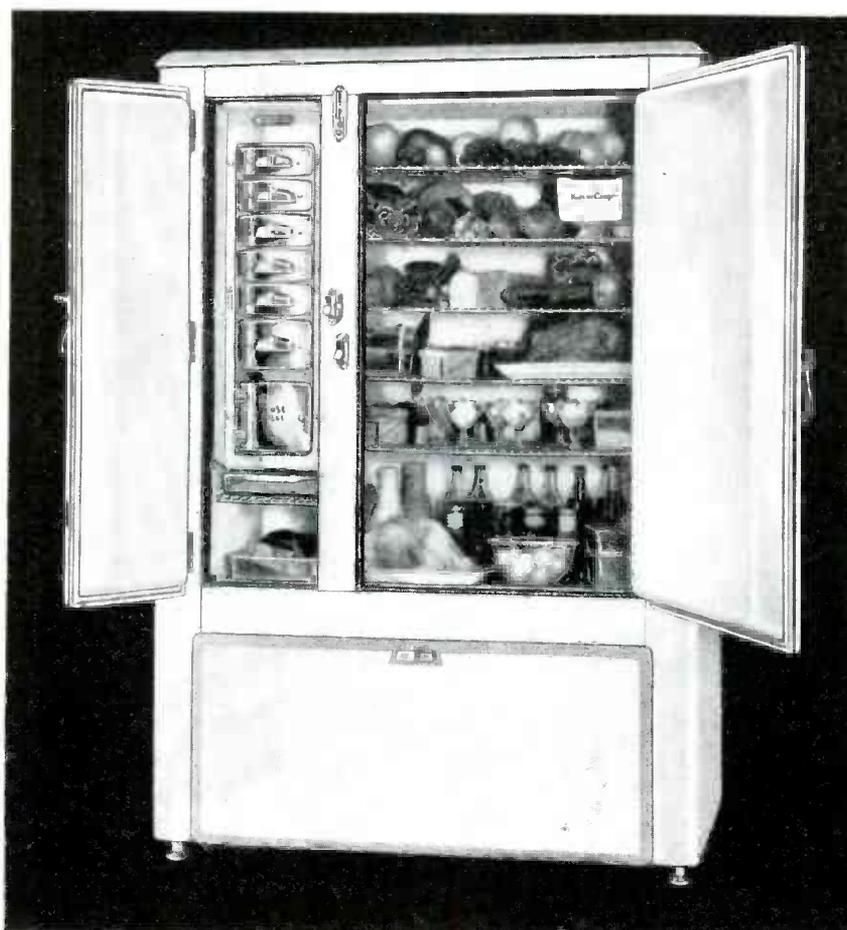
Schools . . . Colleges . . . Academies  
. . . Institutes . . . Hotels . . . Convention  
Halls . . . Amusement Parks . . . Rail-  
road Depots . . . Swimming Pools . .  
Apartment Buildings . . . Riding Acad-  
emies . . . Airports . . . Stadiums . .  
Sanitariums . . . Hospitals . . . Facto-  
ries . . . Sporting Arenas . . . Assembly  
Halls . . . Play Grounds . . . Civic  
Centers . . . Race Tracks . . . Ball Parks  
. . . Skating Rinks . . . Public Parks  
. . . Gymnasiums . . . Yacht Clubs



**Webster Electric Company**  
ESTABLISHED 1909  
Racine Wisconsin



Webster Transformers . . . Webster Electric Pick-ups . . . Webster Power Amplifiers



**STANDARD RATING SCALE for Electric Refrigeration**

- Is the refrigerator manufactured by a reliable company with proper experience in the electric refrigeration field?
- Is there plenty of food and shelf space?
- Is the cabinet itself well designed, sturdily built and properly insulated?
- Is there provision for the freezing of an adequate supply of ice cubes? (Quantity of ice rather than number of cubes, which may be of large or small size, should be taken into consideration.)
- Will the refrigerator constantly maintain a proper temperature for the preservation of foods?
- Can the freezing of ice cubes and desserts be speeded up when the need arises?
- Can this extra freezing speed for ice cubes be had without affecting the temperature on the food shelves? (Too low a temperature on the shelves will, of course, injure food.)
- Is there a place to keep ice cream, meat, fish, game, "quick frosted" foods or an extra supply of ice cubes indefinitely at a below freezing temperature?
- Are these various temperatures (a. extra fast freezing; b. fast freezing; c. below freezing for storage; and d. normal food preservation temperature)—automatically maintained without any attention from the owner?
- Does refrigerating unit operate frequently or at infrequent intervals? (Other conditions being equal, the fewer the "stops" and "starts", the longer the unit will last and the less it will cost to run.)
- Will the cooling unit continue to cool the refrigerator for 10 or 12 hours even though the current is shut off?
- Can the back parts of all the shelves, even the lowest, be reached without kneeling or sitting down?
- Has provision been made for keeping vegetables fresh and crisp?
- Can the top of the refrigerator be used to "set things down for a moment" while the contents of the cabinet are being re-arranged?
- Is the refrigerator so designed and finished as to add to the attractiveness of the kitchen?
- Has the experience of users over a considerable period of time shown that the refrigerator is long-lived and dependable?

*Base your decision on*

**FACTS!**

In making your decision as to which electric refrigerator to handle, base it on facts—decide with intelligence.

The Standard Rating Scale for Electric Refrigeration gives you a basis of comparison that will show you positively which refrigerator offers you the surest opportunity for volume and profits.

Make your own comparison. Check every refrigerator against it, point by point, and analyze the results.

In the final analysis, you will find that Kelvinator alone, meets each

and every requirement—a fact which enables you to decide with confidence

that Kelvinator is the electric refrigerator to handle.

The big buying season for electric refrigeration is just starting. Come with Kelvinator NOW and get in on the ground floor of the biggest and most profitable year the industry has ever seen. The coupon below will bring our representative with authority to TALK BUSINESS.

**KELVINATOR CORPORATION**  
 14263 Plymouth Road, Detroit, Michigan  
 Kelvinator of Canada, Limited, London, Ontario  
 Kelvinator Limited, London, England

**Kelvinator** (257)

**C O U P O N**

**KELVINATOR CORPORATION,**  
 14263 Plymouth Road, Detroit, Mich.  
 Gentlemen: Without obligation to me, send your representative to discuss the Kelvinator Agreement.

Name \_\_\_\_\_  
 Street Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_

# FEWER COMPLAINTS

~ ~ ~ more Satisfied Customers



U. S. Patents 1,419,564  
1,604,122—1,697,954  
Other patents pending.  
Foreign patents.

from Products Equipped with

## SHAKEPROOF

### Lock Washers

WHEN you sell a washing machine, radio, vacuum cleaner or any other device, you know that you are likely to have calls for service. These calls cost you money and reduce your profits, but you must keep your customers satisfied.

Products that are equipped with Shakeproof Lock Washers will need less service because they are thoroughly protected against vibration. The twisted steel teeth of this marvelous locking method dig into both the nut and the work surface and they cannot let go. This prevents faulty connections—lost parts and poor performance that is so often due to ordinary washers.

Test Shakeproof Lock Washers on your next service job and you'll realize why leading manufacturers in over 100 industries are now using this washer. Send for samples today.

