

RADIO

REG.
U. S. PAT.
OFF.

THE NATIONAL TRADE MAGAZINE

MARCH, 1932

TRIAD

TONE PURITY

is a revelation in reception quality

Triad tubes give true-tone, distortionless reception that introduces a new richness in tone values—and is the very nearest approach to sound quality at the source of the broadcast. We believe that these three tubes set aside all previous standards of reception and achieve a perfection never before attained.

Triad Tubes are quick heating and their rugged construction provides filament protection that is the best assurance of uniform quality and long life.

TYPE T-247, THE NEW *DEPENDABLE PENTODE* HAS AN EXTREMELY HIGH AMPLIFICATION FACTOR COMBINED WITH A VERY HIGH POWER OUTPUT. INCREASING SENSITIVITY WITH A GAIN IN VOLUME OVER THE 245 TYPE POWER TUBE.

Type T-551 eliminates cross talk and distortion and reduces static to a minimum. It can replace type 224 in most present circuits with decidedly beneficial results.

Type T-235 has characteristics of the 224 type, with additional feature of a plate current grid voltage curve that makes it adaptable for use in automatic control circuits by virtue of its low percentage of distortion at a very high grid bias.

Licensed under patents of Radio Corp. of America, General Electric Co. and Westinghouse Electric & Manufacturing Co.

TRIAD MANUFACTURING CO., Inc.

PAWTUCKET, RHODE ISLAND

PACIFIC COAST SALES OFFICES—R. J. Noel Co., 800 E. Gage St., Los Angeles, 704 Larkin St., San Francisco, 1518 1st Ave. South, Seattle, Wash.

BIG



*things are in store
..... for all who attend*

RMA

SIXTH ANNUAL
TRADE SHOW
EIGHTH ANNUAL
CONVENTION

CHICAGO

• STEVENS HOTEL •

RADIO'S BIG ANNUAL CONCLAVE

EXHIBITING ALL NEW LINES AND THE LATEST RADIO AND TELEVISION PRODUCTS.

ELECTRICAL PRODUCTS ALSO IN TRADE SHOW AND MANUFACTURERS' DEMONSTRATION ROOMS.

EVERYBODY IN RADIO (NEARLY 25,000 RADIO TRADESMEN LAST YEAR) ATTENDS THIS ANNUAL NATIONAL RADIO GATHERING, THE BIG INDUSTRY MEETING EACH YEAR.

Better business early in 1932

The RMA event this year is advanced to start sales early. In June, a few weeks after the RMA exhibits of manufacturers' latest products, there will come the big Republican and Democratic national conventions in Chicago to nominate presidential candidates. In June also another heavyweight championship match between Schmeling and Sharkey is scheduled.

GO TO CHICAGO MAY 23, SEE THE LATEST RADIO AND ALSO ELEC-

TRICAL PRODUCTS OF RMA MANUFACTURERS, AND GET IN EARLY ON THE 1932 TRADE.

This is *the* big and only national industry radio show, sponsored by the RMA and under its management, for RMA members, jobbers and dealers.

All exhibitors required to show current merchandise—no vacant booths.

Electrical products also displayed.

Thirty thousand (30,000) square feet of radio and electrical exhibits in the official hotels—the Stevens and Blackstone.

ADMISSION TO THE TRADE ONLY. PUBLIC NOT ADMITTED.

Reduced railroad rates—special trains—one and one-half fare for round trip to Chicago from everywhere.

Official hotels—Stevens and Blackstone—together on Michigan Avenue. Regular rates. Make your reservations early.

Important and interesting business meetings of industry and allied organizations.

Invitation credentials for the trade show will be mailed about April 15th.

REMEMBER THE DATE—MAY 23—AT CHICAGO.

Official Hotels—

• • •

Stevens Hotel

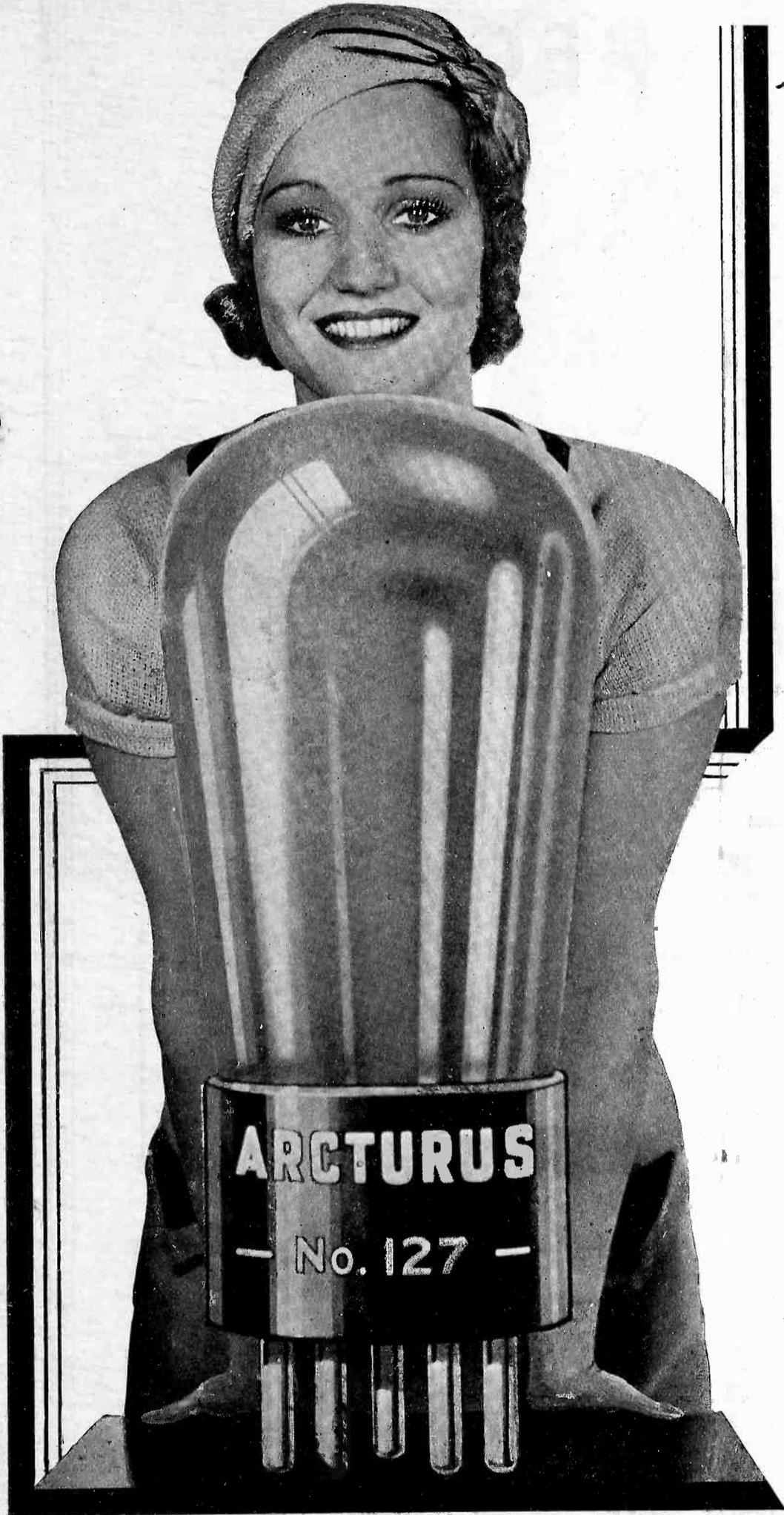
Blackstone Hotel

MAY 23-26 1932

RADIO MANUFACTURERS ASSOCIATION

11-WEST 42nd ST. N.Y. CITY • 32 W. RANDOLPH ST. CHICAGO

a "BIG TIME" reputation



Here are some vital facts about Arcturus Blue Tubes, *today's* "Big Timer".

1. Arcturus *Blue* Tubes are used as standard equipment in more 1931 and 1932 radio sets than any other tube on the market.
2. Arcturus *Blue* Tubes are the choice of critical radio engineers who have made *comparative* tests for tonal quality, rugged construction, quick action, and long life.
3. The choice of these experienced radio men will be the choice of the radio user...your customers.

This means that set owners, satisfied by the proven performance of the original Arcturus tubes in their radios, will naturally specify Arcturus renewals. Consequently, there is a larger renewal business awaiting the dealer who handles Arcturus *Blue* Tubes, than any other radio tube on the market. This fast selling *Blue* tube is waiting to make money for you. Have your jobber give you the details, or write us direct.

Constance Cummings,
star of "The Big Timer,"
a Columbia Picture,
poses with a giant
Arcturus Blue Tube.

ARCTURUS

"The BLUE TUBE with the LIFE LIKE TONE"

ARCTURUS RADIO TUBE COMPANY • NEWARK, N.J.
Western Division: 1855 Industrial Street, Los Angeles

MARCH SPECIAL



ILLUSTRATED IS THE
NEW 6 TUBE EL REY
SUPER RECEIVER.

\$18.75
NET

EL REY—The King

9 Tube
SUPER

\$26.95
NET

4 Tube
T. R. F.

\$7.45
NET

5 Tube
EL REY
AUTO SET

\$19.75
LESS BATTERIES

19 Tubes (in 3 Midget Radios) for \$53.35

Viz.:—4 Tube Cub, \$7.45	.	.	.	.	.	\$ 7.45
6 Tube Superheterodyne	.	.	.	.	.	\$18.75
9 Tube Superheterodyne	.	.	.	.	.	\$26.95
						<hr/>
						\$53.15

Shipped C. O. D. only, and as shown, three sets for \$53.35 complete with tubes and sets, guaranteed from factory for ninety days.

EL REY MANUFACTURING COMPANY

8406 SO. BROADWAY

Phone PLeasant 9750

LOS ANGELES, CALIF., U. S. A.

Tell them you saw it in RADIO

Magnavox

DYNAMIC SPEAKERS

MAGNAVOX 1932 SPEAKERS

*A Size and Performance
for every use!*

HERE is the new line, complete in size and price range for all set requirements,—midgets, consolettes, consoles or clock types, and an exceedingly practical model for automobile installations. Successful Dual Speaker arrangements are also obtainable. There are two powerful speakers for use in Public Address Systems. Each model offers richer tonal response throughout the entire frequency range—the result of continuous refinement.

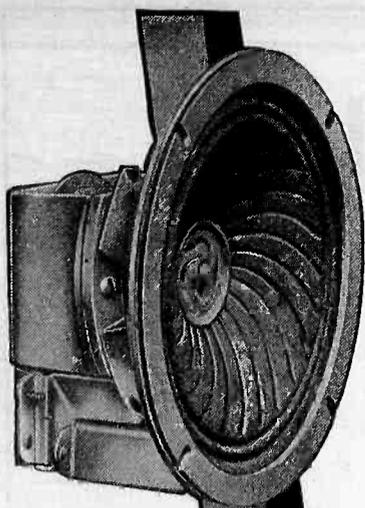
Magnavox has achieved greater performance with amazing compactness to meet modern demands,—with no sacrifice of Magnavox quality.

*Make no commitments until you have investigated Magnavox Speakers. A model, with complete engineering data will be furnished to recognized manufacturers without obligation.
Write.*

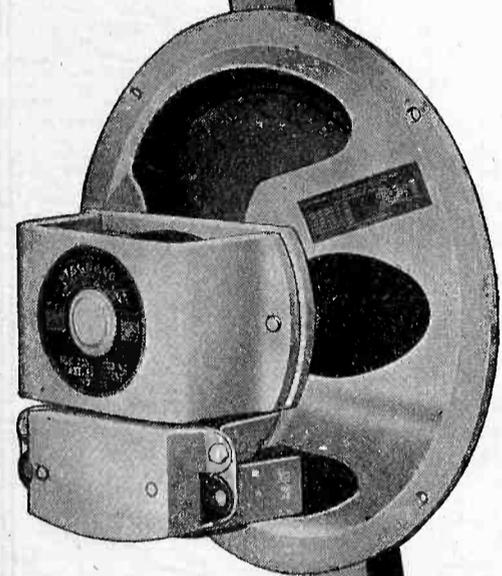
Magnavox Company Ltd.

General Offices and Factory, Fort Wayne, Indiana
Subsidiaries

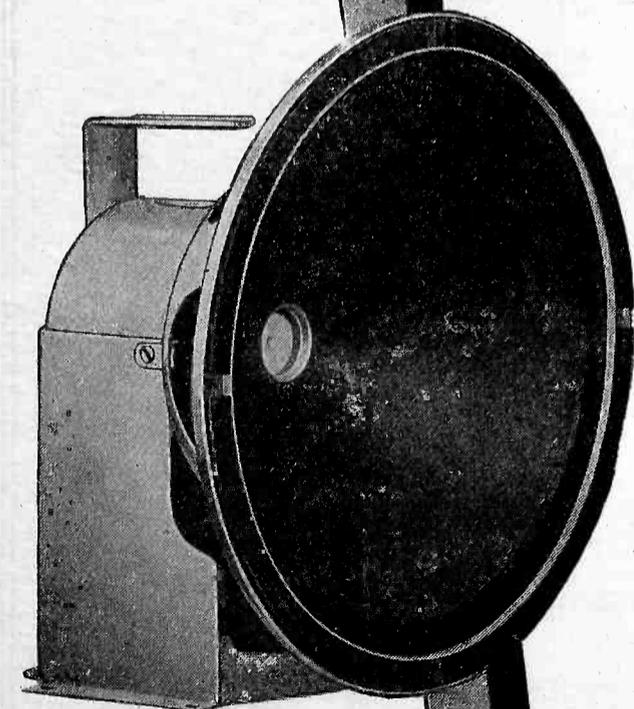
The Magnavox Company, Magnavox (Great Britain), Ltd.,
Electro Formation, Inc., Magnavox (Australia), Ltd.



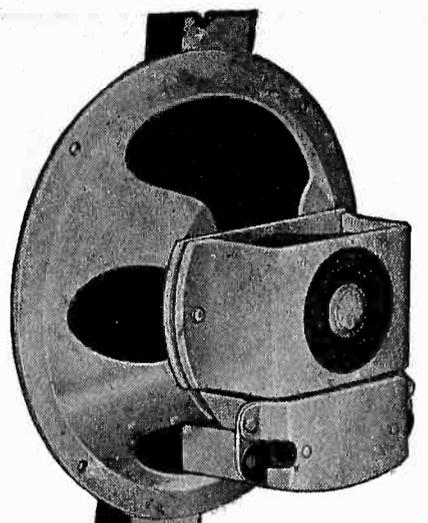
Model 150
6½ inch
Dynamic
Speaker for
midget sets.



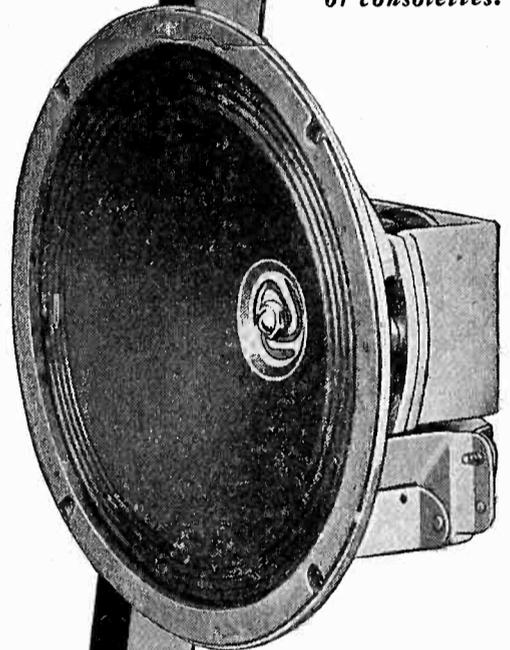
Model 152
10½ inch
Dynamic
Speaker,
for midget or
console.



