

Radio Retailing

The Business Magazine of the Radio Industry

ELK POINT RADIO ELECT CO
ELK POINT S DAVE
ELK POINT RADIO ELECT CO
ELGAR W FREEMAN
NOV 28 1928

A McGraw-Hill Publication

DECEMBER, 1928

Sell the "HEALTHY TUBES"



SELLING healthy tubes means a healthy business for the radio retailer — customer satisfaction — no disappointments or complaints — repeat calls.

The unique construction of Raytheon tubes insures permanent position of each element, in correct relation to the others.

This important improvement means longer life to the tube, freedom from microphonic noises, and a uniform reliability that gives a

LEVEL PERFORMANCE NOT PEAKS AND VALLEYS UPS AND DOWNS

Note diagram at right showing how Raytheon uses, instead of the ordinary 2-point, bottom-only support, its own 4-pillar construction, cross-anchoring the elements, top and bottom, at 8 points.

RAYTHEON MANUFACTURING CO.
Cambridge, Mass.



Raytheon

LONG LIFE RADIO TUBES

*A sweeping
departure in Dy-
namic Speaker de-
sign that places the
out-of-date tag on
all other types of
Dynamic Speakers*

Farrand Announces

*an extraordinary advancement—the Farrand
INDUCTOR Dynamic Speaker—which com-
pletely revolutionizes Dynamic Speaker sales,
usage and performance—making Dynamic
operation available for every type of radio
receiver, at PRICES hitherto unknown.*

In the INDUCTOR Dynamic, Farrand has attained the goal striven for by all speaker manufacturers—a speaker *entirely dynamic in operation* in which all of the following heavy and costly parts are eliminated:

*No FIELD COIL—No IRON COIL HOUSING
No POWER TRANSFORMER—No DRY RECTIFIER
No CONDENSER*

Farrand **INDUCTOR** *Dynamic Speaker*

FARRAND MANUFACTURING COMPANY, INC., LONG ISLAND CITY, N. Y.

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Radio Retailing

The Business Magazine of the Radio Industry

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DECEMBER, 1928

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New McGraw-Hill Building in Chicago

THE McGraw-Hill Publishing Company, publishers of *Radio Retailing* and 23 other magazines, is to have new Chicago headquarters at 520 North Michigan Boulevard. The new fifteen-story edifice will be known as the McGraw-Hill Building and will house all of the McGraw-Hill Company's Middle West activities, including the Chicago branch office of *Radio Retailing*.

The new building is indicative of the expanding service which the McGraw-Hill Company is constantly striving to provide for its readers and advertisers.

The new McGraw-Hill Building is keyed No. 1 in the photographic map below. Some of its neighbors include: 2. The Tribune Tower; 3. Wrigley Building; 4. Pure Oil Building; 5. Mather Tower; 6. London Guarantee and Accident Building; 7. Allerton Club; 8. Medinah Athletic Club; 9. Lake Shore Athletic Club; 10. Northwestern University.



(Chicago Aerial Surveys)

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Engineering and Mining Journal Food Industries
Chemical & Metallurgical Engineering American Machinist
Electrical Merchandising Power Electric Railway Journal
Bus Transportation Engineering News-Record
Coal Age Construction Methods
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WASHINGTON, National Press Bldg.
CHICAGO, 7 South Dearborn St.
PHILADELPHIA, 1600 Arch St.
CLEVELAND, Guardian Bldg.
ST. LOUIS, Bell Telephone Bldg.
SAN FRANCISCO, 833 Mission Street
LONDON, E. C. 8 Boulevard St.



No. 636 Stromberg-Carlson, Art Console.
Operates on A. C. Tubes. Price less tubes
and Speaker \$245.00
Slightly higher Rockies and West and Canada

GLORIOUS STROMBERG-CARLSON TONE . . . Prestige . . . Profit

Back of every Stromberg-Carlson dealer is a mighty selling force, invisible, intangible, yet nevertheless real—the superb tonal quality of Stromberg-Carlson Receivers.

Because of this glorious tone—the most desired and elusive quality in radio—PRESTIGE attaches to the store of the merchant who has the Stromberg-Carlson line. And with this prestige comes PROFIT, as profit always comes with merchandise where excellence is undeniably attained.

*Stromberg-Carlson models for A. C. and D. C. areas
range in price from \$185 to \$1205, East of Rockies.*

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

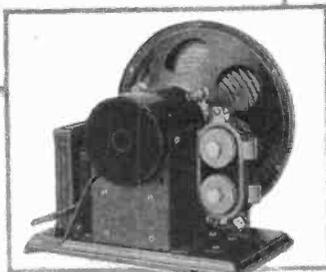
Stromberg-Carlson

Makers of voice transmission and voice reception apparatus for more than thirty years.

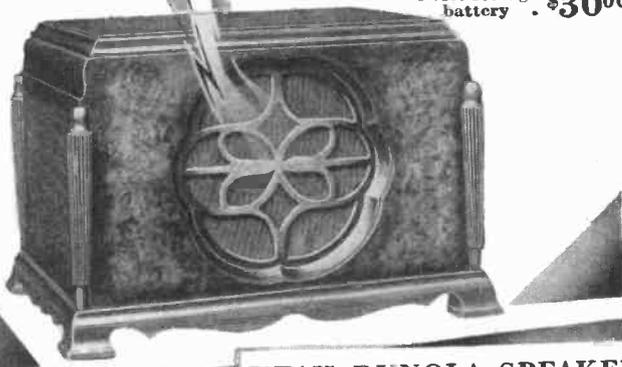
Merry Christmas

HERE is more to this business of yours and ours than the earning of profit. For we have made possible, through Utah Speakers, a keener enjoyment of the joy and laughter, the song and sweetness which radio affords.

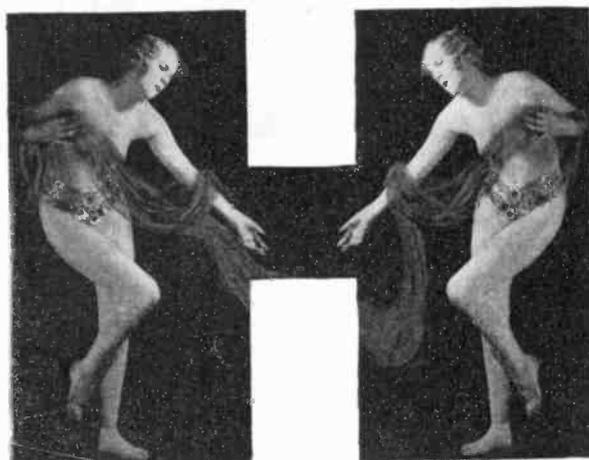
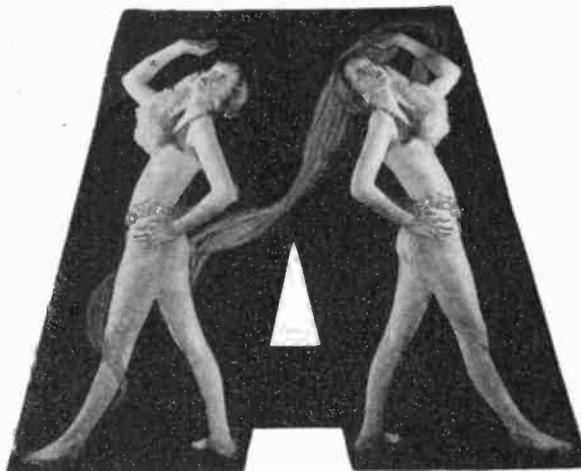
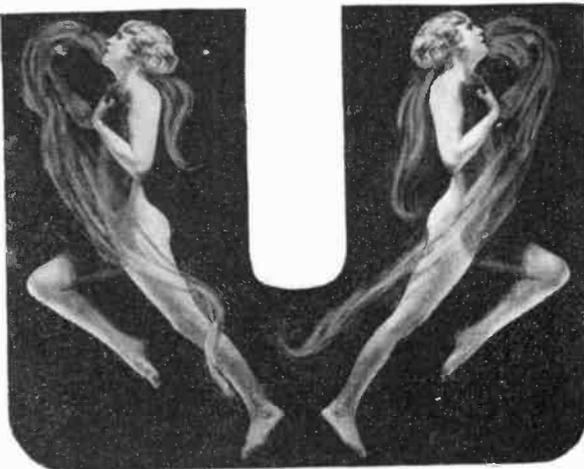
UTAH RADIO PRODUCTS COMPANY
1615 S. Michigan Avenue Chicago



A-100 DYNAMIC CHASSIS
110 volt alternating current light socket supply for field excitation using Westinghouse dry rectifier . . . \$40.00
D-200 for 110 D. C. R-300 for 6 volt storage battery . . . \$30.00



UTAH DYNOLA SPEAKER
Equipped With 110 A. C. Dynamic Unit . . . \$65.00
Equipped With 6 volt Dynamic Unit . . . \$55.00
Equipped With 110 D. C. Dynamic Unit . . . \$55.00





BEHIND every Gold Seal Tube stands the Gold Seal Guarantee which says "We protect our dealers". First by quality manufacture and testing: second by packing in air cushion boxes: third by proper dealer profits. Dealers make money on Gold Seal Tubes because golden tone and long life mean customer satisfaction. Our dealers stick to us because they get a square deal. Write for particulars.

Gold Seal Electrical Co., Inc.
250 Park Ave., New York City

Gold Seal RADIO TUBES

Gold Seal
Electrical Co.
Inc. New York
Chicago



Also Manufacturers
of Gold Seal
Electrical
Appliances

Get it *Better* with a Grebe

Satisfactory Profits; Satisfied Customers; Satisfactory Service !



**Table
No. 2249**
For Grebe Syn-
chrophase A-C
Six; contains a
compartment
for dynamic
type speaker.



**Console
No. 820**
For Grebe
Synchro-
phase A-C
Six and
Grebe
Seven A-C



**DeLuxe
Console**
Equipped
with
Grebe
Synchro-
phase
A-U Six.



**Grebe
Synchrophase
A-C Six**

ENTERPRISING dealers who are push-
ing the Grebe Synchrophase A-C Six
this Christmas are reaping three-fold
profits—profit from a monetary standpoint
—profit from the friends it makes—and profit
from the minimum of servicing required.

The wide acceptance of the Grebe Synchro-
phase A-C Six this Christmas, and also of the
new and beautiful Grebe line of consoles and
tables, means that more people than ever will
discover that they can "Get it better with a
Grebe"—a pretty sound indication of bigger
Grebe business during the coming year.

Grebe Synchrophase A-C-Six
List Price (less tubes) \$197.50
An A-C operated receiver
with distinctive Grebe im-
provements for better local
and distance reception that
will instantly appeal to the
buyer.
Grebe Synchrophase Seven
A-C. List Price (less tubes)
\$195.00

Grebe Synchrophase Five
List Price (less tubes)
\$105.00

Grebe Natural Speaker
List Price \$35.00

Grebe No. 1750 Speaker
List Price \$17.50

Send for Booklet RR

A. H. Grebe & Co., Inc.
109 West 57th Street, New York City
Factory: Richmond Hill, N. Y.
Western Branch: 443 South San Pedro Street
Los Angeles, Calif.
Makers of quality radio since 1909

GREBE

SYNCHROPHASE

TRADE MARK REG. U.S. PAT. OFF.

A-C Six

RADIO



This Christmas

Is the Middle - Not the End of the Radio Season

Q To our many distributors and dealers we extend our sincere thanks for the hearty cooperation that has made Kellogg Radio so outstanding a success. ¶ ¶ ¶ ¶ ¶ ¶ ¶ ¶

Q We also wish to express our deep appreciation of the patience shown by those who have experienced delay in receiving their full shipments of Kellogg merchandise. ¶ ¶ ¶ ¶ ¶ ¶

Q We believe that the very conditions which have created a demand beyond all expectations, will also result in heavy buying after January first. And we pledge every effort to help you make the most of this opportunity for unprecedented sales.

Kellogg Switchboard & Supply Co.—Dept. 54-79
1020-1070 West Adams Street, Chicago

KELLOGG
The RADIO *with the* Cathedral Tone

SONATRON

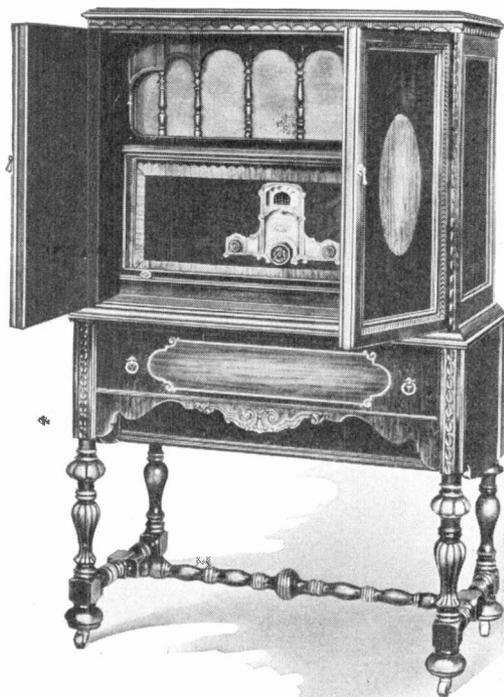
RADIO

TUBES

THE WORLD'S LARGEST
RADIO TUBE LINE



Announcing America's Finest Distance Receiver



THE sensational distance range of the Federal F-11 is now offered in a beautiful console cabinet with built-in speaker. This set with full 7-tube performance, operating on antenna and ground, has been proved, beyond question, the greatest distance getter ever offered in the radio industry. Verified reception from 607 stations (14 in Europe, Asia and South America) is the undisputed World's Record held by a New Jersey owner of a Federal Receiver.

For those who insist on distance range—coupled, of course, with the finest selectivity—Federal retailers have no competition.

Prices (without tubes)

F 43 (for battery operation)	\$295
F 43-60 (60 cycle)	\$370
F 43-25 (25 cycle)	\$395

Slightly higher west of Rockies. May also be had with dynamic speaker

FEDERAL RADIO CORPORATION, BUFFALO, N. Y.
OPERATING BROADCAST STATION WGR AT BUFFALO
Federal Ortho-sonic Radio, Ltd., Bridgeburg, Ont.

Federal ORTHO-SONIC* Radio

Licensed under patents owned and or controlled by Radio Corporation of America, and in Canada by Canadian Radio Patents, Ltd.

* Federal's fundamental exclusive development making possible Ortho-sonic reproduction is patented under U.S. Letters Patent No. 1,588,470

FEDERAL RADIO CORPORATION
1738 Elmwood Avenue, Buffalo, New York

Please send me complete details of the Federal proposition.

Name _____

Address _____ City _____

on the air

52 times during the coming year

CeCo RADIO TUBES

Launches Largest Broadcast Advertising Program in History!

HERE THEY ARE—

52 Sparkling, Entertaining Programs over these stations of the Columbia Broadcasting System. Every Monday Evening, 8:30 Eastern Standard Time. 7:30 Central Standard Time.

WOR —New York
WNAC—Boston
WEAN—Providence
WFAN—Philadelphia
WCAO—Baltimore
WFBL —Syracuse

WMAK—Buffalo
WJAS —Pittsburgh
WADC—Akron
WAIU —Columbus
WKRC—Cincinnati
WGHP—Detroit

WOWO—Fort Wayne
WMAQ—Chicago
KMOX —St. Louis
KMBC —Kansas City
KOIL —Omaha
(Council Bluffs)

WSPD —Toledo
WHK —Cleveland
WLBW —Oil City, Pa.
WMAL —Washington, D.C.



20,000 Tubes a Day!

CeCo now adds to its reputation for quality the distinction of being the Largest Exclusive Radio Tube Manufacturers in the world. Regular daily production now exceeds 20,000 tubes a day.

This is due to three things: the clear flawless performance, the rugged, lasting durability of the tubes, and vigorous sustained sales building advertising.

Reaching 76% of the people of the United States

These programs forcefully present CeCo advertising to approximately 7,000,000 set owners, with a potential "listenership" of five persons to a set or 35,000,000 people. Divide this great audience by four, to be conservative as to the number of people actually listening to any one program.

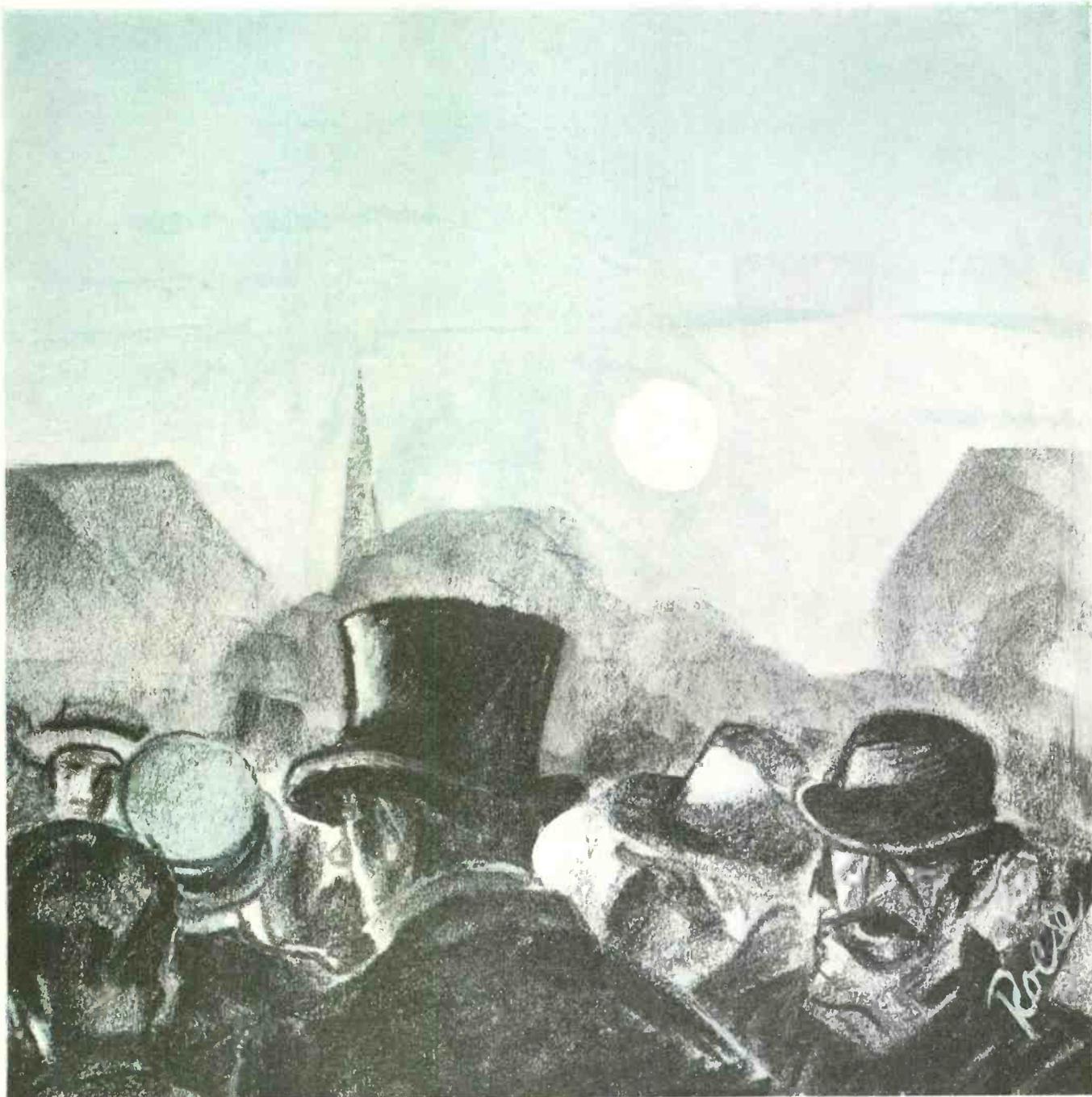
Estimated Actual Listeners—8,750,000 and all prospects for CeCo Tubes

CeCo Mfg. Co. Inc., Providence, R.I.



**“Don’t take my word fer it , ,
 . . . read the label on every bottle!”**

☞ Not so long ago radio advertisers, like the old time patent medicine peddlers, had little regard for the real facts. ☞ Claims! Inventions! Revolutions! and more claims! ☞ But radio advertisers now realize that if their prosperity is to be permanent they cannot behave like the one-night stand “firms” in the patent medicine business. ☞ They realize that they must make no claims that their merchandise



does not disclose *in the hands of purchasers*. ¶ The days of "read the label on every bottle" are gone. The label's message is not enough. Performance is the message the radio buyer wants. ¶ A good example of this new note in radio advertising is the Kolster campaign now appearing in 248 newspapers throughout the entire country, and in national magazines, on billboards and "the air." ¶ Kolster advertising compels attention, is dignified, and—most important of all—is convincing! ✓ ✓ ✓ ✓

COMMANDER BYRD selected Kolster Radio and Kolster Radio Compasses exclusively for his South Pole expedition. ¶ *What finer tribute could be given to Kolster dependability?*



Crowned with the wreath of **QUALITY**

*The Name La Salle, Identifies the Highest
Quality of Tubes Made*

NOW—at this festive season—the world is ringing 'round with radio messages of peace and goodwill . . . surely it is the time for the high quality of LaSalle Tubes in order that radio may not fail to deliver of its best!

To prepare every LaSalle Tube for severe tests *in service* we subject them to the most strenuous tests *in the factory*. Each and every tube—individually—must pass muster under the most critical inspection. Your customers take no chances with LaSalle High Vacuum Tubes.

In order to maintain our standard of 100% service we accept *only* that business to which we can devote whole-hearted attention. Added facilities now enable us to increase volume with no slack in quality of manufacture or service.

Our Special Distribution Plan will Interest You—Write for It

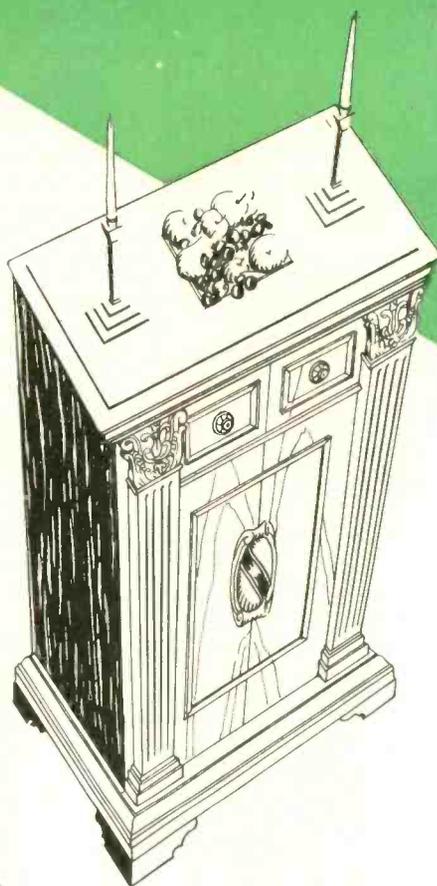
LA SALLE RADIO CORPORATION

143 WEST AUSTIN AVENUE

CHICAGO, ILLINOIS

LaSalle

**HIGH VACUUM
RADIO TUBES**



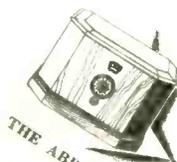
What of it?

HALF a dozen radios are following the trail blazed by Splitdorf with its "250" Tube. But Splitdorf uses sufficient voltage to make that tube deliver ALL the basses . . . and bring in the high notes with NO bass-caused distortion. Splitdorf stands out when compared with any other set in a way that amazes everyone. Maybe that is why Splitdorf dealers are selling as never before—and it's profitable business, too.

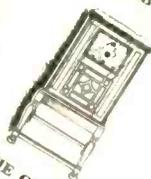
(Most liberal discounts to the trade.)

All models except The Abbey Jr. equipped for "250" tube and phonograph pick-up.

Prices of 8 models range from \$135 to \$850



THE ABBEY JR.



THE OXFORD



THE LORENZO



THE SALEM

SPLITDORF RADIO CORPORATION

Subsidiary of
Splitdorf-Bethlehem Electrical Co.
NEWARK, N. J.

THERE'S A Big Profitable Market FOR THIS Fast Selling Turntable



RADIO-PHONOGRAPH COMBINATIONS are becoming more popular, every day. Thousands of radio set owners are adding electric pick-ups and electric turntables to their radio equipment to obtain electric reproduction of phonograph records.

There's a big market for high-grade electric turntables. The sale of a pick-up paves the way for the sale of an electric turntable. Get this extra business by featuring the Bodine Electric Turntable. No exposed gears. No noise. The rugged induction motor has ample power for all records. The accurate governor maintains constant speed in spite of voltage changes.

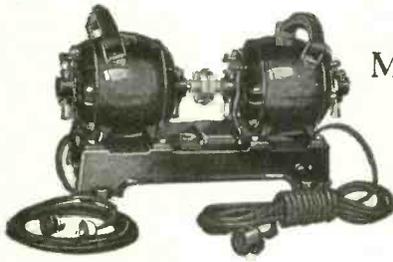
Send for latest Bodine bulletin and prices. Do it, now!

For Radio Manufacturers!

A Bodine Electric Turntable will be submitted to any radio set or cabinet manufacturer for test and trial. Write for sample and prices.

No Brushes No Commutator
No Sparking No Interference

Two Other BODINE Units for the Radio Trade

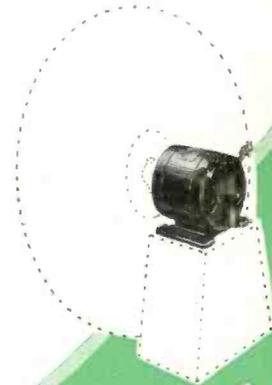


Model 1031-R
Motor-
Generator
Set

Built especially for demonstrating A. C. Sets and Phonographs in D. C. districts. Converts 110-115 volt direct current into 110 volt, 60 cycle alternating current. Filter, voltage regulator, etc., included. Just the unit for radio stores, apartments, hotels, department stores, etc.

Television Motors

For experimenters who demand a special motor for driving scanning discs. Speed may be varied 25% above and below normal. Motors supplied for 18, 20 and 24 inch discs. Motors run on alternating or direct current, interchangeably. Write for latest price list.



BODINE

SMALL MOTOR SPECIALISTS FOR 23 YEARS

Mail the Coupon

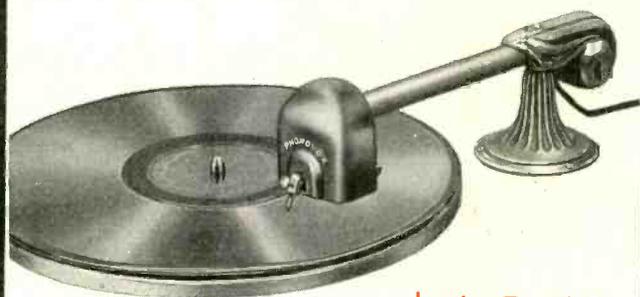
BODINE ELECTRIC CO.
2242 W. Ohio Street, Chicago.

Please send us information and prices on items checked below:

- Bodine RC-10 Electric Turntable
- Bodine 1031-R Motor-Generator Set
- Bodine Television Motors

Name _____

Address _____



\$13⁵⁰

The PACENT Phonovox

The largest selling pick-up on the market today. Offers a flawlessly beautiful tone. Simply and easily attached. Switches from radio to records without removing a tube. Balanced tone-arm and patented needle holder assures perfect contact between the record and the needle. Uses fibre needle without any loss of volume. Good-looking, sturdily constructed, it will last for years. List price, \$13.50.

Phonovox

PACENT

Electrovox

\$75⁰⁰



The PACENT Electrovox

A complete electric phonograph—when played through a radio—that provides tone quality that is absolutely unsurpassed by machines costing hundreds and hundreds of dollars. Instantly hooks up with the radio and switches from radio to phonograph without removing a tube. Electrically driven by the famous Pacent Phonomotor. Sturdily constructed and neatly installed in a cabinet decorative enough to grace the most beautiful room. List price, \$75.00.

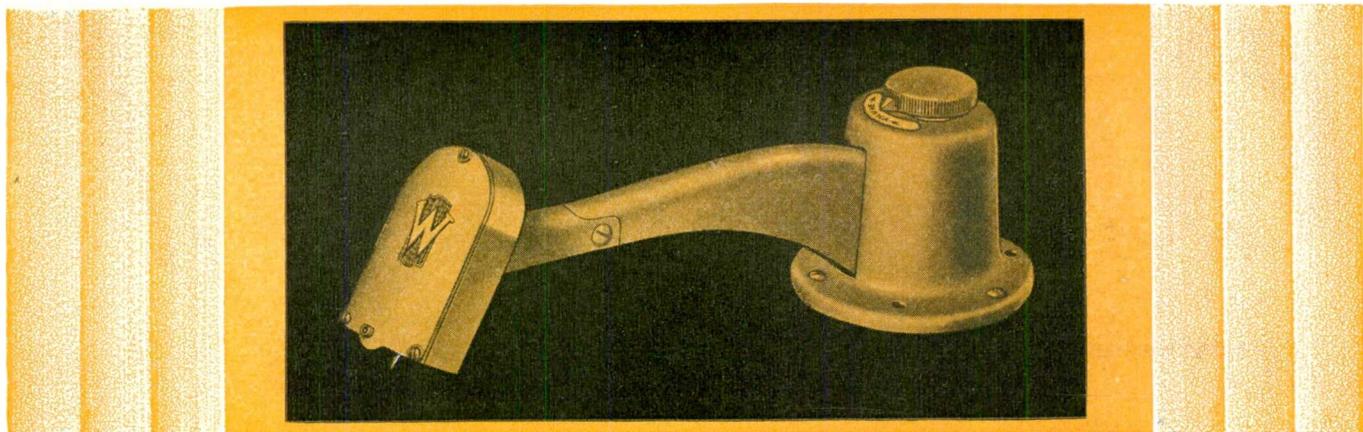
These Two Items are Building Business and Profits for Thousands

NEVER BEFORE in the history of the radio-phonograph industry have two products been more enthusiastically received than the Pacent Phonovox and Pacent Electrovox. Dealers all over the country report constantly increasing sales and are featuring them as ideal leaders to stimulate both the record and the radio business. Here is business that you don't have to struggle for. Merchandise that your customers will almost buy on sight. The market is ready and waiting for you. Don't let somebody else take it away from you. Write today to your jobber for complete information, discounts, prices, etc., or write direct to the

PACENT ELECTRIC CO., Inc., 91 Seventh Ave., New York City

Pioneers in Radio and Electric Reproduction for Over 20 Years

Manufacturing Licensee for Great Britain and Ireland, Igranic Electric Co., Ltd., Bedford, England



New Features... new Selling Points... new PROFITS!

the Webster Electric Pick-up offers you all these... plus faithful tone reproduction!

The Webster Electric Pick-up embodies engineering refinements that make it highly superior to the general line of pick-ups. It has been specifically designed to overcome the objections so common in less finely-developed products. Sweeping public acceptance is now accorded the Webster Pick-up, for it is the one reproducer that faithfully recreates all recorded music!

Each individual part of the Webster Electric Pick-up is perfectly matched and delicately balanced. A frictionless stylus bearing—a pick-up head encased in a die-cast dead-metal housing, that eliminates objectionable resonance—and a supporting arm of the cantilever type, suspended in snugly fitting bearings—these features are all tangible selling points which you can convert into additional profit!

Test the Webster in your own showroom! Note



the thrilling realism of its reproduction—the brilliance of the full symphony orchestra—the unbelievable delicacy of the solitary tone of the violin—the distinct whisper of a low human voice. This is indeed perfection for you and your public!

The Webster Electric Pick-up is available in two

Models. Model 1-A includes pick-up head, supporting arm with a volume control incorporated in the base—an exclusive Webster feature—and necessary adapters. The Model 1-B includes pick-up head, separate volume control, and necessary adapters. Model 1-A is priced at a list of \$17.50, while Model 1-B is priced at a list of \$12.50.

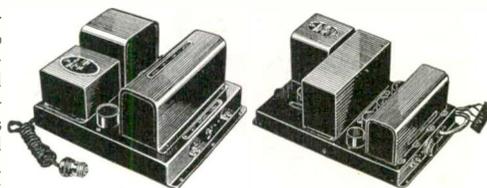
A very complete and practical assortment of sales helps—catalog pages, envelope enclosures, etc.—are supplied. Both models are packed in attractive self-selling counter display cartons—one Model 1-A to a carton and three Model 1-B to a carton—a small enough quantity to permit a constant stock yet secure quick turnover. The usual wholesale and retail discounts apply.

Your jobber now has the Webster Electric Pick-up in stock, and is ready to fill your orders. If he has not yet received his supply, order

direct from us. Get in on this new business as quickly as possible—it's a daily profit proposition!

Webster Power Amplifiers Another Precision-Built Webster Line

Skillfully engineered and built to precision standards, Webster Power Amplifiers provide vocal and musical amplification of new high



standards of perfection. A Webster Power Amplifier used in conjunction with the Webster Electric Pick-up is the ideal combination.

Model A-2 is a two-stage amplifier provides great volume with splendid tone quality. List \$105.00. Model A-3 is a three-stage amplifier produces exceptionally great volume but retains all tone qualities over entire musical range. List \$115.00. Model A-271 two-stage amplifier for home use with phonograph or radio. Fine tonal quality. List \$67.50. Prices slightly higher west of Rockies. Send for full details.

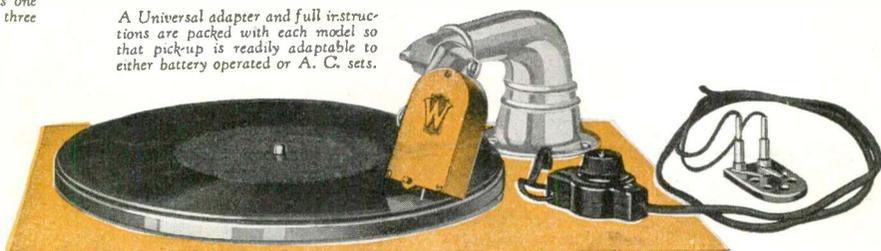


The attractive self-selling counter display carton which contains one Model 1-A or three Model 1-B.

WEBSTER ELECTRIC COMPANY
RACINE, WISCONSIN

Webster
Electric
Pick-up

A Universal adapter and full instructions are packed with each model so that pick-up is readily adaptable to either battery operated or A. C. sets.



Combined!

IN my opinion, this consolidation is one of the most constructive moves that has been made in the radio industry in some time. It is in keeping with the trend in other industries that has proven sound and has been beneficial to the public at large, as well as the trade. This move means more economical management and will reflect itself in additional profits to the dealer and even higher quality goods to the consumer. The identity of both lines will remain unchanged as to policy—the only change will be improvement of product wherever it can be possibly effected by the combined efforts of both organizations.

C. A. EARL, *President, Chas. Freshman Co. and
Chairman of Board of Directors of
Freed-Eisemann Radio Corporation.*

IT has been a great pleasure for those associated with the management of the Freed-Eisemann Radio Corporation to have been able to play their part in bringing about this consolidation with Freshman. These two lines represent many of the best accomplishments in radio history and the consolidation will make it possible for both organizations to contribute to the improvement of each other so that we may give the trade and the radio buying public even better value for their money than we might have through our individual efforts. I consider this move of distinct value to Freed-Eisemann distributors and dealers.

JOSEPH D. R. FREED, *President of Freed-Eisemann Radio Corporation and Vice-President and Director of the Chas. Freshman Co.*

**FREED-
EISEMANN**
The Magnifying Tone
RADIO

Why?

THIS combination of two of the leading radio manufacturers will add materially to the strength of each and will make possible a greater and more comprehensive service to the trade and the consumer.

It will mean great savings in management and production which in turn can be utilized for the development of both lines in many constructive ways that will make possible greater profits for dealers.

The identity of these organizations will remain unchanged as the chief objective of this merger is an even finer quality of product through the unification of management in sales, engineering and production.

Both Freshman and Freed-Eisemann lines will continue to be manufactured and sold as heretofore, and the dealer holding a franchise for either will find it a still more valuable asset during the coming year.

The sales organizations of both divisions will be very glad to answer any inquiries from Distributors or Dealers relating to product and policy. It is our intention to make the Freshman and Freed-Eisemann Dealer Franchises the most valuable in the radio industry. One may still be available in your territory. Write or wire today.

The executive personnel of the consolidation is:

C. A. Earl, President, Chas. Freshman Co. and Chairman of Board of Directors of Freed-Eisemann Radio Corporation. Joseph D. R. Freed, Vice-President and Director of Chas. Freshman Co. and President of the Freed-Eisemann Radio Corporation. Arthur Freed, Vice-President and Director of Chas. Freshman Co. and Vice-President of Freed-Eisemann Radio Corporation. W. J. Keyes, Vice-President and Treasurer, Chas. Freshman Co. and Treasurer, Freed-Eisemann Radio Corporation. Arthur A. Trostler, Vice-President, Freed-Eisemann Radio Corporation. Leo Freed, Vice-President, Freed-Eisemann Corporation. Harry A. Beach, Vice-President, Chas. Freshman Co. George Eltz, Vice President, Chas. Freshman Co.

CHAS. FRESHMAN CO., Inc.

240 West 40th Street - New York, N. Y.



The Authorized Furniture for All ATWATER KENT Radios

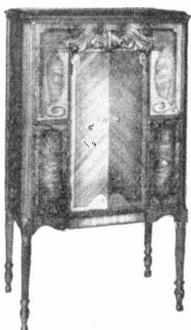
At a Profitable Price for the retailer

To get business, the retailer must offer notable value; to stay in business, he must make a profit.

Red Lion Combination No. 115 provides a combined phonograph-and-radio cabinet with built-in, electrically operated phonograph, for \$135.

The dealer can complete the equipment of this cabinet, with Atwater Kent 40 or 42 Radio, Atwater Kent Speaker, and tubes — and sell it entire at a price both profitable to him and attractive to his trade.

Furthermore, he will be selling a combination that gives sound quality — and hence, satisfaction — to the buyer.



RED LION No. 115

Improved phonograph with integral electric motor already installed; cabinet for Atwater Kent Radio and Speaker.

Price \$135⁰⁰

RED LION CABINET COMPANY . . . RED LION, PA.

AUDAK offers . . .

\$250⁰⁰

in **CASH PRIZES**
for a **NAME**

*Wanted: A New Name
for a Great New*

Chromatic, Electric

First Prize	\$150.00
Second Prize	50.00
5 Prizes, each	10.00

PICK-UP

NOT "just another pick-up." We could have brought out that sort a long time ago . . . when they first began to appear. But AUDAK, makers of Talking Machine Reproducers which are the absolute standard in their field, refused to announce a new pick-up until we could offer one AS GOOD AS AUDAK REPRODUCERS. For, understand, merely reproducing and amplifying sound is not producing music, nor is it enough for a pick-up to accomplish. We visioned a perfect INSTRUMENT which would preserve the harmonics, the chromatic shadings, the very life of the music. Now we have what we sought . . . and we want a name for it.

THIS new AUDAK Pick-up is a fit running mate to AUDACHROME and the other fine AUDAK Reproducers, famous the world over in talking machine circles. It reproduces voice and music with all the vital accessories so essential to real entertainment (but woefully missed or blurred by ordinary pick-ups). It makes the transformation from mechanical to electrical frequencies with a faithfulness never before achieved. These are some of the ideas that may be embodied or suggested in the new name.

RULES

Contest open to all in the music-radio trades, except those connected directly with the AUDAK Company.

In the event of two or more persons submitting an identical winning name, each will receive the stipulated prize.

Judges will be three impartial executives, only one in the employ of this Company.

Submit as many names as you wish. All suggestions must be received before midnight, December 24th, 1928. Mail them to the Contest Editor of the AUDAK Company.

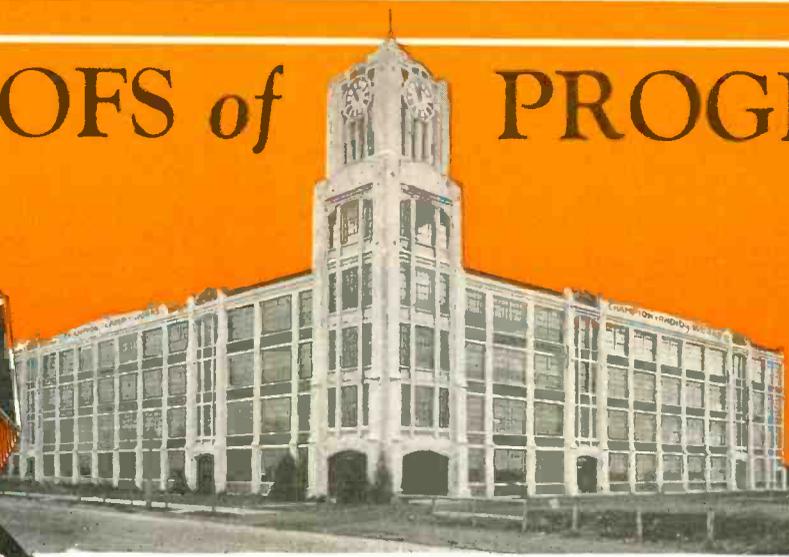
The **AUDAK COMPANY**

Fifth Avenue at 46th Street

New York

Creators of High Grade Electrical and Acoustical Apparatus Since 1915

PROOFS of PROGRESS



The new, highly modern Champion plant at Lynn, Massachusetts

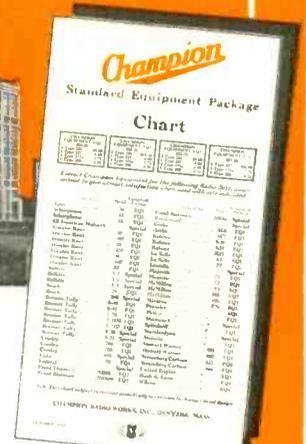


A YEAR of tremendous progress has brought Champion Radio Tubes into the very front ranks of radio equipment merchandise. Consistent high quality, made possible through the most modernly equipped factory, is the reason why Champion Tubes have attained this enviable position. Proofs of Champion progress lie in the fact that alert dealers most everywhere are selling Champion Tubes.