*Insist on Shakeproof equipped products—it means bigger profits for you!*



"It's the twisted teeth that lock"

## SHAKEPROOF

### Lock Washer Company

(Division of Illinois Tool Works)

2531 KEELER AVE.

CHICAGO, ILLINOIS



Type 12. Internal For S. A. E. and Standard Machine Screws

Type 11. External For Standard Bolts and Nuts

Type 13. Countersunk For all Countersunk Screws

Type 20. Locking Terminals For Radio and Electrical Work

# It's Easy To Identify 1931 Tubes

## Look for Robust Rectifiers

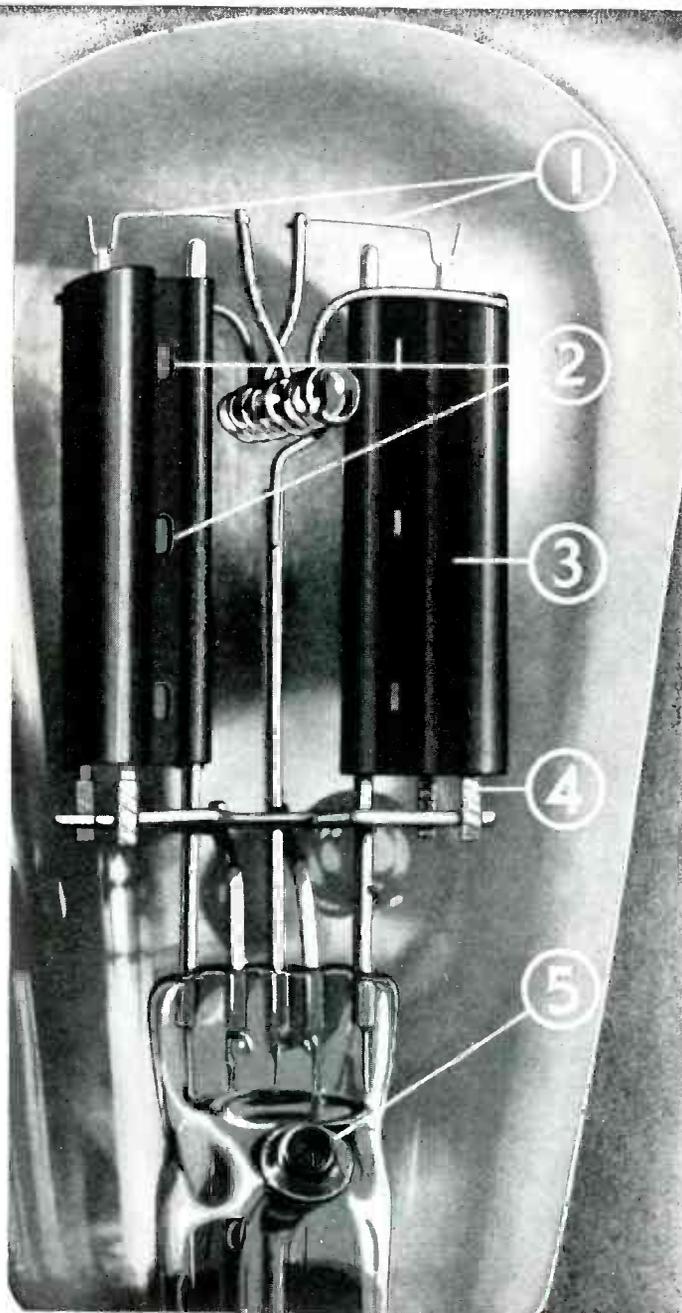
Ample and uniform current supply for every tube in the A. C. radio set—that is the function of the rectifier tube. De Forest engineers have insured that function with these latest refinements:

1. Special alloy hooks maintaining uniform tension on filaments.
2. Ingenious clamping to insure accurate plate dimensions for equalized full-wave rectification.
3. Carbonized plates insuring maximum heat dissipation at higher outputs demanded by latest sets.
4. Tabbed filament to insure low-resistance welds and prevent weakened filament due to spot welding.
5. Exhaust port positioned well below press to avoid leakage.

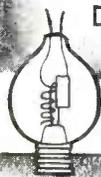
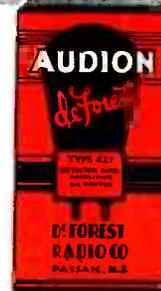
These and many other advanced features found in every type of fresh De Forest Audion, insure the 1931 performance of any radio set.

*This is the fourth of a series of debunking messages dealing with 1931 radio tube features. The entire story can be sent to you immediately, if you so desire.*

DE FOREST RADIO CO., PASSAIC, N. J.



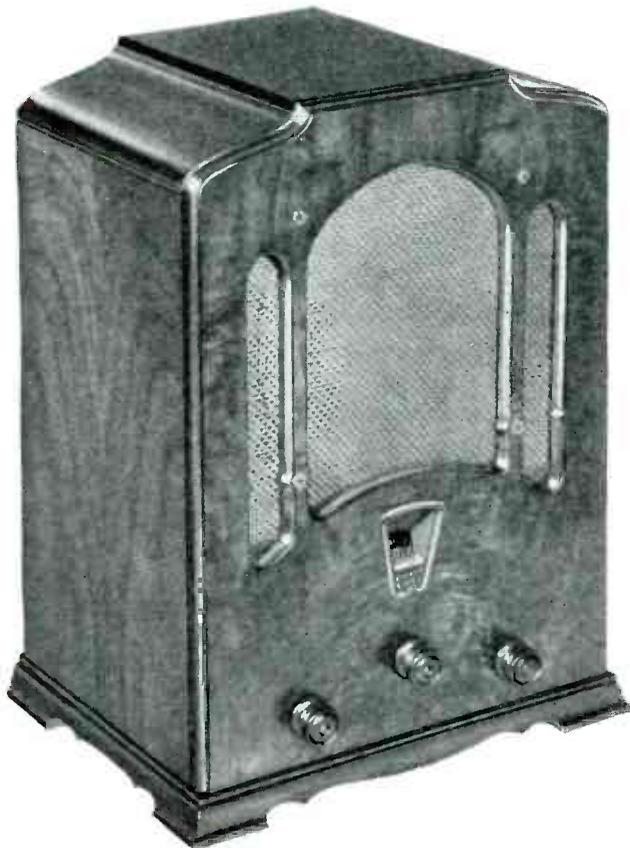
**de Forest**  
AUDIONS  
**RADIO TUBES**



After all, there's no substitute for 25 years' experience



# RCA VICTOR announces the SUPERETTE



## The SUPERETTE

An 8-tube Super-Heterodyne employing two new Radiotron Super-Control Amplifier tubes, with tone color control, push-pull amplification, cabinet in Butt Walnut or Georgian Brown finish. \$57.50 list, less Radiotrons.

An 8-tube Super-Heterodyne in a small-size cabinet...including tone color control. \$57<sup>50</sup><sub>less Radiotrons</sub>

**A**T last! A small set that's really a RADIO! A walloping big, 8-tube Super-Heterodyne condensed into a trim, convenient cabinet! All the marvelous performance of a big set.

The new RCA Victor Superette is not merely a Screen-Grid Radio . . . it's *more* . . . it's a Super-Heterodyne . . . the principle to which the entire industry is swinging . . . and it employs the new Super-Control Radiotron tube . . . the last word in *radio*.