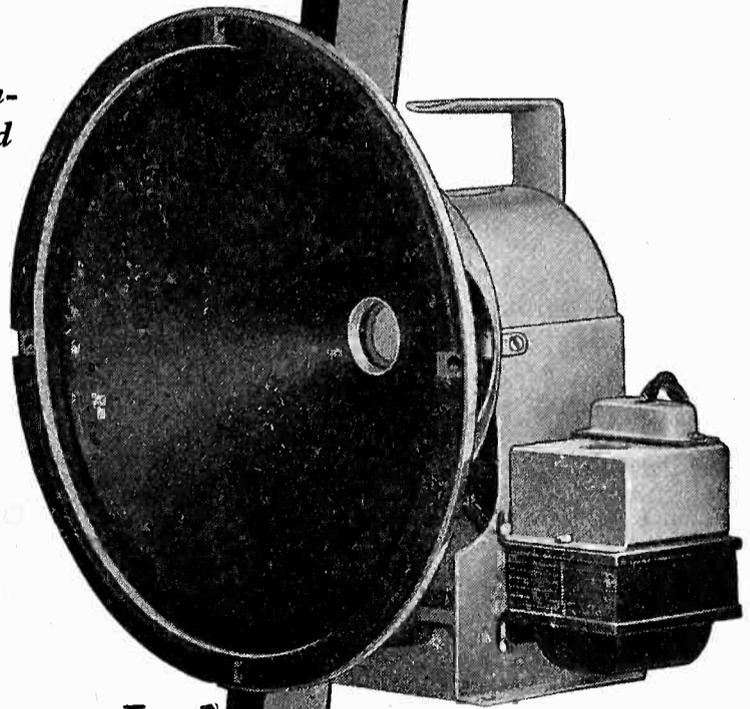
Model 517
14 inch Dynamic Speaker,
110 Volt, D.C., for
DeLuxe consoles and
Public Address Systems.



Model 154
8 inch
Dynamic
Speaker,
for midgets
or consolettes.



Model 153
12½ inch
Dynamic
Speaker,
for consoles.



Model 521
14 inch Dynamic Speaker,
110 Volt, A.C., for
Public Address Systems.

Tell them you saw it in RADIO

IF YOUR RADIO BUSINESS ISN'T WHAT IT SHOULD BE!

1931 has been Silver-Marshall's best year, because . . .

Silver-Marshall Superheterodynes are sold **DIRECT** to **DEALERS**.

The jobber's profit is used in more profit for the dealers and lower list prices.

Silver-Marshall has a **COMPLETE LINE**. Full-size superheterodyne consoles to sell from \$49.95 to \$139.50.

In addition to 6, 8, 9, 10 and 12-tube supers, Silver-Marshall dealers have an 11-tube short-and-long wave super.

Silver-Marshall has a unique \$10.00 plan to cover trade-ins, time payments, etc. They do not come out of the dealer's pocket.

A half-million dollars has been spent in the last six months to advertise S-M receivers.

Silver-Marshall dealers have exclusive territory.

Those are **SOME** of the reasons. We will be glad to tell you the rest of them.

SILVER-
MARSHALL Inc.
6415 W. 65th St.
Chicago, U. S. A.
Please send me all
details.

Name

Address

SILVER-

Home Office: 6415 West 65th Street, Chicago



Model C-24. 12 tubes . . . superheterodyne . . . 3-unit construction . . . twin pentodes . . . double tone control . . . built-in tone chamber . . . meter tuning . . . automatic volume control . . . built-in aerial . . . 45-inch door console. A finer receiver is not possible. Complete with Eveready Raytheons . . . \$139.50 list.

MARSHALL Inc.
S-M Sales Co.: 224 East 16th Street, Los Angeles

Radio's Most Astounding Value

The WILLARD

\$ 798

LESS TUBES

.....
Dealer's Price.
Cash with Or-
der. F. O. B.
Los Angeles.

WEIGHT PACKED—12½ LBS.



\$ 798

LESS TUBES

.....
Dealer's Price.
Cash with Or-
der. F. O. B.
Los Angeles.

HEIGHT — 11½ INCHES
WIDTH — 9¼ INCHES
DEPTH — 6¼ INCHES

The Outside —

Beautiful Walnut Veneer Cabinet in a Gloss Finish.
Simplified Dial, Kilocycle Markings.

The Inside —

Two Screen Grids . . . One Pentode and a 280 Tube.
Full Dynamic Speaker.

The Willard —

Represents unusual value in a 4 tube TRF set. Its
Manufacturers use only nationally known parts (no
junk). The finished product offers selectivity and vol-
ume without distortion. A set for the Home . . . Camp
. . . or Travelling.

WILLARD RADIO CORPORATION, LTD.

5137 AVALON BOULEVARD

LOS ANGELES, CALIF.

What Do They Say - After You've Gone?



AAA 1

Dealers' Net Price
f.o.b. Greenwood, Miss.

\$147.50

Ask Your Jobber for
a Demonstration

It will open your eyes to the countless superiorities of this master instrument. Or send Coupon below for full information on AAA 1, or any other new 1932 "SUPREME BY COMPARISON" testing equipment, namely—

SUPREME MODEL 90

The famous one meter set tester that offers some of the unequalled features of the AAA 1 Diagonometer—and all of its own famous 1932 superiorities.

Dealers' Net Price
f.o.b. Greenwood, Miss. **\$78.50**

★ ★

SUPREME MODEL 70

A thoroughly shielded, completely attenuated Oscillator—output meter—high resistance ohmmeter.

Dealer's Net Price f.o.b. Greenwood,
Miss., less tubes and batteries . . . **\$49.75**
SUPREME OUTPUT OHMMETER **\$30.00**
Handsome Carrying Case for both
and Accessories **\$5.00**

★ ★

SUPREME MODEL 60

HANDY OSCILLATOR—SUPREME VALUE.

Dealers' Net Price **\$30.00** Portable
f.o.b. Greenwood, Miss. type **\$3.00** extra

★ ★

SUPREME MODEL 40

Counter Tube Checker. "SUPREME BY COMPARISON."

Dealers' Net Price **\$30.00** Portable
f.o.b. Greenwood, Miss. type **\$3.00** extra

★ ★

Distributors in all Principal Cities

Foreign Division, 130 West 42nd St., New York City
Cable Address: LOPREH, New York

WHEN you have testing equipment second to none, insuring professional accuracy, you're welcomed back into that home for future service, profitable parts replacements, or 'tween season sales. That's why SUPREME INSTRUMENTS actually cost you nothing—are really investments for future income. That's why you need the most complete and most modern instrument of all radio history . . .

SUPREME DIAGNOMETER AAA 1

5 ultra modern test-
ing instruments **1**
in 1 for the price of

SUPER DIAGNOMETER, plus SHIELDED OSCILLATOR, plus ADVANCED TUBE TESTER, plus OHM-MEGOHMMETER, plus CAPACITOR TESTER—5 essential instruments in one at the price of 1.



Supreme Set Analyzer Model 90

SUPREME INSTRUMENTS CORPORATION
431 Supreme Bldg., Greenwood, Miss.

Please send me full particulars on Supreme Diagonometer AAA1
 Supreme Set Analyzer Model 90
 Supreme Oscillator Model 70
 Supreme Oscillator Model 60
 Supreme Tube Checker Model 40

Name
Address
City State
Jobber's Name
City State

Tell them you saw it in RADIO

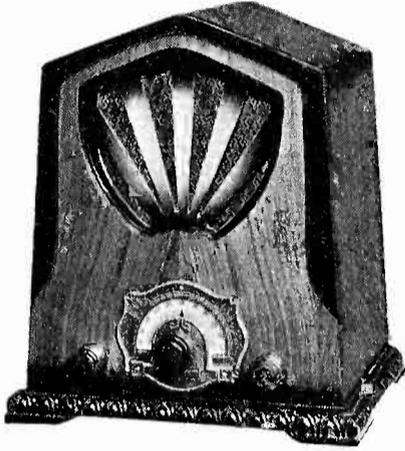
HERE AND THERE CAFE

"A MIDGET RADIO
FREE WITH EVERY MEAL"

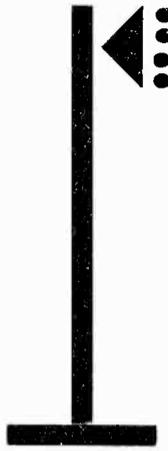
IN the near future small size radios may get so cheap that you may see signs like the above.

BUT in the meantime, we can make them as cheap as the next fellow. This is our 4-tube TRF set that defies PRICE competition.

Guaranteed by us to be as good or better than any near its price, it has Dynamic speaker, Pentode tube, etc.

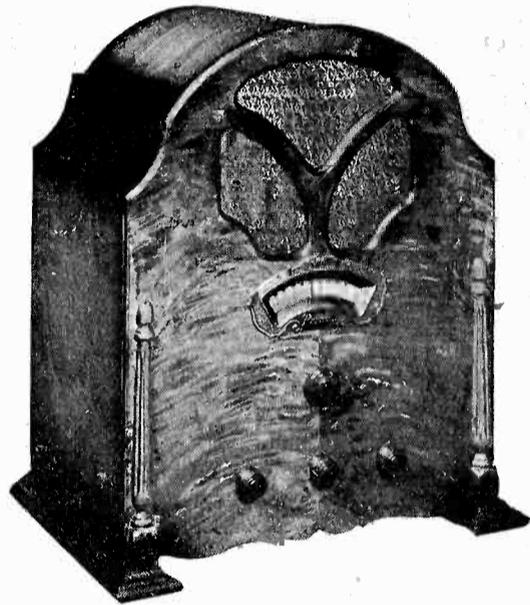


\$7.65 NET TO DEALERS,
LESS TUBES
No Factory List Price.
With Tubes the Price is \$8.75



"Radio's Newest Thrill"

'Round with ALL-WAVE



Retail
Price
\$79.50

\$39.95 Net to Dealers,
Complete With
Arcturus Tubes
Also Console Models At \$15.00 Extra

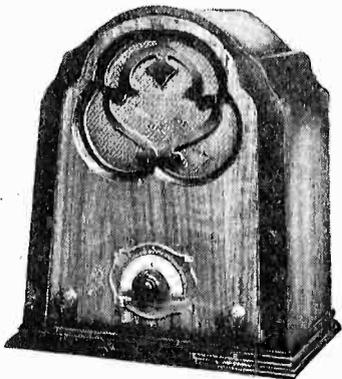


\$12.95 To Dealers.
Complete with
Arcturus Tubes

• • • This set is known the world over as the original real small radio

Paramount's Pee Wee Radio

MOST dealers prefer to pay a little more for quality and get a larger transformer, better speaker, larger resistors, electrolytic condensers that can't burn out, more parts, better tubes, tone control, aerial and ground posts, better construction and other small set refinements that make a radio give dependable service. Also the retail price allows you a good margin of profit. RETAIL PRICE \$29.95.



Paramount's 5 Tube TRF Model

THIS is the PARAMOUNT model that has been a repeat-order-getter since it was first released to the trade a short time ago. It is a little aristocrat and stands up well among sets selling at twice this price.

\$13.45 Net to
Dealers Complete with Arcturus Tubes

Automobile Radio

Requires No Batteries —
Operates in Auto or Home

This equipment automatically supplies 110 volts, 60 cycle A.C. in your car. You can operate the radio or use any electrical appliances in your car rated 40 to 80 watts, such as: electric lights, Neon signs, public address systems, vacuum cleaners, mixers, etc.

\$39.95

Net to DEALERS. Complete with 6 Arcturus Tubes. Retail Price \$69.50.

OUR TERMS: All prices quoted are net cash, we require a deposit of at least 25% on C.O.D. shipments. Send Cashier's check or Postal Money Order to assure immediate shipment.

Our Cable Address: is L. A. R. A. D., Western Union. Foreign orders must contain full remittance plus transportation.

the World

PARAMOUNT'S SUPER-HETERODYNE

—DEPENDABLE . . . PRACTICAL . . . EFFICIENT

The World at Your Finger Tips

Thrill by hearing Foreign Countries, Airplane Messages, Police Calls, Ship-to-Shore Telephone, Amateur Operators, Wireless Stations, Etc.

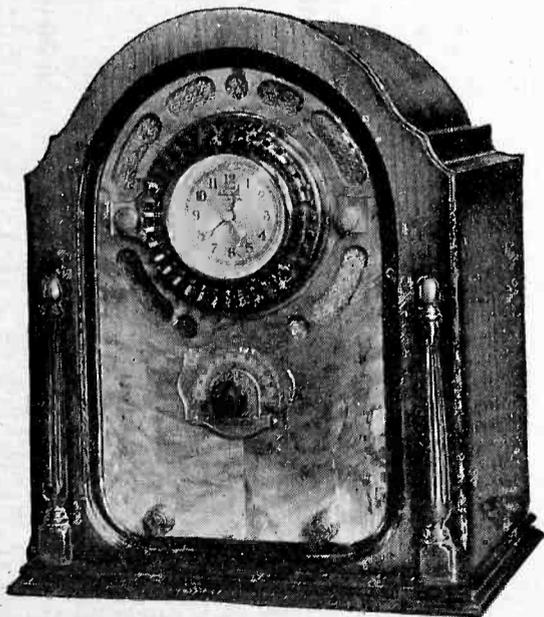
FEATURES

11 Tube Super-Heterodyne. Tunes from 15 to 600 Meters. Single Dial Control. No Plug-In Coils. 4 Gang, 4 Point Automatic-wave Changing Switch. 4 Intermediate Transformers. No 200 to 600 Meter Harmonics on Short Wave Bands. Push-Pull Pentode Tubes. Automatic Volume Control. Ball bearing Condensers. Full range Tone Control. 2 Stages Audio Amplification. First and Second Detector. Self-healing Filter Condensers. Illuminated Vernier Geared Dial. Full sized Dynamic Speaker. All Steel Chassis. No Two Spot Tuning.

Where on Earth have you ever seen a radio with so many features?

Paramount's Engineering Genius

Paramount's Engineering Genius again leads, giving you an all wave Super-Heterodyne with but a single Dial to tune. Short wave stations can be tuned in as easily as the regular broadcasting stations and on the same Dial. Not a radio with a short wave converter attached but a single set made to operate on either long or short waves—One Dial—One Chassis.



\$37.95

Net to Dealers. Complete with Arcturus Tubes

Retail Price
\$69.50

NEW! *Marvel of the Radio Age*
AUTOMATIC "CLOKTROLA"
Turn Radio On and Off
Automatically
Amazing . . . Almost Human

Automatically turns radio on and off. You may set your entire day's program early in the morning, for instance: Setting-up exercises, 6:00 A.M. 'til 6:20 A.M.; Cooking lessons, 10:00 A.M. 'til 10:40; Noon program, 12:00 'til 1:00 P.M.; something else at 3:00 P.M. and so on around the clock. Let it play you to sleep and awaken you in the morning. All this combined with our 7 tube Super-Heterodyne. Also in console models at \$15.00 extra.