FOUR STEPS OF CHAMPION PROGRESS

1. **CHAMPION TUBES THEMSELVES**—developed into a fully rounded out line which includes finely made tubes of every type, for every purpose.
2. **THE CONFIDENCE-BUILDING CHAMPION GUARANTEE**—insuring fullest protection to both dealer and purchaser.
3. **CHAMPION STANDARD EQUIPMENT PACKAGES**—the new, more profitable, and more convenient method of selling tubes. This is one of the biggest forward steps yet made in radio tube merchandising. Correct combinations of Champion Tubes for all popular receiving sets, assembled and neatly packed in sealed boxes ready to sell with each new radio set.
4. **THE CHAMPION EQUIPMENT CHART**—a handy correct listing that shows at a glance the correct combination of tubes for any standard set.

The great progress Champion has made this year will be amplified next year. This will mean an opportunity for us to accommodate a greater number of dealers than we have been able to supply in the past. Will you be one of those progressive dealers?



Write today for the Champion Standard Equipment Chart, and our plans for Champion Tubes for the coming year.

Champion

CHAMPION
RADIO WORKS, Inc.
DANVERS
Massachusetts

RADIO TUBES

In the Popular Standard Equipment Packages



Announcement of the NEW 1929 Trav-Ler receiver

*Offers increased profit possibilities
and trade protection*

Just ahead are months when the Trav-Ler Receiver has its greatest sales. Now is the time to begin cashing in on this profitable market. The new 1929 Trav-Ler Receivers are in production and ready for immediate deliveries.

To aid you in building up your sales volume on the 1929 Trav-Ler Receivers, an extensive advertising and merchandising campaign is planned to bring live prospects into *your* store. Trav-Ler Receivers offer unlimited sales possibilities among hotel, apartment and club residents, traveling men, hospitals, country homes and persons desiring a second set for their home. This new set is the lowest priced standard five tube radio receiver on the market and has the additional advantage of instant portability. Thousands of sets now in use have proved the practicability and absolute dependability of the Trav-Ler. They are built by the oldest and largest exclusive manufacturer of this type of receiver in the world.



LIST PRICE
\$ **57.50**
LESS
ACCESSORIES

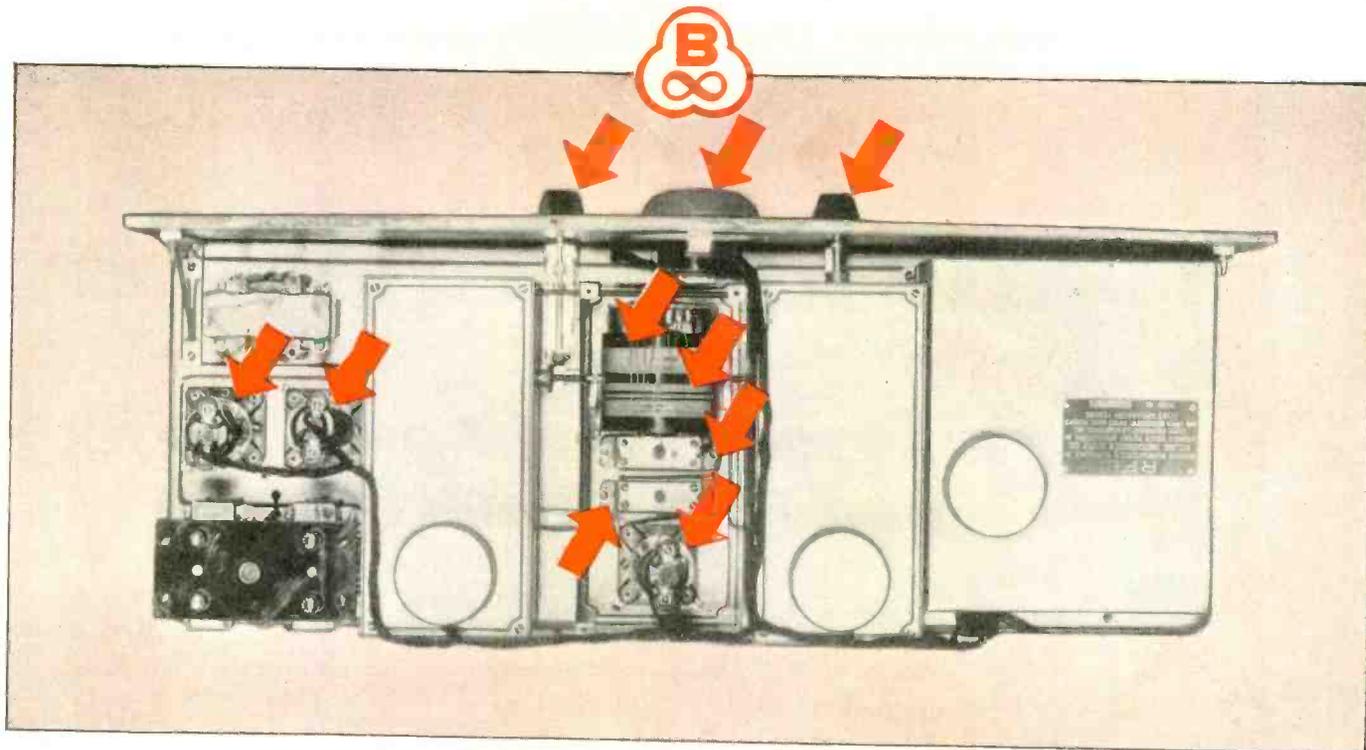


The new Trav-Ler trade policy gives complete protection to both jobber and dealer. Write or wire today for full details of the 1929 Trav-Ler proposition.

TRAV-LER MFG. CORP.,
3402 N. Halsted Street,
CHICAGO, ILLINOIS

The new Trav-Ler Receivers are offered with cases in color. The chassis has numerous improvements and refinements, resulting in greater selectivity, volume and tone quality.

TRAV-LER



Chassis of Kellogg A.C. Receiver showing some of the parts made of, or insulated with, Bakelite Materials. The receivers are made by Kellogg Switch Board & Supply Company, Chicago, Ill.

Throughout Kellogg A. C. Receivers Bakelite Materials are used for insulation

UNUSUAL clarity of reception and richness of tone distinguish Kellogg Radio Receivers. Kellogg maintains that they are designed for a "tone-conscious" public. To retain their original tonal values in service, radio receivers must have all vital parts insulated with a material which does not deteriorate with age and is unaffected by varying climatic conditions. As in the case of 95% of all radio manufacturers Kellogg found that Bakelite Materials most effectively met the need.

In the Kellogg Console receiver there are no less than fourteen different applications of Bakelite Molded and Bakelite Laminated. These include

tube sockets, control knobs, condenser knobs, rotor cone, stator cone, condenser bases, resistor bases, tube connectors, switch insulation, bushings, antenna condenser knob, binding post nuts, mounting plates and power control knob.

When manufacturers of fine receivers, such as the Kellogg, place so much reliance on Bakelite Materials, it suggests how important it is for radio dealers to be certain that the radio sets and parts which they sell are Bakelite Insulated. It is a precaution which brings returns in customer satisfaction. Send for a copy of Booklet 39 "Bakelite in Radio."



BAKELITE CORPORATION

247 Park Avenue, New York, N. Y. Chicago Office, 635 West 22nd Street
BAKELITE CORP. OF CANADA, LTD., 163 Dufferin St., Toronto, Ontario, Canada.

BAKELITE

REGISTERED U. S. PAT. OFF.



THE MATERIAL OF A THOUSAND USES

"The registered Trade Mark and Symbol shown above may be used only on products made from materials manufactured by Bakelite Corporation. Under the capital 'B' is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."



Model C-227
List Price, \$19.00

The Buckingham Electric Pick-Up

The Buckingham Engineering Staff has made it possible for you to hear and enjoy the world's greatest musical artists with that degree of perfection that heretofore was only possible with the highest priced electric phonographs.

The Buckingham Electric Pick-up is a precision made unit and in performance is second to none. Made of the finest materials, by master craftsmen, under the constant supervision of expert engineers.

Made in
12
Combinations

The Buckingham Electric Pick-up is a quality product backed by a complete guarantee but made on a mass production basis, thus enabling it to be sold at a price competitive with all.

The Buckingham Electric Pick-up is a unit of comparative low impedance, with high voltage out-put and uniform response over a wide range of frequencies, giving a definition that insures accurate, life-like re-creation of sound.

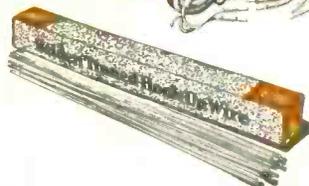
The Buckingham Electric Pick-up is now available in a wide range of combinations, making its adaptation very flexible.

**JOBBER AND DEALERS—ADD THIS PROFIT MAKER
TO YOUR LINE—WRITE OR WIRE FOR DETAILS**

BUCKINGHAM RADIO CORPORATION
440 West Superior Street, CHICAGO, ILL.



Model B-227
List Price, \$15.55



Specify Belden

Belden Radio Advertising

in the
Saturday Evening Post

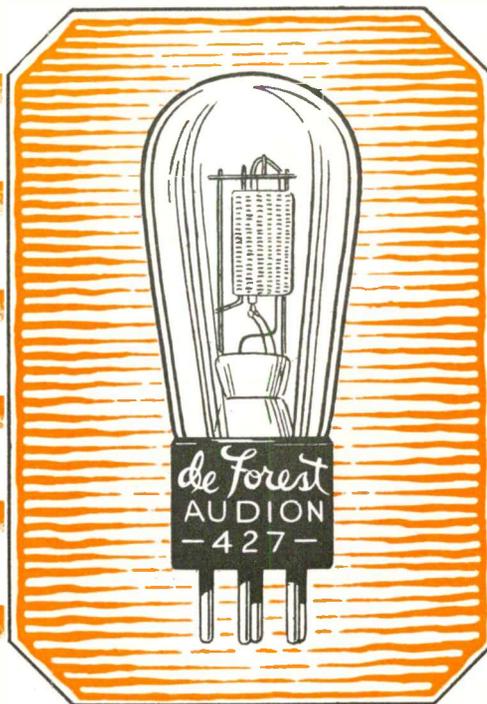
Millions of readers throughout the United States and Canada are being reached this Fall by Belden advertising in the Saturday Evening Post, Popular Science Monthly, Radio News and Citizens' Radio Call Book. From coast to coast the complete Belden line is accepted by the radio public without question.

Boost your sales of radio accessories by standardizing on the complete Belden radio line, just as you standardize on a complete line of sets or tubes. Order from your jobber today for the Christmas rush.

Belden Manufacturing Company
2308-A S. Western Ave. • Chicago, Ill.



**WHAT A DE FOREST
DEALER FRANCHISE
MEANS TO YOU
IN PRESTIGE - IN
SALES - IN PROFITS**



IN PRESTIGE: In handling the *new perfected De Forest Audions*—there is no consumer resistance to break down. The name “De Forest” is universally recognized as the greatest name in Radio—a name that stands for scientific achievement.

IN SALES: The outstanding performance of the *perfected De Forest Audions* in greater clarity—increased sensitivity—more volume and greater number of entertainment hours—build consumer satisfaction and steadily increasing sales.

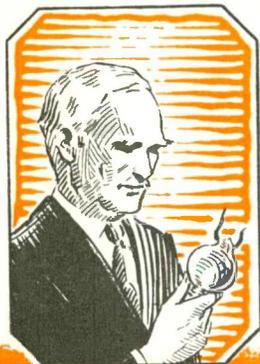
IN PROFITS: The sterling performance of De Forest Audions more than justifies their slightly higher cost. The longer dealer discount on this slightly higher selling price brings a profit-margin well worth while and of real interest to any dealer looking for P-R-O-F-I-T-S.

ON THE AIR

Every Sunday evening between 10:00 and 10:30 “The De Forest Audions” appear over the Nationwide Columbia Broadcasting System.

Write for full particulars about the sales-building and profit-making De Forest line of Audions.

Dr. Lee De Forest



“The Father of Radio”

de forest
AUDIONS

**DE FOREST RADIO COMPANY
JERSEY CITY, N. J.**

New York
Minneapolis
Los Angeles

Pittsburgh
Kansas City

Philadelphia
St. Louis
Detroit

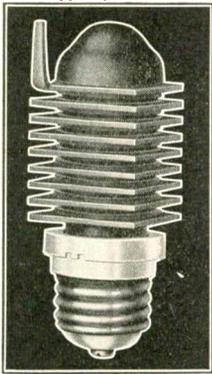
Boston
Atlanta

Chicago
Dallas
Denver



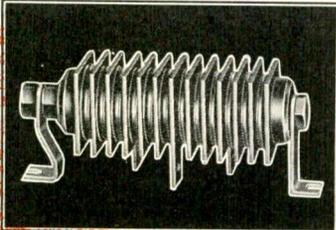
A-20, B-L Rectifying Unit is for replacing electrolytic rectifiers in trickle chargers and power devices. List price, A-20, 40 and 40 P. \$4.50 each.

Pat. Applied for



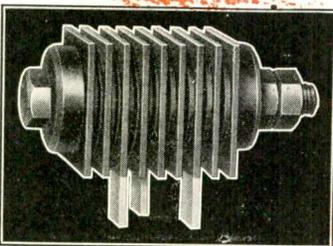
C-110, B-L Rectifying Unit is a single-wave rectifier for replacing charger bulbs. Furnished with either Edison or double-contact screw base. List Price, C-110 \$4. C-210 \$4. C-310 \$4.

Pat. Applied for



The B-L Rectifier B-24, illustrated above is a full-wave unit with an output capacity of from 1 to 3 amperes at 8 to 12 volts. It is equipped with special horizontal mounting brackets for dynamic speakers, etc. List Price, \$6.00.

Pat. Applied for



B-12 and B-16, B L Units, are full-wave rectifiers with an output of 1 to 3 amperes at 6 to 8 volts. For trickle chargers, dynamic speakers and power devices. List price, B-12 \$4.50 B-16 \$5.00.

B-L Rectifiers

Used by Large Manufacturers

Many large manufacturers of power devices and dynamic speakers are using B-L Rectifiers as standard in their equipment, because—Their design is fundamentally right. Extreme care is taken in every step of their manufacture. Each operation is carefully supervised by experts. Each completed unit is subjected to severe laboratory tests before shipment... These facts naturally account for the big swing to B-L Rectifiers and the large volume of repeat orders from manufacturers who have proved their actual merit in actual performance.

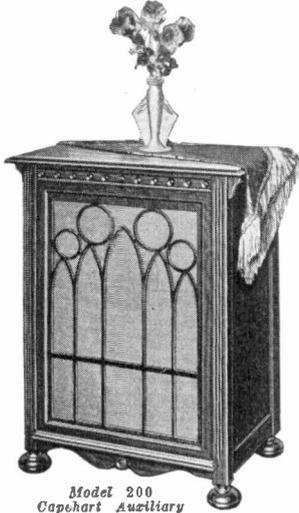
There is a B-L Rectifier for every purpose—furnished either in standard capacities—single or full wave or built to your requirements. They are Dry... Noiseless... Durable... Compact and long lived.

Send for Booklet explaining the characteristics and applications of B-L Rectifiers... A post card will bring it.

The Benwood Linze Co.
St. Louis, Mo., U.S.A.



The ORCHESTROPE

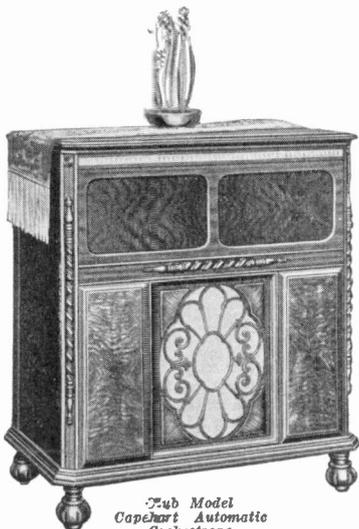


Model 200
Capehart Auxiliary
Dynamo Speaker

Designed and built primarily for hotels, clubs, lodges, restaurants and other businesses needing good music in different rooms or places, all from one source, the CAPEHART AUTOMATIC ORCHESTROPE.



Auditorium Model
Capehart Automatic
Orchestrope

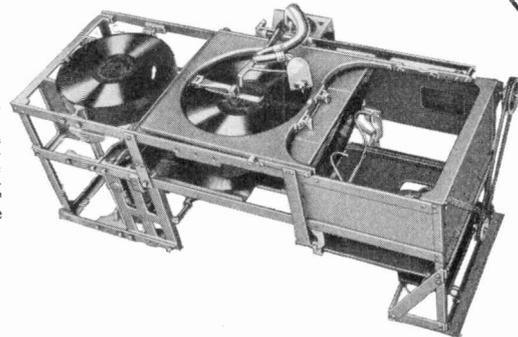


Club Model
Capehart Automatic
Orchestrope

A dignified, beautiful cabinet entirely enclosing the mechanism, for rich surroundings, demanding the highest quality of furnishings, such as the better clubs, hotels, lodges, funeral parlors, etc.

The Famous Capehart Record Changing Device

The simplicity — the straight line movement—the ease of operation—the sturdy construction and unfailing operation, continuously and automatically and without attention, have completely changed the entire automatic phonograph industry — and made the CAPEHART AUTOMATIC ORCHESTROPE the undisputed leader in its field.



THE simple mechanism of this revolutionary instrument is an achievement that is significant of all the outstanding features of ORCHESTROPE superiority. Though almost human the workings of this machine are as near trouble-proof as any mechanism can be made. The vital parts are scaled to a precision of one-hundredths of an inch. Each working part is mounted on an all-metal chassis that will not permit a misjudgment of a single movement.

To see the instrument in motion is a revelation. The genius, the hours of experimentation, the efforts behind the birth of the ORCHESTROPE have been well rewarded.

A most enthusiastic public is dancing and whirling its leisure time away to the clear and powerful strains of this wonderful instrument. Establishments that cater to the public are winning new customers with this new and ultra-modern means of entertainment.

(Left)

To meet the present need for powerful amplification and reproduction, this new Auditorium Model is recommended for such installations having large areas, such as public auditoriums, dancing academies, outdoor park use, skating rinks and in fact any place where a great amount of volume is desired and exceptional tone quality required.

Model 28F Capehart Automatic Orchestrope

The old reliable—the instrument which has completely changed all previous conceptions of the automatic phonograph. In regular, profitable use all over the country. The only fully automatic phonograph on the market today.



Sold Only
Through Dealers

CAPEHART AUTOMATIC PHONOGRAPH CORP.
Factory and General Offices: Huntington, Indiana

ANNOUNCING

**Fada's greatest and latest
contribution to the industry**

The

FADA "72"

Radio-Phonograph Combination

NOW! Fada presents an all electric radio and phonograph combination . . . in tonal beauty and performance, without an equal.

Among the outstanding advantages and characteristics of this modern marvel are:

Simplicity of installation and operation.

Extreme sensitivity to signals from distant broadcasting stations.

Exceptional selectivity, without impaired tone quality.

Dependability and freedom from operating troubles.

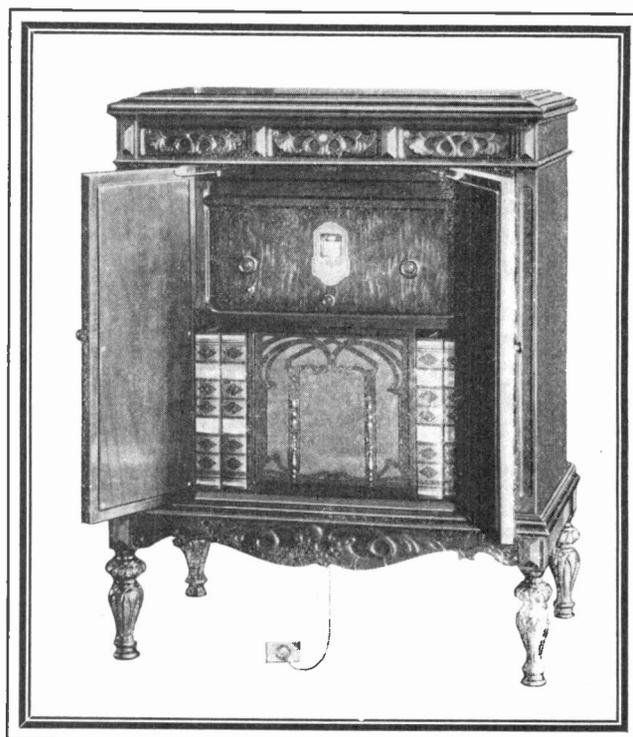
Tone quality of timbre, whether the volume is of a delightful delicacy or sufficient to fill an auditorium.

Loop concealed in swinging front door adjustable for any direction—no antenna necessary.

Fada dealers will find that Fada's entrance into the combination field assures the continuation of the outstanding position they have always held in the radio world.

For information regarding a Fada franchise—write or wire.

**F. A. D. ANDREA, INC.
LONG ISLAND CITY, NEW YORK**



The cabinet of the Fada "72" reveals a command over artistic and technical resources unsurpassed in the records of woodwork. Embellished with 14 Karat gold plated metal trimmings and beautiful hand carved effects, dignified and classic in execution, it will harmonize with the furnishings of any home.

Specifications:

Hand carved, burl walnut, binged top.
Height 45", Width 20", Length 35", Weight 230 lbs.

Radio: Illuminated single dial; completely shielded; uses nine vacuum tubes, six of the 227 indirect heater type, two 210 power amplifiers (push pull) and one 281 rectifier.

Phonograph: An especially designed noiseless electric phonograph turn table driven by an induction type motor; automatic stop; electro-magnetic pick-up of improved design; makes use of the radio receiver's push pull amplifier which employs the powerful 210 type tubes.

Speaker: Super-dynamic moving coil type speaker with extra large cone; improved design, no adjustments.

Record Albums: Four artistically hand tooled phonograph record albums add to the exquisiteness of the cabinet.



Matchless
In Beauty—Quality
Sales Appeal

*Radio Master
Cabinets*

Rare, beautiful woods—macassar ebony, satinwood, maidou burl, butt walnut, lend their rich coloring to this cabinet, Radio Master No. 101.

America's leading furniture designer created it—America's best equipped woodworking shop—manned by artist craftsmen—give it its sturdy quality.

It is especially made for the Grebe A.C. 6 chassis—adds splendid eye appeal to splendid ear appeal.

A Radio Master Cabinet may be obtained for any table set.

And new, unusual desirability is added to the set thereby.

Radio Master Cabinets are matchless in quality, beauty and sales appeal.

Radio Master Corporation
BAY CITY, MICH.



Extra Easy Dollars for Radio Retailers

The new Carryola Electrically driven Pick-up brings you the big, two-fisted, twofold crack at EXTRA profit-getting you've been waiting for!

Include this new Carryola 61 (for reproducing phonograph records through the loud speaker) with every Radio Outfit you sell from now on. Sell it to present Radio Owners.

It sells on sight and hearing!—The most logical, the most satisfying, easiest selling combination ever! Everybody's delighted! And best of all you make TWO Profits instead of one.

This new electrically driven Carryola Pick-up is the most amazing development of the year. Plug it into any ordinary electric light socket—attach it to the Radio loud speaker—and your customers have everything in a combination of radio and phonograph, music, entertainment and service that they would ordinarily have to pay several hundred dollars for. It's compact—Handsome—Absolutely fool-proof and reliable. Powered by the new Prime Electric Phonograph Motor, no bothersome winding is necessary! In point of Price and Value—it is supreme! The new Carryola 61 makes your line complete. See it. Hear it. Let every radio customer try it! You'll be sure of the EXTRA sale and profit nine times out of ten.

Write or wire. Let us arrange a demonstration for you P.D.Q.! Simply address:

THE CARRYOLA COMPANY OF AMERICA
647 CLINTON STREET
MILWAUKEE, WISCONSIN



CARRYOLA TWENTY
Retail at \$15.00

A truly outstanding value in its price class, having a long air column metal horn producing true tone quality and abundance of volume—nickel plated hardware—two record spring motor—metal tone arm—sensitive Duro aluminum metal diaphragmed reproducer—three colors of genuine DuPont fabrikoid—black, blue or brown with inside linings to match—plush covered turn tables to harmonize—wood album holds 15 records. Measurements 7½ inches high, 12 inches wide and 14¼ inches long, weight 12 pounds.



CARRYOLA THIRTY
Retail at \$25.00

The most remarkable value in portables today. 50 inch air column metal horn constructed according to the exponential curve theory, a product of our own laboratory. Handsome metal fittings—large motor plays three records with one winding—beautiful Bakelite reproducer with patented tripod diaphragm—special patented lock catches—permanent album holds 12-inch records—exclusive DuPont fabrikoid in 3 colors, black, blue and brown, with linings to match—plush covered turn tables. Measurements 8½ inches high, 12¼ inches wide and 16 inches long—weight 19 pounds.

CARRYOLA 61

Equipped with the new Prime Electric Phonograph Motor and famous Carryola Electric Pick-up. Perfect in tone, quality and volume. Plugs into any electric light socket. Reproduces phonograph records through radio loud speakers.

Simple—Fool-proof—Complete
Beautiful portable case of brown Du Pont Fabrikoid.
Handsome hardware fittings.

And—what a price! Only \$57.50 list



Carryola



THE BEST—THE FASTEST SELLING—THE MOST PROFITABLE

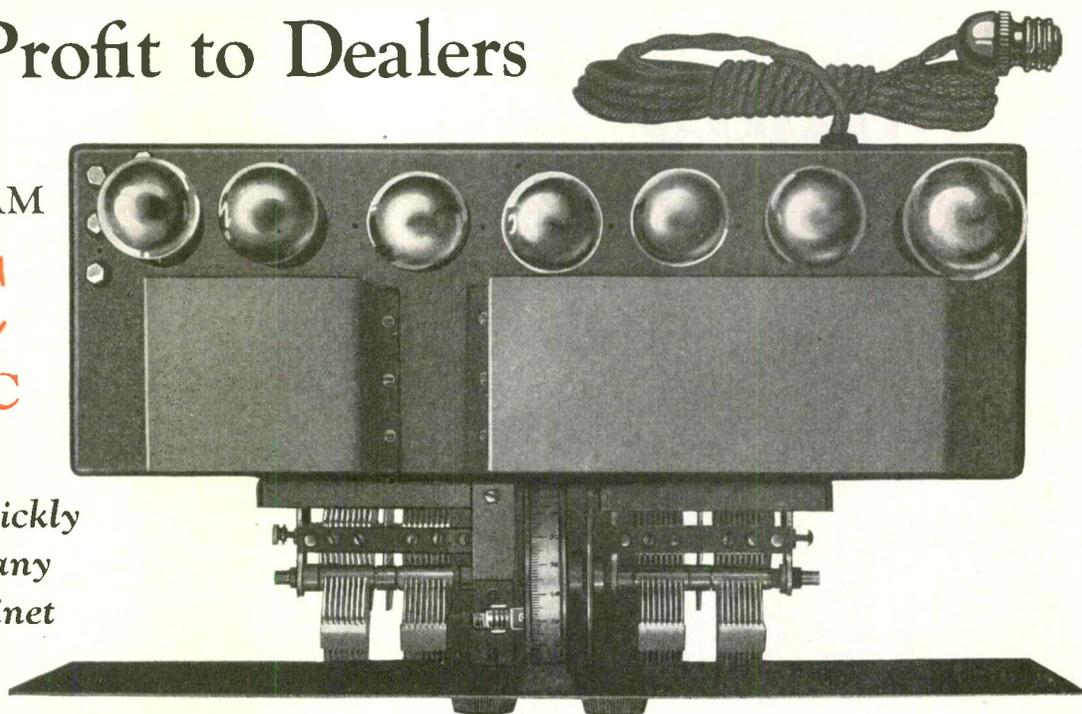
Make Money with Buckingham

Volume Production—Low Cost— Big Profit to Dealers

THE
BUCKINGHAM

A-C
ELECTRIC
CHASSIS

Easily and Quickly
Installed in any
Type of Cabinet



SPECIFICATIONS

Tone: Clear, natural reproduction from the lowest pedal note of the pipe organ to the highest overtone frequencies of the upper end of the musical and voice frequency spectrum. Free from regenerative noises and alternating current hum.

Volume: A new Buckingham invention—a volume control that proportionately controls both audio and radio stages, at the same time giving at all times smooth control from a whisper to full volume without distortion from overloading of any tubes.

Selectivity: Extreme selectivity without loss of tone quality due to the cutting of audio side bands. This accomplished by using *FOUR* tuned stages and scientific shielding.

Tuning Control: Single drum control illuminated dial marked in both degrees as well as kilocycles. Control positive and smooth in action with automatic take up preventing slipping due to wear.

Adaptability: Readily adaptable to any type cabinet installation. All controls assembled together in center of front panel. Escutcheon plate easily removable and for a small nominal charge escutcheon plates with special trade name can be furnished.

General: Four gang tuning condenser with aligning control on each unit, coils shielded individually with copper shielding, large newly developed audio transformers, double grip sockets which prevent all possibility of loose contacts. Panel standard 7-in.x18-in. depth of chassis 10½-in. All small metal parts cadmium plated, main chassis frame finished in black frosted crystalline.

Tubes and Power: 6 tube—using four 226 type tubes, one 227 type and one 171 type power tube, power supply—using double wave rectification with 280 type rectifier tube, operates on—110 to 120 volts—50 to 60 cycle alternating current.

Thousands upon thousands of Buckingham chassis have been sold during the past few months.

Dealers all over the United States and Canada report a record-breaking business with Buckingham—the amazing A-C electric radio that set a new standard in high quality and low price.

We solved the production problem by making everything in our own big plant. We reached new low cost levels and priced the Buckingham accordingly.

You can make money with Buckingham Chassis because you will be able to satisfy the most exacting radio critics and at the same time give your customers their own choice of cabinets.

The specifications tell much—but actual performance will be positive proof.

Wire or write for prices and samples.

Immediate deliveries assured.

BUCKINGHAM RADIO CORPORATION
440 W. Superior St., Chicago, Ill.



THE SET THAT SELLS THE MILLIONS

creates
NEW MARKETS

LOCAL BUILDER
 USES RADIOS
 TO SELL HOMES

—
 WALL RADIO IDEA
 GREAT SUCCESS

A novel idea incorporated in house selling has just been proven highly successful by a local real estate firm. Each home has a radio set built into the wall of the living room. The sets are "all electric" sets supplied by the Acme Electric & Manufacturing Co. and require no batteries or eliminators of any kind. The speaker is built in as part of the set. The attractiveness of the set and the novel appeal has helped materially in selling the houses.

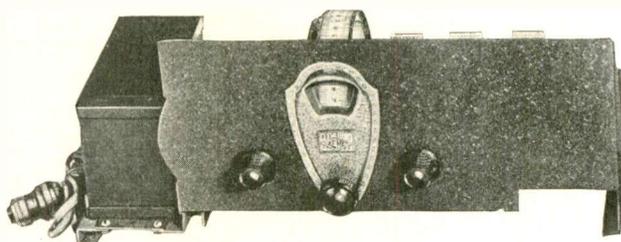
\$58.00

LIST PRICE

THE outstanding success of one ACME Dealer in selling the ACME AC-7 Chassis to a local builder for wall installation can be repeated by you in your town—the Set That Sells The Millions will score again—every new house going up in your locality should have an ACME built in.

**Chassis Can Be Used
 In All Console Combinations**

The Acme AC-7 chassis is ideal for combination with all types of console cabinets. You can create your own combinations through your furniture manufacturer or we will put you in touch with radio furniture makers.



The new ACME AC-7 Chassis, listing at \$58.00 is all electric. No batteries, no eliminators; illuminated, single dial control. The chassis is heavy gauge steel finished in crystalline lacquer. The escutcheon plate is particularly beautiful.

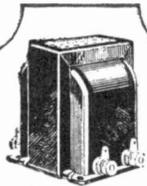
The refinements of ACME RADIOS make them fitting complements to the furniture of the finest rooms. ACME performance is unparalleled in any set of equal price.

Write today for full information.

THE ACME ELECTRIC & MANUFACTURING CO.
 1440 Hamilton Ave. Cleveland, Ohio

Established 1917

Member R.M.A.



THORDARSON
EQUIPPED

Do You Realize the Importance of this Endorsement?

Each successive year that we use Thordarson transformers strengthens our faith in your organization. Both our laboratory tests and our experience have proven conclusively that Thordarson transformers are in perfect accord with the high standards maintained throughout in Zenith Receivers.

President
Zenith Radio Corporation



ZENITH RADIO
—LONG ESTABLISHED—
AUTOMATIC

IN the last analysis, there is no test for the merits of any product that is more conclusive than an investigation of the customer clientel of its manufacturer. Among the users of Thordarson Radio Transformers you will find the aristocracy of radio . . . leading radio set manufacturers whose receivers are universally hailed as musical instruments of undisputed superiority.

Such an endorsement of performance means much to any purchaser of radio apparatus. It means that Thordarson radio transformers have passed successfully the most exacting tests under the eagle eye of the laboratory.

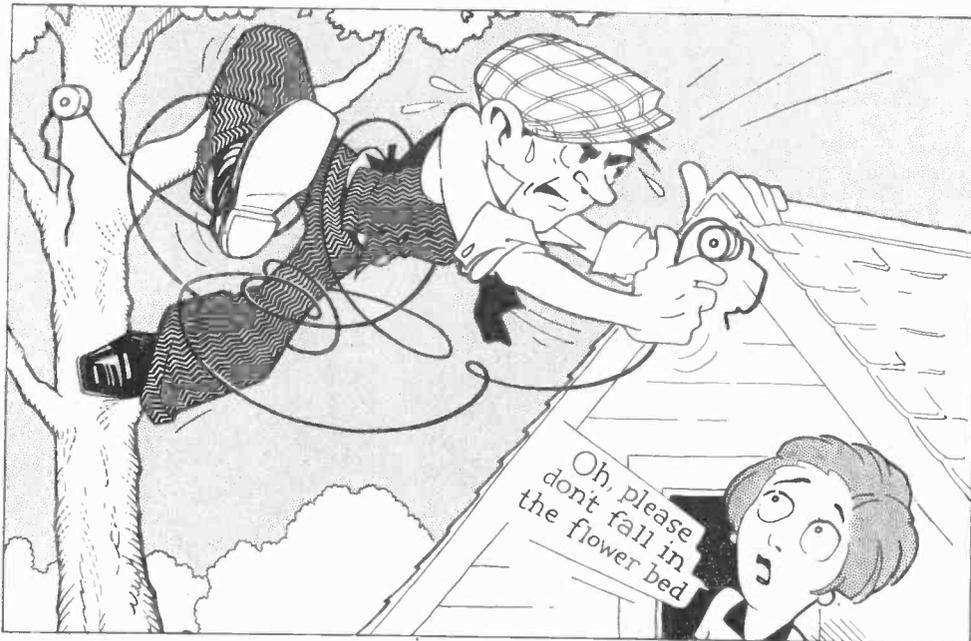
It means, also, that any receiver equipped with Thordarson power supply and audio transformers can be relied upon for a dependability of service and a fidelity of reproduction that represents the acme of engineering development.

Whether you are buying a complete receiver or building your own instrument . . . if you are seeking the ultimate in radio performance insist on Thordarson Transformers.

Thordarson Electric Manufacturing Co.
Transformer Specialists Since 1895
Huron, Kingsbury and Larrabee Sts., Chicago

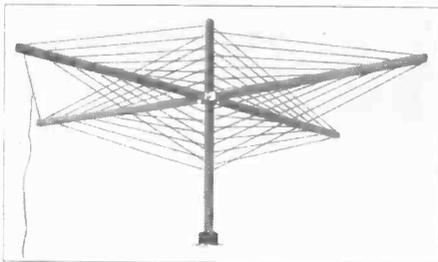
THORDARSON RADIO TRANSFORMERS

S U P R E M E I N M U S I C A L P E R F O R M A N C E



No more tree climbing—

DEALERS all over the country are welcoming this new Trico Cameron Antenna because it eliminates the acrobatics from aerial installations. It fits any roof . . . a few nails and it's up . . . up to stay! One man can do it in 15 minutes.



FREE—a Trico Cameron Antenna

This non-directional, \$5 antenna has a lot of other merits, too. It won the National Contest, bringing in 418 stations. Not only does it bring in greater distance but it also brings in more volume. And, most important, it positively improves the tone of every set. Here's a real profit maker for you. Mail the coupon today.

MAIL THIS TODAY!

Trico Products Corporation,
817 Washington St., Buffalo, New York

I am ordering four Trico Cameron Antennas
from
(Name of jobber)

As soon as the jobber notifies you that my order
has been received you are to send me FREE one
Trico Cameron Antenna for my own use.
(Offer not good if one free antenna has been
received.)

Name

Address

City

TRICO PRODUCTS CORPORATION
817 Washington Street, Buffalo, N. Y.

TRICO
CAMERON ANTENNA



FOR BETTER TONE



FOR TESTING

New Power Amplifier: this Sterling **\$38** Amplifier uses the 250 or 210 Super-Power Tube. Connects to any type set in a few minutes. Dynamic Speaker may be fastened securely on Amplifier, as shown. Type R-250, only \$38 list.

Dynamic Speaker: the powerful Sterling Dynamic, shown in phantom, is the type R-13 for 110-volt, 60-cycle A. C. \$40 list.

Full-Range Speaker Chassis, upper left for any type cabinet. Type R-1, \$14 list.

Vari-tone table model speaker, upper right, artistically finished. Type R-2, \$25 list.

Sterling Dependable Testers are priced so low there's no need to be without *complete* testing equipment.

Universal Tube Tester, as shown above tests A. C. and D. C. Tubes and reactivates D. C. Tubes. R-510, \$21 net.

A. C. Set and Tube Tester, upper left, quickly locates the trouble in defective A. C. sets. So inexpensive you can afford one for each service man. R-512, \$21 net.

Junior Tube Checker, upper right, tells in a jiffy what's wrong with a tube, so the replacement policy of tube manufacturers can be definitely followed. R-514, \$8.10 net.

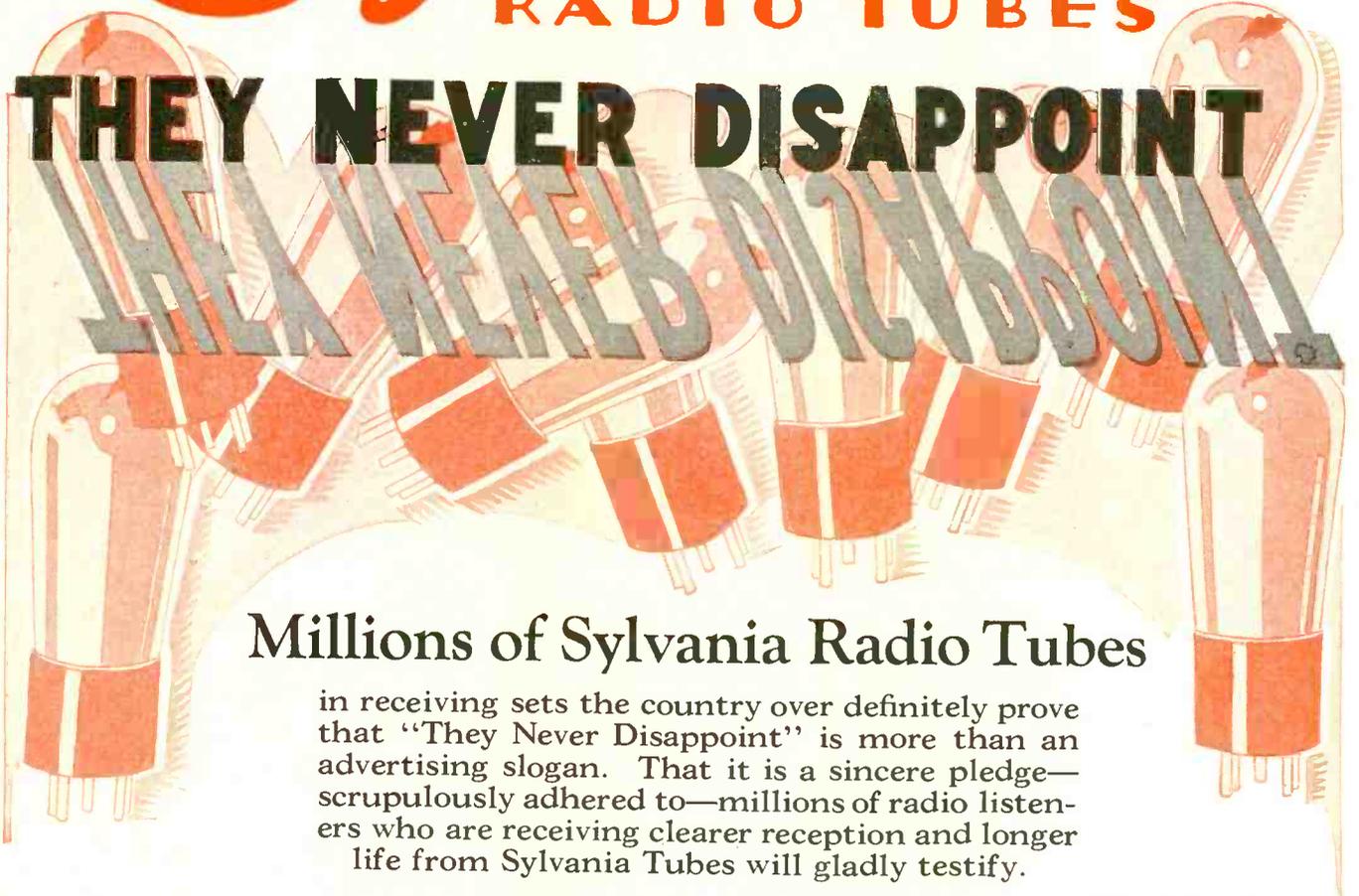
The STERLING MANUFACTURING CO., Cleveland, Ohio

Sterling
23 Years of Precision Manufacturing

Sylvania

RADIO TUBES

THEY NEVER DISAPPOINT



Millions of Sylvania Radio Tubes

in receiving sets the country over definitely prove that "They Never Disappoint" is more than an advertising slogan. That it is a sincere pledge—scrupulously adhered to—millions of radio listeners who are receiving clearer reception and longer life from Sylvania Tubes will gladly testify.

Frequent Inspections and Rigid Tests

*insure the high quality of every
Sylvania Radio Tube*

Dealers everywhere who recognize the value of retaining customer satisfaction are recommending Sylvania Radio Tubes. Experience has taught them that a Sylvania customer is a satisfied user—and a friendly patron.