Only the world's greatest group of radio engineers could have designed this set . . . only the world's largest radio factory could have produced it at \$57.50, less Radiotrons, including *tone color control!* Wise dealers are displaying it, and **SELLING** it. They also find it a great leader for attracting buyers of larger sets. Ask your distributor about it **TODAY**.



Trade Marks Reg. U. S. Pat. Off.

RCA Victor Company, Inc., Camden, N. J. • A Radio Corporation of America Subsidiary

# The electric clock that is *half sold* the moment you display it!



**I**TS name "GENERAL ELECTRIC" sells it. On the face of every model there is the name that today is looked upon as the symbol of utmost quality and value in everything electrical.

Its **APPEARANCE** sells it. General Electric Clocks add to the charm and attractiveness of *any* room.

The **VARIETY** of models sells it. There is a General Electric Clock for every need . . . from dainty boudoir alarm to stately grandfathers with tuneful chimes.

Its **DEPENDABILITY** sells it. It is the clock without an escapement—without a spring or pendulum. It is always on the job.

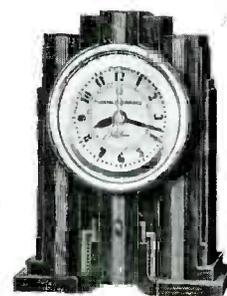
Its **ACCURACY** sells it. It is powered with the famous Telechron Motor.

Its **SPECIAL FEATURES** sell it. It is the *all*-electric clock—self-starting. It is silent, running without oiling, without cleaning, without winding—without even regulating.

Its **NATIONAL ADVERTISING** sells it. In addition to full-color magazine pages advertising the General Electric Clock, a billion General Electric advertisements a year build up the popularity of General Electric products.

Its **PRICE RANGE** sells it. General Electric Clocks are priced to fit every pocketbook. There are models ranging from \$9.75 to \$375.

**THE HOSTESS**—for the kitchen. A wall-type clock in white, pastel green, ivory, yellow, blue, black or orange. List price, \$9.75.



**ELECTROLARM**—Alarm Type. Walnut, Green or Ivory. Illuminated Dial. List Price, \$25.



**MODEL R-632**—Early American. Mahogany. Decorated glass door. Westminster Chimes. List Price, \$68.

## GENERAL ELECTRIC CLOCK

MERCHANDISE DEPARTMENT • GENERAL ELECTRIC COMPANY • BRIDGEPORT, CONN.

Section T-684, Merchandise Department  
General Electric Co., Bridgeport, Conn.

Send me all details and prices of General Electric Clocks.

Name.....

Street Address.....

City..... State .....

# SOMETHING NEW UNDER *the* SUN



# PRESTO RECORD MAKER



(Open View) Size 17" x 18"  
by 8½" depth. (Patents Pending)

**A**FTER many years of research and experiment we are proud to present to the trade the PRESTO RECORD MAKER. For the first time, a practical, scientific home record-making device that is destined to take its place next to the radio as the finest means of entertainment in the homes of America's discriminating families today.

Complete, compact, and in a portable form, with motor, turntable, volume control, microphone, patented feed mechanism and recording head, selector switch and radio-phonograph switch. The PRESTO RECORD MAKER requires no expert service or installation, it is instantly attachable to any make or type of A. C. radio set.

*These Features*  
**TALK**  
*for Themselves*

**1. Cuts its Own Records**

Producing a permanent and indestructible record 6-8-10 or 12-inch size. Uses a smooth aluminum disc and cuts its own grooves as it records — assuring an accurate and lasting record.

**2. Adaptable to any Radio Set**

Any make or type of A. C. radio set can be converted into a HOME RECORD MAKER. PRESTO is complete and simple to attach.

**3. Reproduces its Own Records**

PRESTO converts any radio receiver into a Radio-Phonograph combination, reproducing PRESTO made records as well as any Standard phonograph record of any size.

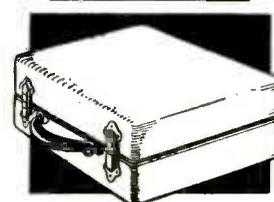
**RETAIL PRICE**

**\$85**

Complete with Microphone

## The Greatest Advance in Home Entertainment Since RADIO..

More than 15,000,000 radio set owners will welcome this supreme achievement that doubles the joy of radio. Every home will be transformed into a perfect recording studio, capturing and preserving forever the things they cherish.



(Closed View)  
A Beautiful, Compact, Portable,  
Leatherette Case.

**PRESTO Has no Competition and Offers the Dealer a Marvelous Opportunity for Immediate Profits!**

The PRESTO RECORD MAKER is in no way similar to other record-making devices. It is not a toy. It is practical and efficient and has no competition, and to wide awake dealers PRESTO presents an unusual opportunity in which every radio set owner is a live prospect. Write for full details and sales promotion plans.

- Merchandised Thru Regular Radio Distributors
- Complete Chassis for Radio Set Manufacturers Available

**PRESTO CORPORATION of AMERICA**

Executive Offices: 117 North 7th Street  
Philadelphia, Pa.

Factory:  
Brooklyn, N. Y.

Manufacturers who have not protected their jobbers, dealers or consumers . . . on territories . . . change of price . . . changes of model . . . won't get as many chances to repeat this year as formerly.



Steer for Success  
with PILOT

# PILOT'S FRANCHISE is

**A REAL FRANCHISE GIVING LIBERAL AND POSITIVE PROTECTION TO DEALER, JOBBER AND PUBLIC « « «**

It would be worth money to dealers if only because the products it covers bear not a taint of the bargain counter. But, in addition to the fact that Pilot products are *List Price Sellers* . . . the Pilot Franchise safeguards dealers. Pilot Products have never been dumped and won't be. Their *list prices* are *low enough* and their reputation *high enough* to offset distress merchandise competition outside and inside the dealer's own store.

The Pilot Midget in its more attractive new 1931 cabinet, with its marvelous new tone control, has more appeal now than when its popularity swept the small set field. The new Pilot Consolette is an equally good seller in a higher sales unit class. Pilotron tubes which these sets sell for dealers are not only *reliable* but *profitable*. Pilot products are *consumer proved*—not gambles for Pilot, the trade, or the public.

**DEALERS** write your jobbers • **JOBBERs** write us

## PILOT RADIO & TUBE CORP. LAWRENCE MASSACHUSETTS

Chicago Office:  
234 S. Wells Street

New York Office:  
525 Broadway

San Francisco Office:  
1278 Mission Street

OFFICES IN PRINCIPAL COUNTRIES OF THE WORLD



### PILOT Midget

AC MODEL—2-P224 Screen Grid TRF, 1-P224 Screen Grid Power Detector, 1-P227 1st Audio, 1-P245 Audio Output, 1-P280 Rectifier.

DC MODEL — 4-P201-A's, 2-P171-A's.

DIMENSIONS — Width, 17 in.; height, 18½ in.; depth, 8¾ in.

Illuminated Dial  
Knob Control · Tone Control  
Phonograph Connection

**\$59<sup>50</sup>** Less Tubes

### PILOT Consolette

AC MODEL—2-P224 Screen Grid TRF, 1-P224 Screen Grid Power Detector, 1-P227 First Audio, 1-P245 Audio Output, 1-P280 Rectifier.

DC MODEL — 4-P201-A's and 2-P171-A's.