Short Wave Converter

\$13.95

Net to DEALERS Complete with Arcturus Tubes

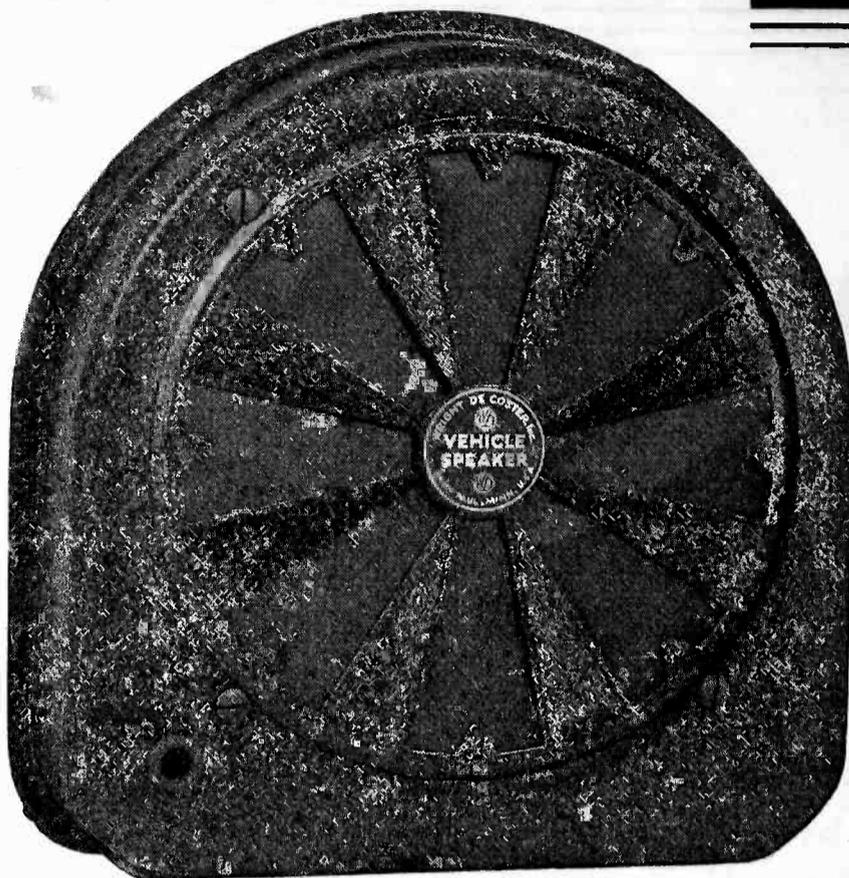
Changes present set . . . operates on any modern Radio. Hear foreign stations. 3 tubes, contains its own power supply. Easy to hookup to any Radio, only necessary to hook up antenna and ground. Most efficient Converter made. Retail Price \$24.95.

Member of
Los Angeles
Chamber of Commerce

LOS ANGELES RADIO MFG. CO.
3681 So. San Pedro Street
Los Angeles, Calif.

Manufacturers of
Quality Radios
Since 1925

The NEWEST Addition to the Wright-DeCoster Speaker Family..



INFANT VEHICLE CABINET

The Wright-DeCoster Vehicle Speaker

If you are critical of the reproduction of your auto radio... if you would like to get the same true, clear, rich tone quality that you get from a Wright-DeCoster Speaker in the home... then install the new Wright-DeCoster Vehicle Speaker.

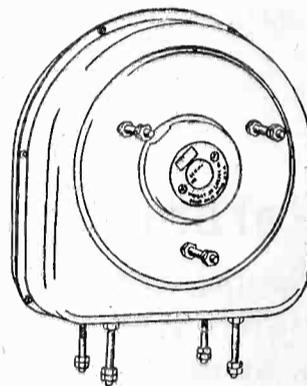
Manufactured with the same high grade material and workmanship as our larger speakers. The Wright-DeCoster Infant Reproducer, installed in the Vehicle Cabinet, will not only give you beautiful reproduction on voice and music, but will also stand up for years under the abuse any receiver must expect to get in a car installation.

Easily installed in any type of car as you will see by the illustrations above. The design is modern and attractive; the black crinkley baked finish is not only good-looking, but serviceable, being difficult to scratch or mar.

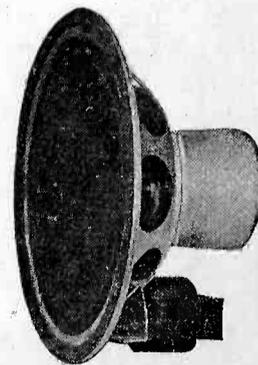
Why not be sure your customer will be a booster for you by installing a speaker that will make him proud of his automobile radio?

Dimensions of cabinet, $9\frac{1}{2}$ inches high, $9\frac{3}{4}$ inches wide, 5 inches deep. Weight boxed for shipment 10 pounds.

Price, Vehicle Reproducer complete in cabinet - \$11.50
 Infant Vehicle chassis only - - - - - 9.00



View showing how the Vehicle cabinet can be fastened either on the back or on the bottom.



Infant Vehicle Chassis



The Speaker of the Year

Wright-DeCoster, Inc.

MAIN OFFICE AND FACTORIES

2217 University Ave. Saint Paul, Minn.

Export Department:
 The M. SIMON & SON CO., 25 Warren St., New York
 Cable Address: "Simonrice"

Radiotorial Comment

By The Editor

WHAT would you think of a radio dealer who says that he made more money selling radios in February, 1932, than in February, 1929? No, he is not a liar; as his books will show. Furthermore, he believes that he has found the way to keep up this record for every month of this year. Naturally, he's a hustler and knows his onions. But, in addition, he has found and is catering to a demand which is entirely new in the experience of every one except the old-timers.

You'll hardly believe the secret of this demand that makes the cash register bell ring merrily to the tune of profits! It's a revival of the old fad of amateur radio. But this time it is not the high school lad, but his dad, who is going daft on the "dah-did-dah" and "how am I coming in?" The well-to-do-professional man, the doctor, the lawyer and the engineer, has joined the ranks of the hams.

The records of the Department of Commerce, which had control of licensing activities before the duties were recently assumed by the Federal Radio Commission, show that over 4,000 new licenses were issued last year. There are now 23,000 licensed amateurs in the United States, and the number is growing by leaps and bounds. Yet two years ago, amateur radio seemed to be on the toboggan. And now it is coming back with a bang.

This has all come about through the short wave broadcasts and the consequent popularity of short wave receivers. While the program listener was interested and while he got a great kick out of hearing the police and plane traffic, he became curious about the telephone conversations that he heard on the amateur wave-lengths. He became fired with the idea that he would like other people to hear his voice on the air. And so he started to investigate how he could tickle his own pride in this manner.

He finds that he first must have a license for an amateur transmitter and that the chief qualification is the ability to send and receive 10 words of code per minute. So he buys a code practice set consisting of a key, a pair of head-phones, and a spring-wound mechanism for driving a strip of tape perforated with dots and dashes. He buys it from an enterprising radio dealer for about \$20.00, and the dealer makes a better profit on this device than when he sells a midget radio receiver. But this is only a starter.

For after mastering the code in a few weeks of secret evening practice, the new enthusiast buys his first small transmitter. No, he doesn't make it himself, but buys the tailor-made article from a dealer, at a profit to that dealer. Then he buys a bigger and better transmitter, having crystal control and all the doo-dads. An expenditure of a thousand dollars a year from one of these modern hams is not unusual. He never stops buying. He builds, tears apart what he has found will work, and builds all over again. And he builds profits for the dealer who caters to his needs.

There is room in every community for a few good dealers to cash in on this new fad. It requires a real knowledge of radio. No glib-tongued salesman can get to first base unless he knows what he is talking about. Only a small stock of code practice machines and cheap books

that tell how to get an amateur license are needed. The big orders that follow are for special equipment from the manufacturers or jobbers.

This is believed to be a good business tip. You can stimulate interest in your locality by selling the idea to every purchaser of a short wave receiving set. Mystery and romance will sell merchandise when music falls on deaf ears.

• • •

ABSOLUTELY remarkable how well a one-tube set works," say the tax collectors of large municipalities. At a recent assembly of public officials it was disclosed that 99 out of 100 taxpayers list a one-tube receiver as the sole instrument of entertainment in the home. Each year the "Liar's Convention" convenes in the halls of the Tax Collector's office and each year the number of tubes in a set gets less and less, say the collectors. An investigation was ordered. Deputies were sent into the homes of a picked list of well-to-do taxpayers and it was found that the set listed as having one tube in reality had 8, 9 or 10. Questioned by the investigator Mr. or Mrs. Taxpayer gave this stock reply: "Why, we never knew that the set had more than one tube."

• PHILCO Gets Cathode Ray Television Permit From Commission

◆ ◆ ◆

ON FEBRUARY 13th the Federal Radio Commission granted a cathode ray television station permit to PHILCO so that the Farnsworth Cathode Ray pictures could be transmitted on an experimental basis. PHILCO'S application, as printed in full in January "RADIO", was approved without change by the Commissioners. The granting of this permit to PHILCO was a decided blow to the interests who vigorously opposed the action.

STOP

the "Old Spanish Custom" of giving the customer something for nothing

WATCH OUT, DEALERS! There's a good old radio custom that's riding for a fall. We refer to the unethical free replacing of allegedly "defective" tubes. "Why I've used this tube only about a couple of weeks. Surely not more than three weeks—."

Every dealer has heard that ancient Spanish story with variations. And almost every dealer privately knows that the replacement policy of tube manufacturers has been abused in a good many cases. At any rate, the tube manufacturers know it very definitely.

They have been elaborately tracing the movement of numerous batches of tubes through the hands of distributors and dealers. They have checked up on the length of time these tubes were actually in the possession of users before being returned as defective. And the makers have unquestionably established that thousands of tubes are presented for replacement that have been in service for months; sometimes for nearly a year.

Frankly, there is at the moment some important handwriting on the wall in tube manufacturing headquarters. The larger companies are already preparing to do something to correct replacement abuses. Therefore it is well for retail dealers to be on the alert, else they will themselves suffer from the public's efforts to get something for nothing.

... Manufacturers are now forced to curb tube replacements

THE LOW PRICES now in effect on tubes have forced the manufacturers to consider stricter replacement policies. Not so long ago a 245 power tube, for instance, was selling at \$3.50. At that price the manufacturers' margin of gross profit was large enough to bear a pretty liberal replacement policy. But that same tube today retails at around a dollar. It is sold from the factory for about half that amount. The manufacturers' profit, after culling and selecting, is a matter of but a few cents on each tube. Of course volume makes dollars, but still it is absolutely clear to any reasonable person that under the present conditions of close profit margin, the manufacturer will be obliged to adopt increasingly rigid precautions to

protect themselves against unethical claims for replacement.

It seems likely, too, that stricter replacement policies will benefit retail dealers as a class. When a customer obtains a free replacement that he is not really entitled to, the transaction is an immediate loss to the dealer. He has to suffer the overhead handling charge on the replaced tube. He loses the profit he would have received on the outright sale of the new tube which the customer got for nothing.

Of course the public is going to squawk. Some persons have gotten away with so much already that they will be indignant at the idea of having to put out actual cash for their new tubes. It may be necessary to point out to some of these objectors the following rather abstract but vital facts:

When a manufacturer produces such a highly delicate and extraordinary unit as a radio tube, his task is to try to make that tube as good as he possibly can for the price. But the tube at its best is fragile, comparatively perishable. That is its scientific and inherent nature. The maker, having produced the tube and sold it at an ordinary commercial margin of profit, can hardly be asked to back up such an easily destructible product with much more than a definite guarantee of being in good order when handed to the prospective user. Electric light bulbs, a much less fragile product, are sold almost universally on this basis. The bulb is tested in the presence of the buyer, and no guarantee is extended beyond the point that it is in working order when sold.

Besides being delicate and easily damaged devices, radio tubes are being ruined in enormous numbers by being used in the sockets of improperly designed haywire receivers. Many of these cheap gadgets subject the tubes to excessive current surges.

It may also be necessary to point out to protesting customers that tubes are now being sold at one-third or less of their former prices. For a given amount of cash the tube buyer gets about three times as many tubes as he used to get. Therefore the user is a lot better off than he was before, even though he has to accept the tubes on a very brief guarantee basis.

Some customers will yell their heads off, of course. We have a notion, however, that the ones who soak their faces most in the crying towel will be the same birds who have previously put over a few fast ones and resent being unable to do it again. The owners of tube wrecking sets will howl, too. Their reasonable recourse would be to pay for a service test of their receiver, though some of them won't believe that.

... "The tube makers must hang together, or surely they will hang alone"

THE SCHEME the tube manufacturers are adopting is the date code marking of various batches of tubes. After the expiration of a fixed period of several months, any tube offered for replacement bearing that particular date mark will be refused.

We can see that this may in some isolated cases work to the prejudice of the dealer. The tube replacement date deadline may have arrived by the time he sells the tube. But such cases should be the exception rather than the rule, unless the dealer carries excessive stocks. And few indeed are doing that these days.

It is very likely that as this stricter replacement policy is introduced, some tube manufacturers will try to capitalize the situation by loudly promising, "We still make 100 per cent replacement and ask no questions. Use our tubes!"

But every dealer who has had sustained experience in the radio business will agree that too profuse promises and too

liberal policies invariably mean hidden weaknesses somewhere. In the tube business in particular, some brands have been offered at retail discounts of 50 and 60 per cent, and on a basis of replacements forever—but the tubes proved to be junk and ultimately a dead loss at any price and on any basis.

It seems reasonable, too, that the companies with the strictest replacement policies should be able to put out the best quality tubes at the lowest price. Because those companies won't have to manufacture about two tubes for every one they actually get paid for.

So far as that goes, every experienced dealer knows pretty well what makes of tubes hold up for him and what makes do not. And the dealer who is wise will hardly risk handling an inferior article in the futile hope of getting greater replacement protection. Inferior stuff does not pay in the long run. The fate of the majority of the "gyp" radio stores that used to be the bane of the business is convincing evidence of this fact. They had to become decent or quit.

In conclusion, it behooves every radio dealer to keep an eye on bulletins from tube manufacturers. Some have already been issued, we understand, containing announcements of expiration dates on tubes bearing certain code date markings. Be careful not to make replacements free of charge on tubes that have passed the date deadline.



Tube testing has grown from a mysterious rite to a popular practice—largely because testing has been simplified. This window shows the customer just how easy it is to see the condition of his tubes on a modern meter.

JACKSON-BELL

Something Your Customers will want to Buy!

You don't have to sell . . . they sell themselves

The radio scoop of 1932.. The most sensational dealer opportunity since the all-electric radio.

A real receiver combining short-wave and broadcast, on one dial —all bands on one circuit.

The old style "double decker" type is *out*, doomed to pass into oblivion. Your customers are not technicians, they want to enjoy and play short-wave and broadcast without experimenting.

Be among the first to feature this amazing new revelation.

**MODEL 28
MIDGET**
\$59⁹⁵
LIST

8 tube
Superheterodyne
Complete with
Cunningham tubes



**MODEL 28
CONSOLE**
\$74⁵⁰
LIST

8 tube Superheterodyne
Complete with Cunning-
ham tubes

No radio on the market today will out-perform these models. There is nothing left to sell. Every feature that the best radio minds have to offer is built into these combinations. PLUS — the exclusive short-wave and broadcast on one dial and equipped with "tone control", as originated by Jackson-Bell engineers.

WRITE . PHONE . TELEGRAPH

Your inquiry will bring prompt response and full particulars.

ACT QUICKLY . . FRANCHISES GOING FAST

LEADS AGAIN!

WITH THEIR CONTRIBUTION TO THE

REVIVAL OF THE RADIO BUSINESS

**NEW!
DIFFERENT!**

BROADCAST and SHORT-WAVE combination all on ONE DIAL

Instead of just selling a radio, now Jackson-Bell gives you something your customers are looking for. Everywhere, everyone who has seen this new combination wants to buy one.