The Sylvania Advertising and Merchandising Plan

is demonstrating its effectiveness daily

A popular broadcasting program supplemented by intensive newspaper advertising and colorful display material is building sales in every territory where Sylvania Tubes are sold.

Write for complete details of this plan today

*The Sylvania
Merchandising
and Advertising Book*



SYLVANIA PRODUCTS CO. EMPORIUM, PENNA.

Radio Retailing

The Business Magazine of the Radio Industry

McGraw-Hill Publishing Co., Inc.
JAMES H. MCGRAW, President
EDGAR KOBAK, Vice-President

EARL WHITEHORNE
Editorial Director

WILLIAM ALLEY
Managing Editor

Vol. 8

DECEMBER, 1928

No. 6



What 1928 Has Written Into the Record

THIS year, 1928, has been a very fruitful one. As the past eleven months are recalled there stand out clearly a number of stabilizing influences that the year has contributed. Several definite indicators of the future have also become apparent.

To begin with 1928 has broken all records in the number of sets sold to the public. A record volume of sales has been accomplished since January, assisted enormously by the stimulating influence of the election. Electrically operated sets also contributed to this prosperity, because of their intense popularity. This popularity of electric sets has accelerated the progress of both simplification and stabilization and has led to lower prices. This trend holds promise of still lower prices next year.

Engineering developments have been most significant in 1928. In addition to the perfection of A.C. sets, the outstanding feature of the year was the electro-dynamic reproducer. After a slow start early in the spring, dynamics assumed large importance at the trade show and have since dominated the market.

Increasing interest in the perfection of audio amplification, both in the set and in external equipment, was also notable in 1928. The power tube has been a potent factor in making available greater volume and better tone quality in this year's receivers. Undoubtedly these tubes will have a beneficial influence upon 1929 receivers from the standpoint of tonal improvement.

Higher voltage is also clearly indicated for the coming year. Present power tubes require high voltage. New developments in reproducers may also make increasingly higher voltages necessary. With this condition confronting the trade, manufacturers may well give thought to protecting the set-owner from high voltage shocks.

Again great interest centers in the laboratory right now. For there are several technical developments today in the laboratory stage which have every promise of being potent factors in the radio marketplace in the very near future.

FIRST, is automatic volume control an important improvement which will automatically regulate the intensity of all signals received? If the signal is too strong, this control reduces it

to the proper volume. If the signal is weak, it is amplified to satisfactory audibility. Sets using this control will undoubtedly feature in the 1929 market.

Second, is the screen-grid tube for alternating current. Laboratory difficulties have held this tube back. But we can expect that these kinks will be ironed out, just as other "insurmountable" difficulties in radio's progress have been hurdled. The A.C. screen-grid receiver, then, is another development which may be expected for next season.

Then, third, comes the multi-valve tube. It is widely used abroad, and known there as the "Loewe tube." If this tube wins acceptance here, small compact receivers can be built for a popular price market. For three or four multi-valve tubes can be made to produce the same results as six or seven of our present tubes. It is not beyond the realm of possibility that receivers using this tube will appear on the market in 1929.

And no record of what is now on the horizon for 1929 would be complete without mention of three other significant laboratory achievements—television, the "electro-static" reproducer, and talking movies for home use. While the television excitement has now died down somewhat, public appetite has been whetted and experimentation in television may consequently be expected to continue. It will assume a larger place as time goes on.

The "electro-static" speaker, which has been popular in Europe for some time, is now being taken up by American manufacturers. It is simple and inexpensive, and will therefore fill an important place if merchandised in this country.

Talking movies for home use is another product of radio laboratories which should not be overlooked. It has already been accomplished experimentally. It will be accomplished commercially in the course of time. The radio trade should prepare itself to be the natural outlet for this equipment when it is ready for sale to the public.

ALL these new and prospective developments have their immediate commercial influence. Each will add impulse to stimulation and expansion of the market.

The amazing growth of the demand for more and more artistic and expensive radio furniture in the past few months, is perhaps the most spectacular example of the rapidity with which new ideas in radio merchandise immediately become market trends and write new chapters in the romantic progress of the radio business. It has been so in 1928. It will be so in 1929.

And if the new developments that lie ahead are wisely directed, the coming year should bring to the radio industry a season of fine achievement and splendid prosperity.

SIDELIGHTS

Radio helped elect a President. *And brought with it the largest radio sales in history.*

Congress perpetrates "equalization." *A lemon.*

The Radio Commission's new broadcasting allocations. *"Lemonade?"*

The Radio Act held constitutional in two courts. *Stabilizing.*

WGY protests Government regulation. *Disturbing.*

The television flurry. *"Much excitement but could learn nothing."*

The radio industry brings sound to the "silent drama." *Still groping to find out how to use it.*

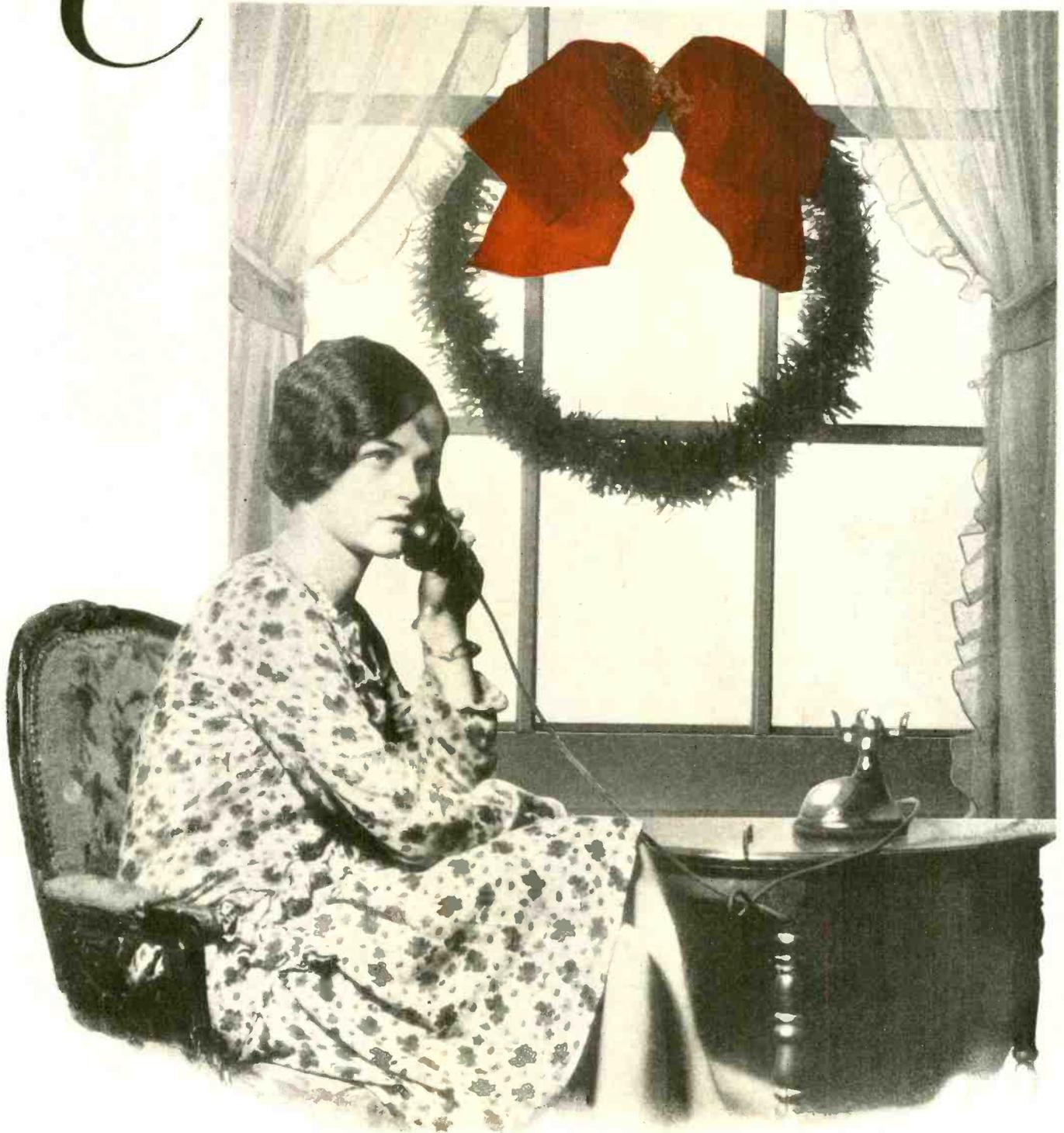
RCA stock sells for \$400. *Sold under \$10 a few short years ago.*

Automatic tuning. *Expensive, but a convenience.*

The "wired wireless" bugaboo again. *But still nothing definite.*

Music industry decides to meet coincidentally with the radio trade show. *Proving once again the music industry's dependence upon radio.*

“CALL Them



THE period between now and Christmas is the biggest buying time for the radio public. Sales campaigns should now be in full swing and every possible sales-producing method should be used to capitalize the holiday buying spirit. And one of the best and most efficient sales-building mediums for the radio dealer is the systematic use of the telephone.

By using the telephone, all prospects and customers can be reached with a minimum of time and energy. Demonstrations and installations can be just as easily arranged over the telephone as by personal contact, and last-minute sales can be closed very speedily.

As dealers are more and more pressed for time with the rapid approach of the holidays, they find the tele-

UP!

Before Christmas

[Here's how the Baker
Music House does it]

phone their most valuable ally. So that not only should the maximum benefit be derived from its use but the dealer's sales staff should also be instructed on how to use the telephone effectively to sell radio.

That the telephone is a profitable sales aid, especially at Christmas time, is attested to by the experience of the E. E. Baker Music House, St. Louis, Missouri.

"Early last season," states Grace Baker, the manager of the Music House. "I installed extra telephones in the store and arranged a definite schedule of 'wire prospecting' for each of my four salespersons. Each one was required to spend forty minutes a day at the telephone. This produced an average of three prospects, ultimately closed, every twenty-four hours.

"These results would not have been possible, I am convinced, were it not for the fact that the nature of the telephone approach was thoroughly planned. For instance, the conversation opens as follows:

"Good morning, is this Mrs. Brown?"

"Yes."

"Is Mr. Brown in?"

"No, he's at the office."

"I called to inquire about that radio set. Do you know if he is going to buy it this week, Mrs. Brown?"

"HERE we have the first two important elements in a telephone canvass. As a matter of fact, it is hoped that Mr. Brown will not be in. The purpose of this question is to attract and hold Mrs. Brown's attention—to pique her curiosity. The next remark, concerning the purchase of the radio set, is for the purpose of obtaining an expression as regards her attitude toward radio; whether or not there is a set in the house, and if so, if it is satisfactory.

"From this point the situation must be tactfully developed by the solicitor. The general atmosphere of the conversation must be that of matter-of-fact, yet genuine,

(Please turn to page 74)



The entire staff of the Baker Music House, of St. Louis, contacts prospects by telephone regularly and finds that this is especially productive of results at Christmas.

At top: Grace Baker, manager. In circle: Frederick Baehr, salesman. Mr. Baehr credits 40 per cent of his sales to the telephone.



Above: P. E. Logsdon, the service man, uses his spare time at the telephone to develop new business from radio users.



Above: Virginia Paddock; at left: B. F. Eddington, both of the sales staff of the Baker Music House, are successful users of the telephone to promote sales.



Wiring for Radio

in Every

Editors' note—The wiring practices outlined in this article were purposely set at a high standard, on the theory that 110 volts might accidentally be put upon the reproducer or antenna circuits. If, in selling and installing this type of wiring job, the radio merchant will adhere to these standards, he can rest assured that the customer will have a safe and satisfactory radio wiring system.

WIRING a house for radio is a comparatively simple matter. The technical and mechanical problems involved can be quickly mastered even by an elementary electrician. The chief points to bear in mind are the appearance of the finished job, the proper location of the extension reproducer outlets, as well as the antenna and ground terminal plate, and the use of non-inductive circuits. The difference between a first class installation and a sloppy one lies largely in the use of outlet boxes and terminal plates and in concealing and properly insulating all wires.

Three elements constitute the extension speaker circuit—the plug and jack plate at the receiver, the necessary length of No. 16 twisted lamp cord, or twisted pair telephone wire, and the proper terminal plates at the ends of the speaker circuits. The reproducers should be connected in multiple. Each will thus receive the same amount of current. Jack plates can be had with volume controls which permit regulation of each separate reproducer without changing the volume output of the remainder of the circuit.

USE OF OUTLET BOXES

The use of outlet boxes is the first step in a well-ordered radio wiring job. If the living-room is generously proportioned, outlets for the reception of the ground and aerial wires should be located wherever the set logically would be placed. This will enable the housewife to rearrange her furniture without trailing loose wires across the floor or around the baseboard. Aerial and ground wires, of course, should never be run parallel for any considerable distance, nor should they be run in too close proximity to the speaker extension circuit.

Another outlet box and speaker plug-in plate should be placed near the aerial and ground outlet or a combination plate may be purchased that will provide for both. Thus the set may be connected to all the extension speakers through a single outlet. The accompanying diagram

illustrates how the living-room end of such an installation should be arranged.

The same type of outlet box should be used and the same care exercised in supporting the wires as is the practice for 110-volt lighting circuits. These boxes may be purchased for 15 cents apiece from any electrical supply house. They are provided with lugs for securing them in the baseboard or wall opening, with bottom clamps for holding the wire and loom in place and with "knockouts" through which the circuit enters the box. All manufacturers of radio wall plates design their product to fit these standard boxes.

FIRST LOCATE VERTICAL JOISTS

To install a flush wall plate it is necessary to first determine, by tapping on the wall, the location of the vertical joists, so that the opening will not be made too close to a two-by-four when there is insufficient space for the box. If the outlet is to be placed on the wall, next locate the position of the laths by driving a small nail through the plaster. The aim is to so locate the opening that a lath will come behind the top and bottom lugs on the outlet box. Then place the box against the plaster—or the baseboard—and circle it with a lead pencil. This will give the size of the opening which must be made. The baseboard is then opened with a keyhole saw, or the plaster cut and the laths obstructing the complete insertion of the box sawed off. Allow one-eighth of an inch all around for clearance to put the box easily in place.

The lugs on modern outlet boxes are adjustable. This permits them to be secured in such a manner that their upper edge is flush with the room side of the opening. The extra width of the plate will, of course, completely cover the rough edges of this opening.

"FISHING" WIRES

Now we are ready to make the opening to the cellar, under the box aperture and partition, in which the aerial and ground wires will be inserted. To do so, first, re-

Is Your Own Home Wired?

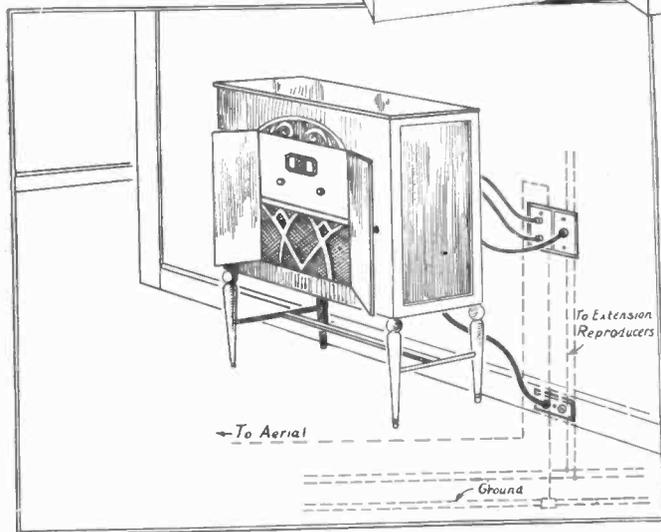
How many dealers have wired their own homes for radio? A dealer who has specialized on this kind of work urges that it is an excellent idea first to make a complete and workmanship installation in your own home. In addition to the experience which will thus be gained, such an installation can be used as an example. The dealer quoted takes the prospect to his own residence and there, under most favorable conditions, demonstrates the convenience, safety and fine appearance of a job done right.

The practical procedure necessary to wire reproducer circuits in a number of rooms—standards of practice—materials—costs

Room

Right—Showing the location of the antenna, ground, and extension reproducer wires.

Below—Close up of connections and outlets at the receiving set. The baseboard outlet is for the 110-volt power supply. Aerial, ground and reproducer wires go to the upper double plate.



by split knobs or porcelain cleats. Wires fished between walls should be inclosed in loom for protection. If the wires are run across floor joists in the cellar they should be safeguarded by first nailing a strip of wood along the path of the proposed run and laying the wire alongside the strip, so that wires cannot be broken down by having things hung on them.

UNDERWRITERS' RULES

Up to now the Underwriters' rules in most states do not include regulations for the installation of radio circuits. With the voltage and amperage now employed by many of the present sets the safe procedure is to comply with the requirements laid down for 110-volt lighting circuits. As far as possible, the standard practice for electric light wiring by the knob and tube system should be followed. All connections should be soldered and taped and all wires properly supported and protected against abrasions. Whenever the wire enters an outlet box, it should also be protected from abrasion by inclosing it in loom. Lamp cord for reproducer circuits is not prohibited, as in the case of 110-volt lighting circuits, but may be used if run in accordance with the foregoing suggestions.

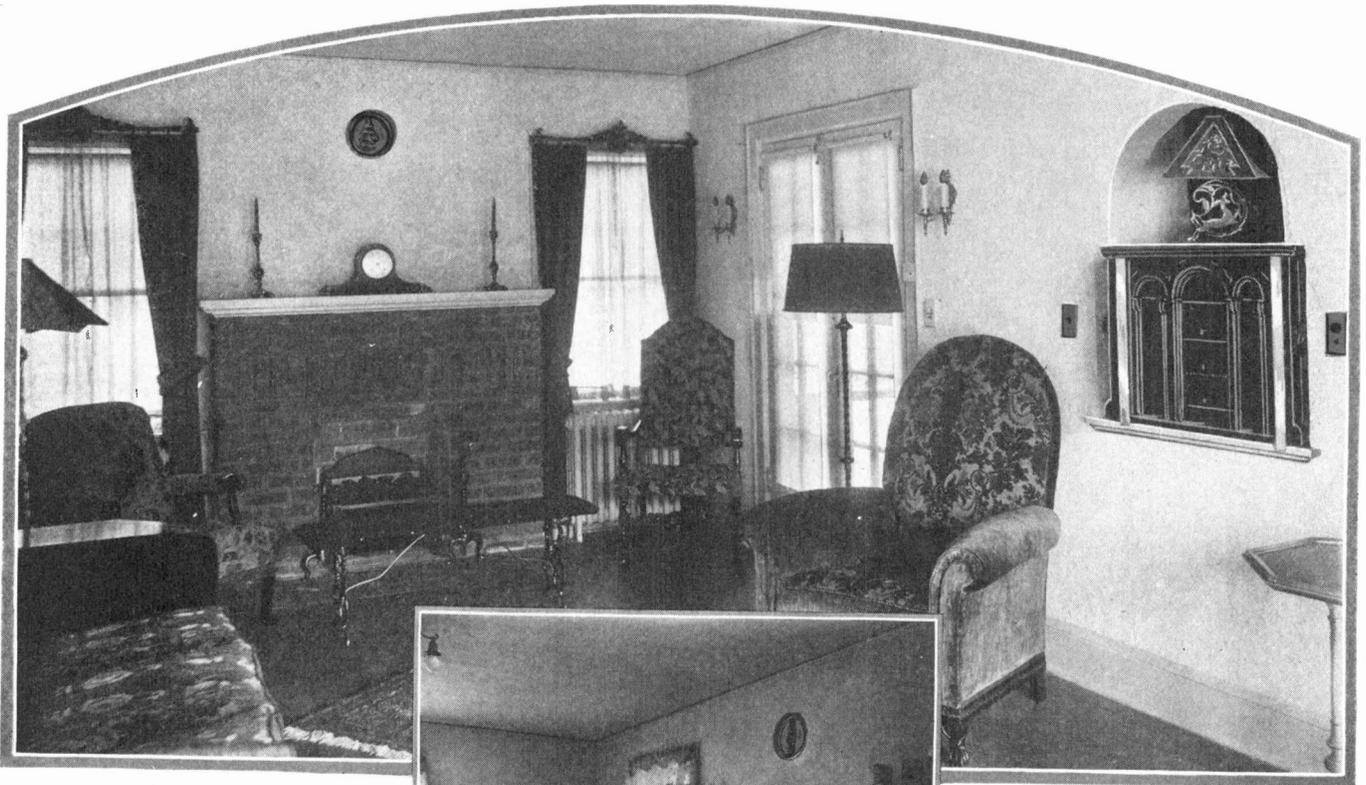
MATERIAL REQUIRED

It is an excellent plan to lay the job out on paper and draw up a bill of required material before starting. This practice will permit the dealer to give the customer a close approximation of the cost of such a project. Most dealers add 100 per cent to the cost price of labor and mate-

move the quarter round from the baseboard. Then select a small drill and make a hole at the junction of the wall and floor directly under the outlet opening. Leave the drill in place and, from the basement, locate this bit of metal. Measure back two inches under the wall and make the permanent opening in the floor boards. This hole is drilled from the bottom up.

When wiring for speaker circuits from an upper floor down, use a string with a weight tied to it, lowering it through the partition between the studding. This can readily be caught as it swings past the wall opening below.

Exposed wires should be supported every three feet



Above: Built-in radio and speaker in the living room of a model radio home built by Cooper Brothers, White Plains, N. Y. Note additional speaker over the fireplace.

Six built-in-the-wall speakers in various rooms are supplied by the receiver. Each speaker has its own volume control and pilot light and may be regulated independently.

rial to cover overhead and net profit. Labor is estimated at the prevailing union rates.

Following is an itemization of the materials that would be required for an average job with four extension reproducers:

Item	Cost
160 ft. No. 16 lamp cord	\$ 1.44
Four plates for reproducer outlets with phone tip plugs @ \$1.50	6.00
One combination ground, aerial and reproducer plate	1.80
Four single outlet boxes at 15 cents	0.60
One double outlet box	0.25
Two midjet plugs at 18 cents	0.36
80 ft. circular loom	1.20
Tape, knobs and misc. materials	1.60
Labor—ten hours @ \$1.20	12.00
Total	\$25.25

Note that a double outlet box is required for the combination plate at the receiver.

SOME POINTS TO KEEP IN MIND

It is important to remember that parallel wires run in iron conduit, as often used in apartment house or public building installations should be avoided where the length of the circuit exceeds 50 feet. It has been found that this combination causes a capacity effect which seriously interferes with clear reception. The remedy is to use twisted pair or two single wires spaced not less than three inches apart. The use of circular loom in both cases is recommended for protection.

In cases where a building has fireproof construction,

there is no space between the floors and walls to run open circuit wiring and conduit will have to be used. When it has to be done, however, run only *one* wire, using the conduit for the other. Very often, there is occasion to install receptacle jacks in a completed building where it is not practical to cut mounting holes in the wall or to "fish" the wire through the partition. A special receptacle jack intended for surface mounting, to be used with exposed wiring is made for this purpose. This is a single open circuit type of jack.

All reproducers should be of the same make so that the system will have a better balance due to the impedances being matched. If different makes of reproducers are used, they should at least be all of the same quality. A ten dollar speaker should not be used in one room and a \$35 one in another.

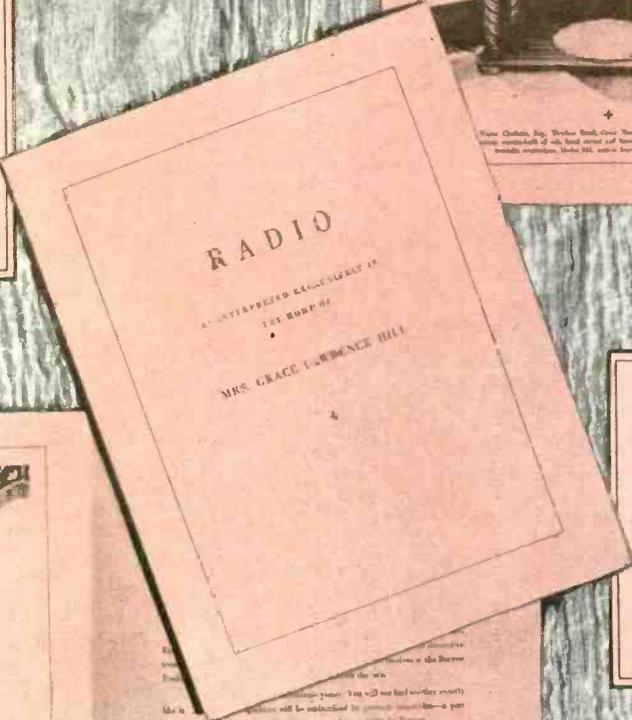
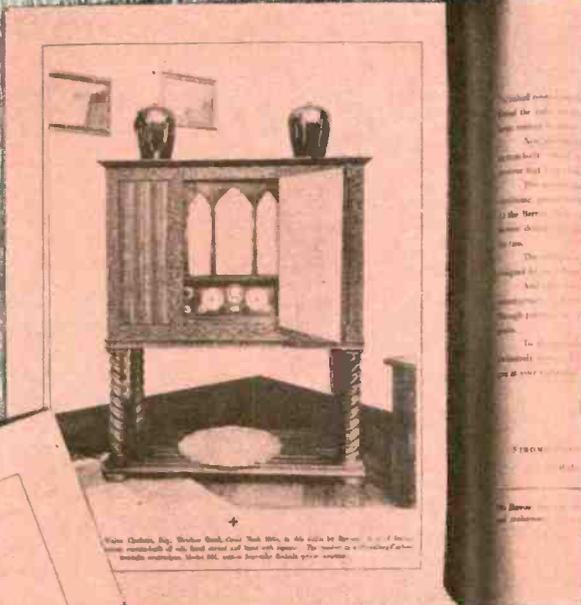
In conclusion, there are a few points regarding amplification which may be important if the installation assumes large proportions. It is obvious that the ordinary receiving tube would be badly overloaded if it furnished power to a number of speakers. It is therefore necessary to use a power amplifying tube in the last audio stage. For the ordinary home a 171-A is satisfactory, provided 180 volts is used on the plate. Some manufacturers are now making a special "home amplifier" for this purpose. It is also recommended that the plate current of the power amplifier be kept out of the amplifier system by a unit such as a condenser-impedance combination.

It is not necessary as a rule to supply extra amplification if five or less magnetic type speakers, or one extra dynamic speaker, are used in connection with the modern line power receiver. Extra amplification is usually needed, if more than one dynamic speaker is used.

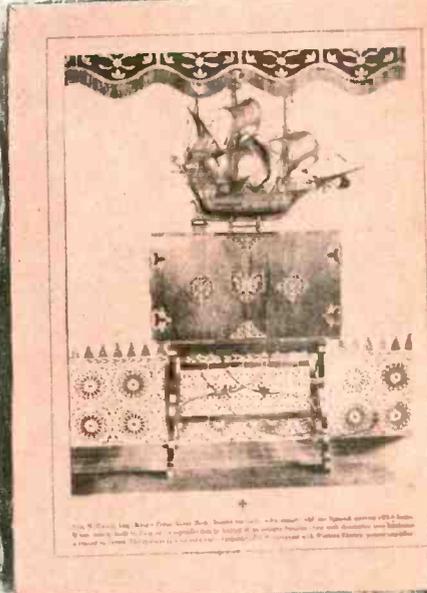
For the QUALITY CUSTOMER

The sale of de Vuxe, custom-built cabinets is a profitable part of the business of William Barrow, Jr., "radio architect," of Great Neck, N. Y. The cabinets are especially designed to fit into the interior decoration scheme of each customer's home. Barrow has an arrangement with a furniture manufacturer for their construction.

His only aid in selling these cabinets is a series of four-page folders, each of which describes an installation in the home of a well-known local resident.

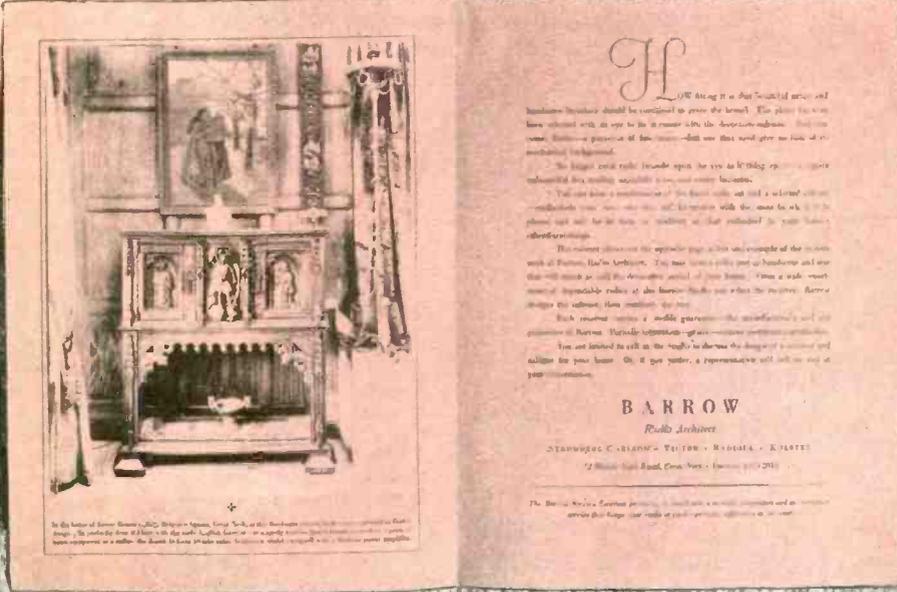


The first page of each folder features the name of the customer for whom the cabinet was specially designed. Inside, on the left, is "flipped in" a photograph showing the cabinet with its background. On the right-hand page is printed a dignified selling talk which points out the need, in a cabinet, for beauty and harmony with its surroundings. The last page is left blank.



BARROW
Radio Architects
STAMFORD C. CALDWELL - TELER - BAYBOLA - BOSTON

The folders are 9 x 12 in. in size and are neatly printed in brown ink on deckle-edged, antique paper. They are attractive and impressive in appearance and reflect fully the quality of the cabinets they describe. Four folders can be mailed in one envelope.



Reallocations Improve

ON NOVEMBER 11, the Federal Radio Commission, in compliance with the 1928 Davis Amendment to the Radio Act, redistributed the nation's broadcasting facilities equally among the five radio zones and proportionately among the various states according to population. This was done by reallocating the wavelengths, power and broadcasting time of the stations.

Radio Retailing new endeavors to present a picture of the effect of the reallocations on the radio service to listeners. In order to do this, questionnaires were sent to radio dealers in every state, in which they were asked to reply to the following questions:

1. Has reception been improved, generally speaking, in your territory?
2. Has heterodyne interference between stations stopped, or is it continuing?
3. Do local stations come in stronger and clearer?
4. Do distant stations come in stronger and clearer?
5. Do your customers believe that the new allocations have improved reception?

The answers to these questions, together with information received from other sources, have been summarized below, according to section. They indicate that, on the whole, the broadcasting situation has been much improved. There are local conditions in certain small areas which still have to be remedied, but it should be remembered that these are due, not to the reallocations ordered by the commission, but to the equalization provision of the Davis Amendment. It is also generally admitted that sufficient time has not elapsed for perfect adjustment to the new requirements and that eventually, the benefits of the reallocations will be more obvious.

It must be borne in mind that the public's first reaction to changes is usually negative. Anything that is disturbing to custom is cause for complaint. Therefore, many complaints concerning the reallocation are probably unjustified and as time goes on, many of those now complaining will realize that the changes will eventually improve reception. Naturally, those areas of the country which had more than their share of broadcasting service, and were cut down in order to improve other sections, are complaining, but the purpose of the Federal Radio Commission is to bring the manifold benefits of adequate broadcasting service in equal measure to all the sections—or zones—of the country.

New England

In the New England states, there is a sharp division of opinion concerning the effects of the reallocations. Although it is admittedly too early to judge the results accurately, many dealers and set owners report that reception conditions have not improved materially. Heterodyning continues and there is overlapping of

"Radio Retailing's" nationwide survey of the results of the Federal Radio Commission's order, which went into effect on November 11, shows general improvement. Sharp division of opinion in certain areas with local difficulties due chiefly to the equalization provisions of the law.

stations on the lower wavelengths. Distant stations, however, come in stronger and more clearly.

In Bangor, Maine, conditions are reported as "very much the same." Worcester, Mass., is dissatisfied with the change and Boston reports poor service. Opinion in Bridgeport, Conn., is divided; Concord, N. H., reports no improvement. In Newport, R. I., reception is better.

Many New England radio dealers expect that, with a longer period of trial, the judgment of the commission will be justified.

Middle Atlantic

Great improvement is noted in broadcast reception in the Middle Atlantic states. Stations WJZ, WEAJ, WOR and WABC all retain their pre-eminence in clarity and power and WCAO has been notably improved. In New York City, with its numerous broadcasters, the air has been cleared to a surprising extent, the only trouble reported being the time-sharing disagreement of WLTH, WCGU, WSGH and WBBC.

New Jersey indicates complete satisfaction with the change, with Atlantic City unanimously in approval. Delaware and Pennsylvania towns all report better reception, with WJR, WMAQ, WIP and WSM coming in stronger. Maryland, on the other hand, is having some difficulty; there is interference in Baltimore, where WFBR and WBAL are causing heterodynes.

Virginia towns show some division of opinion, with Chatham, Berryville and others answering "yes" to questions one and five, and towns like Blackstone and Bristol replying "No." The situation in Washington, D. C., is unsettled, but dealers express confidence that further improvement will eventually result.

In general, listeners throughout this section of the country state that reception has been decidedly improved and many new stations have been brought in on the dials.

Southeast

There is a wide divergence of opinion in the Southeastern states concerning the reallocations. Although there still is some interference and overlapping of stations, reports indicate that both local and distant stations are being received stronger and more clearly. Although some favorite Pacific Coast stations are gone, new stations, not formerly received, have appeared on the dial, while other stations are received with greater clarity.

Dealers in Daytona, Florida, report that the opinion generally expressed by customers is that, "on the whole, reception, has improved. We are able to get stations not heard previously." From Montgomery, Alabama, comes word that heterodynes have been greatly lessened and that local and distant stations are coming in stronger. Charleston, S. C., reports improved reception conditions, as do Chattanooga, Tenn., and Birmingham, Ala. Set users in Kentucky are "satisfied with

How Various Sections Feel About the

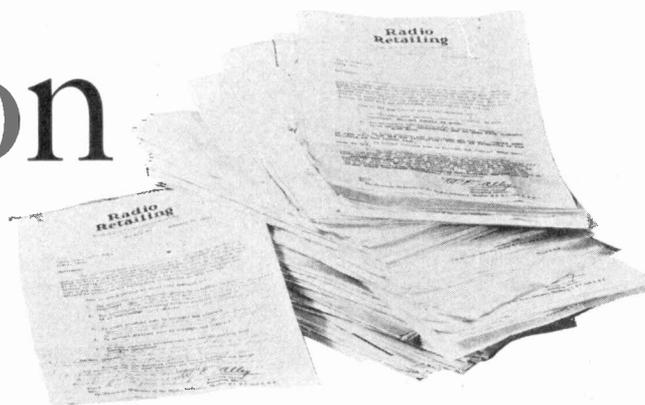
The NEW ENGLAND states are divided in opinion.

"Great improvement" is reported in the MIDDLE ATLANTIC states.

The SOUTHEAST is divided.

The SOUTHWEST reports that the broadcast situation is much better.

Reception



the attempt, but there is much more to be done." Albemarle, N. C., and Columbus, Miss., both report that they are getting additional stations.

The majority of reports indicate that WLW, WSM, WHAS, WFTW, KTBS are now being received much better than before. Stations WLAC and WBAW, however, are not very strong and there is some complaint about not being able to get New York stations as well as formerly.

East Central

Analysis of the reaction of the East Central states to the reallocation of the broadcasting stations shows a division of opinion. Heterodyne interference is still present and many stations have not been strengthened in power. Fans state that there are too many stations with wave lengths from 254 to 389 meters, while above that there are too few. Local authorities agree that much has yet to be done.

Stations which have been improved by the reallocation order are: WLW, WGN, WMAQ, WTMJ and WCCO. Complaints have been received about KYW and KFKX. Popular stations like WJZ and KDKA are heterodyned.

Illinois does not think that any noticeable improvement has been brought about, although Chicago is evenly divided. New stations, however, have been reported on the dials. In Indiana, Amboy and Indianapolis state "no improvement; situation much the same." Akron, Ohio, shows dissatisfaction with the results; in Michigan, the survey indicates a division of opinion. Ann Arbor is "worse off," but Kalamazoo reports better conditions. Similarly, Altoona shows improvement and Lansing indicates dissatisfaction. In Wisconsin, also, dealers and fans stand on both sides of the question.

West Central

The rearrangement of stations has not worked so well in this section. The main cause of dissatisfaction is the cutting down of station WHO in Des Moines, Iowa. This has affected listeners in Missouri, Kansas, Nebraska and Iowa, who depended on WHO for chain programs and who now find that this station comes in much weaker. Some comments are very bitter.

All reports indicate a continuance of heterodyne interference. A bright spot in the situation is that distant stations are stronger. Local stations, however, have not gained.

All cities and town in Iowa show disappointment with the result of the reallocations, with complaints centering on WHO. WNAX is causing some interference. In Kansas, Arlington notes some improvement, while Atchison and Wichita do not.

Minnesota communities generally report "no improvement." A St. Paul dealer states that most of the customers he interviewed on the subject voice their doubts as to the benefits of the reallocations. Missouri is divided in opinion; in St. Louis there is dissatisfaction, some dealers report improvement; others do not. The same is true of Nebraska. In the Dakotas, opinion is unfavorable.

Stations bettered were: WLW, WHAS and WGN. WOC, WNAX, WCCO and especially WHO, not being received as well.

There is frequent objection to the increased power of local stations whose mediocre programs blanket those of better stations.

of the Country Reallocations—

In the EAST CENTRAL states, opinion is divided.

The WEST CENTRAL states report no improvement.

Improvement is indicated in the MOUNTAIN states.

The PACIFIC COAST is enthusiastic. "Conditions are vastly better."

Southwest

The radio commission's reallocation order has produced a change for the better in the Southwest. A majority of the dealers report that conditions have improved and that their customers are of the same opinion. Even though interference has not been completely eliminated, stations are being received much better; distant stations, especially, are coming in stronger.

Station KTSA reports complaints from listeners but stations KGLC and WKI say that their programs are being received more easily.

In San Antonio, Texas, one dealer reports that he interviewed fifty set-owners and all expressed themselves satisfied with reception. Austin is divided in opinion, but Amarillo reports better reception, due chiefly to the increased power of the stations heard. Three-fourths of the dealers surveyed in Arizona report decided improvement and Lowell and Globe are enthusiastic. Although there is still some interference, all comment on the increased strength of both local and distant stations. Oklahoma is divided on the question of interference but most of its towns report more and better stations.

On the whole, the Southwest has greatly benefited by the reallocations.

Mountain States

All phases of broadcasting reception show improvement in the Mountain states. Interference is greatly decreased and both local and distant stations are coming in much stronger. There is still a little interference in spots but it is generally expressed that this will be completely remedied with time.

Reports from Colorado towns show some divergence of opinion as to the results of the reallocation. Most of the heterodyning reported occurs below the 300-meter wavelength. Montana reports better conditions with some reservations concerning WCCO and KOA. Comments received from Nevada are optimistic and include: "Better than ever," "We have been greatly benefited," and "No heterodyne spots at all." The state of Wyoming also supplied an optimistic report. Stations KNX, KFI and KGO seem to have improved. Carson City and Reno are both enthusiastic over the new situation and Cheyenne and Casper report complete satisfaction.

Pacific Coast

The Pacific Coast is overwhelmingly in favor of the new set-up. Conditions have been vastly improved and the survey reports are all greatly optimistic. Most of the dealers answered in the affirmative to the question on improved reception. Local and distant stations are all coming in fine and it is expected that whatever heterodyning still remains will be eventually cleared up.

Distance fans are especially pleased over the effect of the reallocation order. Dealers have indicated that whatever complaints they get are from persons using obsolete sets. This is due to the fact that the larger number of stations now available calls for more selectivity in the set.

California towns and cities reported a general betterment in the situation. San Francisco, Los Angeles and smaller towns, such as Alhambra and Anaheim, returned favorable reports. Oregon was 100 per cent for the new arrangement, in spite of some difficulty experienced with stations on the 200 to 300-meter wave band. Opinion in Washington is somewhat diversified, some dealers reporting complaints from customers. On the whole however, this section of the country has also been greatly benefited by the reallocations.

NAMES OF SALESMEN	QUOTA	ACTUAL VOLUME	CALLS	INTER-VIEWS	CANVASS CALLS	FLOOR INTER-VIEWS	TELEPHONE CALLS	OWNERS	DEMONSTRATIONS	SALES
Roberts	\$3,000	\$475.00	32	19	12	10	20	6	8	3
Bronnson	3,400	920.30	63	47	32	15			11	6
Johler	3,150	760.30	52						10	4
Carney	3,500	1232.45						12	13	8
Rice	2,800	9					18	10	12	



THE pro-ductiveness of a sales organization depends, in great part, upon the proper direction of the salesmen. This, in turn, is best brought about by some method of properly recording and controlling the activities of the sales staff.

By making this an essential part of its sales management policy, the Howell Piano Company, Seattle, Wash., has minimized its selling costs, and at the same time, achieved a large volume of sales. It is now considered one of the most successful radio businesses of the Northwest.

The Howell company has developed an efficient and practical sales management plan. The feature of this plan is a sales record board which is tacked up in the room where the men have regular morning conferences.

The effectiveness of this board lies in the fact that the men may compare not only sales records but sales methods! This was outlined by H. E. Woodward, who is associated with Mr. Howell in the active management of the company.

This sales record board used by the Howell Piano Company of Seattle, Wash., shows the radio salesmen, very conclusively, that:

Individual sales volumes depend on the number of calls and interviews credited to each man.

Opposite the name of each salesman are listed the following headings: Quota, Actual Volume, Calls, Interviews, Canvass Calls, Telephone Calls, Floor Interviews, Owners, Demonstrations, Sales, Buyers Lost, Buyers Secured.