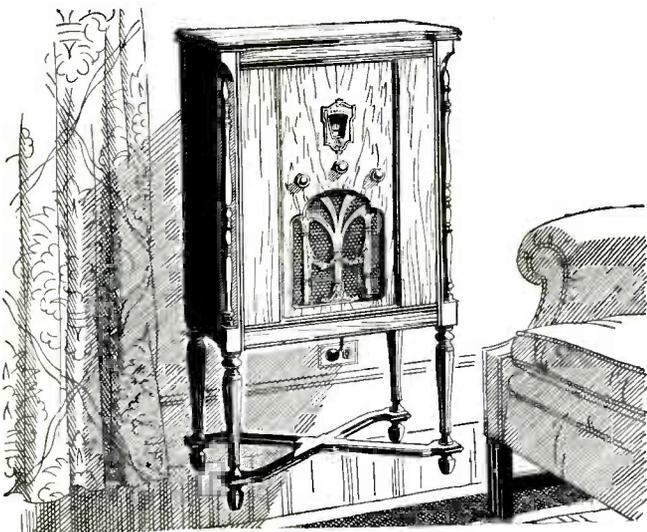
DIMENSIONS — Height, 33 in.; width, 19½ in.; depth, 13 in.

Illuminated Dial  
Knob Control · Tone Control  
Phonograph Connection

**\$79<sup>50</sup>** Less Tubes



ACHIEVED! BY GENERAL ELECTRIC  
**Brilliant Performance**  
*in small sets*



The *new Junior Console*—38½" high, 21¼" wide, 11¾" deep. Harmonizes with small homes and apartments. Rich walnut cabinet. Takes little floor space, little wall space.  
 LIST PRICE, LESS RADIOTRONS . . . . . **\$8250**



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 LIST PRICE, LESS RADIOTRONS



The *Junior, with Clock*—Similar to regular model Junior, with General Electric clock included.  
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INTRODUCING the new Junior, and Junior Console. Small sets, but distinctively *new*. In brilliance of tone—in beauty. So good that, in a masked test, they were unanimous choices over competing small sets.

8 tube, screen-grid superheterodyne. *Fully shielded* chassis. *Full size 8"* dynamic speakers. Using the new 235 Radiotrons that cut down cross talk, and improve tone at low volume.

Tone control that permits greater range in tone

quality than any control heretofore. Phonograph connection.

Sensitivity? Selectivity? Even better than you'd expect from such well-designed superheterodynes. Do this—compare with *any* small set. And we'll leave it to you!

Order from your G-E merchandise distributor now. Have stock on hand for May magazine and newspaper advertising announcing new sets to public.

GENERAL  ELECTRIC

FULL RANGE RADIO

Merchandise Department General Electric Company, Bridgeport, Connecticut

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THERE are styles in seconds, modes in marking minutes. Telechron Clocks have set them since their introduction. Always on the principle that time should be told *handsomely* as well as *truthfully*.

So in April, when American homes are being cleaned, redecorated and refurnished, Telechron launches a richly varied line of new models. For wall or mantel, desk or dressing-table — for every room in the house. With cases of fine woods or metals or molded materials. With alarms, illuminated dials and other novel features, made possible by the magic of electricity.

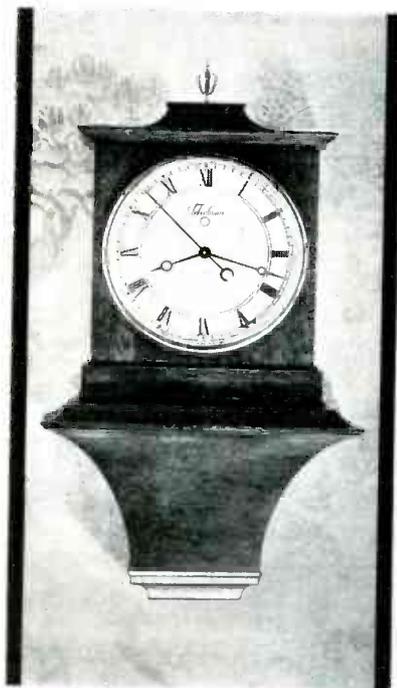
Spring styles — but no springs! Every Telechron Clock contains a tiny, self-starting motor which translates current impulses from the

electric outlet into trustworthy time of day. Plugged in, Telechron never needs winding, oiling or regulating. Accuracy is assured with Telechron Master Clocks in power houses.

Telechron Clocks and Telechron Master Clocks were made for each other. No other timekeeper offers true Telechron service. Get the full story of Telechron's attractive new models and the business they can bring you. Use the coupon below for convenience.

Telechron retail prices range from \$9.75 to \$55. The Revere Clock Company, of Cincinnati, manufactures strike and chime clocks with Telechron motors, retailing from \$30 to \$1000.

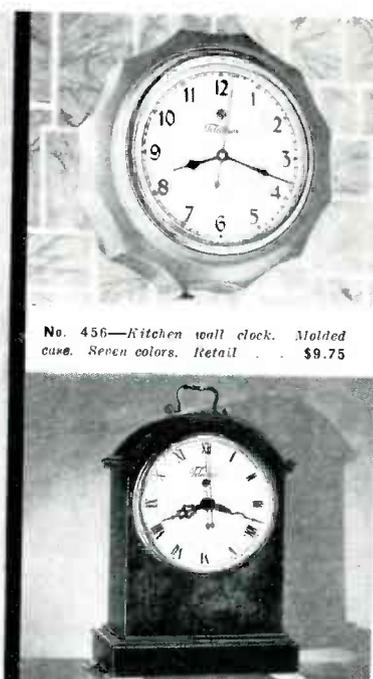
\* Telechron is the trade-mark, registered in the United States Patent Office, of the Warren Telechron Company.



No. 528-A—Chippendale design. Mahogany case. Retail . . . \$33  
Without wall bracket, for desk or table, \$30



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No. 605—Colonial design. Mahogany case. Retail price . . . \$40

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# NEW OUTPUT METER

Eliminates  
Guess  
Work



## WESTON Model 571

Model 571 eliminates guesswork, saves the time of the radio service man and permits him to do better and more accurate work.

Model 571 OUTPUT meter furnishes a dependable and accurate means for measuring directly the output voltage of radio receivers and sound amplifiers. It may also be used to compute the power output of radio sets; to determine the maximum gain when lining up R.F. and I.F. stages or when a calibrated input voltage is applied to a radio set or to an audio-amplifier; to determine the relative gain of tubes; to measure comparative selectivity of r.f. tuners; to observe the period and percent of fading and to approximately measure the relative fidelity of horns such as used in theatres and public address systems.

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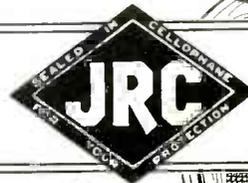
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ELECTRICAL INSTRUMENT CORPORATION

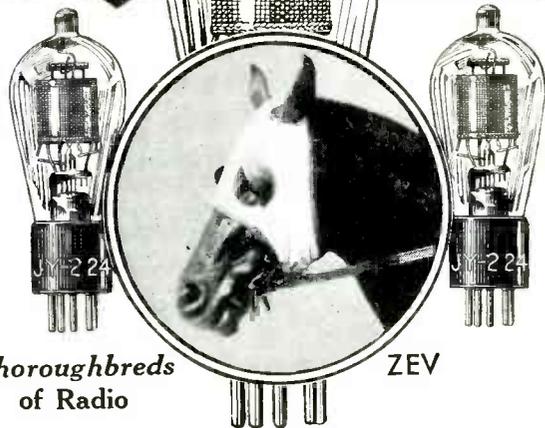
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CIRCULAR R.R.