Simplicity... beauty... ultra-performance, something entirely different and as modern as your daily paper.

First come, first served. Our dealer map is showing lots of new "pins"... Act at once, delay means loss in profits.

FAR DISTANT RECEPTION THE
NEW WAY

France... England... Russia... Italy... Germany, opera... orchestras... police calls... weather reports... world wide news events from foreign lands and all other short-wave stations any place in the universe, with this new combination short-wave and broadcast, on one dial.

YOU ARE PRACTICALLY SELLING YOUR
CUSTOMER 2 RADIOS FOR THE ONE PRICE

JACKSON BELL CORPORATION, Ltd.

MANUFACTURERS

6500 MCKINLEY AVENUE, LOS ANGELES, CALIFORNIA PHONE TW. 9101

Tell them you saw it in RADIO

An Analysis of Dealer Service

The Results of a Questionnaire Submitted by "GOOD NEWS" To Dealers Throughout the Country

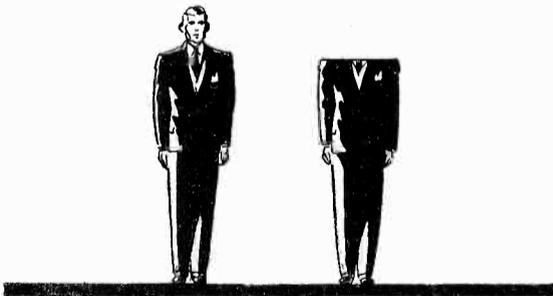
By E. C. Hughes, Jr.

Sales Promotion Dept., R. C. A. Radiotron Co., Inc.

IN ORDER to determine the thoughts and opinions of various radio dealers on service work, we recently submitted a questionnaire to 1,000 dealers, representing all parts of the country, who were selected at random from our mailing list. The response to the questionnaire has been most gratifying, and we wish to take this opportunity to express once again our appreciation for their co-operation.

It will be the aim of this and succeeding articles to present the results of this questionnaire in such a manner that a consensus of opinion is represented. Consequently, each question will be treated separately, giving the extreme as well as the mean opinion.

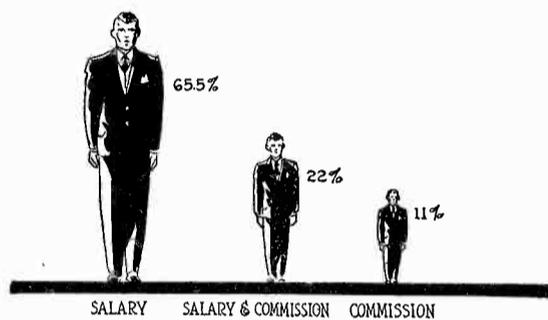
How Many Service Men Do You Employ?



This question was asked in order to obtain an idea of the amount of service work handled by each dealer and to determine how many service men are necessary to handle the work of the average dealer. The average number of service men per dealer as shown by the answers to this question is 1.75. The maximum number of service men employed by any one dealer replying to the questionnaire was 14. This number of service men can be taken as typical of very large metropolitan stores. At the other extreme is the dealer who does his own service work and employs

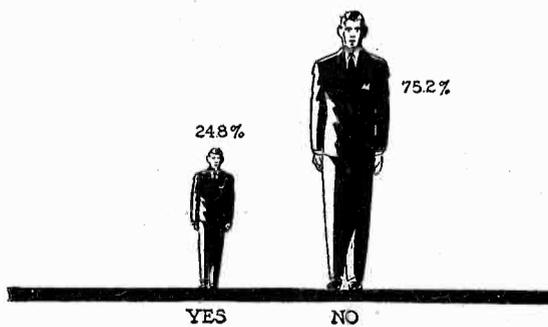
no service men. This type of dealer is typical of small towns, where the volume of business is not sufficient to warrant a full-time service man.

How Do You Pay Your Service Men?



The above query brought interesting results. The major portion of the dealers favored paying the service men on a straight salary basis, 65.5 per cent preferring this system; 22 per cent reported that they gave their service men a commission in addition to their salaries; 11 per cent reported that their service men were on a straight commission basis. It was not specified whether this commission was paid on both sales and service charges or on sales alone. Of all the dealers reporting, 6.5 per cent had men in for part-time work, paying them on an hourly basis.

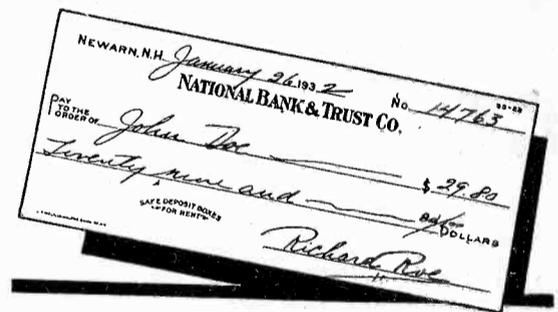
Do You Pay Your Service Men Commissions on Tube Sales?



Of the answers to this question, 24.8 per cent were in the affirmative and 75.2 per cent in the negative. There

are two schools of thought on this subject, the first believing that the service men should receive commissions on tube sales, since it stimulates the men to better efforts and increases the volume of tube sales; the other school believing that service men should not be thus encouraged because of the possibility of offending customers. It is our belief that a compromise between these two views is desirable. Tactfully suggesting a new set of tubes and demonstrating the improved reception to be had with new RCA Radiotrons is bound to be productive of increased sales, without antagonizing the customer.

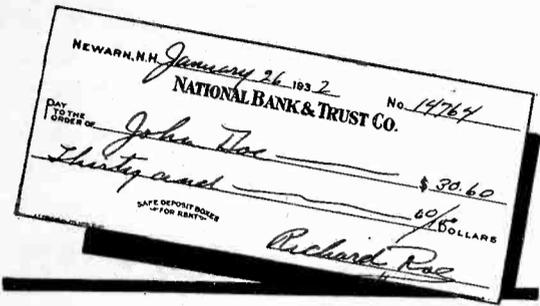
What Is the Average Salary of Your Service Men?



Answers to this question varied considerably. The average salary figured out to be \$29.80 a week in cases where the men received no commissions. The maximum salary reported by any store was \$70 a week in the case of a large metropolitan chain, while the lowest was \$15 for a small town dealer. Considering the variations in the calibre of the men, the amount of work done, and the locale, the range of salaries is not really to be wondered at. Service experts in the city are able to command big wages because their services are in almost constant demand.

Departments Part 1

If They Also Earn Commissions, How Much Do They Average Weekly?

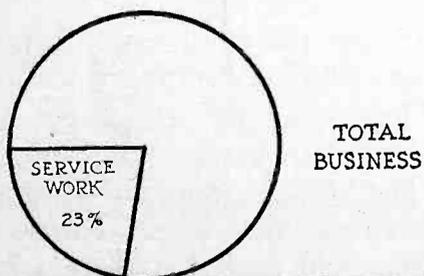


Replies showed that service men paid on this basis receive slightly thicker pay envelopes than the straight salary men. The average for this class was \$30.60. However, the range of pay checks was not so great as with straight-salaried workers, the maximum being \$65 per week and the minimum \$20 per week.

Many arguments are advanced for each of the three systems of paying service men. The advocate of the straight salary basis insists that the service man is a skilled technician who should not be encouraged to do more work than is necessary to return the set to normal operating conditions. If a commission is paid the man is tempted to pad his service work to increase his earnings. Under a straight salary system the dealer has absolute control of his service man.

When the men are paid commissions, some dealers argue, they are stimulated to better efforts. Their earnings are then more or less controlled by the amount of service work done, giving the service man a chance at extra earnings in busy times, and protects the dealer from excessive salary overhead in slack times.

Relation of Service Work to Total Business



The average portion of the dealer's business represented by service work was 23 per cent. Of course, the individual reports ranged all the way from 100 per cent for the straight service organization to 6 per cent for the dealer who preferred to turn his service work over to someone else. The figure, 23 per cent, proves one thing most conclusively, and that is, that service work is, or can be made, a very important part of the radio business. It is a very worth-while factor, and it certainly deserves careful thought with a view to developing it and making it more profitable.

The Minimum Service Charge

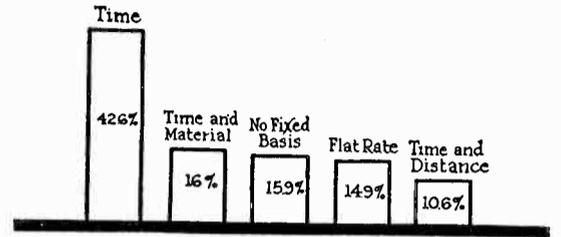


The average minimum service charge as shown by the answers to the questionnaire was \$1.25. The highest minimum charge reported was \$2.50 and the lowest \$0.50. While it is certainly true that the charge necessary to cover the expenses of the call varies with the locality, it is hard to explain why there is such a great variation. Only three dealers reported that they did not have a fixed minimum charge. The results indicate that we are on the right track at last, by providing for a fixed minimum charge, thereby greatly reducing the number of free calls which eat up the profits of the department.

Separate Service Department

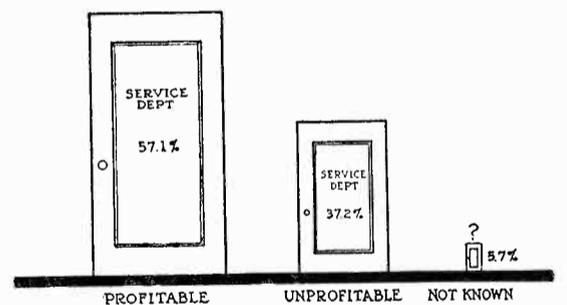
In analyzing the work of the service department, it is desirable that this department be segregated from the rest of the business. Nevertheless, 53.4 per cent of the dealers reported that their service department was not a separate unit of their business.

Basis of Service Charges



The above chart shows the results of the questionnaire as reported. However, dealers who reported time alone as the basis for service charges unquestionably make an additional charge for any materials used. On this basis 58.6 per cent use time and material as the basis for service charges; 15.9 per cent reported they had no fixed basis for service charges; 14.9 per cent have a flat rate, and 10.6 per cent use time and distance. This last classification seems particularly wise and fair for the dealer in a small town, as it is often necessary for him to go into the surrounding country to do work, and since much time is lost in getting to and from the job.

Is Service Department Profitable?



Only 57.1 per cent of the dealers reported that their service department was operating at a profit; 37.2 per cent reported that it was not, while 5.7 per cent did not know. All of which goes to bear out the statement made previously that it is high time that we gave more thought and effort to plugging the leaks through the service department and got this vital part of the radio business back on a paying basis.

Further results of this questionnaire will be presented in forthcoming issues. Your criticisms and comments are invited.

What's Around the Corner for You?

Address by MARTIN J. WOLF, Market Advisor, Chicago, Ill.,

At the Sixth Annual Convention of National Federation of Radio Associations, January 19, 1932

In approaching this subject, I am assuming:

1. That you are exclusively radio.
2. That you can no longer continue profitably as you have been going.
3. That you face either shrinking down below your present sales levels or broadening the lines carried, so that you increase your sales volume with existing customers.
4. That you accept today's conditions as "normal."
5. That your problem is not one of overcoming "sales resistance" so much as it is a question of adding to your "sales pressure."

Now the question is, "What's Around the Corner?"

To the electrically trained and inclined mind of the past as well as the present, radio has always been a branch of the business that you now propose to go into more fully and deeply.

Let us explore the balance of the industry in which you may wish to enter more actively. We find that essentially there are three divisions in the electrical industry.

1. Large Utilitarian Appliances—such as Oil Burners, Electric Ranges, Refrigerators, Vacuum Cleaners, Washing Machines, Sewing Machines, Air Conditioners, Dish Washers, Sun Ray Lamps, Floor Machines, Water Heaters, Ironing Machines.
2. Small Utilitarian Appliances — such as Clocks, Fans, Table Appliances, Heating Devices, Irons.
3. Home Entertainment, such as Radio, Television, Home Talkies.

The latter classification is the one that you have been active in during the past few years.

When considering adding to your lines, I suggest you adopt a "yard-stick" that many wholesalers have found practical. Here it is:

1. Parallel Lines Now Carried.
2. Cost of Warehousing Line.
3. Cost of Selling Line.
4. Competition.
5. Sales Resistance.
6. Sales Possibilities.
7. Manufacturers Co-operation.
8. Manufacturers Policy.

IN CONNECTION also with these selections, we must recognize that there are varying elements existing. For instance, in distributing electric refrigerators, we are confronted with several problems. Much merchandise is shipped on sight draft bill of lading. This requires capital on the part of the distributor as well as the retailer. The three-year guarantee is a factor which must be covered by providing or laying aside sufficient funds to take care of service calls during the entire term of this guarantee.

The 25-cent per day metering plan involves the situation. The pay period is long. There is danger that before it is fully paid for newer designs and further development may discourage the meter customer. It is a race between the time of completing payments and the question of obsolescence. The time payment problem on refrigerators is a problem all its own.

Electric ranges are rapidly becoming an item of major sales importance. An industry campaign is now getting under way. It is planned to sell one million ranges in the next three years. The fundamentals of this electric range sales plan follow closely the program that was so successful in marketing electric refrigerators. To those of you who are not familiar with the electric ranges, a million ranges may seem an enormous total. There have been a few more than a million electric ranges sold since range sales were tabulated. In 1931 approximately 150,000 were sold. The one million range campaign contemplates:

225,000 to be sold in 1932

325,000 to be sold in 1933

500,000 to be sold in 1934

THE TOTAL of 1,050,000 electric ranges represents only 10½ per cent of the resident connections in areas where special range cooking rates are established.

Sun ray lamps offer another possibility for proportionally large sales, inasmuch as thousands of these new and moderately priced sun ray lamps will be sold in the very near future.

Electric fans are a successful item. They represent a fair sized unit sale. Electric light and power companies are definite factors in the sale of this particular product.

These items that I have touched upon do not represent all you're going to handle, but they are typical of the fact that each large appliance has a selling policy that varies to large or small extent from every other large appliance. In both purchases and sales you will find that there seems no uni-

formity. The tradition surrounding each appliance is unique. Discounts, terms and sales conditions vary so that each appliance is a "law unto itself."

Now that we have considered the finding of saleable items, let's discuss "FITTING THEM TO MARKETS."

The most satisfying definition that I have heard of a market is that it is a "STATE OF MIND." Looking at it from this angle, as you enter more deeply into this electrical industry, you will find the electric light and power companies very much of a factor. I feel they always will be a big factor. Let me go back and sketch for you the historical background. It is easier to understand this "State of Mind" or market, if you are aware of what influences were at work in shaping it up. The electrical industry is over 52 years old. Until the advent of the automobile, it was the wonder of the commercial world.

As an industry, it urges that we light our homes, cook our meals, do much of our heating, turn our factory wheels, in fact make of electricity our servant in its broadest meaning of the term.

The public was slow to accept the urging of electric light and power companies. The early operators found that they had to assume the burden of proof. Homes of prominent citizens were wired without cost for the publicity and example. Housewives were given electric irons free to satisfy themselves that the sun had set upon the old "sad iron" and that the new order of the day was the "glad iron." Each new electrical device had to be promoted. The primary job was slow, painful and costly. Inasmuch as resellers of merchandise interested only in the merchandising problem must of necessity be suppliers of demand, and in the early days there was no demand for electrical appliances, naturally retailers and wholesalers were small factors in the marketing of appliances.