Under the first heading, "Quota," is placed the quota for the month, in dollars and cents. This is fixed by the previous record of the salesman and his ability to produce. It is the only figure that remains stationary during the month, the other figures being brought up to date before each morning sales meeting. The psychological effect of quota-fixing is, of course, well known. A definite goal keeps the individual stepping up.

Under "Actual Volume" is recorded the business achieved from the first day of the month to the last. If a salesman has a \$3,000 quota, for example, and the fifteenth of the month sees him with but \$475 in actual volume, the sales board is functioning like a green light. Many times the salesman will be sure he is going along well by counting in the number of orders almost over the

BUYERS LOST	BUYERS SECURED
38	17
21	26
29	21
17	31

Show the Salesmen

“HOW”

This Western music company has a sales management policy which effectively stimulates and controls its salesmen.

line instead of those actually closed. The sales board leaves no doubt as to the day-by-day progress.

In the column headed “Calls” is listed the number of calls made on carded prospects, or listed *buyers*. Right here it may be explained that the term “prospect” is not used in this organization. After it has been determined whether the customer has both the authority to purchase and the money, he or she is a *buyer*, not a prospect. It will be noted that the same use of the term “buyers” prevails throughout the chart.

THE number of interviews is next tabulated, followed by a record of the total of canvass calls and the total of telephone calls. The number of floor interviews is charted next and an important listing is the one under “Owners.” In this column is listed the number of calls made on owners—buyers previously closed—and invariably they are found to be a good source for prospects. The number of home demonstrations staged, and the sales in units, are listed in respective columns.

“Buyers Lost,” that is, prospects held by card, but not closed, or sales lost through competition, are tabulated, and this is balanced by the total of the new buyers secured and carded.

It will be readily seen that valuable comparative analyses may be made from this sales board. The man who is not producing as he should is shown just how a more successful man is succeeding because his call record is larger. The record is there *in black and white*; he is making more calls; getting more interviews; closing more sales. Another is building up a good business for himself, the chart reveals, by calling on owners; he has a large number of owner calls credited, and as a result he has more buyers secured—and more sales.

The more calls, the more interviews, the sales board indicates, and this is a potent way of emphasizing the point that a daily quota of new contacts will be bound to mature into sales, by the law of averages. This is a gospel that it is much easier to teach by eye, through the sales board, than by ear, states Mr. Woodward. “To show a man that he is not making enough calls is far different from telling him.”

The board is also a barometer for the management. It indicates at a glance just which men are the most valuable to the organization. This is not shown solely by the sales volume. For example, the man who has a long record of canvass calls or telephone solicitations which result in interviews, is a valuable associate because he is capable of drumming up business that would not otherwise go to the firm. The total of floor interviews gives a clue as to how the advertising and other sales promotion methods used by the firm are pulling.

It is usually a problem for a radio department to arrange the salesmen’s floor duty, but the Howell company’s plan smooths off most of the rough corners. H. C. Fuson, manager of the department, believes that

radio *can* be sold without the home demonstration. This does not mean that he advocates the abandonment of the “cold canvass,” telephone solicitation, or any other form of getting new business.

Two outside men are put on floor duty during the morning hours; two are on in the afternoon; two in the

evening. More frequent turns on the floor are arranged by this plan. The men are fresher and more alert when they go on duty, and they have the stimulus of more frequent contact with the store; more frequent gathering of fresh leads. Not more than a day elapses between floor periods.

(Please turn to next page)

Merchants Who Have Made Radio Pay—

No. 22.

This plan enables the men to *follow up prospects* the same day. If a call at the home, or a home demonstration, is expedient, it is always done on the same day that the prospect called in at the store.

BUT just how does this plan increase the number of sales closed at the store, without the cost of the home demonstration? For example, a salesman telephones, cold canvasses, or in some other way secures a live prospect. Probably, it is a Monday morning. Now it would not be good salesmanship for the salesman to invite the prospect to inspect the Howell radio line at the store if he were not going to be on floor duty until the following Friday—and the prospect did not care to make a special appointment. It is a different matter when the salesman says: "I am going to be at the store all this afternoon. Drop in at any time and I will be there to show you around." Often, the prospect prefers

this informality of appointment because he doesn't want to feel obligated to purchase.

All prospects are carded so that the salesman is given credit if the prospect calls at the store and is sold by Mr. Fuson or someone else in the absence of the salesman. No prospect may be held, however, over thirty days unless the salesman can advance a very special reason for the delay in making the sale.

In the event a home demonstration is found necessary to further the sale, such a demonstration is arranged; but a radio set is never allowed to remain over night.

Systematized management is evidenced in every phase of the Howell company's business. It is not so difficult to reach the profit goal in radio when effective methods are worked out to increase productiveness and lower selling costs. Without a single home demonstration, Mr. Fuson piled up an individual sales record one month which is a challenge to other salesmen—\$11,960.

Conducts Survey of Local Reception Conditions

Michigan dealer capitalizes "Radio Retailing's" study of the broadcasting situation—and analyzes his local market

ON PAGE 46, in this issue, are published the results of *Radio Retailing's* national survey of the reception conditions resulting from the reallocation of the broadcasting stations, as ordered by the Federal Radio Commission.

One of the dealers included in this survey, the Sawkins Music House, of Alma, Michigan, was inspired to take advantage of the sales opportunity present in a similar local survey among its own prospects and customers. Accordingly, J. E. Sawkins sent out a questionnaire postal-and-reply card to a list of about five hundred names.

This questionnaire ostensibly, and actually, was intended to acquaint the Sawkins Music House, and *Radio Retailing*, with the effect of the reallocations in the town of Alma, Michigan. But, of even greater importance is the fact that it has provided Sawkins with definite information concerning his local market. It indicates who his prospects are and has eliminated waste effort in going after people who have a radio and are thoroughly satisfied with it.

On one side of the post card was printed:

"When we sold you a radio, we were interested in

TEAR OFF AND MAIL THIS CARD TODAY

1. Has reception been improved, generally speaking? _____
2. Has heterodyne interference between stations stopped, or is it continuing? _____
3. Do local stations come in stronger and clearer? _____
4. Do distant stations come in stronger and clearer? _____

Further remarks: _____

Is your present radio satisfactory? _____

Would you like to have us place one of the new All Electric Atwater Kent or Majestic radios in your home for a few days' trial? _____

Name _____

Address _____

1934.

Alma, Mich., November _____

Dear Customer:

When we sold you a radio we were interested in having you get the best results obtainable. We still are and will continue to be interested in that radio.

On November 11th the Radio Commission changed a great many wave lengths. We are seeking your co-operation to ascertain whether or not this new allocation was an improvement in reception. Will you kindly take a moment's time to answer the following questions and mail the attached card back to us today? Please accept our hearty thanks for your courtesy.

Cordially yours,
SAWKINS MUSIC HOUSE

By _____

having you obtain the best results. We still are, and will continue to be interested in that radio.

"On November 11, the Radio Commission changed a great many wave lengths. We are seeking your co-operation to ascertain whether or not this new allocation was an improvement in reception. Will you kindly take a moment's time to answer the following questions and mail the attached card back to us today?"

The questionnaire on the reply card included the following questions:

1. Has reception been improved, generally speaking?
2. Has heterodyne interference between stations stopped, or is it continuing?
3. Do local stations come in stronger and clearer?
4. Do different stations come in stronger and clearer?
5. Is your present radio satisfactory?
6. Would you like to have us place one of the new all-electric radio sets in your home for a few days' trial?

When Models CHANGE And Prices DROP— The Customer MUST PAY

IN THE past five years, a situation has arisen in the radio trade which is the source of much trouble and financial loss to the radio merchant.

A set is bought on the deferred-payment plan and is in use for some time when its owner makes a discovery. He finds that an improved model may be bought for approximately the balance owed on the old set. Or—he finds that the price of the set has been reduced considerably. So he asks the dealer either to let him have a new, improved, model or to take back the old set and cancel the contract. *Either way, the dealer loses.*

The fact that a very large percentage of radio receivers has been sold on the deferred-payment plan has made this problem all the more acute.

When the A.C. set was sprung upon an unsuspecting public and dealer both, it precipitated this question in an intensely uncomfortable form.

Customers by the thousands desired that battery-operated sets and eliminators be taken back into retailers' stock. These same sets were usually sadly in need of repairs or reconditioning. The small dealer seemed almost helpless, but several representative stores in various sections of the country decided to stand on their rights.

IN SCRANTON, Pa., G. D. Stoehr, head of Stoehr & Fister, one of Pennsylvania's largest furniture institutions, and trading as the "Temple of Music," was confronted with a number of such cases. He gave orders for immediate suit, and the outcome was immensely gratifying. The very first case involved a battery-operated set which was installed in a home, worked satisfactorily, was moved to a new location for the owner and still operated well. On neither of these occasions was anything said about returning the machine.

Then, when the electric set was introduced on the

JURORS REACH DECISION IN DISPUTE OVER RADIO

VERDICT FOR PLAINTIFF FOR
\$184.50—WITNESSES TESTIFY
OLD SET BETTER THAN
NEW ONE.

The jurors that sat at the trial yesterday of the case in which G. D. Stoehr and others, trading as the Temple of Music, were suing Nicholas Carlucci, of East Drinker street, Dunmore, for \$184.50 due on a radio which he purchased some months ago, this morning returned a verdict in which they found in favor of the plaintiff to the full amount of the claim.

Carlucci contested the action, claiming that the Temple of Music set was not what it was supposed to be and that the best he could do with it was to get but two local stations. He was so dissatisfied, he testified, that he bought a new set.

Representatives of the store that sold the set to Carlucci said that the set was a good one and that in tests that they had made on it they were able to get a number of the larger stations.

At noon yesterday court instructed Charles Law and William Markwick, court messenger and tipstaff, respectively, to visit the Carlucci home and test the set. The jurors also were told that they too could go to Dunmore with the court attaches but only one of the number went along. Late yesterday afternoon, when the trial was resumed, Messrs. Law and Markwick testified that they had found the set in dispute to work better than the newer model which Carlucci had purchased. The jury deliberated only a short time before arriving at a verdict, which was presented, sealed, to court this morning.

REV. THOMAS JORDAN PREACHES

market the customer asked the dealer to take the old set back and to give him an electric set instead. Stoehr & Fister refused to do this and the customer thereupon purchased an electric set from another concern. As he refused to complete his payments on the battery set he had originally bought, the contract was turned over to an attorney and the case brought up in court. The jury, after listening to the evidence, went to the customer's home, listened to both machines operate, and then returned to court and gave the verdict in the dealer's favor.

The publicity attendant on this case benefited not only Mr. Stoehr's concern, but practically every dealer in the northeastern part of the state. The radio dealer group in the Scranton Commercial Association, taking this lawsuit as an example, campaigned actively among delinquent accounts with telling effect. Soon collections loosened considerably, and in short order the situation improved.

To study this problem let us revert to those good old days not so many years ago when, to the majority of radio purchasers, a receiver was judged partly on merit and partly on the number of knobs and dials which it possessed. Especially pleasing to the wireless fan (what a thrill that good word "wireless" once evoked) was the multiplicity of controls with which a set was blessed;

ticklers, tuners, variometers, couplers, inductors, and whatnots covered the panel. The more there were, the more fascination it afforded.

By a gradual process of evolution, these seemingly necessary attachments became reduced, emasculated or merged, so that, but two short years ago, the single dial held the stage. Up to that time, the purchaser of a radio receiver was more or less generally satisfied with his acquisition, for he could still boast of the marvelous results to be secured by merely pressing his indicator or moving his variometer two degrees to starboard.

Then came the first change in the instalment buyer's attitude toward his partly-paid possession. As he gazed about him and saw and heard the latest, improved, one-dial outfits, he began to sour. Why, reasoned he, should I keep this "Flunkiola Four" when I can buy a new "Singin Six" for approximately the amount I owe on the old set?

Thereupon arose one more bugaboo to harass Brother Radio Merchant in his already thorny path. What a time was had by all when the smoke cleared away the season before last! Dealers all through the country

found themselves overburdened with replevined and returned obsolete models. Most of them took their medicine. Some dropped out of the radio picture, classing the entire industry as uneconomic and profitless. Others stayed in and made the best of a bad job, hoping to recoup their losses in the sale of new stock. A few made half-hearted attempts, with indifferent success, to collect amounts due on the old sets.

Another year passed, and then, as already described, the same situation arose all over again with the introduction of the A.C. set.

At the present time, the retail end of the industry is confronted with still another specter. Recent buyers of A.C. sets, having heard and seen some of the latest cabinet-type, dynamic-speaker sets are beginning to act "finicky,"

which may cause a temporary increase in the number of returns on unpaid time-payment accounts. These always follow the introduction of any improved product.

The old familiar situation is bound to recur, to the great annoyance of the trade, but the legal decision reported here will do a great deal to protect the dealer against unwarranted returns.

Pennsylvania dealer wins verdict against customer who wanted an improved model and refused payments on his old set.

BUILT-IN Radios Featured in New Homes



Built-in radio sets are an important feature of the latest homes constructed by Amgo, Inc., in Elyria, Illinois. Twenty of these homes were constructed and the built-in radio sets provided such a forceful sales aid that the company is including radio as a part of the equipment of all future constructions. The sets are installed in the living room and are built-in flush with the wall. A rectangular panel incloses the front of both set and speaker. The Acme Electric and Manufacturing Company, Cleveland, co-operated in the installation of the sets.

THE use of built-in radio sets and speakers is rapidly spreading throughout the country. The latest application of this idea is reported in Elyria, Ohio, where twenty houses have been constructed with built-in radio sets as part of their equipment. Amgo, Inc., Cleveland builders; and the Acme Electric and Manufacturing Company, also of Cleveland, co-operated in the venture.

The houses are of the five-room, English, type, and sell for about \$5,000. In view of the fact that the homes are medium-priced, it gives the builders a strong sales argument to be able to supply a home with built-in radio. The Amgo company intends to install sets in all future constructions.

"We were not content with the features that we were building into our houses," says Alfred L. Gordon, of Amgo, Inc. "We looked around for something new—something that would be not merely an ornament—and we determined to install radio. In our opinion, radio is just as important in the modern American home as the bath-tub."

The radio is installed in the living room, at one side of the fireplace. It is A.C. operated. Its front is inclosed in a rectangular, framed, panel which is flush with the wall, as shown in the illustration.

No external aerials are used on the houses. The aerial is placed in the attic, pointing in two directions, and from there the lead-in goes down to the set.

Windows that Caught the Xmas Spirit



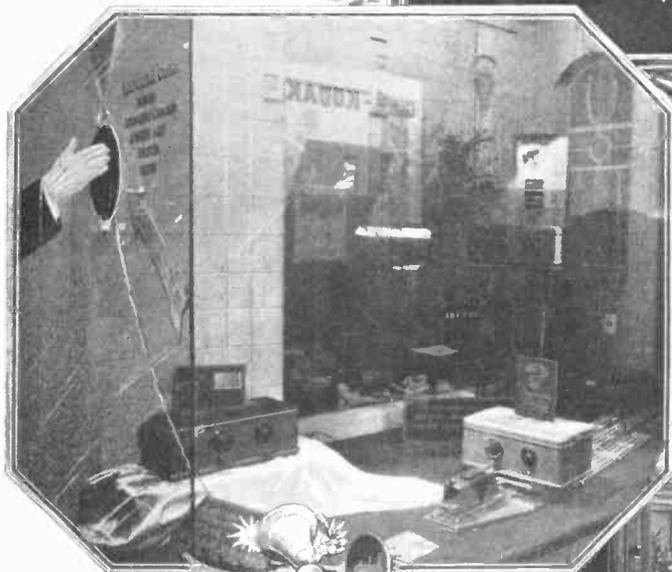
MUSIC FOR CHRISTMAS
(Right)

Music was the theme of this Christmas window of the Wanamaker store in Philadelphia. The opposite ends of the musical scale are represented by the bass viol and the flute.



A MOVING CHRISTMAS DISPLAY (Left)

A window with moving parts is sure to attract attention so the E. A. Portal Co., Inc., of San Francisco, invited passers-by to move their hands across a disc in the window and cause a set in the display automatically to move forward.



A BORDER OF PINE BRANCHES (Right)

The A. I. Ross Music Stores, Astoria, N. Y., won a prize in a recent Facts window display contest. The display is seen through a border of pine branches.



CANDLES AND A WREATH
(Left)

The Ernst Hardware Company of Seattle got the Christmas atmosphere into its radio window by the use of a number of tall candles grouped in skyscraper effect, and a holly wreath in the background. The very simplicity of the Christmas decorations enhances the effectiveness of this window.



Selling the

By Ray V.



Part-time district representatives enable one dealer to reach the outlying farm market.

District Representatives Sell 146 Sets in 152 Days

AN EFFECTIVE system for economically reaching and servicing the farm market has been developed by E. K. Malme, radio dealer of Moorehead, Minn. He has a force of part-time, straight-commission men—"district representatives"—by means of which he sold 146 radio sets to farmers in 152 days. The average first-cost sale was \$120 and the salesman's commission 15 per cent.

Note the emphasis on "first cost." By "first cost" is meant the total amount of the original sale, which is limited to the actual necessities of the radio set. Malme finds it good business to keep the initial quotation as low as possible—and to sell additional equipment to his new customers on each of their first five visits to town. This system has two advantages: it permits an attractive original quotation and it brings the farmer back to the store.

Malme keeps faith with his salesmen by granting them their regular commission on any store sale made to customers sold originally by a field representative.

The men own and operate their own automobiles. Each has his own little kingdom in which to function. But Malme does not make the mistake of turning loose his men to "sink or swim" with-

out preparing them adequately for the task at hand.

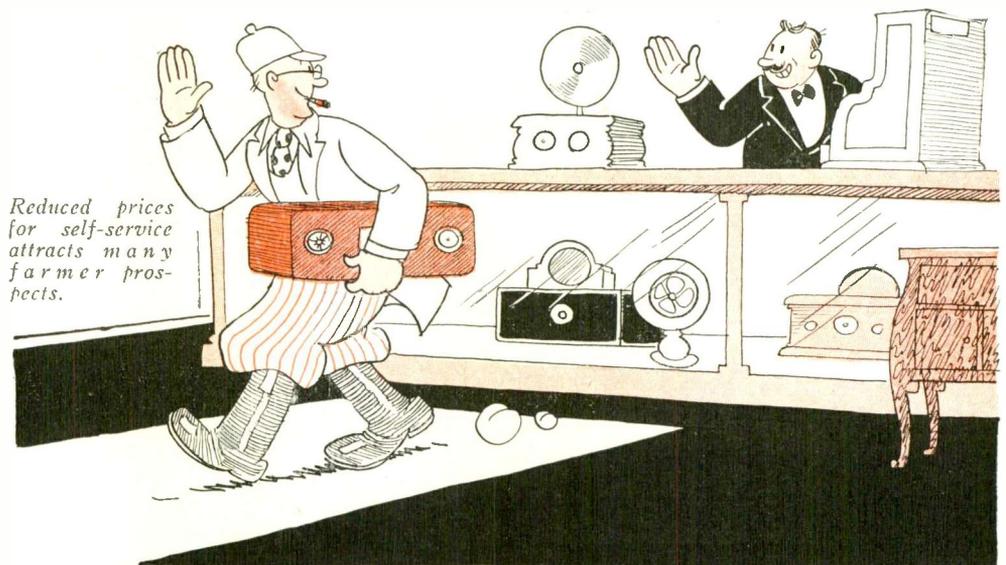
They spend two days in the Moorehead store and service shop learning the ropes. Supplementing intensive training Malme accompanies each district representative for the balance of the week, lining up prospects and closing sales.

When a call is received from any of these men for a radio outfit for an

evening demonstration, Malme makes it a point to have everything checked, assembled and in readiness. If practicable, the antenna is soldered to the lead-in wire so that not a minute of valuable selling time will be lost. Incidentally, the farmer can be counted on to help erect the aerial.

"Whenever possible," says Malme, "put up a permanent aerial, even on trial jobs. It gives an appearance of finality and makes it harder for the prospect to turn you down."

Seventy per cent of last season's sales to customers not located on power lines did not include a storage battery. These purchasers agreed to pay \$2 a month in return for which Malme kept them supplied with a freshly charged battery. An alternate clause provided that, in the event the customer furnished his own



FARMER through—

Sutcliffe

battery, the upkeep charge would be but \$1.25 a month—the farmer to attend to the item of transportation.

Having thus provided a constant opportunity for contact with his customers, Malme proceeds systematically to sell them the following equipment, in the order named, one item per visit: a reserve tube, an A battery or a reserve B battery, battery tester, hydrometer and a small kit of electrical tools.

"The most important suggestion I would advance," adds this builder of a \$23,000 per annum business, "is, *stay with them*. I've known my rural salesmen to meet a prospect in the territory right after lunch, to play around with him all afternoon, join the family for supper and stay until good reception came through if it took until midnight."

Malme's net profit for the fiscal year just closed was 9.5 per cent.

This "Bargain" Plan Increases Sales to Farmers

BY MAKING it financially attractive for the farmer prospect to install his own set, the Boyd Automobile Company, Aberdeen, S. D., not only saves the time of its service men, but closes rural business which it might not otherwise obtain.

The prospect is told that he will be granted five per cent off the list price if he will attend to all transportation and installation details. Ninety per cent of Boyd's out-of-town purchasers subscribe gladly to this agreement, which provides also that the owner bring in and take away his set, or parts, whenever servicing is required.

Because each customer is thoroughly instructed in the necessary fundamentals of aerial erection, ground and battery connection, and tuning, and because there is little to fear from local interference conditions on the farm, practically no unsatisfactory installations, of the forty-eight sets so far sold under this arrangement, have been reported to date. As the user must pay for

1. District Representatives
2. The Bargain Appeal
3. A Feminine "Salesman"



A saleswoman accounted for 70 per cent of a Dakota dealer's farm radio business.

all installation equipment and as the time and automobile savings, estimated at not less than \$9 per trip, more than offset the discount granted, this plan is financially profitable.

"But of greater importance," states William Boyd, president of this concern, "is the fact that this offer attracts rural trade. Farmers are great bargain hunters. One tells another. Moreover, the time it saves my organization, apart from its actual cost, is much more

profitably employed in getting new business."

Feminine "Salesman" Attracts Interest

MAKING radio sales to farmers through a saleswoman is the unusual method successfully used by the Wheeler Radio Store, Sioux Falls, South Dakota.

The saleswoman, Miss Eunice Doane, has to her credit a grand total of fifty-two set sales closed in prospects' homes and twenty orders signed in the store. She is responsible for 70 per cent of the radio business enjoyed by the Wheeler store last season.

Here is her explanation of how she successfully sells radio to the farmer:

"I concentrate my first efforts toward getting permission to demonstrate the set in the home. I do this because I find that a saleswoman is advantageously situated once an opportunity for meeting the entire family is secured. Naturally, I cultivate the good will of the wife and children. Just as soon as possible I put the entire transaction on a basis of personal friendship. I act perfectly natural, do not attempt to rush things or to force a decision and talk in a quiet conversational tone. I point out that if I can bring in distant stations, certainly the lady-of-the-house can also enjoy the fullest possibilities of the set I am demonstrating.

"This method frequently calls for a repeat visit but it leads also to a more substantial acquaintance—which means tips on other, nearby, farmer prospects."

Radio Retailing

A McGraw-Hill Publication

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Vol. 8, No. 6

Use the Voters' Records

A Good Mailing List for Christmas Use

IN ADDITION to stimulating radio sales generally, the recent presidential election provided another help for the radio dealer which he ought not to overlook. All voters in this country have their names and addresses registered and these are listed and published in pamphlet form. In New York City, for example, lists of voters are published according to assembly districts, and may be obtained for 25c. a copy from the Board of Elections. Similar lists are available in all cities and counties.

These lists are especially valuable just now because they are up-to-date and because of their availability for Christmas use. Their accuracy and reliability will decrease, however, as time goes on. If the dealer is to avail himself of the opportunity to obtain a good mailing list, he should do it now, before changes in addresses make it less valuable.

* * *

The Picture Theater and the Radio Dealer—Three Opportunities

RADIO is revolutionizing the motion picture business. Millions are being spent in Hollywood for the production of sound films. And now that the leading entertainment cathedrals have been "tonalized" we find the second and third-class cities engaged in a frantic struggle as to which theater will be the first to run talking pictures.

Does this situation mean anything to the radio dealer? The superficial answer would be, "No." But let's delve a little deeper.

Sedalia, Mo., has a population of 30,000. At this writing, the Western Electric Company is installing a combination Movietone and Vitaphone equipment in the town's leading theater, the Liberty. And who is helping the Western Electric engineers make this installation? Howard Middleton, a local radio dealer.

The Middleton Electric Company is furnishing the wiring material and the labor. When the job is finished, Middleton will be the logical man to attend to its minor servicing requirements.

In this instance, Middleton had already identified him-

self with the theater industry by selling a radio-phonograph installation to the town's other amusement palace, the Sedalia. A magnetic speaker in the lobby plays musical selections from next week's films, thus advertising the coming show. The turntable is operated from the manager's office. These pieces are played while the audience is entering and leaving each performance.

A sign over the speaker, and a "flash" on the screen, reads: "The feature musical selections from next week's performance are played on radio-phonograph apparatus installed by the Middleton Electric Company."

Middleton services and maintains this equipment without charge and receives, in return, this free publicity.

Opportunity number three is illustrated in the cases of two mid-western radio dealers who have found profit and prestige in selling non-synchronous radio-phonograph devices to owners of small motion picture houses in towns of 25,000 or under.

Nineteen hundred and twenty-nine will be a year of fruitful developments in the application of the radio tube to public entertainment. The dealer with initiative will do well to broaden his horizon and capitalize the new opportunities thus afforded.

* * *

Time-Payment Sales are Widespread

OVER 4,000 out of 5,737 radio dealers recently reported to the Department of Commerce that some percentage of their radio sales was made on the installment plan during 1927.

Selling on the installment plan is no longer a moot question. The principle of deferred-payment buying is fundamentally sound—the danger lies in its misapplication. If payments are extended over too long a period of time; if the initial payment is not high enough; if a strict investigation is not made of the customer's credit references or if a rigid follow-up policy is not adhered to in collections—the dealer is likely to have trouble.

Installment selling is successful if based on sound financial principles and merchandising policies which leave little to the element of chance. The extra care required to make the system foolproof is well worth while because of the wider markets which it makes available.



to Build a MAILING List

The Vacuum Tube Has Caused Vast Changes

THE recent announcement of the affiliation of the Radio Corporation of America and the Keith-Albee-Orpheum Company again recalls the vast ramifications engendered by the advent of the vacuum tube.

Although it is unlikely that many of radio's newer developments will affect the dealer's pocketbook as vitally as did program broadcasting, he should keep in touch with these kaleidoscopic advancements. Quoting Harper Leech, in the *Chicago Tribune*:

"In its rôle of displacer of human and animal muscle, electrical energy has worked an economic revolution, which has been rather well understood by industrial and engineering leaders.

"But, by virtue of its selectivity and sensitivity, electricity can substitute for nerves as well as muscles. It can vastly expand the power of the human senses. In the field of art it has the power of projecting artistic effort to vast distances and multiplying sights and sounds indefinitely."

Here are a few of the corporations which have been linked together in one way or another by the progress made possible by the vacuum tube: Radio Corporation of America, Keith-Albee-Orpheum, National Broadcasting, Photophone, Inc., F. B. O. Productions, Inc., Western Union, American Telephone and Telegraph, General Electric, Westinghouse, International Radio Telegraph, United Fruit, Tropical Radio Telegraph.

This hectic scene of commercial realignments is but the forerunner of vast cultural changes that are bound to follow as the result of the development in human knowledge which has, in the past twenty years, surpassed the achievements of all previous decades.

* * *

Why Neglect the Farm Market?

THE farm market is being neglected. This statement is based on the observations of *Radio Retailing's* western representative who, during the past year, has interviewed hundreds of radio merchants in farming states.

The advent of the A. C. tube, a lively demand from townspeople, and the cost of selling and servicing the farmer are the reasons given.

"If the manufacturer would produce a battery set of high efficiency and as free from service as today's A. C. job, we would go after this vast market more energetically," declare these radio dealers. "As it is, the batteries require too much attention."

Fortunately, there are now available low-current consuming tubes (201-B) the use of which in sets especially designed for farm requirements should revive this market. Manufacturers and dealers alike should prepare now to regain during 1929, the ground lost in 1928.

The Value of Personal Friendships

IN THE course of a conversation a radio dealer recently stated that personal friendship was the basis for most of his sales. "Many dealers," he said, "do not realize the important part that personal friendship plays in the making of radio sales. It certainly is logical that the more contacts the merchant makes, the more radio sales follow. And this has been my experience during many years in business."

Opportunities to meet people and to make friends should be grasped by all business men. And, at this season of the year, with radio at the height of its usefulness and popularity, such opportunities will be of the greatest benefit to the radio merchant.

General Business Continues "Favorable"

THE close of November finds no essential variation from the favorable business trends which have prevailed during the second half of the year. Seasonal influences, as were to be expected, are affecting the situation in different ways, but they are of a stimulating character, generally. The fall months are a period when certain of the principal manufacturing lines usually experience a slowing down in operations, but there is evidence that production in these industries is holding up better than was expected.

Retail trade has been retarded during the past two months by reason of the long spell of unusually warm weather, but orders have been good when weather conditions have been favorable. There is no reason to doubt that consumer purchasing power continues at high levels.

With business at record levels, it is only natural that an optimistic atmosphere should prevail throughout general trade and industry. The National Association of Manufacturers states that 17 per cent of its members pronounce present trade conditions as excellent, 41.4 per cent as good, 34.5 per cent as fair, and only 6.8 per cent as poor. However, the future looks bright, 94 per cent of the members reporting that winter trade would be favorable, as against 6 per cent looking for poor business. All reports from reliable sources indicate that the approaching Christmas trade volume will exceed by far any previous figure.

Practical Service Methods



Hum in AC Receivers Caused by Coupling

ONE of the most troublesome causes of "hum" in a receiver which employs A.C. tubes is due to coupling in the parts of the circuit which are common to both R. F. and detector circuits.

When the location of the parts of the set is properly planned and the wiring carefully done and cabled to avoid coupling effects, no trouble may be expected from "hum." In many cases, however, the limitations of space and the necessity for crowding parts together will often introduce "loops" and coupling effects in the wiring.

The use of the grid condenser and leak arrangement for the detector, while highly efficient and sensitive, very often makes the area surrounding the detector portion of the receiver very critical and unstable. If any trouble is experienced from that source it is usually best to change the detector to the grid bias method.

In the event that this change does not eliminate the coupling which causes "hum" a simple method which is practically a sure-fire cure is to insert a .1 megohm (100,000 ohm) fixed resistor in the grid return lead between the "F" terminal of the R. F. transformer secondary of the detector circuit and the grid biasing resistor which provides the grid bias for the R. F. and detector circuits. A .1 mfd. bypass condenser should then be connected between the "F" terminal of the transformer mentioned and the cathode terminal of the detector tube.

Another precaution to keep the hum down to an absolute minimum when using a 227 tube as a detector is to be sure to connect the centertap of the filament supply transformer winding to the B plus detector tap, thus placing a bias of 22½ to 45 volts between the heater filament and the cathode.

The 227 tube is very free from microphonic action and does not require the special treatment or mounting usually used in the case of microphonic detector tubes.

Increasing the Sensitivity of Radiola 17

The sensitivity of Radiola 17 depends, to an extent, upon the amount of regeneration present in the r.f. stages. The degree of regeneration present depends upon the particular set and upon the capacity of the antenna system. The greater the capacity of the antenna system the smaller the amount of regeneration. Therefore, the use of a small antenna—approximately 25 ft. in length—has been recommended for use with Radiola 17.

Some operators have discovered that, in some instances, a particular set works better without a ground, which in effect reduces the capacity in the antenna system and therefore raises the regenerative action in the r.f. stages and increases signal strength in reception. The receiver, however, does not operate entirely without a ground as there is a small capacity ground through the A.C. power supply line. On the other hand the operation of some

Conducted by
HENRY W. BAUKAT
Technical Editor

Making the Push-Pull Circuit Better

The large number of factory-built receivers and kit models which are using the push-pull feature in the audio amplifiers leaves no doubt regarding the popularity of this type of audio amplification. An interesting feature by means of which maximum efficiency can be obtained with this type of circuit, should therefore prove of value.

In measuring the power output obtainable from the push-pull circuit, it is found that a slight variation in the plate current reading of the two tubes does not have any appreciable effect on the power output. In using low Mu tubes such as the 250 tubes, it will be found that a very small change in amplification factor results in a relatively large variation in plate current. For this reason experimenters have been interested in arranging the circuit so that the tubes would be brought to the same plate current reading. This may be accomplished readily by operating the tubes from separate filament transformer windings. Each winding should be provided with a midtap or a center tap resistor, and two grid biasing resistors are required instead of one. One end of one resistor must be connected to the center tap of one of the filament windings while one end of the other resistor is connected to the center tap of the other filament winding. The other ends of the grid bias resistors should be connected to the "B—" lead. The center tap of the input push-pull transformer is also connected to the "B—" lead. The resistors provided for the 250 tubes should be approximately 1,500 ohms each while those necessary for 210 tubes should be 1,900 ohms each.

By using this circuit arrangement, the tubes will be brought to the same plate current reading. The circuit arrangement also has the additional advantage that if one of the tubes fails after the amplifier has been in service, the failure of one tube will not affect the operating conditions imposed on the other. In the usual push-pull circuit the failure of one tube results in an overload upon the second tube, used in the push-pull stage.

220 Volts Available in 110-Volt D. C. Districts

One of the disadvantages met with in D.C. districts is the fact that the current supplied is 110 volts D.C. and cannot be stepped up to provide the high voltages required for the operation of 210 and 250 tubes.

However, in most of these districts, the system used is the "three-wire" system consisting of a "neutral" wire and two other leads with a difference of potential of 110 volts between each wire and the neutral wire.

Wherever it is necessary, it is possible to have the power supply company provide the full 220 volts which can be used as the voltage supply for the plate circuits and

Radiola 17 sets will not be improved by leaving off the ground connection because, depending upon the particular antenna system installed, the set is already in a highly sensitive operating condition and any further reduction of antenna capacity will throw it into oscillation.

These points are worthy of consideration in any effort made to improve the sensitivity of Radiola 17.

Increasing Loop Efficiency

Experiments recently conducted by the Engineering Staff of the Dubilier Condenser Corporation have thrown interesting light upon the interference elimination possibilities of aerials in general. It has been found that the open, elevated aerial and the light socket aerial, both capable of receiving the maximum signal strength of 360 degrees of arc—in all directions—operate in much the same fashion. On the other hand, a loop aerial, if operating without undue influence from nearby metallic shielding or shadows, receives best in two directions in a line with its edges, and poorest in the two directions at right angles, or broadside of the coiled wire. The ideal result would be the cancellation of the pick-up from the 180-degree point, as is achieved on both 90-degree sides. Working in an effort to achieve this end, Dubilier engineers have found that if the loop is coupled either to a light socket aerial or to an open aerial, a decided improvement is produced in the directional selectivity. Whereas alone the loop aerial has a figure 8 pick-up, with the light socket aerial or outdoor aerial it assumes more of a cardioid or heart-shaped pattern. While the 90-degree interference is not eliminated as readily as when using the loop alone, yet a marked overall benefit is noted through this simple change.

To use the light socket aerial with the loop receiver it is only necessary to wind one or two turns of wire in the wire slots of the loop, thus placing it directly over the regular loop, with one end going to the light socket aerial while the other is, of course, grounded. This simple change will work immeasurable benefit to the loop type receiver, giving a decided increase in signal strength, improved selectivity, greater distance, and noticeable diminution of interference.

Noisy Volume Control

If a set has not been used for some time and the weather has been damp, a slight form of oxidization may occur at the point of volume control contacts, causing noisy interference with reception when the volume control is turned up or down. The remedy for this is to simply turn the volume control back and forth as far as it will go, a half dozen times. This will remove the thin oxidized coating and re-establish proper silent contact.

will furnish the 180 volts required for the plate circuits of 171A tubes and the necessary 40 volts for the grid bias for the tubes.

If the results obtained with the use of 210 tubes are required, it is possible to connect up two 171A tubes in parallel to give practically the same results since each 171A tube will give an undistorted output of 710 milliwatts at 180 volts plate voltage and 40.5 volts negative grid bias. Two tubes connected in push-pull will give an undistorted output of 1,420 milliwatts while a single 210 tube at 400 volts plate voltage and 35 volts negative grid bias will give an undistorted output of 1,340 milliwatts.

In the "three-wire" system, the "neutral" wire is grounded. To avoid any danger of short-circuit therefore it is important that no point of the receiver or power pack be connected directly to ground. The "ground" terminal of the receiver should be connected to ground through a bypass condenser of one mfd.

Change Grid Leak for DX Reception

During the past few years, many radio sets have been designed more or less for local reception. In order to avoid distortion on powerful local stations, grid leaks of 2 megohms have become almost standard practice. Yet when dealing with weak signals, this value is entirely too low. In tuning in on distant signals which will be available on cleared channels, higher grid leak values will be required. Furthermore, the fluctuations or noises which have been caused by defective grid leaks and which have gone by more or less unnoticed in "local" reception, will loom up big in the background of DX reception.

For those interested in long-distance reception, the simplest step is to secure the 2, 4, 6 and 9 megohm grid leaks, and to be ready to try these values on distant signals.

De Forest Announces Replacement Policy

A replacement policy which is at once fair to all parties concerned, simple, and prompt in its adjustments, is announced at this time for the DeForest Audions by H. C. Holmes, general sales manager of the DeForest Radio Company, Jersey City, N. J.

"While every effort is made in production, inspection and test to produce only perfect tubes, the possibility of defective tubes occasionally reaching the consumer is fully recognized, and we have therefore endeavored to take care of such a situation by a satisfactory replacement policy.

Our dealers are being provided with DeForest Audion Replacement Labels in booklet form, with permanent stub. The consumer is asked to return any defective tube to the dealer from whom it was purchased. The dealer fills out both stub and label with the necessary information called for, using his own system of numbering in the spaces provided. The label is affixed to the defective audion, and the defective audions are kept separate from the regular stock. On the 1st and 15th of each month the defective audions are returned to the DeForest distributor, who sees that adjustments are made promptly. The distributor forwards all defective tubes to the DeForest Radio Company, where they are tested not only for the basis of adjustment, but to check up on any possible production, inspection or shipping details that might need improvement."

Low Plate Voltage Gives Fine Quality in Power Stage

In their enthusiasm to take full advantage of the characteristics of the 210 and 250 tubes, many are overlooking important facts which have a bearing upon the results obtained.

In using the 250 tube for instance, it is seldom necessary to use maximum plate voltage for adequate volume for home use. It is a mistake to think that the use of the full plate voltage under such conditions results in improved tone quality, because the tone quality is not affected by plate voltage as long as the signal voltage does not exceed the normal value. Under such conditions, high plate voltage with the correspondingly high plate current may be detrimental as the D.C. current tends to saturate the transformer core, thus reducing the efficiency of the output transformer.

In using the 250 tube, it is important to have a properly designed output transformer, and it will pay the experimenter to select high quality apparatus for this important service. With a properly designed output transformer and efficient speaker, use can be made of the maximum volume of the 250 tube only in large auditoriums and similar service. Under all other conditions, operation at plate voltages from 250 to 350 results in adequate volume with the best tone quality.

Dynamic Reproducer Filter

A Tobe A condenser when used with a small dry charger which is in turn connected to the field of a 6-volt dynamic reproducer filters the A.C. hum out entirely.

Adding Regeneration to the Receiver

Regeneration may be introduced into a receiving set of the tuned radio-frequency type by the simple expedient of constructing a 30-turn tickler coil, or one of the pancake or flat type, of about the same diameter as the radio-frequency transformer that connects with the detector tube. The tickler coil connects between the usual "P" or plate terminal of the detector socket, and the transformer or other audio coupling means. It may be laid first on one side and then on the other, to note which side

helps, rather than bucks, the radio-frequency transformer. Also, the spacing between tickler coil and radio-frequency transformer may be varied. The regeneration is controlled not by variable spacing between the coupled coils, but by means of a variable resistance, of the type used for volume control, shunted across the tickler coil. This method provides razor-sharp control of regeneration.

How to Make a Tone Control

We hear much regarding a suitable volume control, but very little about a tone control. Yet the latter is almost as important as the former. There are times when we want sharp, crisp reproduction, such as for speeches, band and jazz selections, and weak signals, while at other times we want mellow, soft, entrancing vocal and instrumental rendition. A tone control, therefore, is necessary to remove the higher frequencies which are responsible for the sharp, crisp and usually disagreeable quality of some loudspeakers. The simplest tone control comprises a volume control resistance in series with a $\frac{1}{2}$ mfd. condenser, the combination being shunted across input of the speaker. Turning the knob of the resistance serves to increase or decrease sharpness.

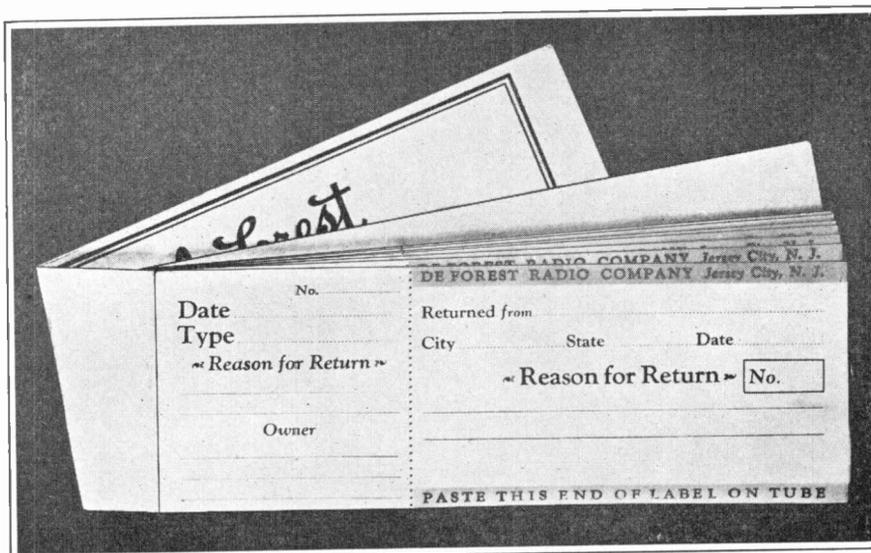
Plate Current Readings Not True Test

It has been common practice in the past to measure the efficiency of a tube in terms of plate current drain under similar conditions of filament voltage and grid bias voltage.