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Thoroughbreds  
of Radio

ZEV

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# AMERICAN BOSCH RADIO



\$79<sup>50</sup>  
MODEL 73-A



MODEL 73-B  
\$95<sup>00</sup>

COMPLETE  
WITH TUBES

This is a big cabinet. Height 39<sup>1</sup>/<sub>4</sub>" width 26", depth 12<sup>7</sup>/<sub>8</sub>" with handsome walnut patterned veneers and attractive decorations. Contains the new 73 chassis, \$79.50 complete with tubes.

This model has sliding doors. Height 44<sup>1</sup>/<sub>4</sub>", width 26", depth 14<sup>1</sup>/<sub>8</sub>". Beautifully patterned veneers with attractive ornamentation. Contains the new 73 chassis. \$95.00 complete with tubes.

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ARE you profiting through the popularity of the new American Bosch Models 73A and 73B? American Bosch Dealers are selling these sets in quantities and at a highly satisfactory profit. The American Bosch advanced program is making months-ahead profits for American Bosch Radio Dealers. The new

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Magnet Wire - - - All Insulations  
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All products made to Recognized Commercial Standards, including those of:

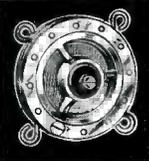
National Electric Mfrs. Assn.  
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For more than 25 years manufacturers and suppliers to the largest and most discriminating users.

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NEW HAVEN, CONN.

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## Cut Out the NOISE!

Are you troubled with room noises, studio noises, motor noises or "feed back"?

If any of these noises are present in the operation of your microphone you should know about a special feature of Ellis Model 20N.

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**Sizes 500 to 2000 Watts**

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Also a complete line of D. C. models, 350 to 1,500 watts.

*Some Dealer's Territory Available*

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## Radio Construction Library

Three volumes, 993 pages, 561 illustrations, 6x9.

By **JAMES A. MOYER**, Director of University Extension, Massachusetts Department of Education and **JOHN F. WOSTREL**, Instructor in Radio Engineering and Supervisor in Charge of Industrial Subjects, Massachusetts Department of Education.

### CONTENTS

**VOLUME I.—Practical Radio:** This volume presents the fundamental principles of radio so clearly and simply, that anyone of average training will be able to read, understand and apply them. In one chapter alone, it gives actual working drawings and lists of materials necessary for the construction of eight typical sets.

**VOLUME II.—Practical Radio Construction and Repair:** All of the elementary principles of radio construction and repair are given full consideration. An explanation of the necessary steps together with a description of the accepted practices for repair and construction of radio are covered.

**VOLUME III.—Radio Receiving Tubes:** In this volume the essential principles underlying the operation of vacuum tubes are explained in as non-technical a manner as is consistent with accuracy. It gives the construction, action, reactivation, testing and use of vacuum tubes and applications for distant control of industrial processes and precision measurements.

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More than a "midget" . . . a



# SUPER-HETERODYNE *midget!*

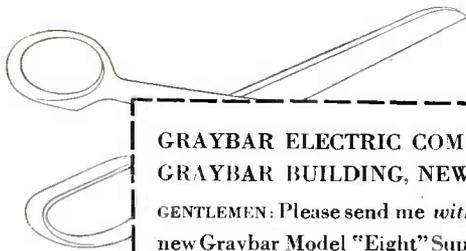
Here it is, Mr. Wide-awake Dealer—that Super-Heterodyne Midget Radio you've been looking for! It's the new Graybar Model "Eight" Midget...with tone control...eight tubes...screen-grid Super-Heterodyne circuit...cabinet of walnut veneer with matched walnut panel. Most important, it has the new Super-Control, Exponential Tube that provides a tone quality never before attained, and which eliminates tube distortion, hum and background noises.

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TYPE 360-A  
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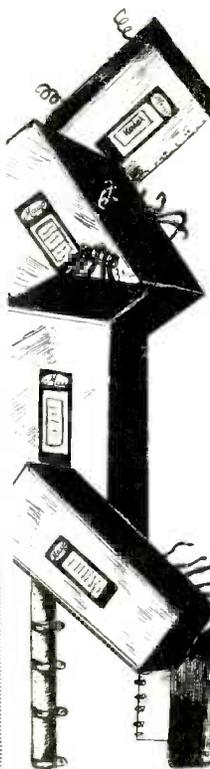
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CATHEDRAL  
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A coin-operated, standard amplification, automatic phonograph. Compact, attractive, and reliable. There are many prospects for this unit. Dealers everywhere are having success with it. Give it your attention now. Create business for yourself. Write for details.

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Echophone is unique in the compact arrangement of unit construction. Amazingly sensitive, it penetrates to extreme distances. Highly developed selectivity permits you to **USE** its great power without restraint or fear of interference by close-in stations.

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CENTRAL RADIO LABORATORIES

**“Put it right there ... Kester is a front-counter item!”**



You could put your stock of Kester Solder under a box in the back of your store and sit on the box—you'd still sell a surprising amount of it!

Because Kester is just naturally a self-seller! It's taken all the bluff out of a simple soldering job, and the unhandiest person in your neighborhood can do such a good job with it that he's a logical prospect. He knows about Kester, too—because it's being advertised widely and well in the magazines he reads regularly. Many's the dealer who finds he can hardly help selling Kester these days. But give the thing a little co-operation and *then* see what happens. Put the attractive carton of Kester Metal Mender or Radio Solder on your front counter, and watch it develop into one of the fastest turning items you've ever handled. And keep a stock of larger spools of Kester on hand, too, for customers who do a good bit of soldering and like economy. Order Kester from your jobber right now.

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*Incorporated 1899*

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**TEST OSCILLATOR**

You must have an up-to-date Oscillator to service Super-Heterodynes. The DayRad 330 Multi-Frequency Test Oscillator is shielded, dry battery operated and provides



**1. Intermediate Frequencies**

130 Kilocycles, 175 K/C's (with vernier) 180 Kilocycles

**2. Broadcast Frequencies**

(a) Simultaneous Signals at 750, 1000, 1250 and 1500 Kilocycles.

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**SUPERHETERODYNES AND MIDGETS**  
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might have done something to justify your existence besides dancing abundance on that little divorcee, Mrs. Hasteline. Surely a coxswain gigolo would have suited her purpose as well, seems to me, and her golden eyes glowed with all the fire she had been feeling since her

Continued on Page 10

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RADIO department manager nine years' experience. Qualified to take complete charge of store. Can furnish excellent references. PW-140, Radio Retailing, 520 No. Michigan Ave., Chicago, Ill.

WANTED—connection with radio, radio tube, electrical or sound equipment manufacturers. Electrically inclined. 5 years' experience servicing radios. All references. With chance for advancement. Address E.C.H., P.O. Box 823, Freehold, N. J.

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Screw-holding Screw Drivers! Non-magnetic. Remove, insert screws inaccessible places! Factories, garages, electricians, carpenters, mechanics, auto, radio owners buy on sight! Free trial! Jiffy, 1812 Winthrop Bldg., Boston.

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Churches, Clubs**

Write for manufacturers' prices on Soundheads, Photocells, Optical Systems, Rectifiers, Amplifiers, Horns, Faders, Synchronous Motors, Projectors, Lamp-houses, Screens, Microphones, etc.