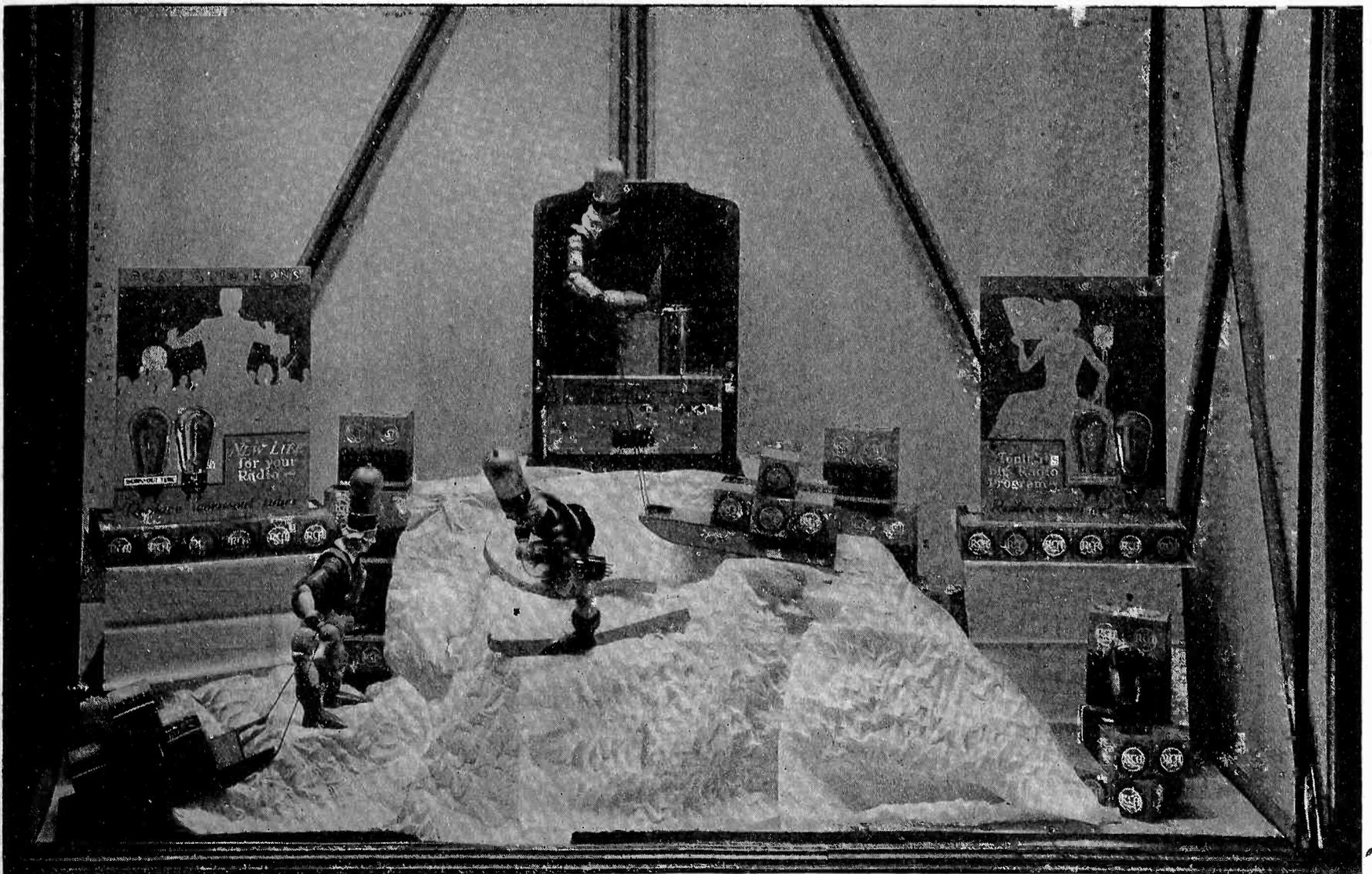
As the years rolled by, the steady, persistent work done

by the electric light and power companies began to develop a "favorable state of mind." So was the market built. Today, there's a wide market for electrical appliances. Specialized wholesalers, like yourselves, are displaying a deeper interest because today's generation of buyers having money to spend, have been familiar since cradle days with electrical appliances. You can think of the electric light and power companies as having a relationship within the radio field with which you are more intimately familiar. There are elements of difference when you think of them in this classification which are vital to the industry of which they form a part. If the quality or quantity of service rendered by the central station is poor or unreliable, it immediately and vitally affects the business.

ALL OF US in the industry are load-builders for the central station. They in turn, have been, and today are, market builders for us. The relationship between yourself, electric light and power companies and your market is a big subject. There's more than one view. In certain sections there is controversy. It is too big a subject for "snap judgment." Were I in your place I would know the officials of electric light and power companies in the cities in which I operated. They are a factor. They may help or mar your profits. They benefit from all that you sell and for that reason, I would call upon them for co-operation toward the end of increasing my profits.

In fitting saleable items to your markets you have another external problem, namely your dealers. Probably each of you thinks that as he adds lines he can sell the new lines to the dealers who have been friendly and whom he has carried and nursed over a long period of years. That is what I thought

(Continued on next page)



In this window, winter sports are effectively tied in with renewing tubes. The possibilities are practically unlimited.

when facing the addition of radio to a department that was already handling electrical appliances.

We added a radio. We functioned the department. At the end of a given time in studying the business, we found that less than 10 per cent of our volume was coming from these old standbys. Over 90 per cent came from new dealers or from dealers that we had not anticipated were going to be relatively big factors in the business we hoped to do. The field study showed that our good will with our old standbys had not lessened, but it had to be qualified. We found that while we were building good will on small table appliances, another wholesaler had been building good will for vacuum cleaners, another for electric refrigerators, another for electric ranges.

The situation to be faced was that our standing with the same dealer varied with the appliances we were selling. As it was, we might occupy five separate levels with the same dealer if we checked up on five different major appliances.

Do not be surprised if you stand in first place on radio, second place on refrigerators, third place on electric ranges, fourth place on table appliances and fifth place on electric washers, and ALL THESE GRADATIONS OF STANDING WITH THE SAME RETAILER.

As you broaden your lines "time" is an essential factor in your selling. You must closely watch the time element. A once-a-month pick-up is none too frequent to inventory the proportion of time your organization is spending on different items. An item that bears a 10 per cent relation to your sales and profit may be receiving 20 per cent of your organization's total time or an item that represents 60 per cent of your total sales and profit is receiving but 30 per cent of your organization sales and time. Formerly, the personnel of the supplying manufacturer's organization was the dominating element in this time picture. It is human nature to do for those whom we like.

As the operating executive, there's nothing so important to your sales and profits as your control of the time factor.

If you have not experimented with "assigning accounts," I suggest you give that a thought. Autocratic, geographic divisions of territory as a means of laying out the work of salesmen doesn't seem to fit this industry into which we are going more deeply. To say you give a man a territory of everything south of Madison Street and east of Western Avenue is missing the real point. Streets, buildings and square miles have no purchasing power. People buy. Therefore, give your salesmen a list of people assigned them. Your ledger records pick up the history of an account. You have a real yardstick when you treat a salesman on the basis of giving him a group of assigned accounts. Common sense urges one to group those accounts so that a minimum of time is lost going from one account to another.

Since it is difficult to govern the location of a man's home, I have found it practical to assign accounts to him in such a way that almost immediately he drove from his house in the morning he could begin to make calls.

In metropolitan areas, you may find it advisable to assign the same account to two or even three salesmen. You may have a man who can sell radio because he likes it. Perhaps he has unusual qualifications for radio selling. He may be a total loss in selling a particular customer washing machines. Instead of passing up the washing machine volume, or disturbing the satisfactory relationship on radio, why not withdraw washing machines from that salesman insofar as his radio account is concerned. Give the washing machine assignment to a second salesman who is more in sympathy with the

product and can do relatively the same kind of job on the washing machine as the radio minded salesman does on radio.

All that I have said doesn't minimize the fundamental that your selling must be followed by adequate service. Following selling with service isn't new to radio wholesalers, but when you add other items, your service views must be modified. Service on refrigerators is much more of a high pressure job than is radio servicing. Valuable food in the box won't permit of long delays from receiving the request and clearing the call. Oil burners service calls in the winter are even more of a high pressure problem than is a refrigerator call, and both of these demand faster serving speed than does radio. However, the fundamental is the same. It is just a question of application.

In no business with which I am familiar is it so necessary that the vision of the wholesaler be gaited to selling THROUGH RETAILERS rather than TO them. Getting an order from the dealer doesn't mean much. Getting that dealer to sell your particular products does mean much. Selling THROUGH dealers is the secret of satisfactory sales and profits.

In summarizing the subject of WHAT IS AROUND THE CORNER FOR YOU, let's assume that you want to increase your sales and profits. You can do this in three ways.

1. Selling to NEW CUSTOMERS.
2. Selling MORE to and THROUGH OLD CUSTOMERS.
3. Reducing Sales Resistance.

It may take all three of these to bring about what you want. Yet, your emphasis should be upon SELLING MORE TO AND THROUGH OLD CUSTOMERS.

Broadening and widening your lines is the road to that result. You'll find the market you are about to enter highly competitive. You'll need plenty of selling pressure.

In searching for saleable items, remember that a "Grade A" radio line needs "Grade A" products to form your family group. If you now sell a "Grade B" radio, then go after "grade B" products to fill out your line. In finding markets and fitting your family of products to your market, remember that you are dealing with:

- Users—the public.*
- Electric light and power companies.*
- Your own organization.*
- Dealers of qualified loyalty.*
- A new group of supplying manufacturers.*

You'll probably find each appliance has its own sales policy. Be prepared to give and take. Do not be disappointed if your group of friendly and co-operative radio dealers are not so friendly with you in relation to the electrical appliances that you add to your line. Remember that while you built radio loyalty with that dealer, other wholesalers built refrigerator, electric range, washing machine, small appliance loyalties. Don't get impatient. Expect it. Then you'll be prepared. You will not be disappointed.

Follow selling with service is the one common denominator in the picture. It varies with the appliance sold, but the fundamental applies to all items taken on. This is my conception of a few of the elements that you will have to face in turning the corner from a single line to a many lines specialized electrical wholesaler. It is a big step. The electrical industry is a big industry. It is already crowded. You'll help convince many that today's pushing and crowding is but child's play to what it will be.

So be it. The efficient always survive. Come on in. Make yourselves at home.

RCA-Victor Given Verdict Upholding Trade Practices

THE RCA-Victor Company, Inc., subsidiary of the Radio Corporation of America, Friday scored a notable victory in United States District Court when a jury verdict declared specifically that the company's trade practices are not in violation of the antitrust laws of Texas, Oklahoma and the United States.

The verdict was returned on February 12 before Judge William H. Atwell after the jury had been out two days. It carried with it a judgment for the company of \$106,882.86 plus interest against T. E. Swann. The company had sued T. E. Swann and the T. E. Swann Company, formerly their distributors in Oklahoma and Texas, for promissory notes amounting to \$178,000, less some returned merchandise. The judgment was for the full amount sought.

Mr. Swann in his defense had set up that the merchandise was defective. This was taken from the jury's hands by the court in a declaration that the merchandise was not defective, the jury being left to decide on the other questions set up in Mr. Swann's defense: That the company was unlawfully maintaining prices, that it was unlawfully restricting territory and that it was unlawfully compelling its distributors to handle its products exclusively. On all these points the jury's verdict was specific in upholding the company.—Dallas "Morning News."

Russell L. Heberling, formerly Chicago district manager and more lately New York City district manager for Philco Radio, was elected vice president of the Philco Transitone Corporation at the February meeting of the board of directors. The new Transitone has been developed into a thoroughly satisfactory automotive radio receiver, compact, easily installed and much lower in price than heretofore.

Electrad Issues New Catalog

Electrad, Inc., 175 Varick Street, New York City, will send you their new 1932 catalog of the entire new Electrad Line for 1932. Write for your copy. It shows specifications and prices of all Electrad resistors, condensers, volume controls, Truvolts, tuners, amplifiers, rheostats and potentiometers, tone controls, etc. Every dealer will find use for this catalog in his store or in the repair shop.

New Products

Apparatus Design Company, Inc., of Little Rock, Arkansas, have been producing for the past year an English reading radio tube tester with many unique features. The necessary tests of a tube are automatically interpreted into English, BAD, —GOOD—GAS. These interpretations include emission; plate impedance; spacing of elements and presence of gas. All

high potential shorts are immediately indicated on one jeweled lamp when the tube is inserted in socket. High resistance shorts are indicated on meter. Claims are for simplicity and the feature of being totally fool proof, with direct appeal to the public. The registered trade name is CONFIDENCE.

The Confidence tester is made in portable shape, size 9 x 14 x 5½ inches and also in counter type, using the same instrument with meter facing the customer. Both the portable and counter device nets to the dealer at \$59.50.

A large glass utility display case is also produced holding 50 tubes, netting to the dealer at \$185. Time payment plans are available.

Radio Exporters Hold Conference

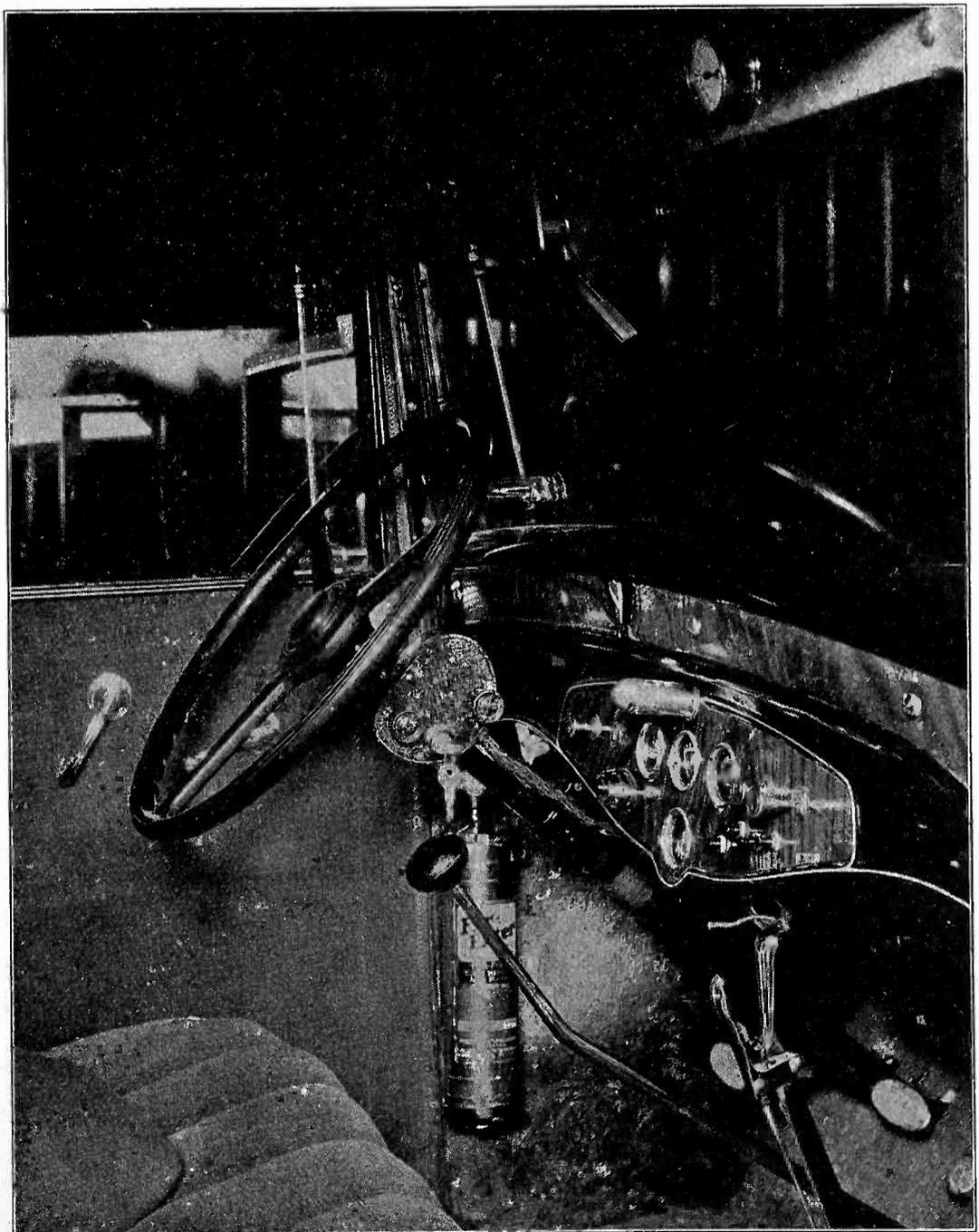
TARIFF RECIPROCITY is favored by radio exporters of the RMA, according to a resolution adopted at a largely attended meeting at the Hotel Astor, New York, January 12. About sixty radio export managers and representatives were in attendance and discussed many problems to develop export trade of Association members. Arthur Moss of New York, chairman of the

RMA Foreign Trade Committee, arranged the conference and presided. Among those present were Mr. A. M. Dettloff, representing the U. S. Department of Commerce, and representatives of the American Manufacturers Export Association and other foreign trade organizations.