That this practice gives a greatly exaggerated view of the variations which occur in radio tubes is brought out in tests and data recently given out by the engineering department of E. T. Cunningham, Inc.

In the tests, a number of CX-301A tubes, selected on the basis of their approximately equal mutual conductance measurements gave nearly identical outputs as amplifiers when operating into a suitable load resistance for that type of tube. The plate current readings of these tubes varied from 1.73 to 2.08 milliamperes.

An interesting conclusion obtained from an analysis of the measurements of mutual conductance, plate current and power out-



The New De Forest Tube Replacement Label Book being furnished to dealers.

put of each tube was that while the tubes showing highest mutual conductance did not always give the highest output (this would have occurred had the amplification factor been exactly the same in all tubes), the range of variation was about the same. The lowest tube was approximately 2.7 per cent below the one giving the highest mutual conductance reading, while the spread in power output was only slightly greater, 4.9 per cent. The variation in D.C. plate current reading was very much greater, 17.3 per cent, and the tube showing the lowest plate current reading gave as high an output as any tested.

These results clearly illustrate that the plate current readings alone give little indication of the performance obtainable from the tube under operating conditions.

Tubes in which the low plate current reading is caused by low emission may show inferior performance. An emission test will indicate a condition of this sort more readily than a reading of plate current. A thoriated filament type such as the CX-299 or CX-301A, if low in emission can be reactivated and normal operation will then be obtained.

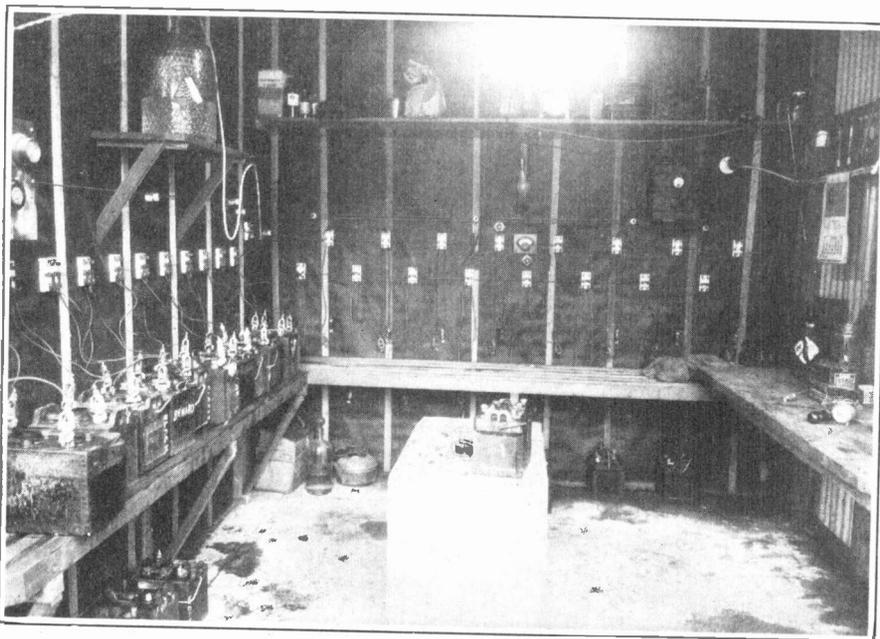
In general the assurance of entirely satisfactory operation is obtained if the tube passes the following tests:

1. Shortened elements. 2. Filament intact. 3. Electron emission. 4. Gas or electrical leakage. 5. Operation as an amplifier.

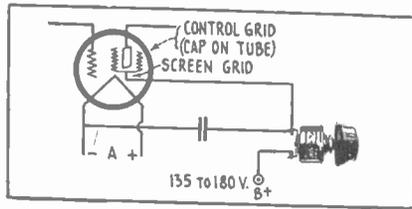
Cure for Motor Boating

When motor-boating is encountered, try a larger condenser for the "tank" or last filter condenser. Values as high as 12 microfarads will be found to stop many cases of motor-boating, as well as improve tone quality particularly for the sustained bass notes. Also try an audio choke in each plus B lead from the power unit to audio amplifier, together with 2 mfd. condenser between each plus B lead and minus B. In the r.f. end, try r.f. chokes in the plus B lead, with a .1 mfd. condenser shunted across the plus r.f. plate lead and the minus B.

Well Arranged Battery Room



This compact and neatly arranged battery room belongs to Stinchfield & Gloss of Martinez, Calif. By thus facilitating promptness in handling both repair work and charging, a much larger volume of this business can now be handled.



Controlling the Screen Grid Tube

Many sets and circuits utilizing the new screen grid tube have been described. Nevertheless, little or nothing has been said regarding the need for close control of the operating voltages. The manufacturers of shielded grid tubes state that the screen grid should have a 45-volt positive bias, yet in actual practice it has been found that this voltage is quite critical and that it varies considerably with changes in other circuit factors. Under certain conditions, about 20 volts is most satisfactory, while with certain other conditions, up to within 10 volts of the plate voltage provides the most sensitive operation.

It therefore becomes apparent that if this supersensitive radio tube is to be employed at maximum efficiency, which is usually the intention for using it in place of the standard three-element tube, a high voltage source, together with a micrometric resistance means of control, is required. The arrangement shown in the accompanying diagram is offered as a suggestion. It will be noted that the 135- or 180-volt source is reduced to the proper applied voltage by means of a standard clarostat, with a bypass condenser of at least 1 mfd. connected across the screen grid terminal and the negative filament terminal of the tube, so as to prevent feed-back and oscillation. The variable resistance is adjusted until the greatest amplification, together with crystal-clear quality, is obtained.

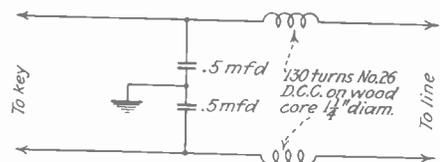
The plate voltage and grid bias for the screen grid tube are not critical. The recommended values are 135 volts for the plate and 1½ volts for the grid bias.

Watch the Resistances

A survey of the socket-power field of radio discloses the fact that the resistances employed for the voltage distributing system are the most likely sources of trouble today. A year or two ago, the paper condensers were the weak spots; but the strenuous efforts of paper condenser manufacturers have served to place these components on a satisfactory basis, provided they are built to the highest standards of engineering rather than down to meet the low standards of cheapness. The peak loads and surges encountered in socket-power operation are pretty generally realized today, so that paper condensers are made to stand the gaff.

With resistors the situation is unfortunately different. The currents to be handled have been steadily increasing, and many resistor manufacturers even at this late date do not realize the amount of energy which they are called upon to dissipate, particularly by fixed resistors placed in a resistance potentiometer network. Often the resistors do not have sufficient current-carrying capacity, so that they heat up excessively, altering their resistance materially and resulting in a short life.

Key Click Filter



The above diagram shows how annoying key clicks from railway telegraph systems may be dampened.

Amplification Curb in A. F. Stages Stops Hum

One of the most common causes of hum in a receiver equipped with a powerful audio amplifier using 171A, 210 or 250 tubes is the tremendous uncontrolled power in the audio amplifier. Where no method for controlling volume is used in the audio stages, any slight hum produced in the detector or first audio stage is amplified to such a considerable extent as to cause annoyance.

In such receivers it is necessary to reduce the strength of the signal fed to the detector tube to prevent undue volume because of the power of the amplifier. The result is that the signal fed to the amplifier is weak in comparison to the strength of the hum generated in the amplifier, and is therefore pushed into the background by the hum.

If an 0-500,000-ohm high-resistance potentiometer is connected across the secondary winding of the first stage audio transformer, with the grid of the first amplifier tube connected to the movable arm of the potentiometer instead of to the "G" terminal of the first stage audio transformer, a means is provided of controlling the strength of both signal and hum fed to the first audio amplifier tube.

It will then be found that the volume control in the audio stages can be reduced to the point where a good signal from the detector will give all the volume that will ever be necessary, and at the same time cut down the hum to an extent which makes it a negligible factor.

Then the volume control in the radio frequency stages can be used to cover the range of volume desired.

In the
Editor's
Mail

There's Profit in INSTALLMENT SALES

This and other
topics discussed
by readers

Financing Installment Sales

Editor, *Radio Retailing*:

ANY radio retailer who is limiting his receiving set business by refusing to sell on installments, or by refusing to sell on reasonable terms, is, in the majority of cases, limiting unnecessarily his opportunity for profit.

The large national finance companies, such as the Bankers-Commercial Security Company of New York City, Commercial Credit Companies of Baltimore, Md., and the Commercial Investment Trust Company of New York City, are actively seeking the purchase of installment radio paper from reputable retailers.

If, on application to a national finance company, the retailer is refused the service of the purchase of his installment accounts due to the size of his net worth, he should then immediately seek other and preferably local means of financing his installment paper. In almost every city and village in our country there exist large and small companies or individuals who are interested in investing their surplus funds in just such good risks as installment radio paper.

I believe there is hardly a case where the retailer's business is in even passable shape that installment paper cannot be marketed, provided the proposition is submitted in businesslike form and complete facts relative to the retailer's business given.

There has been much comment and argument regarding the success of the addition of carrying charges. However, experience has shown that it can be and is being successfully done where retail sales people are properly instructed, even in cases where direct competition has been willing to make sales without a carrying charge. Retail purchasers do not object to paying for the facility of unusual time to pay for a purchase.

No radio retailer can afford not to make the fullest use of installment selling and if his installment sales are made on the proper terms, on proper forms, and if he finances that paper as it is possible to do, he can do a business, and make a profit, out of all proportion to his actual, invested, cash capital.

L. E. NOBLE,
President, Federal Radio Corporation.
Buffalo, N. Y.

Claims Manufacturers Must Give Dealers Exclusive Territory

Editor, *Radio Retailing*:

THE article "We Must See That the Dealer Prospers" in a recent issue is a complete article in its caption. The radio manufacturers will have to heed that before they are established firmly. A continual change in dealers does not create confidence.

There is in this same article further food for thought in that dealers must be given exclusive territory. Where more than one dealer exists and the customer has a trade-in he buys where he gets the largest allowance—certainly.

Who is to blame for it? No one but the manufacturer because he is the only one

that can stop this by placing his line in the hands of one dealer alone.

A dealer with exclusive territory can proceed with a very much more definite policy than is at present possible with competitive dealers selling from their homes and having no overhead. The temptation on the part of these dealers to make better prices, with other dealers using it to further other business by concessions to their trade, places the dealer upon whom the manufacturer must depend for the continuation of his business in an intolerable position.

The whole structure depends first on the quality of the product; and second on the dealer—through his ability to give service and build up confidence in the product.

It is to be hoped that other dealers will join in a concerted effort to bring these facts to the attention of the manufacturer.

CARL B. WETZEL,
Parkersburg, Va. Wetzel Radio.

Radio and the Press

Editor, *Radio Retailing*:

A RECENT editorial in *Editor & Publisher* under the caption "Radio and Elections," warns newspaper publishers against the encroachments of broadcasting and indicates that there is a real danger that radio will supplant the "natural and rightful function" of the daily paper.

It states:

"In large part the service was sold as advertising time. . . . It piled up millions for radio. . . . It substituted for the printed word. . . . It cut political advertising. . . . Newspaper publishers are making a wholly gratuitous contribution to a competing medium. . . . It is amazing that the broadcasters were ever permitted to read the 'news leads.' . . . The newspaper business gives this product away to a competitor and stands idly by to see a natural and rightful function supplanted."

Radio, according to *Editor & Publisher*, is a natural newspaper auxiliary and should be in the control of the daily press and that paper freely predicts that radio's great encroachments on the field of the daily paper are still to be felt.

A very important point made in the editorial referred to is that "radio, it was revealed in numerous ways, is a business." It seems strange that a paper usually so far-sighted; so careful in its editorial comment and so constructive in its views, should have only now discovered that radio is a business.

The radio business has grown to its immense proportion of more than five hundred million dollars annually in less than seven years, largely through the co-operation of the daily press. From 1922 to 1924, the achievements of the radio industry were of such news value that daily papers throughout the country gave immense quantities of front-page space to its progress. Newspapers are still of great value to the radio industry. It may well be doubted, however, whether the publication of the daily programs offered by local broadcasting stations is more of a service to the radio industry than it is to the newspapers themselves.

Editor & Publisher would classify these printed programs as a "wholly gratuitous contribution to a competing medium."

Probably the best answer that could be found to prove that *Editor & Publisher* has gone far afield in making this charge would be to have a daily newspaper discontinue publication of these radio programs and then see how long that newspaper would go into the home and how quickly it would lose circulation to a competing newspaper which published such programs.

The events broadcast daily from local stations is news just as surely as are the quotations from the stock exchange, or the shipment and receipt of grain, livestock and produce, with this exception, that the radio program is probably of interest to many more readers.

According to the statistics of the McGraw-Hill Publishing Company of New York, there are approximately nine million radio receivers in the homes throughout the country today. . . . Assuming that there is only an average of three persons to the family in the homes in which radio is installed, the receivers in use today are serving upwards of twenty-five millions of people, or nearly twenty-five per cent of the total population of the entire United States. Therefore, the published radio program in any daily newspaper is news to a large part of the readers of that newspaper.

Editor & Publisher probably would not have made the unfair charges against radio, if it were not for a fear that radio broadcasting would "supplant a natural and rightful function" of the daily newspaper. If the writer of that editorial would look back a few years in the phonograph industry, he would find that fear of destruction of that industry by radio was very great. Phonograph manufacturers, jobbers and dealers thought they saw the "hand-writing" on the wall for the phonograph industry, but instead of being destructive, radio has been one of the most constructive factors that the phonograph industry ever encountered. Thanks to the radio, the phonograph of today is a beautiful musical instrument far different from the phonograph of four or five years ago.

Radio is a contributing, not a competing, medium.

Figures are not available to the writer as to the number of newspapers sold during the recent elections and their relation to the circulation during previous elections but the enthusiasm aroused in the radio listeners by the radio talks given by the two major candidates may well have been responsible for increased newspaper circulation during the six or eight weeks just preceding November 6.

Lastly, radio is not a "natural newspaper auxiliary," nor could it be properly operated under "the control of the daily press." Radio advertising is so different in its appeal, in its presentation and in its method of approach from newspaper advertising that there is little similarity.

While it may be regretted that *Editor & Publisher* has raised this issue, it would now be better for the radio and newspaper industries to follow the issue to its logical conclusion and bury this specter of conflicting interests for all times.

H. T. MELHUISE,
Vice-President,
General Contract Purchase Corp.
New York City.

RCA
RADIOLAS
are the choice
of more than
2,000,000 Homes

RCA Radiola

MADE BY THE MAKERS OF THE RADIOTRON

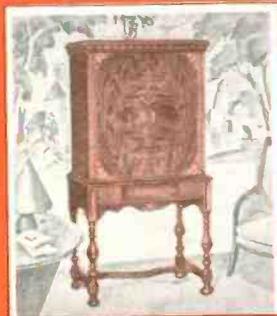
There's a market for an "all electric"
Radiola in every wired home.



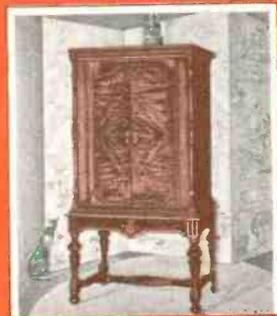
RCA RADIOLA 5—The nationally popular "18," with A.C. electric operation, in a specially designed cabinet with RCA Loudspeaker enclosed. All ready to connect to aerial and ground, and bring in the best that's on the air. \$175 (less Radiotrons).



RCA RADIOLA 3A—Custom-built cabinet model of the famous RCA Super-Heterodyne with RCA Loudspeaker. The new 3A is an unusual value in fine radio receivers. Operates directly from the house current. \$285 (with Radiotrons).



RCA RADIOLA 52—Cabinet model of the new RCA Super-Heterodyne. The enclosed Electro-Dynamic Speaker is an improved model of the incomparable RCA reproducer, superior fidelity of reproduction over the entire musical range. \$375 (less Radiotrons).



RCA RADIOLA 64—De Luxe cabinet model of new RCA Super-Heterodyne, with improved RCA Electro-Dynamic Speaker. Incorporates new features never before used. Automatic volume control. \$570 (less Radiotrons).



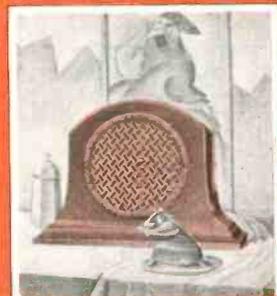
RCA LOUDSPEAKER 103—The famous "100A" in a new dress. The speaker made of birch and mahogany as well as a utility top covered. \$37.50.



RCA RADIOLA 41—Cabinet receiver model—radio frequency with RCA Electro-Dynamic Speaker. A.C. electric operation from house current. With Radiotrons. \$215 (less Radiotrons).



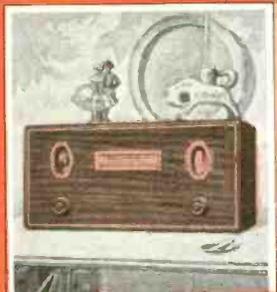
RCA ELECTRO-DYNAMIC SPEAKER 106—The incomparable reproducing instrument of the type used in the new cabinet Radiolas now available as a separate unit. Operates from A.C. house current. \$28.



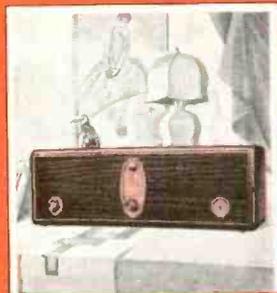
RCA LOUDSPEAKER 100A—Over three-quarters of a million of this type of RCA Speaker are now in use. Their sturdy construction and fine performance have made them the most popular of all reproducers. \$29.



RCA RADIOLA 60—The famous RCA Super-Heterodyne, now with the new A.C. tubes, for simplified house-current operation. Remarkably faithful reproduction. Ideal for congested broadcasting areas—highly sensitive for places remote from broadcast stations. \$147 (less Radiotrons).



RCA RADIOLA 16—Designed to give the finest radio entertainment in homes not wired for electricity. Battery operated. A receiver known for its wonderful performance and long life. \$22.75 (with Radiotrons).



RCA RADIOLA 18—Most popular type of Radiola ever built. A finely designed receiver of broad range and capacity for simplified A.C. line current operation. \$75 (less Radiotrons).



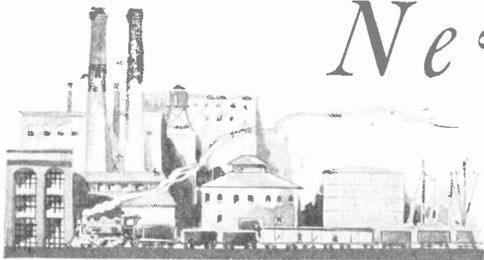
This sign marks the leading dealer in every community.

RADIO CORPORATION OF AMERICA

NEW YORK CHICAGO SAN FRANCISCO

RCA Radiola

MADE BY THE MAKERS OF THE RADIOTRON



New Products for

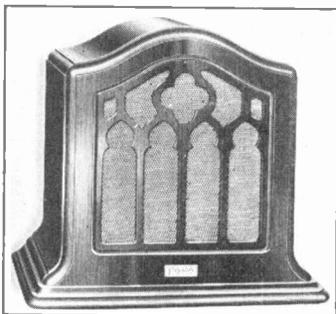
This editorial section is prepared purely as a news service, to keep readers of "Radio Retailing" informed of new products.



Automatic Phonograph

A phonograph which will play twenty-eight records continuously, changing and turning them automatically, is being made by the Capehart Automatic Phonograph Company, Huntington, Ind. It is called the "Orchestra" and is housed in a walnut cabinet with overlays of satin and vermilion woods. Three stages of audio amplification give tremendous volume. Two 226 and two 210 tubes are used with a 281 rectifier. The current consumption is 80 watts. It is especially adapted for use in clubs, dance halls, etc., and may be had for coin operation.

An auxiliary dynamic reproducer in the console style for use in conjunction with the Orchestra is also available.—*Radio Retailing*, December, 1928.



Dynamic Speaker

The model 15 dynamic speaker which F. A. D. Andrea, Inc., Long Island City, N. Y., has added to its line, is for use on 50-60 cycle, 90-130 volt, current. The unit is of open construction with U yoke type magnet. It has a seven-inch cone and is of the mantel clock type in walnut finish. The intended retail price is \$55.—*Radio Retailing*, December, 1928.

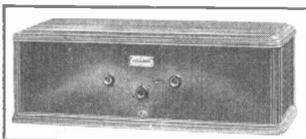
25-Cycle Power Units

The Sterling Manufacturing Company, 2831 Prospect Avenue, Cleveland, Ohio, announces that it has extended its line of 25-cycle products to include A and B power units, A.C. and D.C. tube testers, and ABC tri-powers, to convert D.C. tube sets over to A.C. tubes.—*Radio Retailing*, December, 1928.

Radio-Phonograph Models

The Zenith Radio Corporation, Chicago, Ill., announces the addition of two new combination radio and phonograph models, numbers 37A and 40A. In the phonograph chassis, a special induction-type motor eliminates all extraneous noises. The turntable is mounted on jeweled bearings and the phonograph may be operated when the radio is off. Model 37A employs, including the rectifier, 8 A.C. tubes and model 40A uses 10 A.C. tubes.

A compartment on the right of the cabinets gives access to an automatic tuning device. Stations may be changed at will. The dial remains free at all times for hand-tuning. Both models have a dynamic speaker. Model 37A is early English in pattern and Model 40A is Italian Renaissance. Walnut veneers are used with walnut burl panels.—*Radio Retailing*, December, 1928.



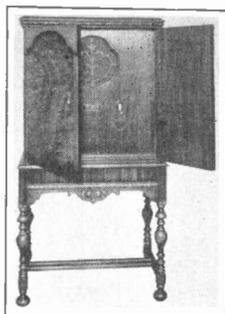
Radio Receivers

The Kellogg Switchboard and Supply Company, 1066 W. Adams Street, Chicago, is offering two new models with the "B" chassis. Model 520, illustrated, has side panels of metal with walnut top corner trim and walnut bottom. The intended retail price, with tubes, is \$115.

Model 521 is a walnut console and retails at \$199.50, including tubes and reproducer.—*Radio Retailing*, December, 1928.

A.C. Set

A new cabinet model A.C. receiver with an electro-dynamic speaker has been announced by the Radio Corporation of America, 233 Broadway, New York. The circuit of the new Radiola 41 is of the t.r.f. type, utilizing four UX226 tubes, one UY-227, and a 210 power tube. The electro-dynamic speaker is of a new type. Direct current for the field of the pot magnet is delivered by a junction type rectifier attached to the speaker unit. The intended retail price, without tubes, is \$215.—*Radio Retailing*, December, 1928.

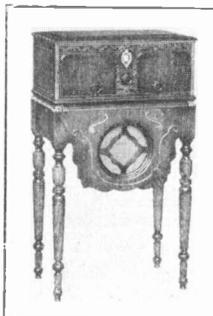


Radio-Phonograph

A combination phonograph and radio is now included in the line of the Gilfillan Bros., Inc., 1815 Venice Blvd., Los Angeles, Calif. The set has 7 tubes and is A.C. operated. An electric pick-up is used and the phonograph is electric motor driven. Intended retail price, complete with tubes and Jensen dynamic speaker, is \$490.—*Radio Retailing*, December, 1928.

Sets in Color

The Atwater Kent Manufacturing Company, Philadelphia, Pa., is now making its model 52 A.C. set in ivory, red, blue, green and other colors.—*Radio Retailing*, December, 1928.



Cabinet

The Cary Cabinet Corporation, Springfield, Mo., has announced a new, custom-built base for Kolster sets 20 and 21. The general design and lines blend with the set. The base has a Kolster speaker.—*Radio Retailing*, December, 1928.

Heater Type Tubes

The 071H heater type tube brought out by the Arcturus Radio Company, 219 Elizabeth Avenue, Newark, N. J., has an amplification constant of 3; a mutual conductance of 1,500; plate resistance of 2,000 ohms and operates from a 5-volt D.C. or A.C. source. Price, \$4.

The new 126H heater type tube has the following specifications: filament voltage, 1.5 volts; filament current, 1.05 amp.; amplification constant, 8.1; mutual conductance 890, and plate resistance 9,200 ohms. Price, \$4.—*Radio Retailing*, December, 1928.

Radio Quiz Set

The "radio quiz," offered by the Radio Quiz Corporation, Jackson Building, Buffalo, N. Y., is an imitation radio set, in a wood cabinet with two dials and a speaker. To operate, slip a question card over the left dial and an answer card over the right. Set the left dial at the question and turn the other dial. When the answer is arrived at, a buzz comes through the speaker. It may be had in several colors and additional sets of questions on educational subjects are available. Intended retail price including battery, speaker, quiz cards, \$3.75.—*Radio Retailing*, December, 1928.



Interference Eliminator Device

The Dublier Condenser Corporation, 10 E. 43d St., New York City, announces a new interference device, No. 3, which includes special choke coils. This interference device is of heavy construction for power applications, although encased in a neat metal container of compact dimensions. It may be used in all A.C. or D.C., 110 or 220 volt circuits, for motors up to 3 horsepower, or other equipment, provided the load does not exceed 5 amperes. For a 5 ampere load the voltage drop is approximately 5 volts.—*Radio Retailing*, December, 1928.

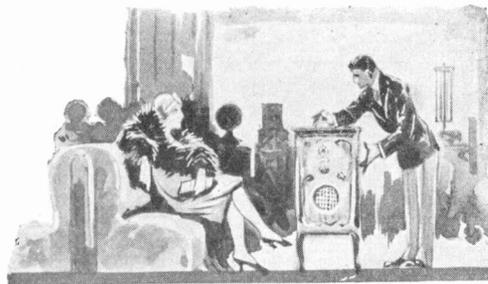


Patented Antenna

A combination radio antenna and reading light is made by the Aerial Insulator Company, Inc., Green Bay, Wis. The "Radio Lite-Tenna," as it is called, plugs into the light socket, is finished in old gold, amber shade, and is 10 inches high. The intended retail price is \$7.50.—*Radio Retailing*, December, 1928.

Dealers to SELL

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

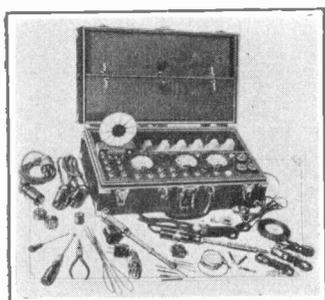


Cabinet

A radio cabinet with doors of satinwood overlay and front of butt burl walnut has been added to the line of the Aston Cabinet Manufacturers, 1223 W. Lake Street, Chicago. The set compartment measures 11 in. by 31 in. by 13 in., and the mounting panel is 11 in. high by 12 in. wide. The intended retail price is \$125.—*Radio Retailing*, December, 1928.

Phonograph Pick-Up

A new electric phonograph pick-up is announced by The Amplion Corporation of America, 133 West 21st Street, New York. It is of light weight, is equipped with a 20-ft. cord and is finished in antique bronze. The magnets and the reproducing units are made of cobalt steel. The pick-up is called the "Amplion Revelaphone" and lists at \$15.—*Radio Retailing*, December, 1928.



Portable Laboratory

The model 400A service test instrument made by the Supreme Instrument Corporation, Greenwood, Miss., is an improvement over the former model. It contains three Weston meters (a voltmeter, a mil-ammeter and an A.C. voltmeter), a built-in power plant for tube oscillation tests, a tube rejuvenator, a radiator for sending out a modulated wave to test the set independent of broadcasting stations, as well as the necessary tools for making adjustments and repairs. It is contained in a sturdy leatherette carrying case and lists at \$124.65.—*Radio Retailing*, December, 1928.

Dynamic Reproducer

The American Reproducer Corp., 1200 Summit Ave., Jersey City, N. J., has placed on the market a line of dynamic speakers to be known under the name "ARC." The line embodies three types of reproducers and can be furnished either in chassis form or in walnut cabinets as illustrated.

The three types of "ARC" dynamic reproducers are: AC1, DC2 and 6-volt No. 3. The AC1 is designed for operation on 110 volts, 50 to 60 cycles a.c. current, and has a power transformer and dry rectifier. The DC2 is for operation on direct current, 90 to 110 volts as well as from the 90-volt tap of B power units. The 6-volt No. 3 is for operation on 6 volt storage batteries with a correct train of $\frac{1}{2}$ ampere.—*Radio Retailing*, December, 1928.

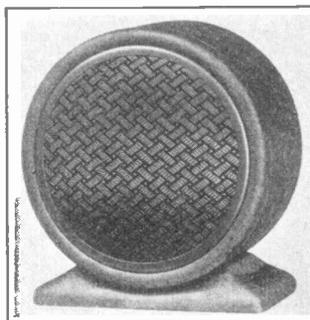
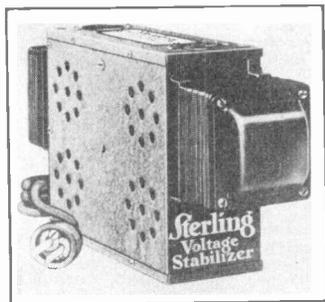


Phonographic Recorder

The "talk-back" phonographic recorder now being made by the Talk-Back Recorder Company, 4703 E. 50th Street, Los Angeles, Calif., comes in a handy case with everything complete to make records, including the horn, recorder, etc. The intended retail price is \$7.50. A box of three double-face record blanks is \$1.—*Radio Retailing*, December, 1928.

Line Voltage Stabilizer

A new line voltage stabilizer has been added to the line of the Sterling Manufacturing Company, 2831 Prospect Avenue, Cleveland, Ohio. With a varying line voltage of from 95 to 135, a steady 110 volt is delivered to the set, provided the load is not greater than 50 watts.—*Radio Retailing*, December, 1928.



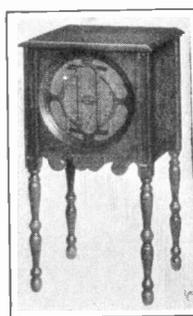
Cone Speaker

The illustrated cone reproducer is made by the Quam Radio Corporation, 9705 Cottage Grove Avenue, Chicago. It is of the clock type with gold bronze lacquered steel base and frame, and stands 9 $\frac{1}{2}$ inches high. The intended retail price is \$15. Model A, also a cone speaker, 13 inches high, retails for \$17.50.—*Radio Retailing*, December, 1928.

A.C. Sets

The A. C. "Music Box" set made by the Audiola Radio Company, 430 S. Green Street, Chicago, has eight tubes, push-pull amplification and a power unit, all encased in a metal cabinet. The intended retail price is \$95. The model 929T, a table set in a walnut cabinet has nine tubes. The intended retail price is \$147.50.

This company also makes two D.C. table model sets, one with six tubes, listing at \$60, and the other with eight tubes in a walnut cabinet, retailing for \$125.—*Radio Retailing*, December, 1928.



Cabinet Speakers

The line of reproducers made by the Masing-Fisher Company, Muncie, Ind., includes model M-100, illustrated, which is 31 inches high and 19 $\frac{1}{2}$ in. wide. The intended retail price with baffle column speaker is \$40. Model C-100 which is the cabinet only, \$22.50. Model M-200, 23 $\frac{1}{2}$ in. wide, is \$45 with baffle column speaker. Cabinet only, \$25. Model M-300 is 30 inches wide and will accommodate practically any table receiver. The intended retail price is \$45 with baffle column speaker. Cabinet only, \$27.50.—*Radio Retailing*, December, 1928.

Cabinets

The line of cabinets made by the Udell Works, Inc., 28th Street and Barnes Avenue, Indianapolis, Ind., now includes the illustrated model 771. The panel of the set compartment is 9 in. high by 25 $\frac{1}{4}$ in. wide. The intended retail price is \$70.

Model 781 has a set compartment panel measuring 9 in. by 25 $\frac{3}{4}$ in. It lists at \$95.

Model 782 has a set compartment panel 9 in. by 25 $\frac{3}{4}$ in., and retails for \$90.

Each of these cabinets is finished in antique walnut and may be had equipped with a Farrand magnetic cone speaker at \$15 extra, an R.C.A. or Peerless magnetic cone at \$20 extra or a Jensen dynamic cone at \$55 extra.—*Radio Retailing*, December, 1928.

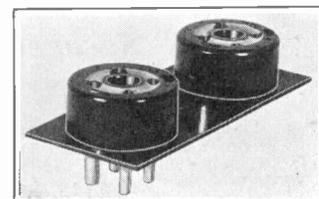


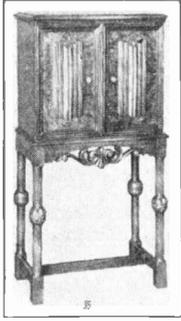
Reproducer Tables with Peerless Units

The Wasmuth-Goodrich Company, Peru, Indiana, is making reproducer tables equipped with Peerless reproducers by special arrangement with The United Radio Corporation, of Rochester, New York.—*Radio Retailing*, December, 1928.

Power Tube Adapter

A new unit which may be applied to either Radiola 16 or 18 in order to increase the power output has been added to the line of Arthur H. Lynch, Inc., 1775 Broadway, New York. It may be used with any tube from a 199 to a 250 and no change in wiring is necessary. The unit is simply plugged in the last socket and when the tubes are placed in the unit they are automatically connected in parallel. Intended retail price, \$2.50.—*Radio Retailing*, December, 1928.



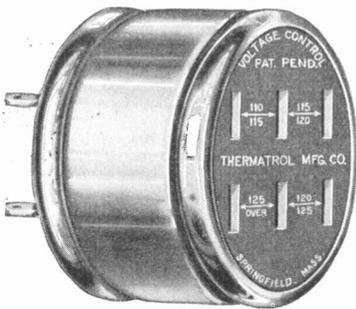


A.C. Receiver

The latest addition to the line of the Zenith Radio Corporation, 3620 Iron Street, Chicago, is an electric receiver equipped with a dynamic speaker. It has nine tubes including two rectifiers. The cabinet is of American walnut. The intended retail price, for 110 volt 60 cycle operation, is \$330 without tubes; for 25 cycles, \$350, less tubes. Either model may be had with the automatic tuning for \$55 extra.—*Radio Retailing*, December, 1928.

Electric Phonograph

The Vincennes Phonograph Manufacturing Company, Vincennes, Ind., has on the market the "Veraelectric" an electric phonograph in two units; the phonograph proper and the speaker. The larger cabinet houses the turntable, record compartment and the amplifying unit, while the smaller cabinet incloses the reproducer which is an electro-dynamic cone. The larger cabinet is 30 in. x 31 in. x 16 in., and is of walnut. There are five tubes in the amplifier unit and a Webster electrical pickup is used. The two units weigh 216 lb., and list at \$385.—*Radio Retailing*, December, 1928.



Voltage Reducer

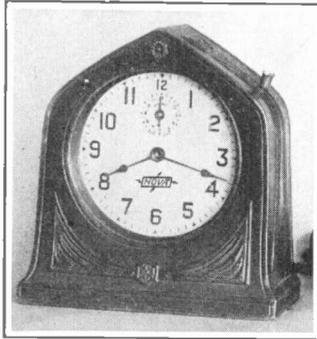
A voltage reducer is now being made by the Therm-a-trol Manufacturing Company, 52 Willow Street, Springfield, Mass. One set of contacts is utilized for two different voltages, making a compact device. Multiple voltage outlets provide for the proper voltage reduction whatever the line voltage is. The intended retail price is \$1.75.—*Radio Retailing*, December, 1928.

"Aero" Speaker

A new "Northeast" aero model speaker is announced by the Prince-McCann Company, Inc., 601 Albany Street, Boston, Mass. It is finished in duo-tone Duco, is 19 inches high and 18 inches wide, and its shipping weight is 12 pounds. It lists at \$15.—*Radio Retailing*, December, 1928.

Automatic Radio Control Clock

A control clock which automatically turns the radio receiver on and off at a predetermined time is the latest product of the Nova Electric Corporation, 40 West 17th St., New York. It is 6 in. high, 5½ in. wide and 2½ in. deep, and comes in a bronze color, equipped with an 8-ft. cord for attachment to the set. This clock may also be used for off and on control of electrical appliances. It comes in three models, each listing at \$10.—*Radio Retailing*, December, 1928.



Power Amplifiers

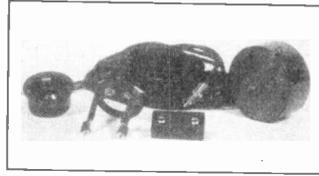
The model A-271 power amplifier brought out by the Webster Electric Company, Racine, Wis., is adapted for home use. It may be used with a magnetic speaker or a 110 volt A.C. dynamic, furnishing its own rectified current. The price is \$67.50. The 25 cycle model is \$10 extra.

Model A-210 for use in halls, restaurants, etc., is a two stage amplifier for use with a 110 volt D.C. dynamic speaker having field windings of from 2,200 to 2,500 ohms taking 40 to 50 milliamperes. The intended retail price is \$105 and \$10 extra for 25 cycle model.

Model A-310, a three stage amplifier for use with same type speaker as model A-210, lists at \$115, with the 25 cycle model, \$10 extra. All prices are without tubes.—*Radio Retailing*, December, 1928.

Photo Electric Cell

Dr. R. C. Burt, 327 South Michigan Ave., Pasadena, California, has placed on the market a photo electric cell. It is said to record direct sunlight—10,000 ft. candles—all day, and immediately afterward accurately measure the light from a flashlight bulb at 1 meter. It gives 1 microampere per 100 foot candles and is perfectly stable. The UVNA2 is \$20.—*Radio Retailing*, December, 1928.



Phonograph Pick-up and Socket

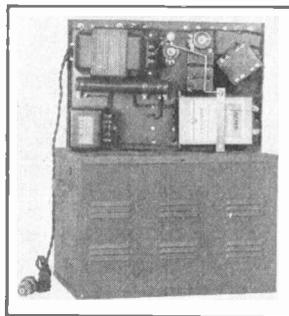
The Alden Manufacturing Company, Brockton, Mass., is making an electric phonograph pick-up for use on either A.C. or D.C. sets. The intended retail price is \$5.

A universal pick-up adapter to fit 4 or 5-prong tubes, which is included with the pick-up, is also available.

This company makes a small space socket to be used in B-power units, power packs or shielded sets, where tubes are inaccessible. It has a special locator ring and extra flange on the outside to facilitate finding the holes of the socket. The intended retail price is 25c.—*Radio Retailing*, December, 1928.

A.C. Receiver

A seven tube receiver for either A.C. or battery operation has been announced by the Federal Radio Corporation, Buffalo, N. Y. The field coil of the dynamic speaker is fed with direct current from the power unit. The cabinet is of walnut with inlays and hand carving. For battery operation the price is \$295. For 60 cycle operation, with dynamic speaker, the price is \$420, and \$445 for 25 cycle operation.—*Radio Retailing*, December, 1928.



Public Address Amplifier

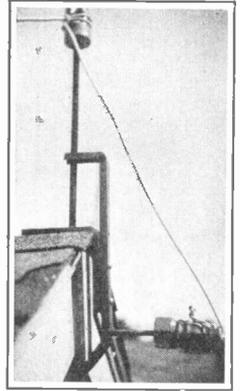
The X-M 685 Public Address "Unipac" amplifier is announced by Silver-Marshall, Inc., 846 West Jackson Blvd., Chicago, Ill. This is a 3-stage amplifier and may be operated with microphone, radio receiver, or phonograph record pick-up. Developing nearly 5 watts of undistorted power, this unit is capable of operating ten to twelve speakers. It is offered completely wired in steel cabinet at \$160 list, or in kit form at \$124.—*Radio Retailing*, December, 1928.

Radio-Phonograph

The model 72 radio-phonograph combination made by F. A. D. Andrea, Inc., Long Island City, N. J., has the Fada 50 A.C. chassis, 14B speaker and an electric turn table and pick-up, all housed in a hand-carved burl walnut cabinet. Intended retail price, \$890.—*Radio Retailing*, December, 1928.

Radio-Phonograph

The nine tube "Symphon" combination radio receiver and phonograph which Fansteel Products Company, Inc., North Chicago, Ill., has placed on the market uses 201-A tubes wired in parallel, operating on a neodyne circuit and including three stages of radio frequency, a detector and a stage of transformer coupled audio.—*Radio Retailing*, December, 1928.



Aerial Clamp

An aerial clamp, replacing the stick or chimney pole affair, has been brought out by the F. G. Manufacturing Company, 1117 Peoples Bank Building, Indianapolis, Ind. It is easily attached and the chromium plated threaded shaft will not rust. The intended retail price is \$1.50. The lead-in is 25 cents.—*Radio Retailing*, December, 1928.

A.C. Connecting Unit

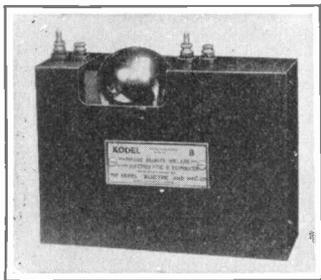
The X-L Radio Laboratories, 1224 Belmont Ave., Chicago, newest product is the "X-L Link." It provides antenna and ground, voltage regulator, double receptacle outlet, switch to control sets using A and B power units, and a fuse that protects the set, all encased in a small, compact unit which can be easily connected to any set operating from the light socket. The list price is \$5.75.—*Radio Retailing*, December, 1928.

Voltmeters

A. M. Flechtheim Co., Inc., 136 Liberty Street, New York City, has brought out a line of high resistance voltmeters for testing B-batteries and B-power units.

Type AV300 has a scale reading 0-300 volts D.C., and lists at \$6; type BV500, illustrated, covers 0-500 volts D.C., and sells for \$8.50; while a new type, CV600, has a scale reading 0-600 volts A.C. and D.C., and retails for \$12.50.—*Radio Retailing*, December, 1928.





Rectifier Replacement Units

A dry B-replacement unit, illustrated, for replacing the acid or liquid jars in wet B-power units and combination power units is being made by the Kodol Elec. & Mfg. Company, Cincinnati, Ohio. It is metal encased and small enough to be mounted on the inside of the power unit case. A 213 or 289 type tube is used. The list price, less tube, is \$6.