Dept. RR—S.O.S. CORP.  
1600 Broadway, New York City  
Cable Address "SOSOUND"

**HAVE YOU  
Received Our 1931 Issue of  
Bargain Bulletin?**

This contains a complete line of replacement parts—Radio and Electrical bargains.

Fischer Distributing Co.  
152 Chambers St., New York City

### Radio Dealers: Radio Service Men!

Try Grant's for Replacements, Transformers, Condensers and Resistors at regular dealers' discounts. Our stock is always complete.

**We repair everything in  
Radio  
Estimates gladly furnished**

Grant Radio Laboratories  
6521 So. Halsted St., Chicago, Ill.



## Quality--Price--Guarantee

Three Good Reasons for Buying

### FEDERAL TUBES

1. Quality	226... .35	120... .60
—Equal in quality to the best obtainable at any price.	280... .40	200A.. .60
	201A. .40	WD11 .60
	227... .40	WD12 .60
2. Price	171A. .40	210... 1.25
—Absolutely the lowest for what a quality tube can be offered.	112A. .45	250... 1.35
	245 . .45	281... 1.25
3. Guarantee—	199X. .45	222... 1.25
3 Months	199V. .45	230..... .75
We guarantee to replace free any tube that does not give satisfaction.	224... .50	231..... .75
	BH125.....	232..... .75
		<b>\$1.50</b>

Complete Line Always on Hand.  
20% With Order; Balance C.O.D.  
—All orders receive prompt attention. We do not substitute.

Pilot Lights  
2 1/2 and 6 volt  
\$5.00 per hundred.  
No Less than 100 Assortment.

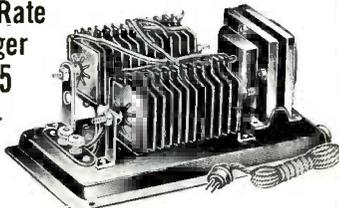
**KUCKER RADIO &  
ELECTRIC COMPANY**  
67 Cortlandt St., Dept. R New York, N. Y.  
Phone: BR clay 7 - 4467

**I**F YOU do not find what you want in the Searchlight Section of RADIO RETAILING . . . . . then advertise for it!

RR-1

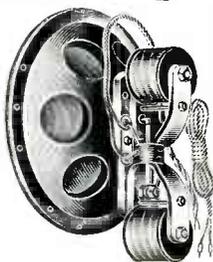
## BARGAINS

Full Rate  
Charger  
**\$3.95**  
ea.



Noiseless, bone dry 2 amp. charger, employs two rectifiers. Well made and will last indefinitely. Sale Price **\$3.95**  
Trickle Charger—same as above, except uses one rectifier. Sale Price **2.95**

Baldwin  
Duo-Dynamic  
Speaker  
**\$2.95 each**



Full tone power speaker, brings out those low notes as well as the high tones. 2500 ohms D.C. Can be used with any set using 2500 ohm impedance. Diam. of cone —9 in. A real bargain. Sale Price . . . \$2.95

### OTHER BARGAINS

Kuprox Rectifier—12 disc. for all A.C. Dynamic Speakers. A Eliminators giving 2 amp. output at 6 volts; also for trickle chargers. Sale Price . . . **\$1.25**

4 Gang Variable Condenser—.00035 capacity S.L.F. Scientifically matched. Size 10x3 1/2 in. Sale Price . . . **\$1.25**

Carter Volume Control—New; compact, 20,000 ohm, with switch. Sale Price . . . **75c.**

Order from this ad 20% with order, bal. C.O.D.  
FREE BARGAIN BULLETIN.

**SACKHEIM BROS.**  
215 W. Illinois St., CHICAGO, ILL.

### TUBE CHECKER

Transformer 110 A.C. to 1, 1 1/2, 2, 2 1/2, 3, 5, 7 1/2 volts. Full 30 watts. Can be used for test bench or tube checker. Full instructions for building. \$1.85, net shipping wt. 5 lbs. Add p.p.

### CAPACITY METER

Complete, consists of 0-25 A.C. Milliammeter, special two range A.C. transformer charts and instructions. Will measure 1/4 m.f. to 12 m.f. Shipping wt. 6 lbs. Add p.p. \$4.25. Will ship C.O.D. service men and dealers.

Guaranteed satisfactory.

**L & L ELECTRIC COMPANY**  
336 Madison Ave., Memphis, Tenn.

Dealers and Service Men  
Send for the Latest  
Issue of



It contains hundreds of  
Radio and Electrical bargains  
Have you received your Copy?

**NUBOR RADIO CO.**  
14 Warren Street, New York City

### SPECIAL NOTICE:

To the Radio Industry

Advertising in connection with legitimate offers of surplus stocks and discontinued models of radio merchandise is acceptable in this section of "Radio Retailing."

Extreme care will be exercised by the publishers to prevent the use of advertising in the Searchlight Section to encourage price cutting on current models of merchandise or equipment. Nor will advertising which invites violation of the dealer's contract with the manufacturer be acceptable.

All merchandise offered in the Searchlight Section must be accurately and fully described and must be available on order.

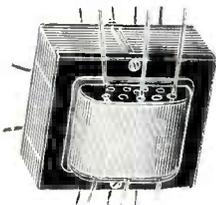
# LOOK! Sparton Distributors and Dealers!

## Genuine Sparton (Sparks-Withington Company)

These parts can be used in other receivers using 3-volt tubes, such as the Kellogg, Day-Fan, Marti, Cleartone, MacMillan, Mohawk, Bush & Lane, Shamrock, and many others.

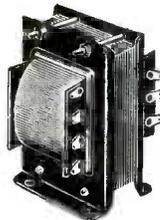
### Replacement Parts at Tremendous Savings.

[ This is the first and only time that this equipment for replacements is being offered at sacrifice prices. The supply is limited! Our advice is that you stock up at once! ]



### "SPARTON" REPLACEMENT POWER TRANSFORMERS

These GENUINE Power Transformers have all been manufactured by THORDARSON and bear the original THORDARSON factory numbers. They are also excellent for building up power packs, and electric receivers as well as for the conversion of battery sets.



Cat. No.	Rep. No.	Used in	Description	List	Special
1036	B-1415	AC-5	60 Cy.	\$7.50	\$2.25
1038	B-1454	AC-62, 63, 7	60 Cy.	7.50	2.50
1039	B-1669	AC-62, 63, 7	25 Cy.	10.00	3.50
1040	B-1871-1938	69, 79, 79A, 89	60 Cy.	12.00	2.75
1041	B-2021-2022	69, 79, 79A, 89	25 Cy.	15.00	4.25
1042	C-292	89A	60 Cy.	15.00	3.25
1043	C-296	89A	25 Cy.	20.00	5.75
1044	C-257	99, Ensemble, 109	60 Cy.	20.00	4.75
1045	C-287	99, Ensemble, 109	25 Cy.	25.00	7.00
1046	B-2204-2249	930	60 Cy.	12.00	2.50
1047	B-2255	930	25 Cy.	15.00	3.50



### TUBES SOVEREIGN—373

These are 3 volt general purpose tubes with A.C. leads going to the top.

List \$4.50

**SPECIAL \$1.50**

### CeCo and SONOTRON

373

3 volt tubes with A.C. leads going to base. These tubes are the improved type and A.C. connections will reach lowered side pins.