In conference the exporters formally resolved "that the Radio Manufacturers Association endorses the theory of reciprocity in our trade treaties with foreign countries, and urges Congress to pass such laws as will enable our government to negotiate mutually profitable treaties of commerce."

Tariff difficulties were emphasized by many speakers in the export conference. The radio exporters were told that many private treaties have been made and that new ones are in contemplation. The hope was expressed for cooperation with the U. S. Chamber of Commerce and other organizations against discriminatory and harmful tariffs.

Foreign credits, exchange, patents and finance were discussed and information exchanged on competition conditions in several foreign markets, including discussion of the dumping situation.



The New Bosch 9:20 Auto Radio Installation.

Radio Manufacturers Issue Statement on Television

FOLLOWING its policy to advise the public accurately regarding the progress of experiments in developing television, an authoritative statement was issued by the Radio Manufacturers Association. A similar statement was made about a year ago and the new statement, emphasizing that many engineering problems must be overcome before television can be a satisfactory means of home entertainment, was prepared by the Association's Engineering Division which includes all prominent engineers working toward development of television broadcasting and receiving apparatus. The statement follows:

"From such a confused mass of conflicting statements and data regarding Television, only by picking out the pertinent facts from the work that has been done in the past and the facts that are presented in the present situation, is it possible to draw any conclusions regarding the future of Television. These facts have been so many times oversold, at times maligned and altogether misunderstood, not only by the public but by the leaders of the radio industry itself, which must sponsor this new art.

"This statement regarding Television is only intended to array the facts of the past and present to point out some of the future possibilities thus made apparent.

"**A**S FAR BACK as 1884 there was recognized by Nipkow, a German experimenter, that to transmit visual images it would be necessary to resolve those images into elements, each element to be faithfully transmitted and re-converted into a corresponding light value at the receiving end. To do this Nipkow employed scanning discs, and later in 1894 Amstutz, an Illinois experimenter, carried on the work in this country even further. In 1913 Jenkins of Washington started his work on the development of Television which culminated in 1925 in the showing of animated motion pictures by Television. In England, John Baird, after several years of work, showed his first pictures in 1926. In 1928 the Bell Telephone Laboratories

transmitted a picture from Washington to New York, and since that time several other experimenters have been carrying forward the development of Television. Prominent among these have been the RCA Victor Company in Camden, the Jenkins Television Corporation of Passaic, Philo Farnsworth now with the Philadelphia Storage Battery Company, General Electric Laboratories in Schenectady, and U. A. Sanabria of Chicago.

"The problems encountered in accomplishing Television transmission and reception have in the past been manifold.

First—the problem in the method of scanning which started with the ordinary disc, was followed later by a disc with lenses which greatly increased the efficiency. Then came the drums and discs with mirrors. Starting with a Russian named Rosing, twenty years ago, several experimenters have been using electrical principles of scanning which are utilized in the cathode ray oscillograph tube.

Second—the problem of transmission has proven to be very difficult. The light values of the elements of the transmitted picture must be converted to electrical values and then transmitted faithfully either by wire or by radio. This is only successfully accomplished by employing a frequency side band of several hundred thousand cycles. This becomes of interest when compared with the width of a side band for present day radio voice transmission which is approximately 5000 cycles. Modulation of the high carrier frequencies for these picture transmissions becomes very difficult.

Third—the reception of Television signals has presented still more complicated problems. The radio Television signals must be received, amplified, de-modulated and again amplified to operate a light source. Demodulation above 30,000 cycles has presented many engineering difficulties. Much work has been done on the light sources, the most common of which have been the Neon discharge glow lamp, the Kerr cell and the cathode ray tube.

THE PRESENT FACTS of Television which are available are as follows:

First—for scanning, mechanical features using rotating parts are in wide use and offer a most practical means of securing passable Television pictures.

Second—a direct pick-up system which has come to the front rapidly this year is that of the camera idea. This system can be used for Television pick-up in a lighted studio, for outdoor pick-up, etc.

Third—a great deal of successful development has been made with the cathode ray tube system for transmission and reception. This system has proven technically sound and shows the greatest possibility. Its chief difficulties are in the production of large quantities of these systems at a reasonable cost.

Fourth—the Television broadcast transmission spectrum allows only for five channels, namely: 2000-2100 K.C., 2100-2200 K.C., 2200-2300 K.C., 2750-2850 K.C., and 2850-2950 K.C. This frequency spectrum for Television is not adequate for good picture transmission on account of the very wide side band frequency necessary for picture detail, so in addition to these bands, on the extreme short waves—5-7 meters, frequencies from 35,000-80,000 K.C. have been requested for Television service. Most of the present transmitters are operating in the first mentioned bands, but a few operate in the neighborhood of 46,000 to 48,000 K.C.

Fifth—the reception of Television has been possible by tuning with either a superheterodyne or tuned radio frequency receiver designed for Television reception. Synchronized sound very often accompanies the picture transmission and it is common practice to receive the voice transmission on the standard broadcast receiver. This required two receivers for receiving synchronized sound and picture transmission. In the Television receivers, mechanical scanning and cathode ray electrical scanning have been employed. The cathode ray type of scanning has been capable of excellent results and shows great possibilities for further development.

Sixth—with the present economics of broadcasting, it has been impossible to secure much data on the entertaining value of the subjects that can be broadcast due to the cost in presenting programs. The Federal Radio Commission has up to the present time considered

Television only experimental and will grant no commercial rights. This means that all broadcasting must be done for the experimental value only and no paid programs can be transmitted by Television. This ruling has made impossible the receipt of any money in staging Television programs. With commercial rights granted by the Federal Government, the problem will still be complicated as to whether advertisers will continue to assume the increased costs that Television must impose for its successful operation, or whether the public can satisfactorily be taxed to bear this burden.

“Many problems appear which must be overcome before Television can be a satisfactory means of home entertainment. The most important of these are listed as follows:

1. Greater detail should be obtained in received picture.
2. Television transmission pick-up equipment should be portable and as easily used as present day sound picture pick-up equipment.
3. Transmitting systems must be evolved which will have a satisfactory and reliable service range.
4. Receivers as simple in operation as our present radio receivers must be designed and built at a reasonable cost.
5. Quiet and satisfactorily illuminated picture equipment for the home must be designed and built at a reasonable cost.

REGARDLESS OF THE present problems that confront the industry, there has been enough work done to justify some predictions which can be conscientiously made. With the development of the new short wave channels at frequencies higher than 35,000,000 cycles, reliable transmission of Television can be predicted. Ample room for an adequate number of transmitting stations can be visualized in this short wave region. It is perfectly conceivable that a sight and sound service can be worked out to be received on a single receiver with a simplified tuning and control mechanism.

“As never before, the new art of Television is going to require the rigid and sure hand of a governing body to set up the standards for both transmission and reception. Surely no better body is suited for this task than the Radio Manufacturers Association, which embraces both transmitting and receiving set manufacturers. Because of this situation, Television presents a real challenge to the R. M. A., which if accepted, can and will bring new prosperity to its members but only if this challenge is correctly and courageously met by the entire cooperation of its members.”

New Spartons Provide Multi-wave Reception

Additions to Line Also Include Two New Superheterodyne Console Models at Substantially Lower Prices

ACCORDING to Sparton engineers, the addition of the model 60 short-wave converter to any radio receiver, regardless of its circuit, converts that radio into a short-wave Superheterodyne receiver and increases its sensitivity thirty times for reception on the short-wave lengths.

The total short-wave broadcasting spectrum covered by this converter extends from 11.5 to 200 meters or 1500 to 25,500 kilocycles. The total spectrum is divided into four sections. Each section may be used for reception as desired, merely by turning the band selector switch and tuning a dial. There are no coils to plug in or take out.

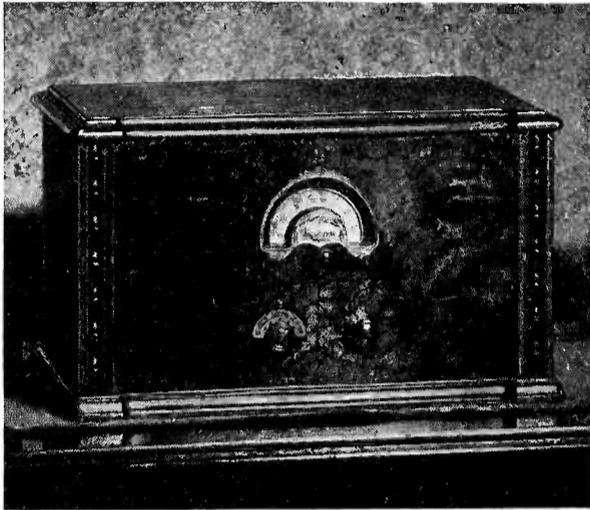
The 4-tube model 60 converter is fully AC operated and has its own voltage and current supply system. With chassis housed in a compact, table type cabinet of five-ply figured walnut veneer, this model is offered at a list price of \$49.75.

Simplicity of operation appears to be an outstanding characteristic of the new Sparton Multi-Wave Receivers. For example, the specifications of the model 16 AW include two separate tuning controls. This 13-tube Superheterodyne is designed to provide quick and easy access to the intriguing entertainment afforded by the short-wave channels below 20 meters, as well as to the more conventional offerings of the regular broadcast

band. Sparton standards of cabinet work are said to be admirably exemplified by this model, which carries a list price of \$155.00.

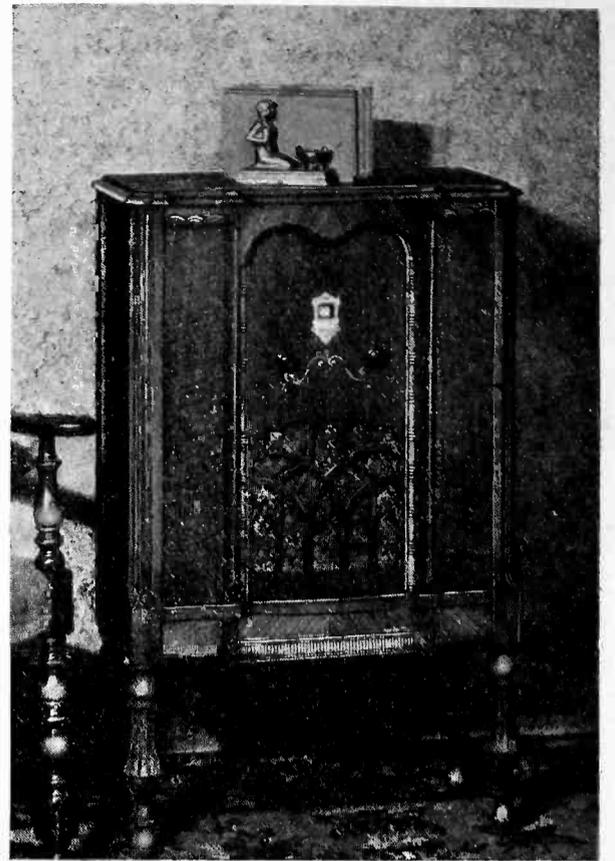
Model 26 AW, priced at \$195.00, combines the familiar Sparton Super-sonne 26 chassis with the advantages of short-wave reception.

Two additional new instruments, which bring Sparton prices for console models to a level considerably lower than heretofore, are model 12, a 5-tube chassis offered at a list price of \$64.50 and the 9-tube model 16 at \$114.00. The Superheterodyne circuit is used in both models.



SPARTON MODEL 60 SHORT-WAVE CONVERTER

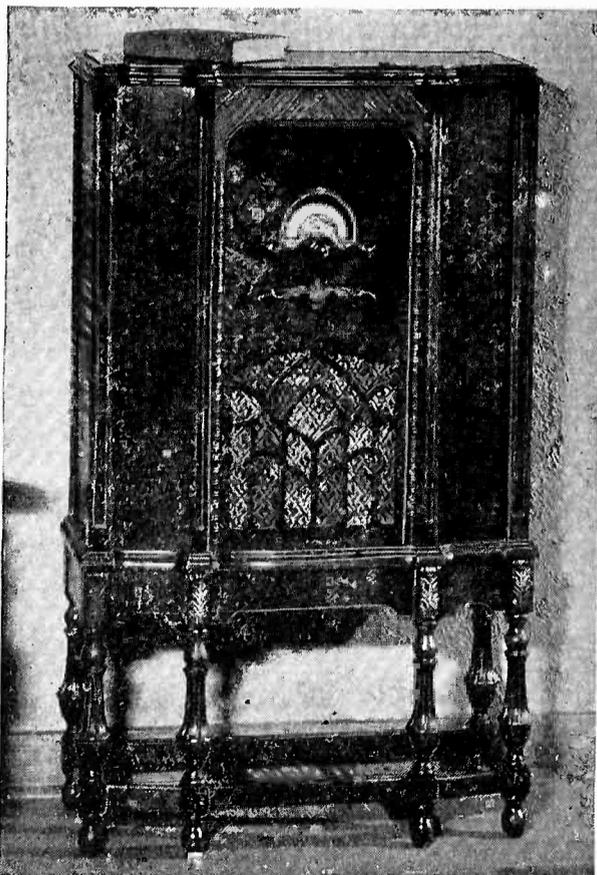
A four-tube instrument of advanced design with exceptional SPARTON features. Encased in a beautiful cabinet with butt walnut panel. Width 18 inches; depth, 10 inches; height, 10 $\frac{3}{8}$ inches; weight, 24 lbs.



SPARTON MODEL 12

A most attractive console with butt walnut control panel and pleasing design. Has a remarkable five-tube Superheterodyne chassis with Pentode and Screen Grid tubes and rectifier filter system. The entire chassis is completely shielded and includes an antenna compensating condenser. Beautiful tone quality and a marvelous performance.