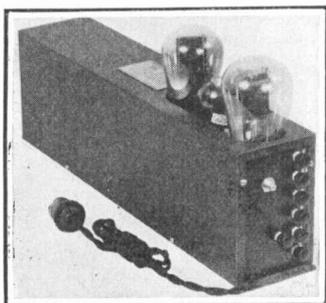
A replacement unit for replacing the rectifying unit in Majestic A-power units is also made. It consists of the new Kuprox rectifying unit in a metal case for attachment to the back of the unit. The intended retail price is \$8.—*Radio Retailing*, December, 1928.

Counter Tube Checker

A counter tube checker, model 533, which will test either A.C. or D.C. tubes with filament voltages up to 7.5 is now being made by the Weston Electrical Instrument Corporation, 581 Frelinghuysen Avenue, Newark, N. J. It operates direct from 90-130 volts, 60 cycles.—*Radio Retailing*, December, 1928.

Static Filter

A static filter, manufactured by the Wirt Co., 5221 Greene St., Philadelphia, has just made its appearance on the market. It works satisfactorily on A.C. sets, as well as on battery sets. The intended retail price is \$2.25.—*Radio Retailing*, December, 1928.



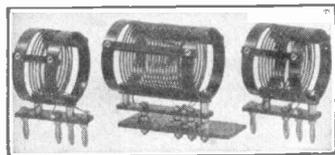
Amplifier

A compact two-stage power amplifier, operating from 110-volt A.C., for use with 110-volt D.C. dynamic reproducers, is the latest addition to the line of Silver-Marshall, Inc., 846 W. Jackson Boulevard, Chicago. It utilizes the following tubes: a 226 amplifier, a 250 power amplifier and a 281 rectifier. It is housed in a steel case, 3 1/2 in. by 5 1/2 in. by 17 in., and supplies sufficient volume to fill a theater with a 1,000 to 2,000 seating capacity, or a dance hall. The list price is \$73, fully wired. A complete kit is also available at \$66.—*Radio Retailing*, December, 1928.

Short Wave Coil Kit

Aero Products, Inc., 1768 Wilson Avenue, Chicago, Ill., has among its recent products, short-wave coil kit No. LWT-10 consisting of the three coils, as used in the LWT-11 kit without the base, so that the older type coils may be substituted without making any change in the set. The price of this kit is \$10.50; of the individual coils is \$4 each.

Coil kit No. LWT-11 is designed to be used as a regenerative coupling transformer between the plate of a 220 tube and a regenerative detector. The plug-in base, which is supplied with this kit contains only the socket for the coils and no primary. This kit lists at \$11.50, or if individual coils are desired, \$4 each.—*Radio Retailing*, December, 1928.



Audio and Output Transformers

A number of audio and output transformers are being marketed by the Transformer Corporation of America, 1428 Orleans St., Chicago. The medium-size models are 2 1/2 in. x 2 1/2 in. x 2 1/2 in., and weigh 1 1/2 lb. They have a 1/2-in. core cross section. No. 611 is an output transformer with a ratio of one to one; No. 612 is an audio transformer with a ratio of two to one, and No. 613 is an audio transformer with a ratio of three to one. These all list at \$5 each. Nos. 614 and 615 are input and output transformers and come in a pair. Price, \$11.

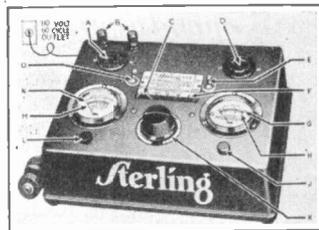
The large-size models are 2 1/2 in. x 3 1/2 in. x 3 1/2 in. and weigh 2 1/2 lb. They have a 1 x 1 in. core cross section. No. 621 is an output transformer with a ratio of one to one; No. 622 is an audio transformer with a ratio of two to one; No. 623 is an audio transformer with a ratio of three to one. These are all listed at \$7 each. Nos. 624 and 625 are input and output transformers respectively and come in a pair which lists at \$15.—*Radio Retailing*, December, 1928.

Variable Condensers

Silver-Marshall, Inc., 846 West Jackson Blvd., Chicago, Ill., is placing on the market its variable condenser No. 320, single; and 321, single, short-wave; No. 322 double-ganged; and No. 323 triple-ganged. A .00035 Mfd. capacity 2-gang, as well as a 3-gang "bath tub" type, equipped with compensators, and a single variable condenser to match, are added to the already popular condenser items. A new short wave type (.00014 Mfd.) of similar design is also available. Type 323 is illustrated above. The condensers are listed at from \$3.25 to \$11.50 each.—*Radio Retailing*, December, 1928.

Price Correction

On page 73 of the November issue of *Radio Retailing*, the antenna plug made by the Tobe Deutschmann Company, Canton, Mass., was incorrectly quoted as having a list price of \$1.50. The correct price is \$2.—*Radio Retailing*, December, 1928.



Tube Tester

A tube tester for counter use has been announced by the Sterling Manufacturing Company, 2831 Prospect Avenue, Cleveland, Ohio. Both emission and grid performance are shown on the combination meter which has a milliamper scale 0-15 and emission scale 0-100. The intended retail price of model R-510, 60 cycle type, is \$35, and model R-520, 25 cycle type, is \$37.50.—*Radio Retailing*, December, 1928.

Wrought Iron Furniture

Attractiveness and durability are combined in the line of wrought iron table and benches being made by the Art Specialty Company, 728 West Randolph Street, Chicago. A table and bench is made for Crosley models 608, 704, and 706; R.C.A. model 18; and Atwater Kent models 37 and 38. They are of Spanish type design and finished in antique gold and polychrome. The intended retail price is \$25.—*Radio Retailing*, December, 1928.

"A" Power Unit

A factory built "A" power essential is now ready for the market. It has several very interesting features:

Four or 6 volts from same unit. On the panel are located 3 taps; A-4V; A-6V. Absolutely dry. Oversize filter system consisting of 3 dry Elkon Condensers and 2 large choke coils. Total mfd. capacity 4,500 insuring freedom from hum. Elkon rectifier delivers 2 1/2 amperes at 6 volts, and proportionate amperes at 4 volts. List price, \$37.50. Operates on 105-120 volts A.C., 50 to 60 cycles. Manufactured by Knapp Electric, Inc., Port Chester, N. Y.—*Radio Retailing*, December, 1928.

Electric Drill

A portable electric drill known as a "general-purpose" drill, as it can also be used for grinding and buffing, is being made by the Wodack Electric Tool Corporation, 4627 W. Huron Street, Chicago. It has a G.E. universal motor of the variable speed type and weighs only 2 1/2 lb.—*Radio Retailing*, December, 1928.



Lightning Arrester

The Amoroso Manufacturing Company, 60 India Street, Boston, Mass., is producing the "Gap-Less" lightning arrester. It is made of brown porcelain with hardware of nicked brass and is 4 1/2 in. long by 1 1/2 in. wide by 1 1/4 in. high. The retail price is 75c.—*Radio Retailing*, December, 1928.

Cabinet Speaker

The Consolidated Radio Corporation, Arborphone Division, of Ann Arbor, Michigan, is making the Arborphone Cabinet speaker, a cabinet speaker which is 12-in. high and is of veneered walnut with golden silk on the grills. It has a new type of balanced armature unit with Cobalt steel magnets. The cone is made of special impregnated linen fabric, manufactured in Europe. The list price is \$27.00 each.—*Radio Retailing*, December, 1928.

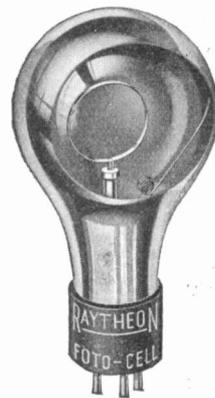
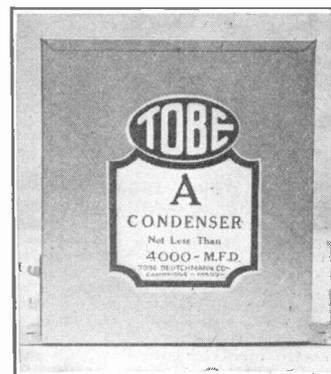


Foto Cells

A line of foto cells for television and other applications, has been brought out by the Raytheon Manufacturing Company, Kendall Square Building, Cambridge, Mass. They are made in the hard-vacuum and the gas-filled types, as well as in two spherical and three tubular shapes.—*Radio Retailing*, December, 1928.

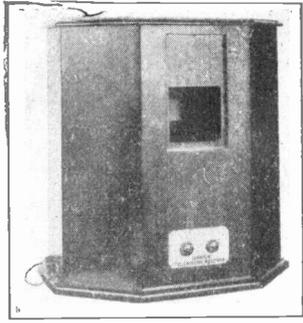


A-Condenser

The Tobe Deutschmann Co., Cambridge, Mass., has just developed a new A-Condenser of approximately 4,000 microfarads. This condenser is cased in a metal can 5 in. x 5 1/2 in. x 1 1/2 in. The breakdown voltage of the condenser is 50 volts. Price \$6.—*Radio Retailing*, December, 1928.

Dynamic Speaker

The dynamic speaker made by the Leslie F. Muter Co., 8440 S. Chicago Avenue, Chicago, comes in both the table and console styles, for either A.C. or D.C. operation. The mantel type is \$49.50 for 6 volt D.C. operation; \$53 for 90 volt D.C.; and \$59.50 for 110 volt A.C. The spinet console model is \$64.50 for 6 volt D.C.; \$68 for 90 volt D.C.; and \$74.50 for 110 volt A.C. Chassis only is \$29.50 for 6 volt D.C.; \$33 for 90 volt D.C.; and \$39.50 for 110 volt A.C.—*Radio Retailing*, December, 1928.



Television Receiver

A feature of the television receiver brought out by the Davenport Corporation, Newark, N. J., is the motor control, regulating the speed of the motor, which revolves the combination scanning disc. It is also equipped with a sliding visor and a combination disc, which makes it possible to receive 24, 36 or 48 line pictures by simply adjusting the visor and neon lamp. The receiver is connected to the detector tube of a regular radio receiver or short wave receiver. It is encased in a walnut finished cabinet, 26 in. high by 26 in. wide by 13 in. deep. The intended retail price is \$125, without amplifier tubes.—*Radio Retailing*, December, 1928.

Radio Frequency Choke

A radio frequency choke suitable wherever radio frequency currents are to be retarded, rated at 85 millihenrys, is now being manufactured by the De-Jur-Amsco Corp., 418 Broome St., New York City. The unit is completely encased in bakelite, is hermetically sealed and furnished with two metal binding posts.—*Radio Retailing*, December, 1928.

A.C. Receiver Wired Assembly

A six-tube radio receiver, everything complete and ready for assembly, is now being made by the Robertson-Davis Company, Inc., 361 W. Superior Street, Chicago. The sub-panel is completely wired and sealed in an aluminum case. Tubes and transformers plug into it. The kit together with an automatic electric tuner, which permits station tuning by simply pressing a button, is \$146.50. The automatic tuner alone is \$47.50.—*Radio Retailing*, December, 1928.

Electric Pick-Up

The electric pick-up which the Webster Electric Company, Racine, Wis., has placed on the market, is made in two models each adaptable to A.C. or battery sets. Model 1-A includes pick-up head, supporting arm with a volume control incorporated in the base and necessary adapters. Price \$17.50. Model 1-B, includes pick-up head, separate volume control and adapters. Price, \$12.50.—*Radio Retailing*, December, 1928.

Line Voltage Reducer

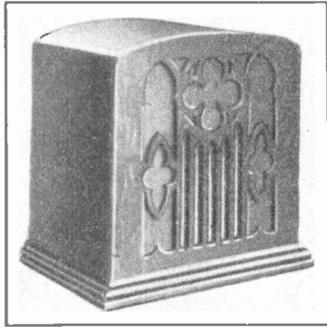
The Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y., is making a line voltage reducer especially for its models 635 and 636. It lists at \$2.—*Radio Retailing*, December, 1928.

Reproducers

The illustrated reproducer is of the magnetic type in a Gothic style cabinet. The intended retail price is \$28.

A dynamic speaker in both A.C. and D.C. models is also available. For 110 volt A.C., the price is \$70; and for 6 volt D.C. operation, the price is \$52.

A magnetic chassis in a stained mahogany case for installation in cabinets, is \$16. All are made by the Pathe Phonograph and Radio Corporation, 114 E. 32nd Street, New York City.—*Radio Retailing*, December, 1928.

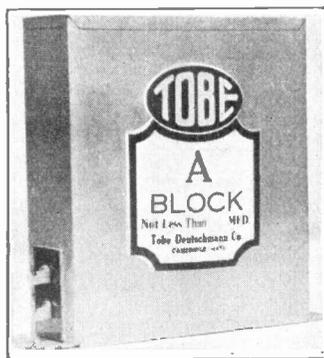


Patented Antenna

The antenna made by the Trico Products Corporation, Buffalo, N. Y., is wound with 64 strand No. 36 double cotton coated wire. The total spread is 5 feet. Intended retail price, \$5.—*Radio Retailing*, December, 1928.

Socket Antenna-Voltage Control

The "Antennavolt," a device similar to the Resistovolt but with binding post for antenna connection to the set, has been brought out by the Insuline Corporation of America, 78 Cortlandt Street, New York City. The intended retail price is \$2.25.—*Radio Retailing*, December, 1928.



A-Filter

The Tobe A-Filter consists of a new and different dry condenser of 7,600 mfd. with two especially designed choke coils of proper size combined in one unit to supply humless A-current to any radio set. Made by the Tobe Deutchmann Co., Cambridge, Mass.

This new filter can be attached to any good two ampere charger for completely eliminating the A-battery. Without a charger, only a rectifier and step down transformer are needed to assemble this eliminator. Price \$18.—*Radio Retailing*, December, 1928.



Padded Moving Cover

A padded moving cover to protect radio sets in transit is now being made by the Lansing Sales Co., 170 Harrison Avenue, Boston, Mass. It comes in sizes for all makes of receivers and speakers. The prices start at \$1.75 for the small cone speaker and at \$3 for the table model speaker. For cabinets the prices range from \$7 to \$9. The carrying strap is \$2.50 extra.—*Radio Retailing*, December, 1928.

Indoor Aerial Kit

The Belden Manufacturing Company, 2300 South Western Avenue, Chicago, Ill., has added an indoor aerial kit to its line of radio accessories. This new kit contains a seventy foot spool of indoor aerial wire, a twenty-five foot coil of Belden Colorrubber ground wire, and a ground clamp.—*Radio Retailing*, December, 1928.



Forms and Coils

The new 130 series of plug-in coils and forms is being marketed by Silver-Marshall, Inc., 846 West Jackson Blvd., Chicago, Ill. They are 1 1/4 in. high above the prong and 1 1/8 in. across the top in diameter and are suitable for plugging into any five-prong A.C. tube socket. They are compact and the 130 unbound coil form is useful for short-wave experiments. The 131-T, U, V and W coils, space-wound with enameled copper wire, provide wave-length range from 17.5 to 204.5 meters. The coils and prongs range from \$1.25 each, wound; and 50 cents each, unbound.—*Radio Retailing*, December, 1928.

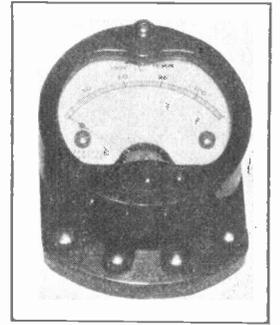
Power Amplifier and Plate Supply

The Transformer Corporation of America, Chicago, Illinois, has now placed on the market a new power amplifier and plate supply. This is a complete a.c. power pack, furnishing ample power for both set and amplifier, and operating two 210 tubes and push-pull. Two 281 rectifying tubes are used, for full wave rectification.—*Radio Retailing*, December, 1928.

Radio Meters

Ferranti, Inc., 130 W. 42nd Street, New York City, has introduced a new line of radio meters. Three types are available—a portable of 1,000 ohms per volt with 3-scale ranges of 10/50/250 volts, \$22.50; a 3-range 200 ohms per volt portable with voltage scales of 7.5/150 and a milliamper scale of 15 mills, \$15; and a flush pattern milliammeter, which is available in ranges of 100 and 200 milliamperes, \$15.

All are of the D'Arsonval moving coil type. The moving element has polished steel pivots running in sapphire bearings with girder type pointer.—*Radio Retailing*, December, 1928.

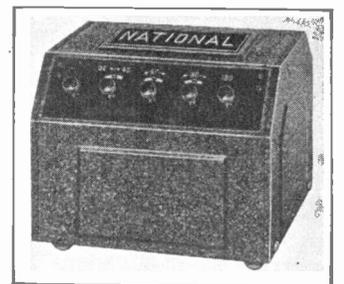


Test Oscillator

A portable oscillator is now being made by the General Radio Company, 30 State Street, Cambridge, Mass. It consists of a radio frequency oscillator having three frequencies (180, 640 and 1,400 K.C.). The circuit includes two oscillator coils, a selector switch for shifting the frequency, and 3 condensers. Modulation is accomplished by means of a grid leak and condenser. A milliammeter is provided to assist in making receiver adjustments. The size is 10 1/2 in. by 10 1/2 in. by 10 in., and the list price is \$95.—*Radio Retailing*, December, 1928.

Electric Pick-Up

The permanent magnet of the electric pick-up made by the Buckingham Radio Corporation, 440 West Superior Street, Chicago, is made of cobalt steel. The armature is a solid piece formed from special magnetic steel and each armature is dynamically balanced.—*Radio Retailing*, December, 1928.



B-Power Unit

The new B-power unit made by the National Company, Malden, Mass., is designed to operate any set up to six tubes. It employs a 280 rectifier. The adjustable taps give the following ranges: detector voltage between 22-45; R. F. amplifier voltage between 50-75; and A. F. amplifier voltage between 90-135. The intended retail price, less tubes, is \$26.50.—*Radio Retailing*, December, 1928.

What the Trade is Talking About

Radio Most Important Topic at Nema Convention

Radio problems received considerable attention at the National Electrical Manufacturers' Association convention at Briarcliff, N. Y., October 29 to November 1. The several divisions held closed meetings to discuss their individual problems and outstanding topics were presented at a general session on the second day.

On Monday, at the Power Supply and Transmitter section meetings, a resolution was adopted to the effect that the term "power speaker" was meaningless and without technical significance, as all reproducers involved a certain degree of power output. The Receiving Set Committee at its meeting on Tuesday adopted the following resolution: "In stating the number of tubes in a radio receiver, it is recommended that the number of tubes used for power conversion (rectifiers) or regulation, if included in the count, be specified."

L. B. F. Raycroft, vice-president in charge of the radio division, spoke before the general session on Tuesday night on the subject of "Radio Broadcasting and Television." He warned the radio industry not to encourage reports and exhibits tending to exaggerate the imminence of the commercial and entertainment practicability of television.

On Wednesday special meetings were held on reallocation, television and dealers' sales methods. The basis of a report on broadcast allocation was formulated for submission to the Federal Radio Commission through the Radio Advisory Committee. The Television Committee also decided to make a report to the Federal Radio Commission, providing it with the latest information as to the technical status of



President-Elect is Radio Enthusiast

Herbert Clark Hoover, who will be the thirty-first president of the United States, as he appeared before the microphone in the library of his Palo Alto, California, home, where he delivered his final address to the radio audience. Mr. Hoover's many years of intimate connection with radio affairs assures the industry of a sympathetic understanding of its problems during his term at Washington.

television and the problems which remain to be solved.

THE AMERICAN BOSCH MAGNETO CORPORATION'S New York sales staff were the guests of Harry G. Russell, radio sales manager of the eastern district, at a dinner dance at the Hotel Roosevelt, New York. Several executives from the Springfield office were also present.

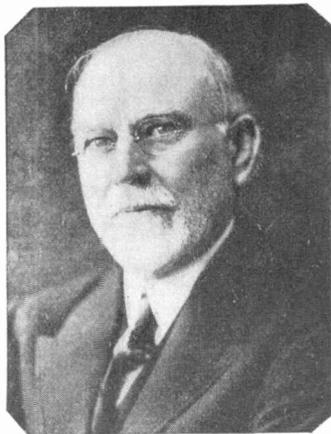
this simple foundation of editorial responsibility and leadership that the success of the McGraw-Hill Company has been built.

Throughout his twenty-three years of active association with Mr. McGraw, Malcolm Muir has been a forceful champion of these editorial ideals and he has in turn made notable contributions to the improvement of the marketing philosophy of industry.

Mr. Muir's proven sympathy and enthusiasm for the principles for which McGraw-Hill papers have stood so consistently for so long is a complete assurance of their continuance as the basic policy of this house.



MALCOLM MUIR



JAMES H. MCGRAW

McGraw-Hill Promotions Reflect Growth of Business Journalism

Paralleling the rapid development of the service of the business press to American trade and industry comes the announcement of an expansion of the executive direction of the McGraw-Hill Publishing Company, publishers of *Radio Retailing* and 23 other business and engineering magazines.

James H. McGraw, founder and president of the McGraw-Hill Company, has been made chairman of the board of directors, and Malcolm Muir, formerly vice-president of the company, has been elected

to the office of president. This move is significant of the growing scope of business journalism, because it is a reflection of an evolution of fundamental importance to American business.

The success of the McGraw-Hill Company has been founded primarily upon a very broad conception of the responsibility which a business publication owes to the field it serves, and a very definite editorial idealism that makes the editor's first obligation to serve his industry. It is upon

New Manufacturing Standards Adopted by R.M.A.

Several new services for members of the Radio Manufacturers Association were developed and approved at the last meeting of the Board of Directors.

Of primary importance was the decision to hold the third annual radio trade show and convention at the Hotel Stevens, Chicago, the week of June 3, 1929.

Revised manufacturing standards, including a form of standard warranty, were adopted. Standard television phrases were presented at the first association committee meeting ever held to study the development of television. Copies of both the manufacturing and television standards may be obtained from the R.M.A. office in Chicago.

A committee on installment financing was created to study the best method of aiding manufacturers and distributors in their deferred payment sales. Plans to develop export sales were also presented.

An increase in the use by members of the association's credit service was reported. This service is to be extended in co-operation with other associations. The radio patent situation was reported on and ideas for the extension of the R.M.A. patent interchange plan presented.

Hazeltine Wins Verdict

A decision enjoining the Atwater Kent Manufacturing Company, Philadelphia, from further alleged infringement of the "plate circuit neutralization" patent held by the Hazeltine Corporation, Jersey City, N. J., was handed down by Federal Judge Moscovitz in Brooklyn on November 15. The Atwater Kent defense was that the Hazeltine patents were invalid because of other patents which antedated them.

Judge Moscovitz decided that the use of an inherent neutralizing capacity to effect neutralization, instead of a physical neutralizing condenser as employed in most of the modern Neutrodyne radio receivers, comes within the scope of the patent.

It is said that Atwater Kent plans to appeal this decision.

Time Payment Plan Offered by G. C. P.

A new finance plan known as the G.C.P. plan is now offered radio dealers by the General Contract Purchase Corporation, New York City, according to H. T. Melhuish, vice-president.

The plan operates in the following manner:

1. A suitable carrying charge is added by the dealer to the cash price of the set.

2. The dealer then obtains a down payment of 20 per cent or more, which he keeps, and the customer signs the contract to pay the unpaid balance in equal payments.

3. The contract is then entered on the G.C.P. contract blank and mailed to the nearest office.

4. Upon its receipt, the finance company sends the dealer a check for 90 per cent of the unpaid balance, after deducting the handling charge.

5. Each month as the payments are made to the dealer, he sends them to the finance company.

6. Having received payment in full, the finance company pays the dealer the remaining 10 per cent and returns the contract to him.

A booklet giving complete specifications of the various types of radio receivers acceptable for accommodation installment financing will be sent without charge upon request to the General Contract Purchase Corporation.

THE ACME ELECTRIC AND MFG. CO., Cleveland, Ohio, has appointed the following export representatives: Chipman and Company, New York, for Australia, New Zealand, Argentina, Cuba and southern Brazil; Oliver Brothers, Inc., New York, for Japan; and Philip Valk, New York, for continental Europe, excepting Spain.

THE ARBORPHONE DIVISION of the Consolidated Radio Corporation, Ann Arbor, Mich., has erected a new plant, making a total of three now in operation. The new building contains 40,000 square feet of floor space and will be used exclusively for the production of the new model 55 and 45 series radio receivers.

THE STEINITE RADIO COMPANY, Chicago, and the Leslie F. Muter Company, Chicago, have combined. The Muter Company manufactures reproducers and other essential radio parts and its speakers will now be used in conjunction with Steinite radio sets.

AERO PRODUCTS, INC., Chicago, is now located in its new factory at 4611 E. Ravenswood Avenue.



Between Innings

Raymond L. O'Neil, president of the O'Neil Manufacturing Corporation, West New York, N. J., presenting his friend, Babe Ruth with an O'Neil dynamic reproducer during the recent World Series.

U. S. Radio Position Open

Applications for assistant radio inspector to fill vacancies in the Field Service of the Department of Commerce throughout the United States, including Alaska, Hawaii, and Porto Rico, must be on file with the Civil Service Commission, Washington, D. C., not later than Dec. 31.

The duties are primarily to assist the radio inspector in the enforcement of the Radio act and the performance of these duties will involve considerable traveling, for which necessary traveling expenses will be allowed. Competitors will be rated on theoretical and practical questions on radio and electrical engineering, and on their education, training and experience. The entrance salary is \$2,400 a year.

De Forest Is Held Inventor of Regenerative Circuit

In a decision recently handed down by the Supreme Court of the United States, Dr. Lee De Forest was held the prior inventor of the "feed-back" circuit as against Edwin H. Armstrong. This decision settles a case which has been before the courts for about eleven years.

The De Forest Company may now manufacture without interference radio sets utilizing the regenerative circuit. The decision, however, does not affect the industry as the Radio Corporation and its affiliated companies are licensed under both patents.

THE VAN HORNE TUBE COMPANY, Franklin, Ohio, has been formed to take over the assets and business of the old Van Horne Company, which has been through a receivership. The officers of the new company are Stephen Gilman, president and treasurer; J. S. Van Horne, vice-president and general manager, and Mark Bridge, secretary.

THE BETTER RADIO SERVICE COMPANY has been opened in Mishawaka, Ind., carrying the Crosley line. C. R. High is the owner.

U. S. Radio Farm Service Broadcast Schedule

This chart, showing the stations broadcasting the Department of Commerce farm and home information programs, has been prepared by the Radio Division of the National Electrical Manufacturers Association.

State	Station	Housekeepers' Chats	Farm Flashes	Farm Forum	4-H Club Crier	Special Features	Primer for Town Farmers	Farm Club	Outdoors with the Scientist	Farm Science Snapshots	Agricultural Situation
Ala.	—WAPI	X	X	X	X	X					
Ariz.	—KFCB	X	X	X	X		X	X			
Ark.	—KTHS	X	X	X	X				X		X
	—KUOA	X	X	X	X				X		X
Calif.	—KFWB	X	X	X	X		X	X	X	X	X
	—KFSD	X	X	X	X				X	X	X
	—KFRC	X	X	X	X				X	X	X
	—KYA	X	X	X	X				X	X	X
	—KQW	X	X	X	X				X	X	X
Colo.	—KLZ	X	X	X	X		X	X		X	X
	—KGEW	X	X	X	X				X	X	X
	—KGHF	X	X	X	X				X	X	X
	—KGEK	X	X	X	X				X	X	X
	—KXFF	X	X	X	X				X	X	X
Conn.	—WCAC	X	X	X	X		X	X		X	X
	—WICC	X	X	X	X				X	X	X
	—WTIC	X	X	X	X				X	X	X
D. of C.	—WRC	X	X	X	X						
	—WRHF	X	X	X	X						
Fla.	—WDBO	X	X	X	X		X	X	X	X	X
	—WCOA	X	X	X	X				X	X	X
	—WJAX	X	X	X	X				X	X	X
	—WRUF	X	X	X	X				X	X	X
Ca.	—WSB	X	X	X	X						
Idaho	—KFAU	X	X	X	X		X	X	X	X	X
	—KFXD	X	X	X	X				X	X	X
	—KSEI	X	X	X	X				X	X	X
Ill.	—WJID	X	X	X	X		X	X		X	X
	—WKBS	X	X	X	X				X	X	X
	—WLS	X	X	X	X				X	X	X
Ind.	—WFBM	X	X	X	X		X	X	X	X	X
	—WOWO	X	X	X	X				X	X	X
	—WBA	X	X	X	X				X	X	X
Iowa	—KSO	X	X	X	X		X	X	X	X	X
	—KOIL	X	X	X	X				X	X	X
	—WOC	X	X	X	X				X	X	X
	—WHO	X	X	X	X				X	X	X
	—KTNT	X	X	X	X				X	X	X
	—KMA	X	X	X	X				X	X	X
Kans.	—KFH	X	X	X	X		X	X	X	X	X
	—KSAC	X	X	X	X				X	X	X
Me.	—WCSE	X	X	X	X		X	X	X	X	X
Mass.	—WEEI	X	X	X	X		X	X	X	X	X
	—WTAG	X	X	X	X				X	X	X
Mich.	—WJR	X	X	X	X		X	X	X	X	X
	—WKAR	X	X	X	X				X	X	X
	—WASH	X	X	X	X				X	X	X
Minn.	—KSTP	X	X	X	X						
Mo.	—KMBC	X	X	X	X		X	X	X	X	X
	—WDAF	X	X	X	X				X	X	X
	—WBB	X	X	X	X				X	X	X
	—WOS	X	X	X	X				X	X	X
	—KMOX	X	X	X	X				X	X	X
	—WEW	X	X	X	X				X	X	X
	—WIL	X	X	X	X				X	X	X
Mont.	—KCHL	X	X	X	X		X	X			X
	—KFBB	X	X	X	X						X
	—KUOM	X	X	X	X						X
Neb.	—KMMJ	X	X	X	X		X	X			X
	—KFAB	X	X	X	X						X
N. J.	—WJL	X	X	X	X		X	X			X
	—WOR	X	X	X	X				X	X	X
N. M.	—KOB	X	X	X	X		X	X			X
N. Y.	—WGR	X	X	X	X						X
	—WMAK	X	X	X	X				X	X	X
	—WCAD	X	X	X	X				X	X	X
	—WIAM	X	X	X	X				X	X	X
	—WGY	X	X	X	X				X	X	X
	—WHN	X	X	X	X				X	X	X
	—WRNY	X	X	X	X				X	X	X
	—WIBX	X	X	X	X				X	X	X
N. C.	—WBT	X	X	X	X		X	X			X
	—WPTF	X	X	X	X				X	X	X
N. D.	—KYFR	X	X	X	X		X	X			X
	—WDAY	X	X	X	X						X
Ohio	—WHK	X	X	X	X		X	X			X
	—WEAO	X	X	X	X				X	X	X
	—WUAU	X	X	X	X						X
Okla.	—KJFL	X	X	X	X		X	X			X
	—KVOO	X	X	X	X						X
Ore.	—KOAC	X	X	X	X		X	X			X
	—KOIN	X	X	X	X						X
Penna.	—WEDH	X	X	X	X		X	X			X
	—WBAK	X	X	X	X				X	X	X
	—WKJC	X	X	X	X				X	X	X
	—WLBW	X	X	X	X				X	X	X
	—WCAU	X	X	X	X				X	X	X
	—WFI	X	X	X	X				X	X	X
	—WJAS	X	X	X	X				X	X	X
	—WCHI	X	X	X	X				X	X	X
R. I.	—WJAR	X	X	X	X						X
S. D.	—KFDY	X	X	X	X						X
Tenn.	—WDOB	X	X	X	X		X	X			X
	—WMC	X	X	X	X				X	X	X
	—WLAC	X	X	X	X				X	X	X
	—WSM	X	X	X	X				X	X	X
Texas	—WDAG	X	X	X	X		X	X			X
	—KFDM	X	X	X	X				X	X	X
	—WFAA	X	X	X	X				X	X	X
	—WBAP	X	X	X	X				X	X	X
Utah	—KSL	X	X	X	X		X	X			X
Va.	—WVRA	X	X	X	X		X	X			X
Wash.	—KFOA	X	X	X	X		X	X			X
	—KGA	X	X	X	X				X	X	X
	—KHQ	X	X	X	X				X	X	X
	—KWSC	X	X	X	X				X	X	X
W. Va.	—WVVA	X	X	X	X		X	X			X
Wis.	—WKBH	X	X	X	X		X	X			X
	—WTMJ	X	X	X	X				X	X	X
	—WLBL	X	X	X	X				X	X	X

The Housekeepers' Chats, Farm Flashes and Farm Forum are broadcast daily. 4-H Club Crier, Thursday or Friday evenings. Outdoors with the Scientist, Tuesday. Farm Science Snapshots, Saturday. Primer for Town Farmers, Thursday. Agricultural Situation, First Monday each month, and the Farm Playlets, monthly.

4,050 Radio Dealers Sell on Deferred Payment Plan

Some 4,050 of the 5,737 radio dealers reporting to the Department of Commerce for the latest quarterly survey of stocks on hand stated that varying percentages of their total sales of radio equipment were made on the deferred payment plan during 1927.

The remaining 1,687 dealers who returned the general questionnaire either did not answer the specific question pertaining to deferred payment sales or reported that no business was transacted by them on this basis during the year.

Approximately 3,000 of the dealers reporting their deferred payment sales stated percentages of such business to be between 50 and 100 per cent of the total sales for the year. The remaining dealers advised of transacting between 5 and 45 per cent of their business on the deferred payment plan.

Some 218 of the dealers included above reported that their total business for the year was transacted on the deferred payment plan. Five per cent of the total business on this basis was reported by 125 dealers.

The largest percentage of sales of radio equipment on the deferred payment plan were reported by dealers in the Pacific Group—Washington, Oregon and California. The lowest percentage of sales on this basis was reported by dealers in the West North Central Group—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

The complete report was completed by the Electrical Equipment Division, Bureau of Foreign and Domestic Commerce, with the assistance and co-operation of the Radio Division, National Electrical Manufacturers Association, and the many individual dealers who voluntarily reported on their business during the year.

R.C.A. Loses Appeal to Supreme Court

The Supreme Court of the United States on Nov. 26, denied the Radio Corporation's appeal for a review of the injunction issued by the Federal District Court for Delaware restraining it from enforcing a license agreement with manufacturers of radio receivers using its circuit patent, requiring them to purchase from the R.C.A. all tubes in their sets.

The important factor of the decision is that it upholds the lower court's decision that Clause Nine of the R.C.A. licensing agreement can no longer be practiced.

H. LESSER AND COMPANY, Cleveland, Ohio, has purchased two stores and secured a five-year lease on a third, as a part of the expansion program for the creation of a chain of radio stores. Still further expansion is contemplated through the opening of another store in Cleveland as well as several stores in Akron.

THE GRIGSBY-GRUNOW COMPANY, Chicago, has issued a statement denying the rumors that a merger is contemplated and the Radio Corporation of America intends to revoke its licenses.

THE ROLA COMPANY, Oakland, Calif., has opened its new factory at Cleveland, Ohio, where the sales headquarters for the eastern territory will be maintained. Leon Golder has been placed in charge of this branch.



Full Speed Ahead!

W. B. Nevins (right) seems to find time for recreation even though he has just taken on the duties of advertising manager of the Sterling Manufacturing Company, Cleveland, Ohio, in addition to his position of sales manager. He was formerly eastern manager of the Operadio Company.

THE TALKING MACHINE AND RADIO MEN, INC., of New York, has appointed an executive secretary to take charge of the affairs of the association. Robert J. Kelly, who has had wide experience in newspaper and political work, has been selected to fill the office. Mr. Kelly was in the Marine Corps during the war, and has attended Washington University, Fordham University Law School and Princeton University. Temporary offices of the Talking Machine and Radio Men, Inc., have been established at 55 West 42nd St., New York.

Kolster Secures Title to Some 600 Patents

A contract was recently closed between Wired Radio, Inc., a subsidiary of the North American Company, and the Federal Telegraph Company, a subsidiary of the Kolster Radio Corporation, by which Kolster secures title to some six hundred patents, patent applications and inventions in the communications, radio, wired radio, electric phonograph, television and talking motion picture fields. Exclusive licenses have been granted back to Wired Radio, Inc., in the field of wired radio only.

By a second agreement, Wired Radio, Inc., agrees to purchase from the Kolster Company not less than one-third of its total requirements for apparatus, for a term of years.

Form Trade Association

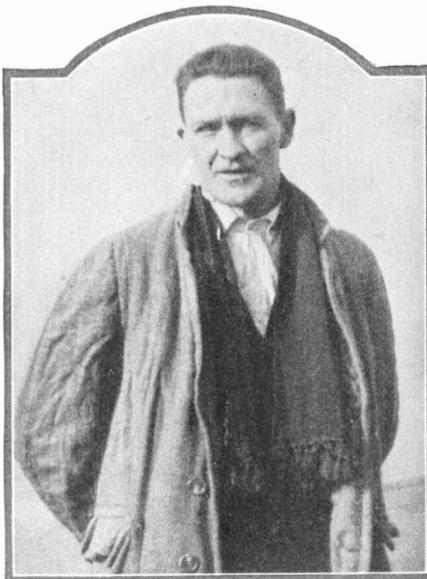
The radio dealers located in the Cache Valley, Utah, of which Logan is the central point, have organized the Cache Valley Radio Trades Association. A committee was selected to work out plans for a radio show to be held in the near future.

The officers elected were J. J. Edwards, president; Gilbert Thorpe, treasurer, and Henry F. Laub, secretary.

THE RAYTHEON MANUFACTURING COMPANY, Cambridge, Mass., announces that it has filed bills of complaint against two alleged infringers of its gaseous tube patents, including patents number 1,545,207; 1,617,171; 1,617,172; 1,617,174; 1,617,177; 1,617,178; 1,617,179; 1,617,180, and 1,617,181. Both suits were filed in Connecticut. A decree against one of the parties was previously granted to the Raytheon company in the Federal Court of the Chicago District.

THE CROSLY RADIO CORPORATION, Cincinnati, Ohio, recently dedicated its new radio station, WLW, at which Powel Crosley, Jr., president, officiated.

Vestris Survivor



Paul Dana just after his rescue from the water, having floated for 22 hours when the Vestris sank last month off the coast of Virginia. Mr. Dana is a member of the board of directors of the R.C.A. of Brazil, Inc., the newly formed subsidiary of the Radio Corporation. Mr. Dana was on his way to Brazil at the time of the disaster.

Recommendations for Radio Advertising Issued by Business Bureau

To aid radio dealers in preparing advertising copy which will be within the bounds of accuracy and fair play, the Better Business Bureau has issued the following recommendations:

1. "Bait" advertising and switching practices in selling should never be employed. Such practices usually consist of offers of merchandise at low prices, limited in quantity, which the salespeople endeavor not to sell and which they often disparage in order to interest the customer in other merchandise at a higher price or on which a longer profit is made.

No merchandise should be advertised if the store does not desire or is not able to sell in quantity and deliver promptly. If delivery cannot be prompt, a customer should be so informed, in advertising and by the salesman.

2. (a) The term "Electric" should be applied only to a set which operates directly from an electric-light socket, and which was designed for such operation by its manufacturer.

A set originally designed for battery operation and subsequently equipped with A and B power devices is not "electric," as the term is used in the trade and as it is generally understood by the public.

(b) In stating the number of tubes in a radio receiver, it is recommended that the number of tubes used for power conversion (rectifiers) or regulation, if included in the count, be specified.

It should be appreciated that the number of tubes utilized in a radio receiver does not necessarily give an indication of its performance.

(c) The word "dynamic" should be used only in connection with the speakers which are of the true dynamic type. That is, those in which the reproducing element is a moving coil rather than a magnetic armature.

(d) The word "complete" should be used only if the fully equipped set is sold at the advertised price. If any of the equipment is omitted, this fact should be stated in type of a size easy to read, in immediate proximity to the price.

Less tubes and less speaker are examples of such description in conjunction with the price of the set. The word "complete" as applied to sets does not generally connote aerial and ground equipment.

(e) Illustrations used in advertising should, in every particular, accurately depict the merchandise offered.

3. Public confidence is conserved by accurate and moderate use of price comparisons in advertising.

The word "regularly" should be used only where a temporary reduction is compared with a regular price to which the article advertised will return immediately after the sale period. The word "regularly" should not be used to describe an old price for which obsolete merchandise at one time sold.

If the introductory price or list price of old models is compared with the current price, accuracy would at least require use of an explanation, such as, "Price when introduced, \$150."

When old models or "obsolete" merchandise is offered, the model number and the year of manufacture of a model should be stated in advertising, and by the salesman.

A "list" price does not establish the value of a set, unless the set is regularly sold by the retail distributors of the set at that price.

4. Derogatory reference to competitors or to competitive products should not be made in advertising or by salesmen.

Extravagant claims comparing products or services with those of competitors should be avoided.

5. Any statement used in advertising regarding credit terms, should be exact, clear and complete.

When a statement is made in advertising or by a salesman that no additional charge is made for interest, delivery, or/and so forth, the price of the advertised set or of parts should be the same price to the credit customer as to the customer paying cash.

Any retailer advertising terms such as, "\$10 down and \$2 per week," should by all means live up to the representation, if the customer so desires.

Evasive practice, such as advertising "\$10 down," but demanding that much more be paid before delivery is made, should be en-

tirely discontinued. Furthermore, the terms "Down payment" and "Deposit" mean the same to the public.

6. Offers of allowances for old sets should actually be given, and the price allowed should not be added to the normal price of the set or to the price of accessories. Advertisement of such offers should clearly state whether or not the offers apply to the sets featured in the advertisement.

7. No period of "trial," "free" or otherwise, should be offered unless the advertiser is prepared to give such trial and to refund the full purchase price without delay or qualification.

8. Dissatisfied customers should be given courteous and careful consideration. Complaints from customers reveal the shortcomings of a selling organization and enable a store to correct its own mistakes.