List \$4.50

**SPECIAL 95c.**

All tubes can be used in Sparton, Kellogg, Day-Fan, Marti, Cleartone, MacMillan, Mohawk, Bush & Lane, Shamrock, Case and many other Receivers.



### "SPARTON" BY PASS CONDENSERS



These By-Pass and Buffer Condensers are used in various places in the "Sparton" Equasone, Ensemble, AC-5, 69, 79, 79A, and 89 and others. In some cases, the same condensers have different replacement numbers. They can be substituted where values are known.

Cat. No.	Replace No.	Description	List	Special
2551	A-3218	Tubular, 1 mfd., 200 volts	\$1.50	<b>25c. each</b>
2552	A-1841	Tubular, .1 and .1 mfd.	.75	
2553	A-3529	Uncased, .1 and .1 mfd.	1.25	
2554	A-3494	Uncased, .1 and .1 mfd.	1.25	
2555	A-3354	Tubular, .5 mfd.	1.50	

Also single and double sub-panel sockets with 280, 226, 182, 132, 250, 281 and 2nd Audio markings. Doubles marked 182-132. List single 25c. ea. . . . **SPECIAL 50c. dz.**  
List double 50c. ea. . . . **SPECIAL 75c. dz.**

### "SPARTON" FILTER REPLACEMENT BLOCKS



These GENUINE Filter blocks are being offered, for the first time, at SLASH prices. Not only can they be used for the receivers mentioned, but are easily adapted to almost any receiving circuit due to their HIGH VOLTAGE ratings of 800 volts. The 25 cycle condensers have the same ratings but are larger in sizes.

Cat. No.	Replace No.	Used in	Description	List	Special
2062	B-1181	AC-5	25 and 60 Cy., 10 mfd.	\$12.00	\$2.75
2063	B-1642	AC-62, 63, 7	60 Cy., 10 mfd.	15.00	2.50
2064	B-1476	AC-62, 63, 7	25 Cy., 10 mfd.	20.00	3.25
2065	B-1870	69, 79, 79A, 89	60 Cy., 8 mfd.	15.00	2.75
2066	B-2073	69, 79, 79A, 89	25 Cy., 8 mfd.	17.50	3.75
2067	B-2113	89A	60 Cy., 8 mfd.	25.00	3.50
2068	B-2158	89A	25 Cy., 8 mfd.	25.00	4.25
2069	B-2003	99, Ensemble, 109	60 Cy., 8 mfd.	25.00	3.50
2070	B-2114	99, Ensemble, 109	25 Cy., 8 mfd.	30.00	4.25
2071	B-2203	930	60 Cy., 6 mfd.	15.00	2.50
2072	B-2227	930	25 Cy., 6 mfd.	15.00	3.00

### RESISTANCES



ONE WATT		
Cat. No.	Rep. No.	Ohms
4106	A-3422	20,000
4107	A-3423	50,000
4108	A-3750	1,250
4109	A-3584	10,000
4110	A-3325	1,700
4111	A-4122	2,100
4112	A-3811	30,000
4113	A-3232	28,000
4114	A-5861	57

**SPECIAL \$1.25 per doz.**

FIVE WATT		
Cat. No.	Rep. No.	Ohms
4115	A-5735	10,000
4116	A-3639	1,700
4117	A-2043	10,000
4118	A-3383	30,000

**SPECIAL \$1.75 per doz.**

### MISCELLANEOUS

Cat. No.	Replace No.	Used in	Description	List	Special
3277	B-2088	"Sparton" Speakers	Genuine BBL. magnetic unit	\$7.50	\$1.75
3278	B-2130	"Sparton" Speakers	Foundation and Ansonia units	7.50	1.25
1261	A-3566	Ensemble	Stepdown for 226 tubes	6.00	.95
1538	A-3766	930	Audio Input Push-Pull	6.00	.95
1539	A-1862	89, 89A	Percent 3-1 Super Audio	9.00	1.25
1540	A-2117	89A	40-1 Dynamic Output Trans.	6.00	.85
1541	A-3433	69, 79, 79A, Ensemble	Thordarson 3-1 Audio	5.50	.85
1542-3	A-1276-7	515, 526	Thordarson 2-1, 3-1 Audios	5.00	.95
9097	A-2496	All Receivers	Dial Light assembly	.50	.15
4283	A-5503	410 Midget	Volume Control	2.50	.25
4284	A-2461	Battery Receivers	6 ohm Rheostat	.50	.15
4285	A-4397		Hum Control	.50	.10
9095	A-3385	All Receivers	2 Circuit Jack	Ea. .85	Doz. 1.00
9096	A-2479	All Receivers	Single Circuit Jack	Ea. .50	Doz. .60
1770	A-2002	99, Ensemble, 109	Thordarson 30 Henry, 150 mil.	6.50	2.75
1769	A-2115	89A	Thordarson double filter choke 30 Henry, 100 mil. each	10.00	1.95

### OTHER NEW ITEMS

**THORDARSON T-3202A 250 Watt Transformer**, 1200 volts, c.t., 7.5 volts c.t. in two windings, 2.5 volts at 14 amps. . . . . **SPECIAL \$5.75**

**R. C. A. RADIOLA-28**, complete with Radiotrons, Loop and Table. A superheterodyne using 7-199 and 1-120 tubes . . . . . **SPECIAL \$38.50**

**R. C. A. WAVE-TRAP, UR-1146**, for use with Radiolas 17, 18, 33 and 51. Can easily be adapted to Victor and Graybar or any other receivers. Eliminates broadcast interference. List \$2.50. . . . . **SPECIAL 75c.**

Send for our Bargain Bulletin No. 66

## American Sales Company

44 W. 18th St. Dept. A NEW YORK CITY

Phone Watkins 9-3041-2-3

# CROSLEY 71-S Receiver with Crosley Dynacone —Speaker—

C  
R  
O  
S  
L  
E  
Y

Quick action is necessary for you to take advantage of this surprising value. This Crosley 71-S will make an ideal set for summer homes. It can be used as a midget console. By removing the legs it can be used as a table receiver or placed in your cabinet to make a fine console set. It is a thoroughly practical set for all those who want a good receiver at a low price. Compact design. Pleasing in appearance.



Legs can be removed

C  
R  
O  
S  
L  
E  
Y

Uses the following tubes: 1—227, 2—224, 2—171A, 1—280. This set, as illustrated, complete with **Crosley Dynacone** speaker and legs, at the price featured, affords a great opportunity for you to make some quick sales at a big profit. Act quickly. All sets Brand New and packed in original factory sealed cartons.

**Special 29<sup>00</sup> each** (Less Tubes)

## AVALON SCREEN-GRID PORTABLE



7 Tube Battery Operated

Here is an unusual buy in a portable set. Enclosed in a handsome, durable case. Uses the following tubes: 4—199, 3—222. There is always a big demand for a portable. Profit is sure and large.

**Special \$16<sup>00</sup> each**  
(LESS TUBES)



## Magnatron Tubes

TYPE		} <b>30c. each</b>
226	224	
227	201A	
280	171A	
245		

The extreme low prices offered make it impossible to ship orders less than 5 dollars. Any assortment. All tubes are guaranteed perfect. Replacements within 10 days after receipt of tubes.