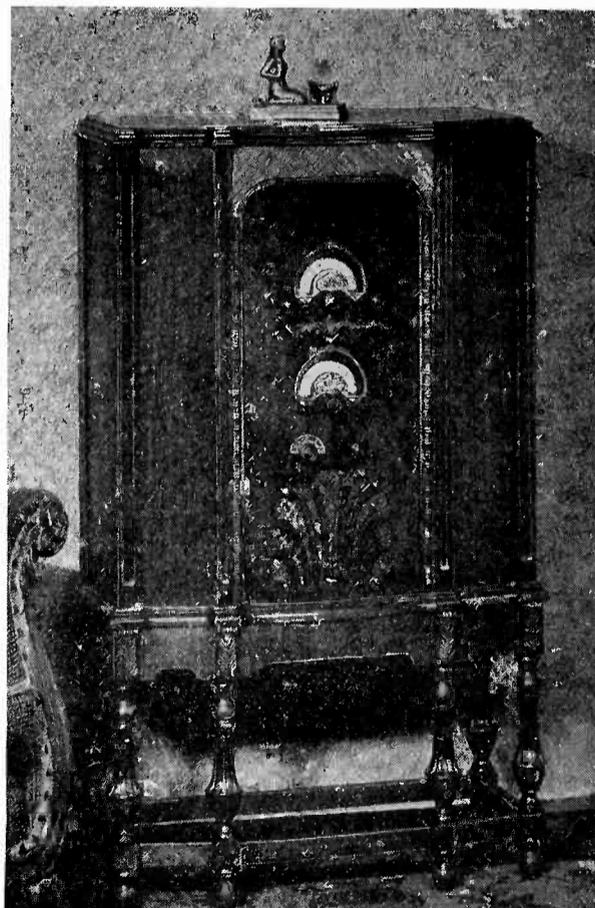
Height, 33 inches. Width, 23 inches. Depth, 10 $\frac{1}{2}$ inches. Weight, 40 pounds.



SPARTON MODEL 16

A beautiful six-leg console model with butt walnut panels and the finest cabinet craftsmanship. Has powerful nine-tube Superheterodyne completely shielded chassis with push-pull Pentode, Automatic Volume Control, Tone and Static Control, Full Vision Dial, Phonograph Pick-up Jack, Voltage Compensator, Antenna Equalizer, and all modern SPARTON engineering features. A remarkable instrument of highest quality.

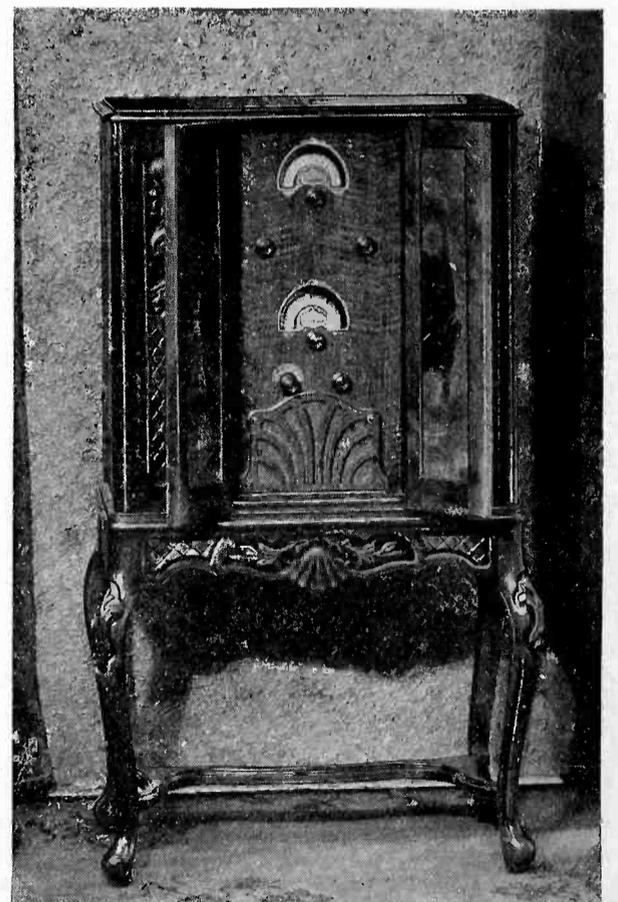
Height, 44 inches. Width, 26 inches. Depth, 12 inches. Weight, 58 pounds.



SPARTON MODEL 16 AW

A deluxe Multi-Wave Receiver in SPARTON cabinet of striking beauty. At a turn of the Band Selector and Control Knob, this marvelous instrument is instantly adapted for either the long-wave or the world spanning short-wave reception as desired. A powerful 12-tube Superheterodyne with Automatic Volume Control, Tone and Static Control, Phono Pick-up Jack, Band Selector Switch, and all the finest SPARTON features.

Height, 44 inches. Width, 26 inches. Depth, 12 inches. Weight 70 pounds.



SPARTON MODEL 26 AW

An exquisite Louis XIV console that reflects the finest craftsmanship in furniture design and expert cabinet making. This model is fully equipped with combination standard and short-wave chassis, having the famous SPARTON Super-Sonne circuit with thirteen tubes. Has Multi-Wave Band Selector Switch, Lafoy Automatic Volume Control, Tone and Static Control, full vision dials and phono jack.

Height, 45 $\frac{1}{2}$ inches. Width, 25 inches. Depth, 14 inches. Weight, 97 pounds.



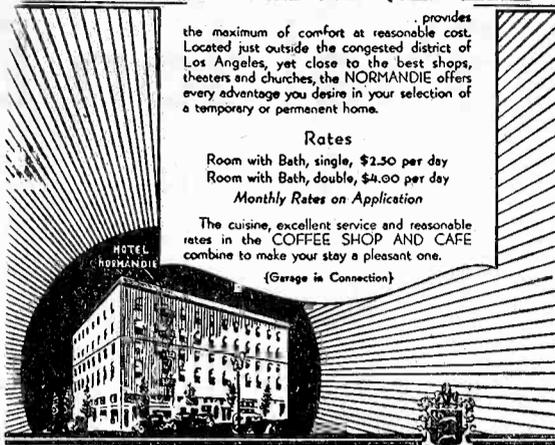
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150 ROOMS WITH PRIVATE BATH

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RATES

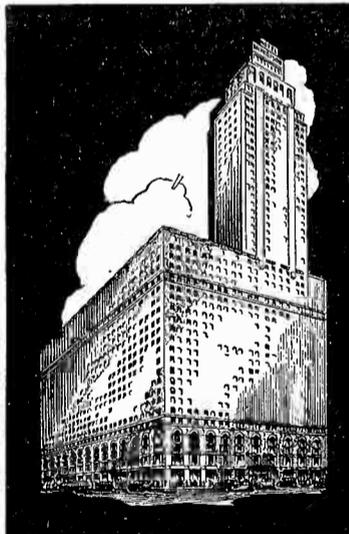
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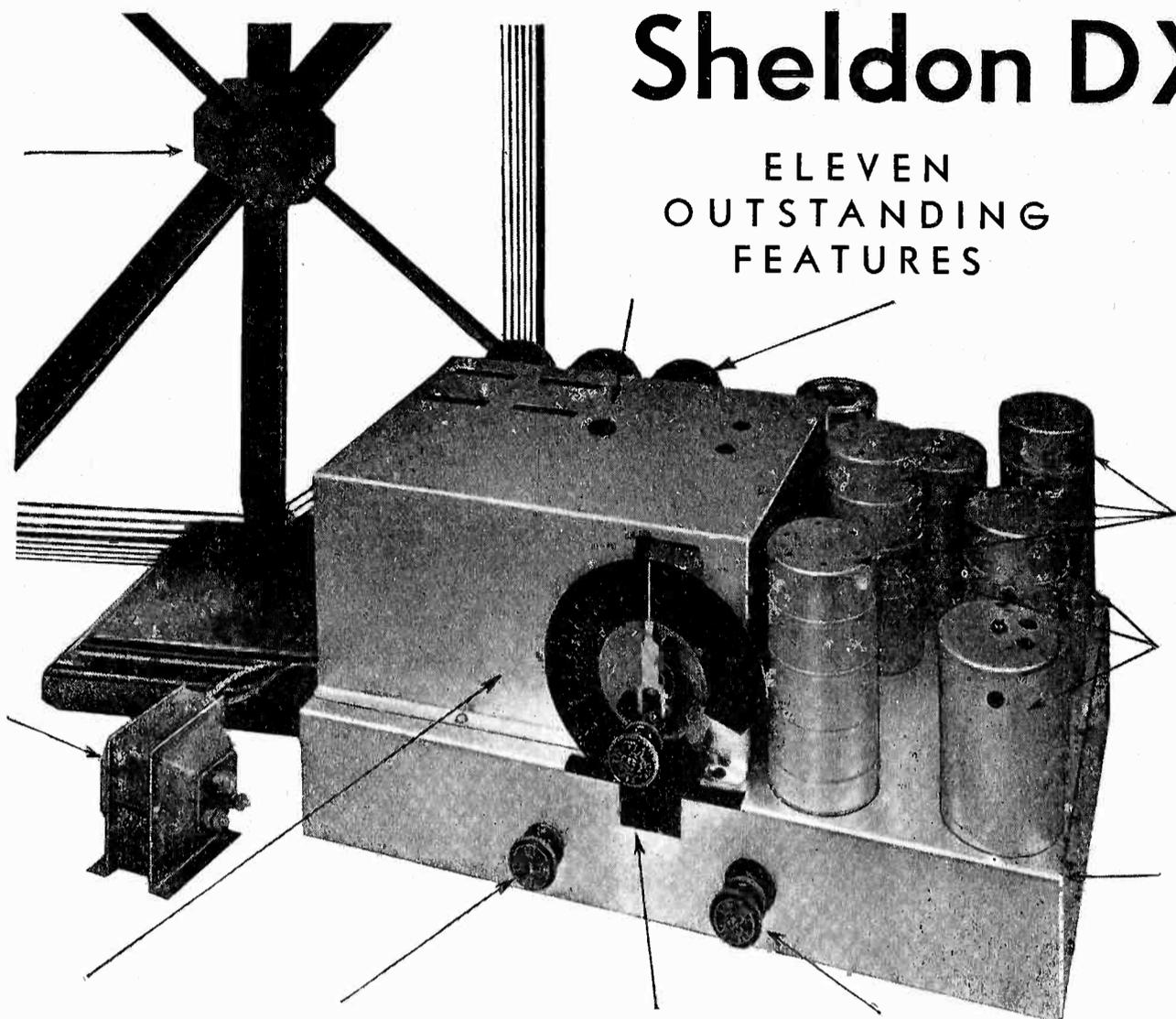
Leonard Hicks, Managing Director

2500 ROOMS
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Sheldon DX11 Chassis

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OUTSTANDING
FEATURES

OBTAINABLE IN
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• • •
Directional Loop, 18 by 24 inches in size, standard loop cable wound, efficient, sturdy construction mounted on pivot in base. Loop may be removed and aerial used for ordinary reception not requiring extreme selectivity and static reduction. Loop will isolate one station from another working on the same wavelength and reduce static an average of 50 per cent on extreme distances.

• • •
Output Transformer of twice the size and cost ordinarily used in modern sets coupled with special design of dynamic speaker giving natural response to the lowest and highest notes produced by any broadcasting station.

• • •
Loop tuning-condenser and amplifier tube enclosed under hood and controlled by main selector knob with aid of small trimmer.

• • •
Combined volume and distance control and on-off switch. Smooth, quiet, stepless control.

• • •
Kilocycle dial, accurately calibrated, wide vision, illuminated, positive gear driven.

• • •
Loop trimmer-condenser insures perfect synchronism of loop with set.

• • •
Heavy gauge cover encloses five gang condenser and TRF coils minimizing aerial effect of these parts and permitting directional ability in loop.

• • •
Two five-element Pentode Power Tubes in Push-Pull furnishes greater power and superior tone quality than formerly obtained in expensive, bulky power amplifiers with many expensive tubes to maintain.

• • •
Efficient aluminum shields completely housing the new Variable-Mu or exponential Tubes. These tubes reduce greatly customary background noises and cross-talk.

• • •
Six tuned circuits in Intermediate and second detector stages housed in these shields together with five variable tuning stages totaling eleven tuned circuits bases claims for the most selective practical radio now or ever put on the market.

• • •
Chassis is cadmium-plated, 17 1/4 inches wide, 10 1/2 inches deep and 8 inches high, rugged construction and all parts easily accessible.

SENSITIVITY

So great that transcontinental reception has been demonstrated on a miniature loop 1 1/4 inches in diameter. On 24-inch loop—the World and noise level is the limit.

• • •

SELECTIVITY

10 kilocycle plus.
Actually shows clear reception from either of two stations operating on the same dial settings as KGW and KTAR, KOAC and KSD.

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TONE QUALITY

The full rich tone of the Sheldon is as remarkable as its distance and selectivity qualities. Direct comparisons show it. Perfected tone control and static reducer featured.