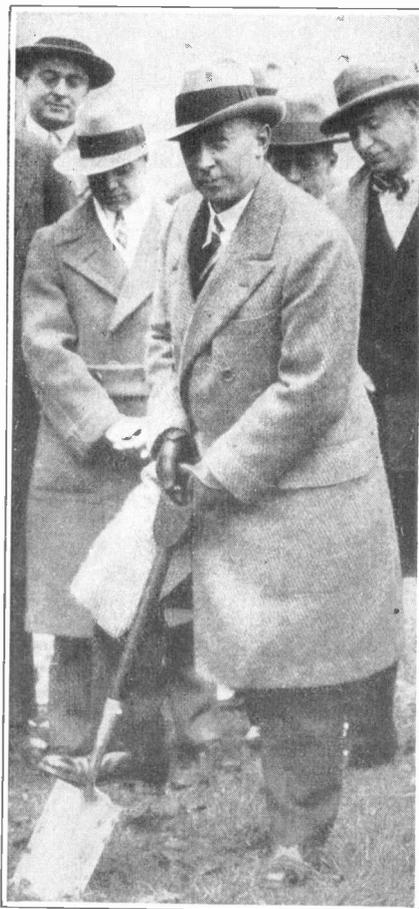
Ratify Merger

The merger of the Chas. Freshman Co., New York, and the Freed-Eisemann Radio Corporation, Brooklyn, N. Y., has been ratified by the stockholders of the Freshman Company.

THE ALFRED M. CADDELL NEWS BUREAU has taken larger quarters at 70 Fifth Avenue, New York City. Mr. Caddell organized and was the publicity director for the American Radio Association.

THE PHILADELPHIA STORAGE BATTERY COMPANY, Philadelphia, has purchased an additional 100,000 sq. ft. of ground with a large factory building which will enable the company to double its output.

Breaks Ground



Using a silver spade, A. Atwater Kent, president of the Atwater Kent Manufacturing Company, Philadelphia, turned the first spadeful of earth for his new factory which will double the size and capacity of the present plant.

Personnel Changes

E. N. RAULAND has resigned as president of the All-American Mohawk Corporation and has been elected chairman of the board. Eugene R. Farny, of the Wurlitzer Company, succeeds him as president.

J. A. FRYE and C. A. EARL, JR., have joined the Freshman organization. Mr. Frye will act as sales manager and Mr. Earl as assistant sales manager.

R. T. PIERSON has been elected to a directorship on the Board of the Bremer-Tully Manufacturing Company, Chicago. He was formerly president and treasurer of the Hazeltine Corporation and president of the Latour Corporation.

EDWARD R. FISKE, formerly assistant general sales manager for Ccco, has been made sales manager for the entire metropolitan New York area, which was previously covered by Arthur H. Lynch, Inc., New York.

PIERRE BOUCHERON, formerly advertising and publicity manager, has been appointed southern district sales manager in charge of the new Radio Corporation branch office in Atlanta, Ga.

PHILIP VAN DOREN STERN is again with Freed-Eisemann as advertising manager, having left that position in 1926 to go abroad. Upon his return, he joined Kolster as advertising manager.

ARTHUR MOSS, who has been treasurer of Electrad, Inc., New York, in charge of sales and advertising, since the company was formed, has been elected president of the company.

PAUL T. WEEKS has joined the Raytheon Manufacturing Company as chief engineer.

A. B. CAMPBELL is now with Sonora on the New York territory sales force.

JOHN Q. GAUBERT has been placed in charge of the production of the International Resistance Company.

BURTON GREENE, vice-president and general manager of the Electrical Research Laboratories, Inc., is now president of that company, succeeding George A. Pearson.

JACK MUELLER is manager of Grigsby-Grunow's new franchise department, created to form closer contact with its dealers and jobbers.

E. A. PETRYL is now with Zenith as advertising manager.

G. W. GEISER has been appointed a special representative by the Atwater Kent Manufacturing Company, Philadelphia, to contact with electric light and power companies, promoting radio as a load builder on central station companies' lines, and to work out plans for co-operating with distributors and dealers.

WILLIAM J. BARKLEY has joined the De Forest organization as assistant to James W. Garside, president.

O. D. WILLIAMS has just become advertising director for the Davega chain of radio stores in Greater New York.

E. R. PFAFF, for two years chief engineer of the Carter Radio Company has joined Temple, Inc.

BEN B. BARBER, H. E. MORGAN, W. O. KIMBERLEY and John F. McCoy are now members of the sales department of the Atwater Kent Company, each taking charge of a definite division of the work of that department.

JOHN W. MILLION, JR., has joined the engineering staff of Bremer-Tully.

CHARLES H. GARITY has resigned his position with the American Wholesale Corporation, Baltimore, Md., effective December 31.



Coaches Dartmouth Team

Jess E. Hawley does a Dr. Jekyll and Mr. Hyde when the football season approaches and takes the first train to Hanover, N. H., to coach the Dartmouth team, which, under his tutelage has won both the national and eastern championships. During the rest of the year, he is vice-president of the United Reproducers Corporation, St. Charles, Ill.

THE THORDARSON ELECTRIC MFG. CO., Chicago, announces the appointment of two new representatives. Otto Heilmann, St. Louis, Mo., will cover the St. Louis territory, and M. K. Franklin, Minneapolis, Minn., will represent Thordarson in the Minneapolis area.

Production and Imports of Radio in Canada

According to a statement just issued by the Canadian Government the production of complete radio sets, radio parts and accessories and radio batteries in Canada during 1927 was valued at \$8,789,171, an increase of 40 per cent over the value of \$6,324,881 for 1926, and 22 per cent above the figure of \$7,110,628 reported for 1925. Output of complete radio receiving sets amounted to 47,500 sets valued at \$3,748,622 in 1927 as against 42,430 sets worth \$2,253,098 in 1926.

Returns were received from forty-one establishments in this field, of which thirteen produced complete radio receiving sets worth \$3,748,622; nineteen made storage or dry-cell sets. The rest of the production included complete transmitters, battery eliminators, transformers, telephones and accessories. This survey does not include the great number of custom workers who assemble or build sets and parts to order, as only fifteen firms, out of a total of forty-one firms reporting, had a production valued at less than \$25,000.

As reported by Lym W. Meekins, United States Trade Commissioner at Ottawa, the exports to Canada of radio sets and parts from the United States during the calendar year 1927 amounted in value to \$3,163,903 and included the following items: 28,925 receiving sets worth \$1,128,893; 107,143 tubes valued at \$145,051 and \$1,859,818 worth of parts and accessories.

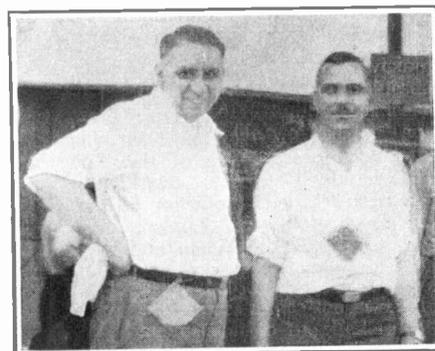
Radio licenses were issued by the Department of Marine and Fisheries during the fiscal year ending March 31, 1928, to 268,055 persons as against 215,650 in the corresponding period of the previous year. Ontario led all provinces with a total of 125,012 and Quebec was next with 51,347. Registrations in the other provinces were as follows: Saskatchewan, 26,635; Mani-

toba, 19,288; British Columbia, 18,561; Alberta, 14,936; Nova Scotia, 7,106; New Brunswick, 4,475; Prince Edward Island, 587; Northwest Territories, 94, and Yukon, 14.

Licensed broadcasting stations were distributed as follows: Ontario, 38; Saskatchewan, 15; Alberta, 14; British Columbia, 13; Quebec, 9; New Brunswick, 4; Nova Scotia and Prince Edward Island, 2 each.

THE RADIO-KEITH-ORPHEUM CORPORATION has been formed as a holding company, associating the theatrical activities of the Radio Corporation of America, including the Keith-Albee-Orpheum Company, F.B.O. Productions, Inc., the R.C.A. Photophone, Inc., and also the National Broadcasting Company, to create a combination of interests covering vaudeville, talking movies and radio. David Sarnoff, vice-president and general manager of R.C.A., is chairman of the board.

Circus Day



Nate Hast, general sales manager, and Herman R. Rose, president, of the Shamrock Manufacturing Company, Newark, N. J., snapped just after they had received their tags entitling them to a gallon of lemonade, two bags of peanuts and one good time at the carnival of the May Home Utilities Company, Shamrock distributor.

Department of Commerce Census of the 1927 Manufacture Of Radio Sets, Tubes and Batteries

	1927	1925	Per Cent of Increase (+) or Decrease (-)
Reproducers—			
Number	2,446,264	2,844,652	-14.0
Value	\$18,868,849	\$18,955,916	-0.5
Head sets—			
Number	267,349	1,352,442	-80.2
Value	\$316,726	\$2,164,529	-85.4
Receiving sets (not including radio-phonograph combinations)—			
4-tube and smaller—			
Number	30,962		
Value	\$613,715		
5-tube and larger—			
Number	1,907,230	2,395,790	-19.1
Value	\$93,436,316	\$93,356,546	+0.7
Transmitting sets, value	\$2,233,483	\$1,355,768	+64.7
Transformers—			
Number	4,093,160	5,295,507	-22.7
Value	\$5,446,550	\$7,614,774	-28.5
Rheostats—			
Number	2,327,275	3,562,543	-34.7
Value	\$1,420,780	\$2,018,592	-29.6
Socket-power devices—			
Number	1,405,191		
Value	\$23,357,814	\$30,353,599	-22.8
Miscellaneous parts, value	\$29,107,818		
Radio tubes, value	\$17,046,614	\$21,170,610	-19.5
Storage batteries—			
Complete batteries, value	\$80,496,735	\$88,870,186	-9.4
Parts and supplies, value	\$17,486,178	\$21,341,597	-18.1
Dry cells, 1.5-volt—			
Six-inch—			
Number	54,985,815	63,536,044	-13.5
Value	\$9,287,154	\$12,315,834	-24.6
Radio B and C—			
Number	530,512,320		
Value	\$26,907,806	\$47,460,972	+42.0
Flashlight—			
Number	133,143,601	\$24,922,773	+32.2
Value	\$6,035,659		
Parts and supplies, value	\$6,756,241	\$4,054,169	+66.6
Wet primary batteries—			
Complete batteries—			
Number	2,410,927	2,776,888	-13.2
Value	\$3,358,729	\$3,743,252	-10.3
Parts and supplies, value	\$123,294	Not reported separately in 1925	

Radio Standards Handbook Issued by NEMA

The fourth edition of the NEMA handbook of radio standards containing nearly 450 defined radio standards has just been published by the National Electrical Manufacturers Association, 420 Lexington Ave., New York City. The new issue contains nearly fifty more standards than the third edition of last year.

This handbook now contains 106 general standards, 97 transmitter standards, 121 receiver standards, 64 on power supply and 60 on vacuum tubes. It also includes a listing of more than 700 subjects in a cross reference index. In addition a number of tables and curves giving useful data on general purpose and audio outfit tubes is included.

OTTOMAN VOELK, director of the Ideal Werke Company, Berlin, Germany, is at the Hotel Pennsylvania, New York City. He is negotiating with American radio firms for the use of electro-static speakers, on which his company is said to hold patents.

THE ACOUSTIC PRODUCTS CORPORATION, New York, recently inaugurated the Sonora Hour which goes on the air every Thursday evening from 9 until 10 o'clock, over stations WOR and WABC.

Form Radio Club

The Kolster Radio Club of Chicago, organized under the auspices of Wakem & Whipple, Inc., Kolster distributor in the Chicago territory, recently held its first organization meeting at the Lake Shore Athletic Club, Chicago.

Roy A. Whipple, president of Wakem & Whipple, presided over the business session, outlining the purpose and operation of the club which will be similar to that of the Kolster Clubs in St. Louis and Kansas City. Meetings will be held monthly.

Officers were elected, with the following results: Chairman, Ray York, O. R. Martin Co., Chicago; vice-chairman, William Kirschbaum, Cicero Battery Co., Chicago; secretary, H. N. Smith, Wakem & Whipple, Inc., Chicago; treasurer, Thomas W. Hughes, Edgewater Electric Company, Chicago. Carlton Kaumeyer, Chickering Studios, Evanston, Ill., was elected chairman of the board, which consists of Carl Anderson, Anderson Piano Co., Chicago; A. Abrahms, Stony Auto & Radio Co., Chicago; Roy Yoeman, Roy's, Waukegan, Ill.; Fred Manau, Manau Electric Shop, Evanston, Ill.; Eddie Brayack, Gary Radio Co., Gary, Ind.; and E. M. Harnish, E. M. Harnish & Bro., Freeport, Ill.

THE ALLIED BROADCASTING COMPANY, Inc., New York City, has been chartered to act as representative of the American Broadcasting Company, owners of the ABC network. The officers of the company are Adolph F. Linden, president; G. A. Coats, vice-president and treasurer; Eric H. Palmer, vice-president and Max Ghopnick, secretary. Mr. Palmer will also act as eastern manager of the chain.

THE CALIFORNIA COMMONWEALTH CLUB, San Francisco, Calif., has formed a radio section. Among the projects outlined for action are the development of San Francisco as a broadcasting center, the encouragement of radio in schools, and the improvement in the type of program offered. This civic body numbers several thousand in membership and is made up of the foremost citizens of the state.



THE X-L RADIO LABORATORIES, Chicago, have moved to their new and enlarged headquarters at 1224 Belmont Avenue.

THE RADIO TREATISE COMPANY, 270 Madison Avenue, New York City, has established a radio consulting service and is prepared to supply radio data of all kinds.

Government Booklets

A booklet describing the instruments and methods used for radio acoustic position finding may be obtained for 20c. from the Superintendent of Documents, Government Printing Office, Washington, D. C.

A complete list of commercial and government radio stations in the U. S. is now ready for distribution at 15c. a copy. It contains the names, wave lengths and locations of all land, ship, experimental, technical and training school radio stations, as of June 30, 1928.

Paddles His Own Canoe

They say that B. G. Erskine, president of the Sylvania Tube Company, Emporium, Pa., paddles down the Sinnamahoning every morning to work. He is seen here resting before attempting the last long pull over the Falls and into Emporium. Mr. Erskine is the one in the collegiate blazer. The other two? Tenors in the Sylvania Foresters Hour.

Credit Conditions Improved

There has been a decrease of about 11 per cent in the number of past due accounts reported during the first ten months of 1928 as compared with the same period last year, according to a report issued by the National Electrical Credit Association. Philadelphia, was the only section to show an increase in the number of overdue accounts; the New York division showed a slight decrease; the San Francisco territory a decided decrease, and both the Chicago and Boston divisions a moderate decrease.

THE RADIO CORPORATION OF AMERICA, New York, has filed suit against alleged infringers of the following patents: Alexander tuned radio frequency, 1,173,079; Hartley, 1,183,875; Lowenstein, 1,231,764; Arnold, 1,349,252; Arnold, 1,403,475; Heising, 1,432,022; Arnold, 1,465,332; Hull, 1,251,377; Langmuir, 1,313,094, and Fessenden, 1,158,123.

THE CHICAGO TRANSFORMER CORPORATION, Chicago, has joined the ranks of transformer manufacturers, with a most complete and modernly equipped factory at 4541 Ravenswood Avenue. The officers are: W. J. Leidy, president; Earle Knight, vice-president; Arni Helgason, secretary, and G. R. Blackburn, treasurer.

Call Them Up!—Before Christmas

(Continued from page 41)

interest. The object is to put the interview, as soon as possible, on a friendly basis. Nothing further is said about buying a radio set, but every endeavor, of course, is made to interest the person at the other end of the wire in the home value of radio and in the superior and personal service which the Baker Music House has to offer.

"In order that there be no confusion or overlapping of telephone calls, each salesperson is assigned certain territories and streets, and he or she must list, daily, the names and addresses of ten persons having telephones. Each must submit that list to me the next morning, together with a notation opposite each name giving the time and the result of each telephone conversation. Naturally, I require a lucid explanation in every case in which it was not possible to arrange a demonstration.

"The telephone canvass is the greatest time and energy-saver in selling that I know of. I do not wish to infer that we are slighting outside calls; far from it, but I do consider that our selling opportunities are increased at least 50 per cent by the use of our three telephones regu-

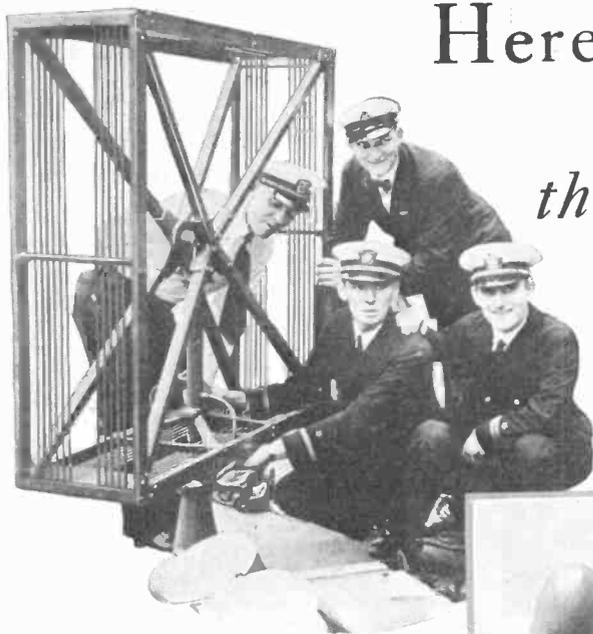
larly each day by the company's three saleswomen, the service man, and myself."

THE telephone canvass for prospects is also being used successfully by a Texas radio dealer. Andrews and Brandt of Dallas, pay a number of girls \$5 for every hundred telephone canvass cards filled in. The cards provide for such information as whether or not the prospect owns a set; its make and type; and the names of friends and relatives who do not own sets.

"Our office space is limited and we have but one telephone, so the girls call up from their own homes," states Mr. Brandt. "When breaking in a new operator, however, we have her spend an hour at our phone under office supervision. This home-work plan has the further advantage that we can engage two or three part-time, high-class women to do this work for three or four hours a day, without tying up our telephone line.

"This method has worked out very satisfactorily and profitably; and has provided numerous prospects to whom we made sales."

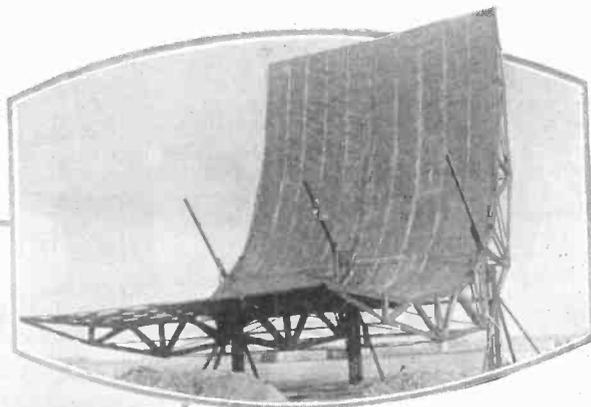
Here and There in the WORLD of RADIO



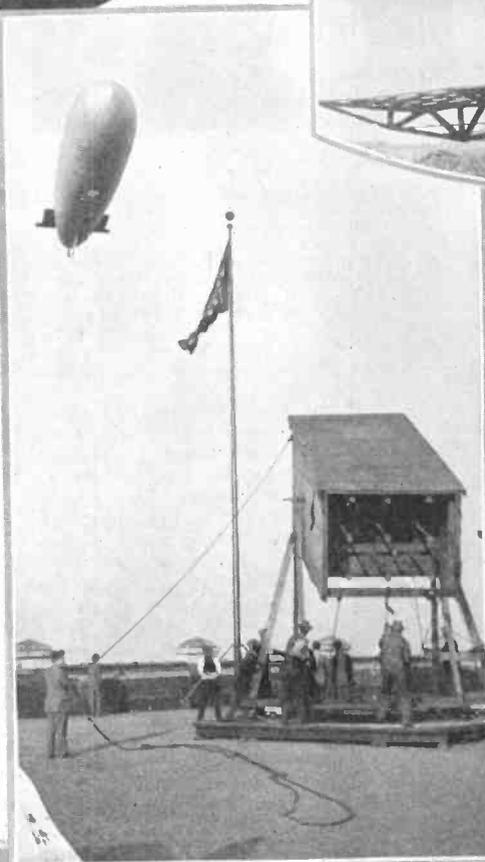
Above: This radio compass invented by Dr. F. A. Kolster, is being used by the Byrd Antarctic Expedition. Kolster radio apparatus is being used exclusively by the expedition. The Kolster radio compass is also in use on board the "American Shipper" which played such a prominent part in rescuing the survivors of the ill-fated "Vestris."

Right: Directional horn perfected by the Victor Talking Machine Company to aid in directing airships when landing in fog.

Below: Sending out the news of the Zeppelin's arrival at Lakehurst, N. J. Left to right: Admiral W. A. Moffett; Assistant Secretary of the Navy E. P. Warner; Dr. Otto Kiep, of the German Embassy, and Assistant Secretary of Commerce W. P. McCracken.



Above: German experimenters at Nauen develop a copper-plated inclined transmitting aerial to control the direction of radio waves.



Below: "The Sonatron Girl," Miss Louise Wallis, who was selected at the Chicago Radio Show as the girl with the best image and voice for transmission by television.



News of Jobbers and Distributors

Sampson Electric Holds Salon Exhibitions

An intensive program of dealer co-operation was recently undertaken by the Sampson Electric Company, Chicago, Atwater Kent distributor.

At each of a dozen prominent Illinois cities, a salon exhibition of Atwater Kent sets was held at a leading hotel, in co-operation with the resident dealers. The public was invited, through newspaper and direct mail advertising as well as by invitations from local dealers. The attendance at each of these events was gratifying.

The exhibitions were conducted under the direction of George Wertzler, sales manager of Sampson, and Charles Weisser, Atwater Kent assistant district manager.

THE RADIO WHOLESALERS ASSOCIATION, Chicago, has accepted the following companies for membership: Automobile Equipment Co., Detroit, Mich.; Jos. M. Zamoiski Co., Baltimore, Md.; G. J. Seedman Co., Inc., Brooklyn, N. Y.; J. G. Gordon Company, St. Louis, Mo.; Howard Cranfill So., South Bend, Ind.; Radio Equipment Co. of Texas, Dallas, Tex.; Rocky Mountain Radio Corp., Denver, Colo.; Harger & Blish, Inc., Des Moines, Ia.; Nevada Auto Supply Co., Reno, Nev.; Radio Equipment Co., South Bend, Ind.; The Cooper Louisville Co., Louisville, Ky.; The Roberts-Toledo Co., Toledo, Ohio; R. S. Proudfit Co., Lincoln, Neb.; Capitol Electric Co., Indianapolis, Ind.; and Falls Equipment Co., Buffalo, N. Y.

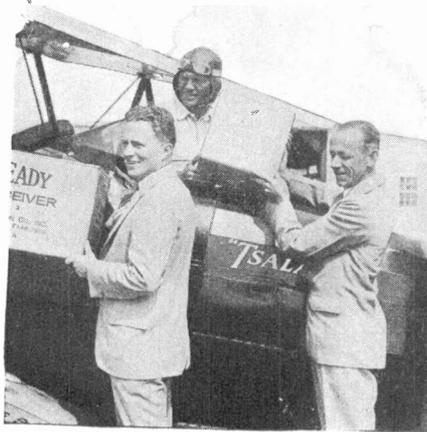
THE ATWATER KENT COMPANY, Philadelphia, has entertained the following jobbers and their dealers at the factory during the past few weeks: D. T. Lansing, Inc., Scranton, Pa.; Knerr, Inc., Harrisburg, Pa.; Lewis T. Gauster Co., Reading, Pa.; Garrett, Miller & Co., Wilmington, Del.; E. J. Edmonds Company, Poughkeepsie, N. Y.; Albany Distributing Corp., Albany, N. Y.; Stiefvater Electric Co., Inc., Utica, N. Y.; Roth & Zillig, Inc., Buffalo, N. Y.; Elliott Radio Sales Corp., Binghamton, N. Y., and the Starter & Ignition Service Co., Rochester, N. Y.

PERCE-PHELPS, INC., Philadelphia, Majestic distributor, has appointed Paul C. Richardson as manager of its newly organized sales promotion and advertising department. Mr. Richardson will spend a great deal of his time in the field helping dealers with their merchandising and advertising problems.

THE ATLANTIC RADIO & MARINE COMPANY, Boston, Mass., New England distributor for the American Bosch Magneto Corporation, recently entertained its sales organization at a dinner and theater party. Frank D. Wigglesworth, president, and Joseph Furlong, purchasing agent, addressed the group.

THE R. S. PROUDFIT COMPANY, Lincoln, Neb., Majestic distributor, is now operating as a radio jobber exclusively, having given up its retail hardware, furniture and lumber business. The company recently moved into its new building.

LISTENWALTER & GOUGH, INC., Federal wholesaler in San Francisco and Los Angeles, Calif., is broadcasting an "Ortho-sonic Hour" every Thursday evening from station KFWB.



Via Air

What could be more indicative of twentieth century progress than shipping radio sets by airplane? This picture, taken in Atlanta, Ga., shows W. A. Parker, president of the Beck & Gregg Hardware Company, Eveready distributor, and Rodney Morrison, Jr., southern manager of the National Carbon Company, Inc., delivering the sets to the pilot.

THE FEDERAL RADIO CORPORATION, Buffalo, N. Y., has appointed the following distributors: W. W. Conde Hardware Company, Watertown, N. Y.; Dyke Motor Supply Company, Pittsburgh, Pa.; Amana Society, High, Iowa; W. E. Fuetterer Supplies Company, St. Louis, Mo.; Globe Supply Company, Syracuse, N. Y.; Packard Service Station, Albuquerque, N. M.; the J. Lawrence Hill Company, Rochester, N. Y.; the Hollenberg Music Company, Little Rock, Ark.; Bunnell-Stevens Co., Inc., Binghamton, N. Y.; Stevens and Rathkey, Inc., Portland, Ore., and the Southard Motors, Vancouver, B. C., Canada. Its new foreign jobbers include the Economy Engineering and Supply Co., Lahore, India and Berro-Ronfill & Co., Montevideo, Uruguay.

LUDWIG HOMMEL & COMPANY, Pittsburgh, Pa., recently held a dealer service meeting at their display room, where the new Radiola line was shown. A buffet dinner was served, following which the dealers adjourned to the Chamber of Commerce Auditorium where they were addressed by W. H. Bolke, one of the R.C.A. engineers. A television demonstration was included in the program.

THE BREMER-TULLY COMPANY, Chicago, has appointed the following distributors: Ackerman Electric Supply Co., Grand Rapids, Mich.; McDonald Auto Supply Co., Amarillo, Tex.; Bluefield Supply Co., Bluefield, W. Va.; Pioneer Electric Co., St. Paul, Minn.; Mills & Lupton Supply Co., Chattanooga, Tenn.

THE NATIONAL RADIO COMPANY, Chicago, has been appointed distributor in the Chicago area by the Freed-Eisemann Radio Corporation and the Slagle Radio Corporation.

THE NORTH WARD RADIO COMPANY, INC., Newark, N. J., has increased the size of its warehouse and office, doubling the amount of floor space.

Ray Thomas, Inc., Moves Into New Home

The Spanish design two-story building which Ray Thomas, Inc., Atwater Kent distributor, recently erected at 1224 South Hope Street, Los Angeles, Calif., just a short distance from its former location, is now being occupied. The formal opening of the new home will take place this month.

The sales rooms, offices, service department and warehouse are modern and up-to-date in every detail. The warehouse, which is believed to be the largest for radio storage on the west coast, has a capacity of nearly 20,000 sets.

THE CROSLLEY RADIO CORPORATION, Cincinnati, Ohio, has appointed two new foreign distributors. Sig. Viganti-Menotti has taken over the Italian distribution, with headquarters and warehouse at 9 Via Sacchi, Milan. A branch will soon be opened in Turin. In Barcelona, Spain, arrangements have been completed with Codina and Roig, whereby they become exclusive distributors for Spain.

THE KIMBERLY RADIO CORPORATION, Chicago, Zenith distributor, has promoted L. T. Johnson to the position of president and treasurer, filling the vacancy caused by the death of P. R. Kimberly. Mr. Johnson was formerly sales manager. Maurice J. Moriarity has been made vice-president and secretary.

THE DALLAS ELECTRIC SUPPLY COMPANY, 705 South Ervay Street, Dallas, Tex., has been appointed distributor for the A. C. Dayton line of radio receivers. In addition to handling local retail sales, the new distributor will have charge of wholesale distribution in this territory.

THE RADIO DISTRIBUTING COMPANY, Fort Worth, Tex., was recently established with George H. Gardiner as manager. The firm has been appointed distributor for Shamrock radio receivers as well as for Cunningham tubes, Peerless reproducers and other lines of radio accessories.

THE MYERS ACCESSORY HOUSE, Harrisburg, Pa., has been appointed distributor for F. A. D. Andrea, Inc., New York, operating jointly with Philadelphia and Altoona Fada distributors in twenty-five counties in Pennsylvania.

THE AMERICAN BOSCH MAGNETO CORPORATION, Springfield, Mass., has appointed two new distributors. They are the Brown-Johnson Company, Spokane, Wash., and the Reno Motor Supply Company, Reno, Nev.

CHARLES S. HIMMEL, general manager of the Hudson-Ross Company, radio jobber, has been elected chairman of the Chicago chapter of the Electrical Credit Association.

HOWARD F. SMITH, 142 Liberty Street, New York, has taken on the line made by the Rotor Corporation of America, featuring the Rotor, a synchronous motor for phonographs.

RALPH W. PARKER, former manager of the Portland, Me., branch of Post & Lester, has been made manager of the radio and automotive departments of J. E. Goold, Federal wholesaler in Portland, Me.

Latest Phonograph Records

Issued by the leading manufacturers

Latest BRUNSWICK Records

Brunswick-Balke-Collender Company
629 So. Wabash Avenue
Chicago, Ill.

Record No.	Title and Recorder
217	Poor Boy Long Ways from Home You Are False But I'll Forgive You— <i>Buell Kazee</i>
259	The Preacher Got Drunk and Laid His Bible Down Medley of Mountain Songs— <i>The Tennessee Ramblers</i>
260	Times Am Gittin' Hard Blues— <i>Wiggins Brothers</i> My Grandpappy's Gun— <i>Seth Wiggins</i>
261	Though Your Sins Be as Scarlet What Will You Do with Jesus?— <i>Mawry Pearson</i>
262	Do You Still Remember? I Tore Up Your Picture When You Said Good-Bye— <i>Luther and Robinson</i>
264	I Wish I Was a Single Gal Again— <i>Julietta Canova</i> The Frog Went A-Courtin'— <i>Anna and Julietta Canova</i>
265	Tell It Everywhere You Go Home on the Banks of the River— <i>Piut Creek Sacred Singers</i>
266	The Gal That Got Stuck on Everything She Said Worthy of Estimation— <i>Uncle Dave Macon</i>
267	The Girl I Left Behind Me Sixteen Days in Georgia— <i>Kessinger Bros.</i>
3383	Oh! Lucindy Hot Feet— <i>Wendell Hall</i>
4004	My Dream Sweetheart Easy Goin'— <i>Wendell Hall</i>
4033	There's a Rainbow 'Round My Shoulder Sonny Boy— <i>Al Tolson</i>
4047	You Tell Me Your Dream Sincerely I Do— <i>Tom Gernovich and His Roof Garden Orchestra</i>
4048	Cinderella Blues Shine— <i>Jesse Stafford and His Orchestra</i>
4049	All of the Time Flower of Love— <i>Colonial Club Orchestra</i>
4050	There's a Rainbow 'Round My Shoulder My Gal Sal— <i>Tom Gernovich and His Roof Garden Orchestra</i>
4052	Do You Still Remember? I Tore Up Your Picture When You Said Good-Bye— <i>Luther and Robinson</i>
4053	Moonlight Madness Broken Hearted Baby— <i>Arrowhead Inn Orchestra</i>
4054	Woman Disputed Beggars of Life— <i>Harold "Scrappy" Lambert</i>
4055	In the Garden Sweet Hour of Prayer— <i>McFarland and Gardner</i>
4056	Nola The Glow-Worm— <i>Ohman and Arden</i>
4057	Sweet Kalua Lady Lei Lani— <i>Hanapi Trio</i>
4062	Yestertthoughts Punchinello— <i>Miniature Concert Orchestra</i>
4063	I'll Be Ready When the Great Day Comes Deep River— <i>Forbes Randolph's Kentucky Jubilee Choir</i>
4064	Jo-Anne If You Want the Rainbow— <i>Gordon's Hotel Adelphia Whispering Orchestra</i>
4068	I Wonder Why?— <i>The Clevelanders</i>
4069	Good Night I Tore Up Your Picture When You Said Good-Bye— <i>Carter's Orchestra</i>

4070	I Need Sympathy I'm Writing You This Little Melody— <i>Jesse Stafford and His Orch.</i>
4071	A Little Love, a Little Kiss Jalousie— <i>Fredric Fraadkin and His Fiddlers</i>
4072	Here's That Party Now in Person You're in Love and I'm in Love— <i>Chester Gaylord</i>
4073	The Prune Song I Never Kissed a Baby Like You— <i>Six Jumping Jacks</i>
4074	Sleep, Baby, Sleep Good Little Bad Little You— <i>Arrowhead Inn Orchestra</i>
4075	Jumping Jack Kiddie Kapers— <i>Varsity Four</i>
4076	Brother Pollasses' Sermon on the Letter "S" Read 'Em and Weep— <i>Al Bernard</i>
4078	Washington and Lee Swing High Up on a Hill-top— <i>Hal Kemp's Orchestra</i>
4079	The First Kiss Just Because It's You— <i>Eddy Thomas</i>
4089	That's How I Feel About You Memories of France— <i>Arnold Johnson and His Orchestra</i>
4082	Sonny Boy Blue Night— <i>Colonial Club Orchestra</i>
4084	You're in Love and I'm in Love Was It Love— <i>Arnold Johnson's Orchestra</i>
4085	Rhythm It Goes Like This— <i>Ben Bernie and His Hotel Roosevelt Orchestra</i>
4086	My Man That's How I Feel About You— <i>Belle Baker</i>
4087	Come to Me Dream of Heaven— <i>All Star Entertainers</i>
4099	I Wanna Be Loved By You Take Your Tomorrow— <i>Grace Johnston</i>

4101	Billie Where Were You? Where Was I?— <i>W. E. Wirges Orchestra</i>
4103	My Heart Belongs to You I Loved You Then as I Love You Now— <i>Glen Wick</i>
4116	Let's Do It The Land of Going to Be— <i>Wm F. Wirges and His Orchestra</i>
4118	To Know You Is to Love You You're the Cream in My Coffee— <i>Colonial Club Orchestra</i>
7033	Violets The Cross— <i>Lionel Belasco's Orch.</i>
7034	Sweet Man Cecilia— <i>Lionel Belasco's Orch.</i>
7035	Roses of Caracas Caracas— <i>Lionel Belasco's Orch.</i>
7036	The Moon of Maracaibo Rosita— <i>Lionel Belasco's Orch.</i>
7037	Caroline Blow, Wind, Blow— <i>Lionel Belasco's Orch.</i>
7038	Anella Casimir— <i>Lionel Belasco's Orch.</i>
15145	Ave Maria The Nut Tree— <i>Elizabeth Rethberg</i>
15168	At Dawning In the Gloaming— <i>John Charles Thomas</i>
15184	Polovtsian Dances Parts I and II— <i>Cleveland Orchestra</i>
15185	Polovtsian Dances Parts III and IV— <i>Cleveland Orchestra</i>
15190	Faust—When All Was Young Faust—The Flower Song— <i>Karin Branzell</i>
57010	Mariechen Jolly Peter— <i>Municipal Band</i>
57014	Wedding of the Winds My Treasure— <i>Municipal Band</i>
57015	Gold and Silver Millicent— <i>Municipal Band</i>
77004	Jolly Fellows Waltz The Skaters— <i>Brunswick Concert Orchestra</i>

Latest EDISON Records

Thomas A. Edison, Inc.,
Orange, N. J.

Record No.	Title and Recorder
52428	Jeannine, I Dream of Lilac Time Ev'rything We Like We Like Alike— <i>Laugh De Leath</i>
52424	Where Were You? Where Was I? Billie— <i>B. A. Rolfe and Palais d'Or Orchestra</i>
52411	High Up On a Hill-Top Then Came the Dawn— <i>The McAlpine's</i>
52412	Zampa Overture—Part 1 Zampa Overture—Part 2— <i>Edison Concert Orchestra</i>
52409	Sleep, Baby, Sleep The Mountain Stream— <i>Frank Kamplain and the Alpine Serenaders</i>
52400	Just Another Night The Gateway of Dreams— <i>Elliott Stewart</i>
52430	I Can't Give You Anything But Love King for a Day— <i>B. A. Rolfe and His Concert Orchestra</i>
52420	Roses of Yesterday My Treasures— <i>J. Donald Parker</i>
52419	Blue Idol Loving You Like I Do— <i>Duke Yellman and His Orchestra</i>
52432	The Three Trees Dot Good for Nodings Dog— <i>G. Underhill Macy</i>
52423	The Choir Boy Sings All Alone To-Night The Old Bureau Drawer— <i>Vernon Dalhart</i>
52415	Kaena Ko Leo— <i>Mid-Pacific Hawaiians</i>
52426	The Train That Never Arrived A Mother's Dying Wish— <i>Pop Collins and His Boys</i>

52438	A Bunch of Roses— <i>Spanish March Four Little Blackberries—Green Brothers' Novelty Marimba Band</i>
52439	Pastoral Symphony Dream Pantomime— <i>Edison Symphony Orchestra</i>
52440	Serenade— <i>J. Donald Parker</i> On the Road to Mandalay— <i>Roger Kinnue</i>
52441	Melodies of Long Ago, No. 1 Melodies of Long Ago, No. 2— <i>Hank Simmons' Show Boat Quartet</i>
52445	Woman Disputed (I Love You)— <i>B. A. Rolfe and His Palais d'Or Orchestra</i> Good Boy— <i>Al Friedman and His Orchestra</i>
60075	Gallequita La Cancion del Olvido— <i>Millo Dominguez</i>
52433	While Shepherds Watched Their Flocks Arise, Shine: For Thy Light Is Come— <i>Arion Male Chorus</i>
52431	I'd Love to Be a Monkey in the Zoo Don't You Want a Pussy Wussy Cat?— <i>Edith Thayer</i>
80902	Frasquita—Serenade Paradise— <i>Viennese Folk Song—Carl Flesch</i>
52427	There's a Rainbow 'Round My Shoulder Forever— <i>Golden Gates Orchestra</i>
52436	Ben Dewberry's Final Run In the Jailhouse Now— <i>Frankie Marvin</i>
52425	Starlight Waltz Wooten Quadrille— <i>John Baltzell</i> (Please turn to next page)

THE UNIVERSAL WIRELESS COMMUNICATION CO., INC., Washington, D. C., plans to set up point-to-point radio message service between some 125 key stations throughout the United States.

Latest COLUMBIA Records

Columbia Phonograph Company
1819 Broadway, New York City

- | Record No. | Title and Recorder |
|---------------------------------------|---|
| Set No. 98 (4 Records) | Concerto in A Minor, Grieg—Op. 16, in Eight Parts— <i>Ignaz Friedman, with Orchestra</i> |
| Set No. 99 (3 Records) | Concerto No. 2, in A Major, Liszt—In Six Parts— <i>Josef Pembaur, with Orchestra</i> |
| Columbia Modern Music Album Set No. 2 | 7166-M to 7169-M Symphony No. 6, in C Major, Op. 31, Kurt Atterberg—Grand Prize Composition, Columbia Schubert Centennial Contest. In Eight Parts— <i>Sir Thomas Beecham and Royal Philharmonic Orchestra</i> |
| 168-M | Two Little Sonatas (Scarlatti) Bagatelle (Beethoven); Intermezzo (Brahms)— <i>Myra Hess</i> |
| 169-M | Berceuse (Cradle Song—Fauré) Largo (from Chopin Sonata, Op. 65) — Violoncello Solos — <i>Felix Salmond</i> |
| 170-M | I Love You Truly
Just A-Wearyin' for You— <i>Sophie Braslau</i> |
| 1577-D | I'm Sorry, Sally
Good Night— <i>Maurice Gunsky</i> |
| 1593-D | Drink to Me Only With Thine Eyes
Beauty's Eyes— <i>Lewis James</i> |
| 1594-D | Ho-Ho-Ho-Hogan
Pat's Night Out— <i>Vaughn De Leath and Frank Harris</i> |
| 1595-D | My Blackbirds Are Bluebirds Now
You're in Love and I'm in Love— <i>Ruth Etting</i> |
| 1596-D | Doin' the Raccoon
Happy Days and Lonely Nights— <i>The Knickerbockers</i> |
| 1602-D | High Up on a Hill-Top
The Whole World Knows I Love You— <i>Don Roberts</i> |
| 1603-D | My Window of Dreams— <i>Leo Reisman and His Orchestra</i> |
| 1604-D | Billie— <i>Eddie Thomas' Collegians</i> |
| 1604-D | I Wanna Be Loved By You
You're the Cream in My Coffee— <i>Broadway Nite-lites</i> |
| 1605-D | There's a Rainbow 'Round My Shoulder— <i>Ben Selvin and His Orchestra</i> |
| 1606-D | When Summer Is Gone— <i>The Columbians</i> |
| 1606-D | Go Down, Moses
Run, Mary, Run— <i>Edna Thomas</i> |
| 1607-D | Tell It Wherever You Go
Carry Your Cross With a Smile— <i>William McEwan</i> |
| 1608-D | Since You Came Into My Life
Tho' You Threw Me Down— <i>Oscar Grogan</i> |
| 1609-D | Just a Night for Meditation
Anita— <i>Ukulele Ike (Cliff Edwards)</i> |
| 1614-D | I Loved You Then As I Love You Now
Sally of My Dreams— <i>James Melton</i> |
| 1615-D | Louisiana
Outside— <i>Jan Garber and His Orchestra</i> |
| 1616-D | Salty
Deep Blue— <i>Paul Ash and His Orchestra</i> |
| 1617-D | I'm Sorry, Sally
If You Want the Rainbow— <i>Ben Selvin and His Orchestra</i> |
| 1618-D | Tu Sais (You Know)
Someone to Admire, Someone to Adore— <i>Von Hallberg Trio</i> |
| 1619-D | Chinatown, My Chinatown
Just for Tonight— <i>The Whispering Pianist</i> |
| 1620-D | That's What Puts the "Sweet" in Home Sweet Home
My Arms Are Open— <i>Ed. Lowry</i> |
| 1621-D | Old Man Sunshine, Little Boy Bluebird
Don't Be Like That— <i>Lee Morse and Her Blue Grass Boys</i> |
| 1622-D | Pompanola
My Silver Tree— <i>Broadway Nite-lites</i> |
| 1623-D | I Loved You Then As I Love You Now— <i>The Cavaliers</i> |
| 1624-D | Marion— <i>The Columbians</i> |
| 1624-D | The Children's Party—Parts 1 and 2 (Nursery Rhymes)— <i>Vaughn De Leath</i> |
| 1625-D | Watching the Clouds Roll By
Cross Roads — <i>Clicquot Club Eskimos</i> |
| 1626-D | Woman Disputed I Love You
Marie— <i>Pete Woolery</i> |
| 38004-F | Kosovo Waltz
Theresa Polka— <i>Serbian Tambouritzza Orchestra</i> |
| 38005-F | The Broken String
The Swallow Waltz — <i>Russian Novelty Orchestra</i> |

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| 4043-M | Tosca: E lucevan le stelle
Martha: M'appari— <i>Charles Hackett</i> |
| 50099-D | Aida: Ritorna vincitor—Parts 1 and 2— <i>Eva Turner</i> |
| 50100-D | Gioconda: Suicidio
Tosca: Vissi d'arte— <i>Eva Turner</i> |
| 50101-D | Fidelio: Overture—Parts 1 and 2 (Beethoven)— <i>Band of The Garde Rpublicaine</i> |
| 50102-D | The Bat (Die Fledermaus): Selections—Parts 1 and 2— <i>Johann Strauss and Symphony Orchestra</i> |
| 50104-D | Casse Noisette Suite: Overture Miniature
Casse Noisette Suite: Marche (Tschaikowsky)— <i>British Broad-</i> |

- | | |
|---------|---|
| 50105-D | casting Company's Wireless Symphony Orchestra
Casse Noisette Suite: Danse De La Fee Dragee; Danse Des Mirlitons
Casse Noisette Suite: Danse Chinoise; Danse Russe, Trepak (Tschaikowsky)— <i>British Broadcasting Company's Wireless Symphony Orchestra</i> |
| 50106-D | Casse Noisette Suite: Danse Arabe
Casse Noisette Suite: Valse Des Fleurs (Tschaikowsky)— <i>British Broadcasting Company's Wireless Symphony Orchestra</i> |
| 50107-D | Preludes Nos. 1 and 2 (Gershwin)
Prelude No. 3: Andante from Rhapsody in Blue— <i>Gershwin</i> |

Latest VICTOR Records

Victor Talking Machine Co.,
Camden, N. J.