## LIST \$5.00 Nathaniel Baldwin Rival Unit

This Nathaniel Baldwin unit is one of the finest made by that Company. Can be used for Phonograph, Automobile and Portable Radio outfits.

Order your supply today before it is too late.  
(Write for quantity prices.)

Same Unit Manufacturers' Type without shell	30c. Each	<b>40c. Each</b>
---	-----------	------------------



[Terms—20% with order, balance C.O.D.; sold subject to prior sale.]

**MODELL'S RADIO OUTLET, INC.**  
71 CORTLANDT STREET Wholesale Division NEW YORK CITY, N. Y.



"It has a big section of Service Data," continued the Boss to the Service Manager, "that will save our men a lot of time in servicing sets."

"Leave it with me," said the up-to-the-minute Service Manager, "and I will look it over."

"Be sure to write 'Federated' for the complete series," said the Boss.



Here are just a few typical "hard to get" items which we carry in stock for you

**Power Transformers**

Victor 226, 227, 171, 280.....	\$2.75
Radiola 17, 18, 33, 51.....	3.25
Peerless Kylectron.....	1.50
Earl 21, 22.....	3.00
Kolster K24.....	5.75
Stromberg Carlson 635, 636..	5.50
Philco 65, 87.....	3.90
Zenith 10, 11, 12.....	4.25
Freshman Q.....	3.85

**Filter Condensers**

Victor 10½ Mfd.....	\$1.75
Radiola 17.....	4.95
Philco Midget.....	2.85
Philco 500 series.....	1.85
Fada, all models.....	1.50
Erla.....	1.85
King.....	1.65

Atwater Kent 37.....	\$3.75
Majestic.....	3.95
Zenith 11, 12, 14.....	1.85
Temple, all models.....	.95
Eveready-Bosch.....	3.95
Freshman Q.....	1.50

**Miscellaneous**

Muter A.C. Dynamic Speaker	
Chassis (280 tube).....	\$8.95
Kolster K-6 Magnetic Speaker	4.25
Acratest Wire Wound Potentiometers, from 400 to 500,000 ohms.....	.50
Volume Controls for all Radiola sets.....	.45
Replacement Resistance Strip for AK37.....	.50
Apollo RCA Licensed Tubes, 227 type only.....	C. 10.00

**Federated Purchaser**

**22 Hudson Street  
New York City, N. Y.**



# CROSLEY Offers Two Sensational *NEW* Radio Developments



**The Crosley WIGIT**

Only 12½" high, 11½" wide, 9¾" deep

**T**HE sensational CROSLEY WIGIT (shown at the left) is a small-size, low-priced super-performing radio receiver readily adaptable as a personal radio set for every member of the family, and capable of bringing in distant stations in a sensational way.

This little radio marvel incorporates **THREE** Screen Grid tubes, Neutrodyne circuit, electro power speaker, Mershon condenser power pack, single tuning control, volume control and three gang tuning condenser. The exquisitely designed one-piece cabinet is of genuine Crosley Repwood "B".

Your CROSLEY distributor will demonstrate — see and hear for yourself the amazing value and performance offered at the unheard-of low price of . . . . .

**\$39<sup>75</sup>**  
COMPLETE WITH TUBES

**N**OW Crosley introduces The **JOHNNY SMOKER** — the smoking stand radio. (Shown at the right). This set fills a need that cannot be met by any other radio set. It provides excellent radio reproduction and at the same time serves as a smoking stand, a place to put cigarettes, pipe, tobacco jar, and is a valuable accessory around the home. Next to an easy chair or a couch or out in the middle of the room, this little radio gem is a beautiful, refined, nicely finished piece. The front panel is of Crosley **REPWOOD**. The sides, top and back are of genuine walnut veneer.

The CROSLEY **JOHNNY SMOKER** is equipped with The **WIGIT** chassis, described above, and delivers the same sensational performance as The **WIGIT**.

Get in touch with your CROSLEY distributor to learn more about this little gem which sparkles with promise of a big future. It is priced right and will sell fast at the startlingly low price of . . . . .

**\$47<sup>50</sup>**  
COMPLETE WITH TUBES



**The Crosley JOHNNY SMOKER**

Only 22" high, 12¾" wide, 10¾" deep

## CROSLEY SENIOR SUPERHETERODYNE (Pliodynatron) Series

### The Crosley SUPER-ADMINISTRATOR



The New CROSLEY SUPER-ADMINISTRATOR is a truly modern radio receiver worthy to grace the finest homes. It introduces a new development in super-heterodyne engineering — the **PLIODY-**

**NATRON** — a special oscillator tube used in the circuit to reduce harmful harmonics and radiation. Sold at the low price of . . . . . **\$109.50** Complete with tubes

### The Crosley SUPER-RONDEAU



The New CROSLEY SUPER-RONDEAU is sure to attract those looking for what is finest and most modern in radio receiving sets. The sides and top of this exquisitely magnificent cabinet are of genuine 5-ply walnut veneer. The set and speaker are the same CROSLEY SENIOR SUPERHETERODYNE (Pliodynatron) chassis and newest CROSLEY full floating moving coil dynamic speaker as used in The CROSLEY SUPER-ADMINISTRATOR. Priced startlingly low at

**\$119.50** Complete with tubes

### The Crosley SUPER-SONDO



A magnificent, super-performing electric phonograph and radio set. Top and doors are of genuine 5-ply walnut veneer. It contains the same highly refined CROSLEY SENIOR SUPERHETERODYNE (Pliodynatron) radio receiving set and newest CROSLEY full floating moving coil dynamic speaker as used in the CROSLEY SUPER-ADMINISTRATOR. It sells at the low price of

**\$189.50** Complete with tubes

## THE CROSLEY RADIO CORPORATION

POWEL CROSLEY, Jr., President

Home of "the Nation's Station"—WLW

CINCINNATI

Also manufacturers of the CROSLEY Battery Radio Receivers and the CROSLEY ROAMING Automobile Radio Receiving Set.

YOU'RE THERE WITH A CROSLEY

# CROSLEY RADIO

# "Make Certain Your New Set is Equipped with Radiotrons"



[ THE TWICE-WEEKLY MESSAGE TO  
MILLIONS OF RADIO SET OWNERS ]

*and Countless Set Buyers Do!*



Every Wednesday and Saturday night, John S. Young, popular announcer for the RCA Radiotron Varieties, sends this message to set owners from coast to coast

"Why gamble with your radio enjoyment? When you buy one of the marvelous new sets now being offered, be sure to look inside the cabinet and make certain the set is equipped with RCA Radiotrons. RCA Radiotrons cost no more than ordinary tubes."

THE BUYER of any of the good sets on the market today deserves the kind of reception which the manufacturer of his particular set has built into it. The dealer who guarantees this by equipping the set with RCA Radiotrons deserves to capitalize on that point.

Twice a week, every week in the year—through the popular Radiotron Varieties—the RCA Radiotron Company suggests to millions that they look inside the cabinet before buying a new radio set—to make certain it is equipped with RCA Radiotrons.

Even inexperienced set buyers are heeding the advice. They are looking inside the cabinet. Be ready for them. Equip your sets with RCA Radiotrons.



RCA RADIOTRON CO., INC. ~ HARRISON, N. J.  
*A Radio Corporation of America Subsidiary*

RCA RADIOTRON COMPANY, INC. » » » HARRISON, N. J.

# RCA Radiotrons

THE HEART OF YOUR RADIO