\$150.00

Complete 11 Tube Loop
Chassis De Luxe
in Elegant Walnut Console

\$125.00

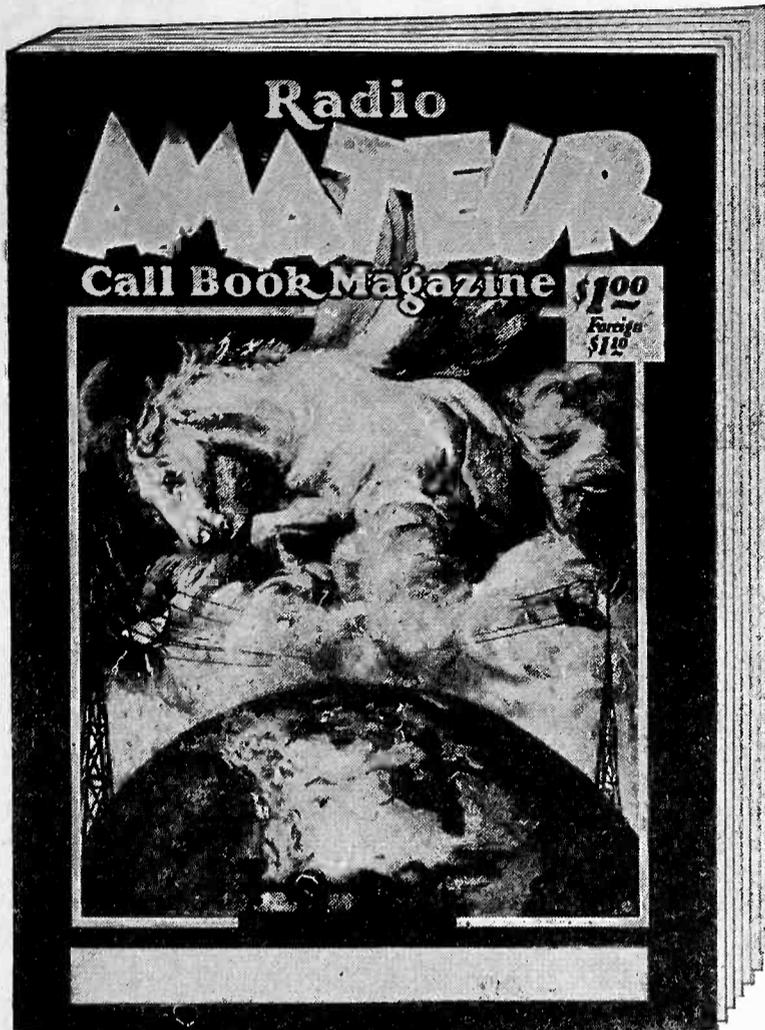
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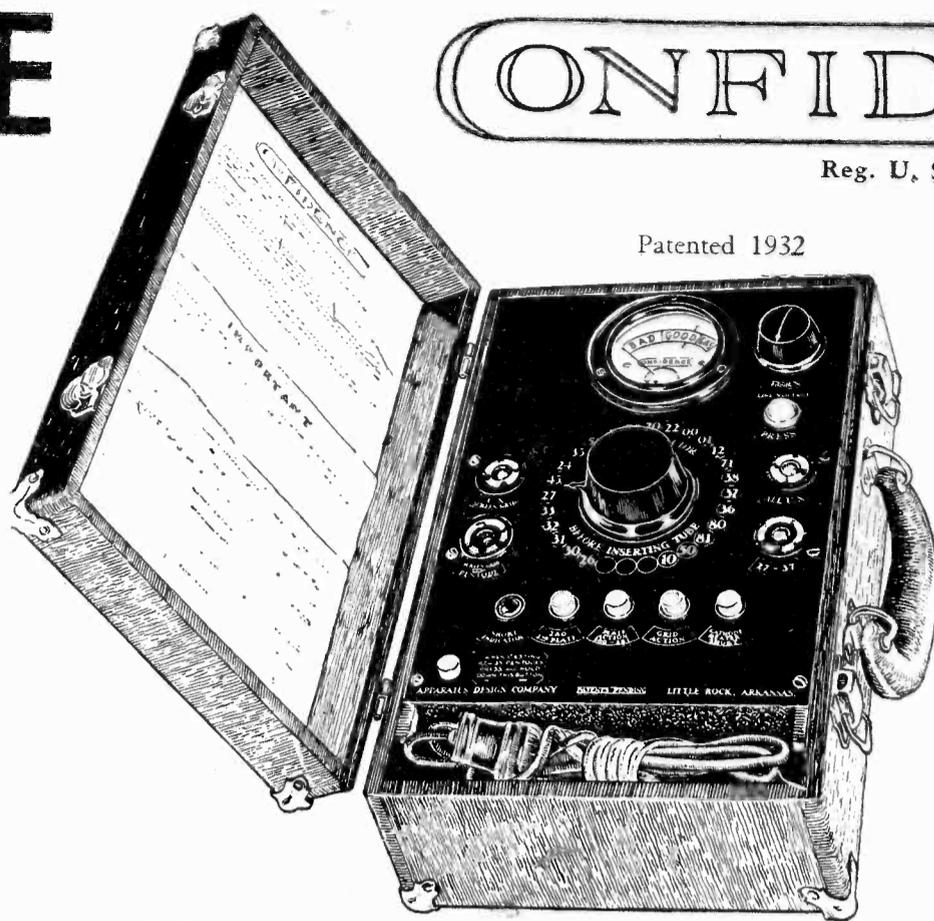
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Hot tube sale plan . . . all necessary printed matter free to each owner of a Confidence Tube Tester. Get the business . . . more than all competitors . . . use this plan. No soliciting.

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Leatherette covered case 9x14x5 inches
Full instructions with instrument
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The Confidence Portable Tube Tester reaches the 75% of public who cannot or will not remove their tubes from the radio to be taken to a store for tests . . . use this Portable device and get most of the replacement tube business. It interprets everything and your customer believes it . . . they know what is happening because it is in English. Slip-hinge cover removes for counter use.

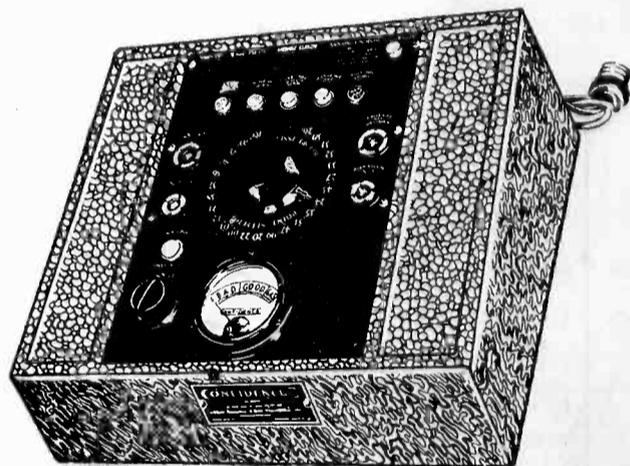
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The Confidence Radio Tube Tester is the latest advancement in the art of testing tubes . . . it is marvelous . . . select your tube, press two buttons and in English it tells the condition . . . emission, spacing of elements, plate impedance, presence of gas . . . in fact, everything necessary to know about the condition of a tube, all predetermined and interpreted into English. Originators of BAD—GOOD—GAS readings. Indicates on one jeweled lamp every possible short in a tube. High resistance cathode to heater shorts indicated.

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Take advantage of the free trial offer and unconditional factory guarantee.

You May Buy Through Your Jobber or Use Trial Coupon



Counter Type \$59.50 Net

Counter type, \$59.50 net. Meter faces customer, otherwise the instrument is same as Portable except it is housed in an attractive black leatherette covered counter housing. Placards are mounted on side panels reading "Free Tube Testing."

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APPARATUS DESIGN COMPANY

Little Rock, Arkansas.

Gentlemen:

Please ship immediately one.....type Confidence Tube Tester for which I will either deposit \$59.50 with the express agent or deposit \$16.50 cash first payment and sign five monthly installment notes of \$10.00 each. If at any time within three days I do not want the Confidence Tester I may return it to the express agent in good condition and receive my money back. I will pay the small transportation charges.

NAME.....

ADDRESS.....

Please Attach Three Trade References

1st and 2nd Credit Ratings Shipped Open

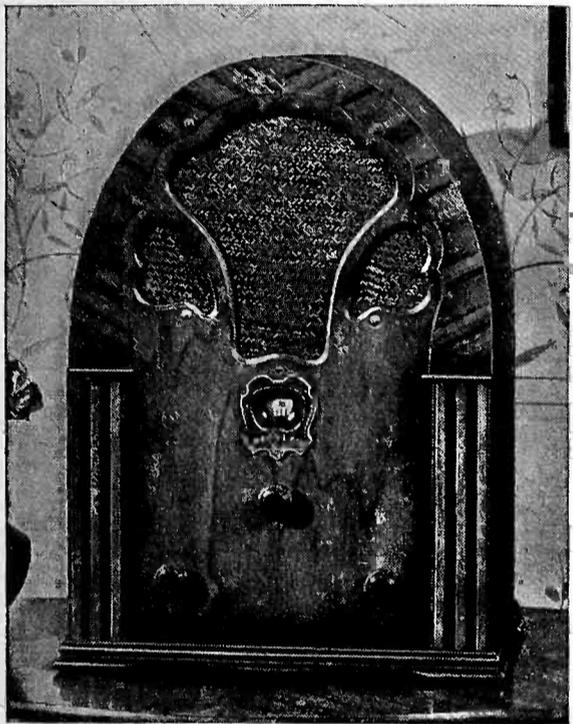
The Public Approves

These Sensational Low-Priced

CROSLEY

SUPERHETERODYNES

The Crosley LITLFELLA



\$ 36³⁶
 COMPLETE WITH 5 TUBES
 AND TENNABOARD

The tremendous success and extreme popularity of this sensational table model radio receiver is proof of its unusual value. The front panel is of beautiful figured walnut veneer. The arch of Oriental veneer is supported at the sides with delicately fluted pilasters. The five tube superheterodyne chassis incorporates pentode output, variable mu, continuous (stepless) tone and static control and on-off switch, volume control, illuminated hairline shadow dial with vernier drive. The speaker is the full floating moving coil dynamic type. The price of this radio marvel is extraordinarily low. Dimensions: 17" high, 13" wide, 8½" deep. The same chassis is contained in The BIGFELLA, a console, for \$48.48, and The PLAY-TIME, Jr., grandfather clock model, for \$79.75.

The Crosley PLAYBOY

The recessed front panel of this unusual radio receiver is of figured walnut veneer finished in two-tone effect and high-lighted. A pierced overlay extends from the base of each pilaster; above the overlay the pilasters are coved and finished in black. The front panel arch is of burl maple overlay. The 8-tube superheterodyne chassis incorporates push-pull pentode output, variable mu, continuous (stepless) tone and static control, illuminated hairline shadow dial with vernier drive. Full floating moving coil dynamic speaker is used. Dimensions: 17½" high, 16" wide, 9⅞" deep.

The same chassis is contained in console models and a grandfather clock model with dual speakers, at sensationally low prices—all under \$100. See your Crosley Distributor for details.

\$ 49⁷⁵
 COMPLETE WITH 8 TUBES
 AND TENNABOARD

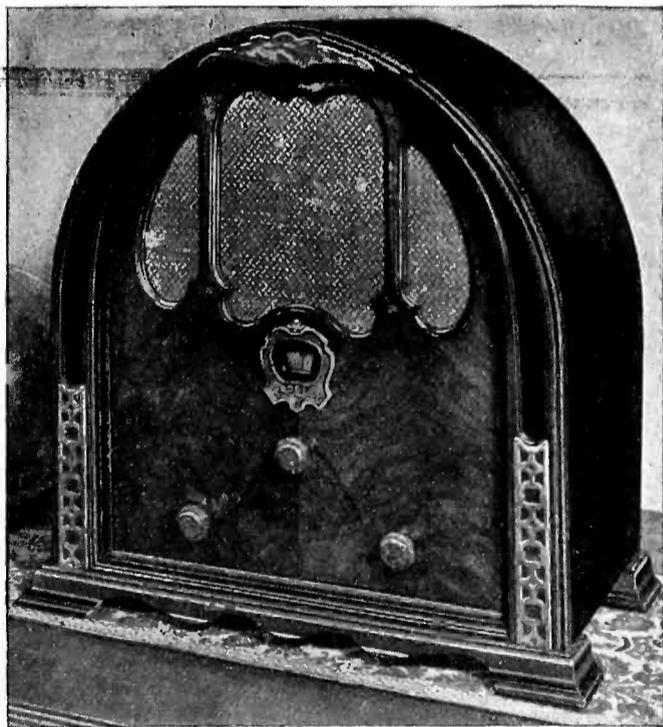


The Crosley TYNAMITE

The gem of all radio receivers! The attractive cabinet is of fine selected woods carefully finished and high-lighted. The 4-tube superheterodyne chassis incorporates pentode output, variable mu, image suppression pre-selector, combined volume control and on-off switch, illuminated station selector. Full floating moving coil dynamic speaker is used.

\$ 29⁷⁵
 COMPLETE WITH 4 TUBES

Here are big set features at a remarkably low price. Dimensions: 13½" high, 9¾" wide, 7½" deep. The same chassis is housed in a lowboy console model, The BONNIBOY, selling for \$39.75.



Crosley 10-tube Superheterodyne with Automatic Volume Control and Meter Tuning

The Crosley TENSTRIKE, a table model at \$69.50 and The Crosley HAPPY HOUR, a console at \$99.50 (with dual speakers \$109.50) incorporate a 10-tube superheterodyne chassis, Automatic Volume Control, Meter Tuning and other recent radio refinements.

Combined SHORT and LONG Wave Receivers

The 7-tube Crosley DISCOVERER at \$77.50 and the 12-tube Crosley ADVENTURER at \$119.50 are the most up-to-date radio receivers. Every channel from 14 to 550 meters is covered. These Superheterodynes are housed in beautiful cabinets, and are priced amazingly low.

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.

THE CROSLEY RADIO CORPORATION

Powel Crosley, Jr., President

CINCINNATI

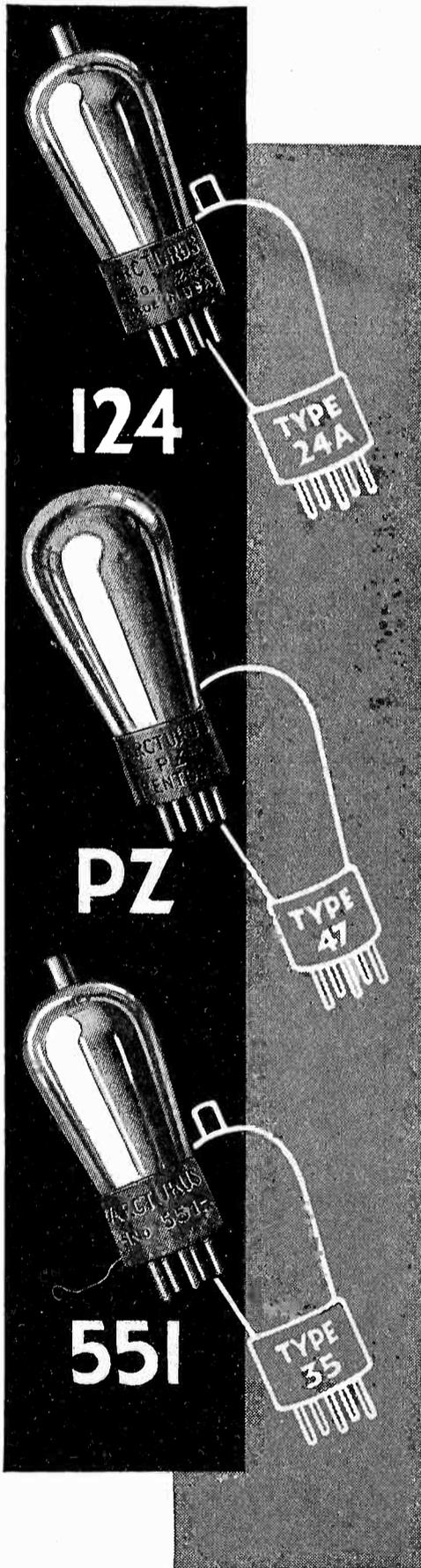
Home of "the Nation's Station"—WLW

Also manufacturers of the Crosley ROAMIO Automobile and Motor Boat Radio Receiving Set and Crosley Battery Radio Receivers

YOU'RE THERE WITH A CROSLEY

CROSLEY RADIO

Why **THE DIFFERENT DESIGNATIONS?**



Arcturus 124 Other Manufacturers—'24A

Arcturus 551 Other Manufacturers—'35

Arcturus PZ Other Manufacturers—'47

124 ('24A) When Arcturus introduced the first Type 124 Screen Grid Tube to the industry, it was a quick-heater. The advantages of the quick-heater created an acceptance and demand so pronounced that other tube manufacturers eventually changed to the quick-heater type of screen grid tube. To distinguish their quick-heater type from their old slow-heating tubes, they added an "A" to the designation.

Arcturus did not want to confuse its many users by changing type numbers when no change had been made in the tube.

551 ('35) The Types 551 Variable-Mu and **PZ ('47)** PZ output Pentode were pioneered by Arcturus. Many contracts were closed and great numbers of these tubes were made and sold before other tube manufacturers announced their types. Although adopting Arcturus standards, they introduced other symbols.

Arcturus, not to confuse the multitude of users who had been using these tubes from the time they were developed, did not change the designations.

Today—

the Type 124 is interchangeable with '24A

the Type PZ is interchangeable with '47

the Type 551 is interchangeable with '35

In choosing these types of Arcturus Blue Tubes you get a product with a year more experience behind it than any other make of tube. These are the tubes that critical engineers, set manufacturers and users approve as the quality tubes of the industry.

ARCTURUS RADIO TUBE COMPANY, Newark, N. J.

A

ARCTURUS

The BLUE TUBE with the LIFE-LIKE TONE

WESTERN DIVISION: Arcturus Radio Tube Co., 1855 Industrial Street, Los Angeles, Calif.