- | Record No. | Title and Recorder |
|------------|---|
| 1348 | La Violetera
Seguidilla— <i>Lucrezia Bori</i> |
| 1349 | Mazurka
Musette— <i>Pablo Casals</i> |
| 1352 | Adeste Fideles
The First Nowell— <i>Flonzaley Quartet</i> |
| 21703 | East Saint Louis Toddle-oo
Got Everything But You — <i>Duke Ellington and His Cotton Club Orchestra</i> |
| 21705 | My Lord's Going to Move This Wicked Race
Seek and You Shall Find— <i>Pace Jubilee Singers with Hattie Parker</i> |
| 21706 | A Surprise Answer to Prayer
A Hero Closes a War— <i>Rev. Sutton E. Griggs</i> |
| 21707 | Kyle's Worried Blues
Monkey-Man Blues— <i>Charlie Hyle</i> |
| 21708 | Fort Worth and Denver Blues
The Dummy— <i>Bessie Tucker</i> |
| 21709 | Washington and Lee Swing
Yea Alabama— <i>Memphis Stompers</i> |
| 21710 | Goofus (Bob Nolan)
Happy (Jim Rush)— <i>Slim Lamar's Southerners</i> |
| 21711 | Going Down the River
In the Garden Where the Irish Potatoes Grow — <i>Dr. Smith's Champion Hoss Hair Pullers</i> |
| 21712 | The Boy in the Boat
Walk That Thing— <i>Charlie Johnson and His Paradise Band</i> |
| 21717 | The Rose of Tralee
The Little Red Lark — <i>Thomas Quinn</i> |
| 21718 | 1. Drowsy Maggie. 2. Scotch Mary Reels
1. Heather and Sedge. 2. Trip to Erin— <i>Michael J. Cashin</i> |
| 21719 | She is Far From the Land
Cockles and Mussels— <i>Colin O'More</i> |
| 21720 | The Boyne Hunt
The Sack of Potatoes— <i>John Sheridan</i> |
| 21721 | The Ould Gent and the Flapper—Part 1
The Ould Gent and the Flapper—Part 2 — <i>Joseph D. O'Donnell Nancy Van</i> |
| 21722 | You Must Come in at the Door
When the Light Shines Thru — <i>V. O. Stamps—M. L. Yandell</i> |
| 21723 | Smiles
Shoo Fly— <i>Jimmy Yates' Boll Weevils</i> |
| 21724 | Clover Blossoms
The Maple in the Lane — <i>"Peg" Moreland</i> |
| 21725 | She Stabbed Me with an Ice-Pick
Better Leave That Stuff Alone— <i>Will Shade</i> |
| 21726 | You Tell Me Your Dream
Good-Night— <i>The Troubadours</i> |
| 21730 | Cherry
Some Sweet Day— <i>McKinney's Cotton Pickers</i> |
| 21731 | Whispering
The Japanese Sandman — <i>Paul Whiteman</i> |
| 21732 | Jo-Anne
All of the Time— <i>Edwin J. McEnelly's Orchestra</i> |
| 21736 | Jesus, the Light of the World
So Glad I've Got the Stone— <i>Bethel Quartet</i> |
| 21737 | Christ, the Teacher
The Solemn Warning— <i>Rev. E. S. (Shy) Moore</i> |
| 21738 | Stomp That Thing
Nehi Mamma Blues— <i>Frank Stokes</i> |
| 21739 | Justrite
Trouble in Mind— <i>Bennie Moton's Kansas City Orchestra</i> |

- | | |
|-------|---|
| 21740 | Lindbergh Hop
Sugar Pudding — <i>Memphis Jug Band</i> |
| 21741 | Rolling Stone—Part 1
Rolling Stone—Part 2 — <i>Robert Wilkins</i> |
| 21742 | The Land of Going-To-Be
Don't Look at Me That Way— <i>Irene Bordoni</i> |
| 21743 | She's One Sweet Show Girl
Buy, Buy for Baby— <i>Ben Pollack and His Park Central Orchestra</i> |
| 21744 | My Varsity Girl I'll Cling to You
Blossoms that Bloom in the Moonlight— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21745 | The Land of Going-To-Be
Let's Do It— <i>Irving Aaronson and His Commanders</i> |
| 21746 | Marie
Love (All I Want Is Love)— <i>The Troubadours</i> |
| 21753 | I Still Keep Dreaming of You
Cross Roads— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21754 | Pals, Just Pals
Remember Me to Mary— <i>The Melody Three</i> |
| 21755 | I'm Sorry, Sally
Just Another Night — <i>Waring's Pennsylvanians</i> |
| 21756 | What a Morning That Will Be
The Master of the Storm— <i>Vaughan Quartet</i> |
| 21757 | My Old Pal
Daddy and Home— <i>Jimmie Rodgers</i> |
| 21758 | It'll Never Happen Again
All Go Hungry Hash House— <i>Binkley Brothers Dixie Clothoppers</i> |
| 21759 | Lift Up Your Heads
The Evening Hour— <i>Walter Jenkins and Methodist Choir of Memphis</i> |
| 21760 | Goose Creek
Only an Angel— <i>Mart Britt and His Orchestra</i> |
| 21765 | Dusky Stevedore
Blue Shadows— <i>The Revelers</i> |
| 21766 | Ten Little Miles from Town
It Goes Like This— <i>California Humming Birds</i> |
| 21767 | You're the Cream in My Coffee
Anything Your Heart Desires— <i>Ted Weems and His Orchestra</i> |
| 21768 | Big Ball Uptown
Sweet Rose of Heaven— <i>Louisiana Melody Makers</i> |
| 21771 | Just a Sweetheart— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21772 | Was It Love?— <i>The Troubadours</i> |
| 21772 | Another Kiss— <i>The Troubadours</i> |
| 21772 | Gotta Be Good— <i>Nat Shilkret and the Victor Orchestra</i> |
| 21773 | I Found You "Out" When I Found "In"
Somebody Else's Arms— <i>Ted Weems and His Orchestra</i> |
| 21773 | Take Your Tomorrow— <i>Edwin J. McEnelly's Orchestra</i> |
| 21774 | Ups-a-Daisy!
Will You Remember? Will You Forget?— <i>Victor Arden and Phil Ohman</i> |
| 21777 | Santa Claus, Bring My Man Back to Me
I Done Caught You Blues— <i>Ozie Ware</i> |
| 21778 | Oh! You Sweet Old Watcha May
Call It
My Scandinavian Gal — <i>Irving Aaronson's Commanders</i> |
| 21779 | Sonny Boy
She's Funny That Way— <i>Gene Austin</i> |
| 21780 | There's a Rainbow 'Round My Shoulder
Happy Days and Lonely Nights— <i>Johnny Marvin</i> |
| 35940 | Gems from Aida—Part 1
Gems from Aida—Part 2— <i>Victor Opera Company</i> |
| 35945 | Sonny Boy
Jeannine, I Dream of Lilac Time— <i>Victor Salton Group</i> |
| 35946 | Christmas Hymns and Carols—No. 3
Christmas Hymns and Carols—No. 4— <i>Trinity Choir</i> |

New Dealer Help Material



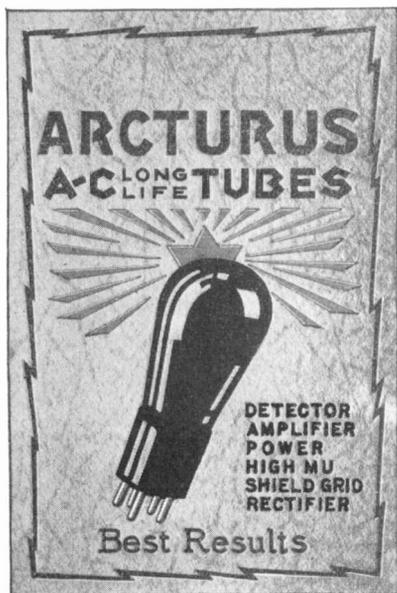
"Realism"

By means of the wording and illustrations on this window display card, offered by the Magnavox Company, Oakland, Calif., the keynote of "realism" is effectively carried out. It stands 17 inches high and is printed in several bright colors.

THE KELLOGG SWITCHBOARD AND SUPPLY COMPANY, 1066 W. Adams Street, Chicago, has prepared for its dealers a booklet entitled, "Are You Tone Conscious?" An interesting feature of this booklet is the psychology test, by the question and answer method, to determine what the answerer expects from a radio set. In the back, in a separate pocket are pictures of each model printed in pastel colors.

THE ZENITH RADIO CORPORATION, 3620 Iron Street, Chicago, has started an extensive national outdoor display advertising campaign to follow the national Zenith automatic week. Each month a new poster emphasizing automatic tuning will be prepared. Dealers and jobbers interested in using this co-operative tie-up can obtain full details from the Zenith Corporation.

Counter Card



The lightning border and the name Arcturus on this display are printed in orange with the subhead and the tube in blue on a buff background. It will be sent free, upon request to the Arcturus Radio Company, 220 Elizabeth Avenue, Newark, N. J.

Balloons for Advertising

Sales boosters in the form of brightly colored balloons are offered to Majestic dealers by the Grigsby-Grunow Company, Chicago. They may be used to make a window display, with the balloons kept moving by an electric fan; as bundle inserts; for house-to-house calls; and at radio parties, luncheons, carnivals, parades, etc.

These balloons come in the round shape with twist valve and the airship shape with squawkers. They are imprinted with the words "Majestic Electric Radio" and the dealer's name and address.

Orders should be sent direct to the Perfect Rubber Company, Mansfield, Ohio. The cost is \$5 for 250; \$9.50 for 500 and \$18 for 1,000.



Display with Relief Effect

A console model receiver standing in relief against a bright background makes this window display particularly striking. Spotlights may be used effectively on this display. It will be sent free upon request to the Kolster Radio Corporation, 39 Broadway, New York.

THE DEFOREST RADIO COMPANY, Newark, N. J., has just issued a 30-page booklet entitled, "Helpful Hints for Better Radio." It contains much information about broadcasting, as well as advice on how to improve your reception. Details and prices of the complete line of Audions are given in the back.

THE PILOT ELECTRIC MANUFACTURING COMPANY, INC., 323 Berry Street, Brooklyn, N. Y., has just issued its new radio parts catalogue. It contains pictures and prices of all its products, together with diagrams showing how each is used. Free upon request.

THE OPERADIO MANUFACTURING COMPANY, St. Charles, Ill., is furnishing its dealers with counter cards printed in orange, green and black. Free.



Illuminated Display

This window display lends itself to special illuminating effects as it is of the shadowbox type. It stands 30 inches high and is lithographed in color. The set featured is the Fada 70. Sent upon request to F. A. D. Andrea, Inc., Long Island City, N. Y.

THE SPLITDORF RADIO CORPORATION, Newark, N. J., is co-operating with its dealers in a billboard campaign. By arrangements with the General Outdoor Advertising Company, a new poster is prepared each month, imprinted with the dealer's name and address and sent to the company from whom the billboard is rented. The only expense to the dealer is one half the rental of the board. All the other details are taken care of by the Splitdorf Company. To obtain this service, send to your local jobber the receipted bill for the rent of the billboard and a merchandise credit for 50 per cent will be returned.

THE LASALLE RADIO CORPORATION, 149 W. Austin Avenue, Chicago, offers, free, two window display cards with easel backs. They are illustrated, and printed in red, blue and green. One is 17 inches high by 11 inches wide and the other is 11 inches high by 17 inches wide.

THE UNIVERSAL ELECTRIC LAMP COMPANY, Newark, N. J., has issued a revised edition of its radio log, incorporating all the new allocations. The complete line of Buck tubes is also included and there is space on the front for the dealer's business card.

THE INSULINE CORPORATION OF AMERICA, 78 Cortlandt Street, New York City, offers a small easel-back counter display card on its automatic voltage control. A cut-out space on one side permits the insertion of a sample of the device.

THE ACME ELECTRIC AND MANUFACTURING COMPANY, Cleveland, Ohio, has prepared an attractive window streamer printed in black and two shades of orange, calling attention to its all electric set. Sent free upon request.

THE ATWATER KENT MANUFACTURING COMPANY, Philadelphia, Pa., has available three booklets describing and illustrating its many sales helps.



PAM 19 or 20
Price, without tubes, \$175.00

Skate to more business with a "PAM"

Carnivals indoors or out and skating rinks need music and distinct instructions that can be heard at long distances and above background noise—work for which the Samson PAM Amplifier and associated equipment is ideally suited.

Sell or rent a PAM Amplifier to the skating rink in your locality. Supply them with PAM Amplified music from phonograph or radio set. For announcements use our MIK 1 (which is a two-stage A.C. operated microphone input amplifier) to precede any PAM.

The PAM-20 is identical with the PAM-19

except that it furnishes in addition field current for a dynamic speaker designed to have its field energized by 90 to 165 volts direct current. For all other types of speakers, including dynamics, having their fields energized from storage battery or A.C. 110 volt, 60 cycle, use the PAM-19. Both amplifiers are designed to operate from 105 to 120 volts, 50 or 60 cycles A.C.

Send for handsome folder RR3 describing the above and other Samson PAM Amplifiers which are also a "Sound Investment."

Main Office: Canton, Mass.
Manufacturers Since 1882

Samson Electric Co.

Factories at Canton and
Watertown, Mass.

MEMBER
RMA

Keeping in Touch with

RADIO MANUFACTURING



English Patent Decisions

Recently, in England, two court decisions were rendered against the Marconi company which should be of interest to the American manufacturer.

In the first and more important case, the Brownie Wireless Company, a long-established radio concern, had been making a set using a crystal detector and two stages of audio frequency. However, the Brownie Wireless Company felt that it would be better to use a tube detector and accordingly applied to the Marconi company for a license under the two patents necessary. There are no patents covering tubes used in audio frequency.

However, the Marconi company refused to grant a license under the two patents desired as they were making it their custom to license only under a group of thirteen patents. But the courts ruled that the Marconi company had no right to force this agreement on the Brownie company and make them pay royalties for patents they did not wish to use. Therefore a license under the two necessary patents is to be granted the Brownie company.

The second case was similar to that of the Brownie company and also against the Marconi company. The Loewe Radio Company, a subsidiary of a large German company, wished to take out a license to operate under five patents.

This company wished to establish themselves in England and bring over to England certain improvements which would be of advantage to the radio public of England. A multiple tube is used by the Loewe company in its sets, which is, in reality, three tubes in one. That is, there are three sets of elements operating in one vacuum. As royalties are paid the Marconi company on the basis of the number of sockets, the Loewe company claimed it was not fair to charge them on the basis of three sockets, which the Marconi company was trying to do.

The court ruled that the Loewe company's claims were fair and directed that a license be granted and also that the multiple tube was to be considered as one socket.

NEMA on Television

In an address delivered before the general session at the fall meeting of the NEMA Louis B. F. Raycroft, vice-president of the radio division, declared that "it is an injustice to the public at large to encourage it to expect television in the immediate future."

Emphasizing the importance of a correct understanding of television and its importance to the radio industry and the public, Mr. Raycroft said, "a new factor is entering the situation threatening new complications. The public is expecting another kind of broadcasting service popularly known as television. The Federal

Radio Commission is even now considering the formulation of regulations to govern this new field of radio endeavor.

"The great public interest in television is founded upon exaggerated newspaper reports of brilliant laboratory demonstrations rather than upon the actual practical status of this virgin field which is as yet entirely unprepared for commercial development. A diligent study of the subject leads to the inevitable conclusion that the premature stimulation of public enthusiasm in television is misleading and dangerous to the progress of radio because there is no means of satisfying the demand for reliable home television equipment. Television remains a laboratory experiment with a number of major and vital problems still unsolved. There are certain specific technical obstacles to practical television which cannot be overcome unless a fundamental and original invention or inventions are made and no technically qualified observer will predict whether they will be made within twenty-five, ten or five years, or even less."

Agency for Radio Desired in Syria

D. Zimmerman, an American citizen, operating a company in Beirut, Syria, under the name of the Syria Auto and Electric Co., Federal, Inc., wishes to obtain agencies in Syria for radio equipment. Mr. Zimmerman can be reached at 1920 Arlington Place, Madison, Wis., until January 1, 1929, and after that until January 10, 1929, c/o General Motors Export Corporation, 1775 Broadway, New York City.

Recent Radio Developments in England

The radio exhibition just held in London, England, has been a great success. There has been a record number of entries from the exhibiting firms and dense crowds have thronged the buildings all the time the exhibition has been in progress.

There has been a decided turn-over in the firms displaying their goods. At previous shows of this kind, there has been some difficulty in getting any special information about the various ideas shown; the exhibitors have been very much afraid of giving away their secrets to their trade rivals. But the present function has changed all this and visitors have been intensely interested in the demonstrations and information that has been most freely passed on to them.

At this exhibition, there has been very little display of really inferior stuff. It seems that all the manufacturers and merchants have gone out on quality in every direction. Prices seem to be reasonable if

one considers the results obtained though it is fair to confess that radio is not yet a very poor man's hobby if he wants to have the sets offered at the London exhibition.

NEW TUBES OR VALVES

As far as valves are concerned, the outstanding feature of the show was the new pentode or five-electrode valve. Experiments lasting over a long period have been carried out with this valve, although it has only recently become known to the public. The advantages are that it is a power valve giving a very large output for a comparatively small input; one pentode stage being nearly equal to two amplifying stages incorporated in the usual type of valve or tube.

The pentode operates on a comparatively low anode voltage for a valve of the super-power class—the consumption being moderate—between that of a power and super-power triode. Many manufacturers are taking advantage of the properties of this valve in their latest receivers, and in some cases it is used in portable and transportable receivers, where every saving in weight and increase of efficiency is of the utmost importance.

The screens 4-electrode valve, which was the sensation of last year's exhibition, is now available in an improved form, and holds the same position as a H.F. valve that the pentode is attaining on the L.F. side.

QUALITY PARTS

In the case of other vital components, the tendency is again towards quality in every form. Audio transformers and resistance-capacity coupling still have their adherents, while many manufacturers and amateur constructors use a stage of each.

Where coils are interchangeable, their mountings are of such improved design and efficiency that they are practically fool-proof, and there will be no difficulty for even the most inexperienced novice to "switch-over" to another wave length.

Completely screened stages of amplification seem to be gaining on the screened coil, and interaction between stages should be practically impossible in a well-designed modern instrument.

The constant anode feed system has done much to eliminate unwanted couplings between stages, and it is a necessity in sets operated from the light mains. Output filter circuits for the speaker, eliminating the chance of damage to the component, are gaining in popularity, and are indeed indispensable where socket power units are in use.

DYNAMIC SPEAKERS

Last year the price of this component was out the reach of most visitors to the show. In the present exhibition the number of these instruments clearly demonstrated the headway made in their design, and the prices were astonishing low. For



For
more than
twenty years
—Faradon

Today, as two decades ago, experts consider Faradon Capacitors essential to reliable radio transmission and reception.

Then in the "wireless sets" and now in the most luxurious consoles, Faradon Capacitors are accepted as the standard of electrostatic condenser dependability.

Stock Faradon Capacitors and Faradon equipped sets. It's a guarantee of quality to your customers.

WIRELESS SPECIALTY APPARATUS CO.

Jamaica Plain, Boston, Mass., U. S. A.

Established 1907

Faradon

2427

Electrostatic Condensers for All Purposes

those with more modest requirements the improvements in reed-driven or magnetic cones and horn type speakers must be seen to be properly realized, and reductions in prices are general.

Rheostats are in most cases supplanted by fixed or semi-fixed resistances which are hidden away inside the cabinet in most commercial and up-to-date amateur constructed sets. Their place is taken by a volume control and simple "on-off" switch.

The practice of bridging the H.T. or B-supply terminals with large fixed condensers will relieve the B-battery manufacturer of considerable worry, and fuses in circuit will save many burnt out valves, for even the most careful make mistakes sometimes.

The majority of the new designs in receivers were on the direction of simplicity. One-knob control seemed to be the most popular and, as the demonstrators frequently explained, "a child can safely manipulate them."

What is known over here as the "all-from-the-main" receiver is now a definite type and many of the sets are dispensing with the batteries as a result. (Editor's Note—We call these A.C. receivers).

The latest developments in short wave receivers are specially interesting and the H.F. or radio stage, which, until recently was considered an impossibility, can now be incorporated.

With a short wave receiver it is possible to receive signals from all parts of the globe and reception for the southern hemisphere is now an every-day matter. Since the introduction of the 24 meter station 5SW at Chelmsford (near London, England) it is possible for the British Dominions and Colonies to receive and enjoy reception from England; which is a very definite advantage to them.

Several manufacturers are putting on the market receivers which, in addition to being efficient on the ultra-short wave lengths, will also give excellent results on the broadcast and long wave length band. The advantages of these sets to the scientifically inclined, is considerable.

TELEVISION

Neon Tube Connections

The following convention has been adopted by the Raytheon Company with regard to neon tube mountings. The tube is fitted with a standard UX base. The plates inside the tube are placed in a plane at right angles to the axis of the base. If the pin, therefore, is pointed toward the disc when inserted in the socket, the plate inside the tube will then be parallel to the disc. After setting the tube at the proper height to cover the inch-and-a-half square scanned by the revolving disc, the following connections are made:

The plates are brought out to the plate and filament prongs. The plate terminal of the tube socket into which the neon lamp is fitted should be connected to the plate of the 171 tube. The filament terminal should connect to the current limiting resistor.

Controlling Scanning Disk

One of the tricks in achieving successful television reception is the synchronization of the receiving scanning disk with that of the transmitting end. This phase calls for an exceedingly accurate control of the speed of the motor which drives the receiving scanning disk, for otherwise the image is

distorted very much after the fashion of the reflection of one's self in the trick mirrors at amusement parks, or, worse still, there is even no image at all to look at. While automatic control is possible, it is costly and complicated at this time

At present the most satisfactory method of obtaining synchronization in television reception is manually. A power clarostat is introduced in series with the motor circuit. Because of the stepless control afforded by this device, it permits of a variation of speed in fractions of a revolution per minute. A push-button, short circuiting the resistance, is also introduced for the purpose of momentarily speeding up the motor when bringing the disk into synchronism.

This arrangement is in keeping with that employed by Dr. Alexanderson in developing his television system, who says: "We took a standard motor made for household use and manipulated its speed by an electric hand control. With a little practice and co-ordination between the eye and the hand, it is possible to hold the picture in the field of vision as easily as one steers one's car down the middle of the road."

New German Television System

The new German electric television invention, the "Telehor," the inventor predicts, will soon be used to transmit moving pictures, the Department of Commerce has just been advised by the Trade Commissioner at Paris, George R. Canty. The "Telehor" transmits direct from object without the necessity of taking preliminary pictures.

The report follows in full text:

The "Telehor," the new German electric television invention which is considered to be a step forward in the field of electric television, consists of two parts, the sending and the receiving apparatus, both neatly packed away in two cabinets. On one end is the projection lamp that throws the picture of the object to be transmitted into an apparatus that divides the light waves.

The playing of these light rays on sensitive cells produces electric currents, which are transmitted by wire or without wire to the receiving apparatus that receives the electric impulses, changes them back to light waves and then to a composite picture. Both machines are synchronized so that only one electric impulse is received and sent at one time.

The electric impulses of a picture are sent one after the other. It takes one-eighth of a second to send enough to make a complete picture. But since the eye sees light waves that come at such a frequency as a composite picture, the problem is practically solved.

The inventor states that this apparatus, which will later be shown to the general public at the Radio Exposition, will be light and compact, and that anyone who has a radio now will very likely have a "Telehor."

In a demonstration pictures and objects were put under the lamp, over an opening in the first apparatus, and the pictures were astonishingly clear on the projection plate of the receiving apparatus, it is said.

This system differs from the wireless photography already in use in that it is not necessary first to take a picture of the object which is transmitted.

The inventor believes that his instrument will soon be used to transmit moving pictures, that research workers will use it to get pictures of places where human beings can not live, such as the bottom of the ocean, or high up in the air, and that it will be of use for military purposes.

RADIO TRADE MARKS

The following is a report of trade marks favorably acted on by the United States Patent Office, and which, unless opposed, will be duly registered.

The editors of *Radio Retailing* have arranged with Lester L. Sargent, patent attorney, of 1115 K Street, N. W., Washington, D. C., by whom this report is furnished, to make an advance search without charge on any trade mark any reader may contemplate registering if he will communicate either with the editors of *Radio Retailing* or with the attorney direct.

OCTOBER 23, 1928

"Warford" for radio amplifying units, battery eliminators, and speakers for use with radio apparatus. T. M. Serial No. 252,176. Warford Electric, Inc., New York, N. Y. Used since March 15, 1927.

OCTOBER 30, 1928

"Eveready" for radio receiving sets and speakers. T. M. Serial No. 270,300. National Carbon Co., New York, N. Y. Used since July 5, 1928.

"A-C" for radio antenna. T. M. Serial No. 271,487. Goldberg Bros., Denver, Colo. Used since July 25, 1928.

"President" for radio receiving sets. T. M. Serial No. 271,748. S. Freshman Co., Chicago, Ill. Used since Aug. 9, 1928.

"Red Head" for electric batteries. T. M. Serial No. 271,751. Used since Aug. 20, 1928.

NOVEMBER 6, 1928

"Universal" for radio receiving sets and vacuum radio tubes. T. M. Serial No. 253,632. Wm. N. Schreiber, doing business as Universal Laboratories, New York, N. Y. Used since February, 1927.

"Crystallite" for conducting and flexible refractory filler for lightning arresters. T. M. Serial No. 254,073. Electric Service Supplies Co., Philadelphia, Pa. Used since March, 1926.

"McCourty's Eliminoise" (in elliptical design) for radio reception clarifier, an assembled unit for eliminating station interference and outside noises relative to radio reception. A. B. Caterall Co., Des Moines, Iowa. Used since Jan. 24, 1928. T. M. Serial No. 291,940.

"Ajax" for batteries. T. M. Serial No. 271,395. Lindsey & Son, St. Louis, Mo. Used since Oct. 27, 1926.

"Neutron" for electron radio tubes. T. M. Serial No. 271,768. Neutron Corporation, Beverly, Mass. Used since May 15, 1928.

DESIGNS

OCTOBER 6, 1928

76,622. Transmitter Mounting. George R. Lum, New York, N. Y. Assor. to Bell Telephone Laboratories, Inc., New York, N. Y.

76,641. Table for Radio Receiving Sets or the Like. Frederick Schwartz, Brooklyn, N. Y. Assor. to Robert Findlay Mfg. Co., Inc., Brooklyn, N. Y.

76,652. Radio cabinet. Joseph Wolff, Brooklyn, N. Y. Assor. to Sonora Phonograph Co., Inc.

76,653. Radio cabinet. Joseph Wolff, Brooklyn, N. Y. Assor. to Sonora Phonograph Co., Inc.

OCTOBER 23, 1928

76,720. Cabinet for Radio-Receivers. James Tillotson, Jr., Jamestown, N. Y. Assor. to Radio Corp. of America.

76,721. Cabinet for Radio-Receivers. James Tillotson, Jr., Jamestown, N. Y. Assor. to Radio Corp. of America.

NOVEMBER 6, 1928

76,812. Cabinet for Radio Receiving Apparatus. Arthur Atwater Kent, Ardmore, Pa.

76,814. Cabinet for Sound Producing and Reproducing Instruments. Eugene T. Kieffer, Cheyney, Pa. Assor. to Victor Talking Machine Co.

76,815. Cabinet for Sound Producing and Reproducing Instruments. Eugene T. Kieffer, Cheyney, Pa. Assor. to Victor Talking Machine Co.

76,844. Radio Cabinet. Joseph Wolff, Brooklyn, N. Y. Assor. to Sonora Phonograph Co., Inc.

Potter Condensers

Quality Long Life
Uniformity Economy



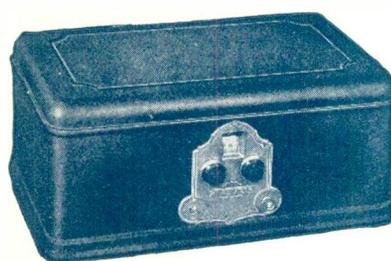
SELECTED to guard the operation of the finest radio receivers indicates that you will profit to follow leading manufacturers' good judgment by using Potter condensers in your power pack or power amplifier.

- Potter T-2900 Condenser Block for the single 250 type tube amplifier—\$20.00.
- Potter T-2950 Condenser Block for the push-pull 250 type tube amplifier—\$22.50.
- Potter T-2098 Condenser Block for the single 210 type tube amplifier—\$20.00.
- Potter T-280-171 Condenser Block for a power pack with 280 type tube rectifier for a 171 type power tube—\$18.00.

Potter by-pass and filter condensers are available in all capacities and working voltages.

The Potter Co.

North Chicago, Illinois
A National Organization at Your Service



Perfected Electric Operation for Alternating or Direct Current

Chassis and Cabinet Models

8 Tubes—Self Contained Power Supply

Here's your best leader. You can make more money selling Pierce-Airo Electric Receivers, either the Chassis or Cabinet Model, than you can with any other receiver on the market. Why? Because at our net price to you, Pierce-Airo Electrics can be marked up to a list consistent with their quality and performance, allowing you a longer profit. Furthermore, when you sell a Pierce-Airo Electric it stays sold. Service charges do not eat into your profit. In all parts of the country live dealers are building up trade and making money with Pierce-Airo Electric Receivers. Why not you?

Write for prices and discounts or send for a sample Pierce-Airo Electric Receiver for test in your own store.

PIERCE-AIRO, Inc. 113-R Fourth Ave. New York City

FROST-RADIO

A COMPLETE PARTS LINE

Frost-Radio has scored another of its characteristic achievements in bringing out a number of new items to supplement its already famous line of parts. Frost now offers the finest and most complete parts line of any manufacturer in the field.



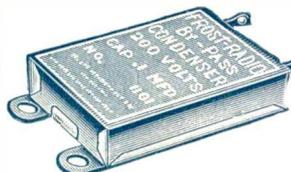
FROST-RADIO BAKELITE CABLE PLUG
Plug and Cord \$2.25



Socket 75c.



FROST - RADIO VOLUME CONTROL WITH A.C. SNAP SWITCH
\$2.75 and \$3.00



FROST-RADIO BY-PASS CONDENSERS
80c. to \$2.00

HERBERT H. FROST, Inc.
Main Office and Factory, ELKHART, IND.

HERBERT H. FROST, INC., ELKHART, IND.

Send me your new Catalog of all Frost-Radio Parts, including the new items listed in Radio Retailing.

Name

Address

City State.....

X-L LINK

the Only Unit that Completely Links your Radio to the Light Socket



Neat and attractive Buffet Silver finish. Brown bakelite trim.

- POSITIVE LINE VOLTAGE REGULATION protects filaments against excessive line voltage.
- ANTENNA AND GROUND connections with no external wiring for greater selectivity.
- COMPLETELY FUSES SET, protects set and tubes from burning out.
- ONE WIRE FROM THE LIGHT SOCKET TO YOUR SET.

Dealers find it sells itself. When demonstrating, it simplifies installation service. Price \$5.75 list. If your jobber can't supply you send direct to—

X-L RADIO LABORATORIES

1224 Belmont Avenue
Chicago, Ill.

NEW RADIO PATENTS

OCTOBER, 16, 1928

- 1,687,540. Amplifying System. Wendell J. Carlson, Schenectady, N. Y. Assor. to General Electric Co.
- 1,687,559. Cabinet. Henry F. Herman, Chappaqua, N. Y. Assor. to Straitline Radio Corp., New York, N. Y.
- 1,687,566. Sound-Control Construction. Leigh Hunt, Chicago, Ill. Assor. to Orotone Co., Chicago, Ill.
- 1,687,570. Radio Receiving System. Edward W. Kellogg, Schenectady, N. Y. Assor. to General Electric Co.
- 1,687,665. Microphone Circuit. Clinton R. Hanna, Wilkingsburg, Pa. Assor. to Westinghouse Electric & Manufacturing Co.
- 1,687,695. Anti-Side-Tone Substation Circuits. Harold C. Pye, Oak Park, Ill. Assor. to Automatic Electric Inc., Chicago, Ill.
- 1,687,714. Sound-Amplifying Horn for Gramophones, Speakers, and Other Like Sound-Reproducing Apparatus. Henry John Cullum, London, England.
- 1,687,746. Directional Aerial. George Maurice Wright, London, England. Assor. to Radio Corp., of America.
- 1,687,762. Microcoupler. Frederick P. Hall, Newark, N. J. Assor. to Simplex Radio Devices, Inc., New York, N. Y.
- 1,687,792. Radio communication. Elmer M. Rave, Brooklyn, N. Y. Assor. of one-third to Benton B. Hale, East Orange, N. J., and one-third to David H. Reid, Brooklyn, N. Y.
- 1,687,828. Wireless-Telephone Tube Sending Station. Henri Chireix, Paris, France.
- 1,687,882. Oscillation Generator and Modulator. Harold W. Nichols, Maplewood, N. J. Assor. to Western Electric Co., Incorporated, New York, N. Y.
- 1,687,883. Transmission System. Henry W. O'Neill, Elmhurst, New York, Assor. to Bell Telephone Laboratories, Inc., New York, N. Y.
- 1,687,896. Radio Transmitting System. Francis M. Ryan, East Orange, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,687,897. Radio Tube. Conrad Schickering, East Orange, N. J. Assor. of one-half to Lillie E. Schickering and Hortense Schickering, East Orange, N. J.
- 1,687,940. Sound Transmitting and Receiving Apparatus. Aubrey M. Kennedy, New York, N. Y.
- 1,688,229. Antenna. Raonvald Engebretsen, Brooklyn, N. Y.
- 1,688,265. Radio Circuits. Ralph A. Clarke, Worcester, Mass. Assor. to Standard Radio Corp., Worcester, Mass.

OCTOBER 23, 1928

- 1,688,329. Vacuum Tube Evacuating Apparatus. Arthur A. Groethe, Chicago, Ill.
- 1,688,478. Electrical Condenser. Arthur J. Weiss, West Orange, N. J. Assor. to Dublier Condenser Corp., New York, N. Y.
- 1,688,489. Vacuum Tube. Edgar W. Engle, Lake Forest, Ill. Assor. to Fansteel Products Co., Inc., North Chicago, Ill.
- 1,688,554. Radio Telegraphy. Richard Howland Ranger, Newark, N. J.
- 1,688,622. Shield for Radio Amplifiers or Detectors. Merriam E. Johnson, Rochester, N. Y. Assor. to The Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.
- 1,688,625. Speaker Unit. Marzo Allen Kennedy, Chicago, Ill. Assor. to Edmund A. Russell, Chicago, Ill.
- 1,688,692. Wired Radio on Power Lines. Robert D. Duncan, Jr., East Orange, N. J. Assor. to Wired Radio, Inc., New York, N. Y.
- 1,688,701. Amplifier Connection. Frederick Gehrts, Karlsruh, near Berlin, Germany. Assor. to General Electric Co.
- 1,688,714. Piezo-Electric-Crystal Apparatus. August Hund, Bethesda, Md. Assor. to Wired Radio, Inc., New York, N. Y.
- 1,688,730. Sound Reproducer. Joseph Archibald Mears, New York, N. Y. Assor. to Wired Radio, Inc., New York, N. Y.
- 1,688,744. Multiple Acoustic Device. Alexander McLean Nicholson, New York, N. Y. Assor. to Wired Radio, Inc., New York, N. Y.
- 1,688,772. Radio Set Connection. Milton Alden, Springfield, Mass.
- 1,688,813. Variable Condenser. Harry H. Ide, La Grange, Ill. Assor. to Kellogg Switchboard and Supply Co., Chicago, Ill.

- 1,688,817. Sound Amplifier. Frederick Kuch, Stratford, Ontario, Canada. Assor. to The McLagan Furniture Co., Limited, Stratford, Ontario, Canada.
- 1,688,842. Radio Signaling Circuits. Roy A. Weagany, Douglaston, N. Y. Assor. to De Forest Radio Co., Jersey City, N. J.
- 1,688,845. Aerial Loop Mechanism for Radio Receiving Sets. Victor Alvear, Brooklyn, N. Y. Assor. to Radio Corp., of America.
- 1,688,872. Duplex Wave Signaling System. Harold M. Lewis, Long Branch, N. J.
- 1,688,875. Loop Aerial. Paul D. Morris, Berlin, Md.
- 1,688,945. Radio Receiving Apparatus. Samuel Taylor Schofield, Washington, D. C. Assor. to National Electrical Supply Co., Washington, D. C.
- 1,688,960. Electrical Condenser. William Dublier, New Rochelle, N. Y. Assor. to Dublier Condenser Co., New York, N. Y.
- 1,688,961. Electrical Condenser. William Dublier, New Rochelle, N. Y. Assor. to Dublier Condenser Co., New York, N. Y.
- 1,689,136. Radio Attachments for String Instruments. George T. Hastings, New York, N. Y.

OCTOBER 30, 1928

- 1,689,224. Radio Receiving Apparatus. James A. Bishop, Mascoutah, Ill. Lulu H. Bishop administratrix of said James A. Bishop, deceased.
- 1,689,293. Signaling System. Arthur A. Oswald, East Orange, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,689,297. Vacuum Device and Method of Exhausting Same. Harvey Clayton Rentschler, East Orange, N. J. Assor. to Westinghouse Lamp Co.
- 1,689,318. Repeater Circuits. Björn G. Björnson, New York, N. Y. Assor. to Bell Telephone Laboratories, Inc., New York, N. Y.
- 1,689,337. Antenna. Arthur Haddock, East Orange, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,689,338. Electron-Discharge Device. James E. Harris, Newark, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,689,341. Highley-Selective Signal Reception. Raymond A. Heising, Millburn, N. J. Assor. to Western Electric, Inc., New York, N. Y.
- 1,689,346. Method and System of Carrier-Wave Telegraphy. Franklin A. Korn, Elizabeth, N. J. Assor. to Bell Telephone Laboratories, Inc., New York, N. Y.
- 1,689,400. Loop Antenna. Lee Lincoln Manley, Brooklyn, N. Y. Assor. to Radio Corp. of America.
- 1,689,405. Radio Indicating Device. Clarence Schaefer, Davenport, Iowa.
- 1,689,513. Sound-Reproducing Device. Arthur G. Zimmerman, Schenectady, N. Y. Assor. to General Electric Co.
- 1,689,564. Means for the Radio-Translation of Phonographically-Recorded Sound Waves. Fletcher Thorington, Birmingham, Ala.
- 1,689,602. Radio Apparatus. Alfred F. Sanford, Knoxville, Tenn.
- 1,689,603. Radio Apparatus. Alfred F. Sanford, Knoxville, Tenn.
- 1,689,629. Antenna. William Henry Haworth, Green Bay, Wis.
- 1,689,666. Method of Transmitting Pictures and Sending Plate Thereof. Marvin Ferree, New York, N. Y., and Joseph Wissmar, Cincinnati, Ohio. Assors. by direct and mesne assignments, to Picture Transmission Corp., New York, N. Y.
- 1,689,853. Tube-Socket Meter. Walter E. Beede, Penacook, N. H.
- 1,689,863. Directive Antenna System. Frank Conrad, Pittsburgh, Pa. Assor. to Westinghouse Electric & Mfg. Co.
- 1,689,871. Apparatus for Tewing Vacuum Tubes of the Audion Type. William Nelson Goodwin, Jr., Newark, N. J.
- 1,689,948. Telephone Magnet System. Russell T. Kingsford, Wyncote, and William H. Richter, Philadelphia, Pa. Assors. to Atwater Kent Mfg. Co., Philadelphia, Pa.
- 1,689,997. Speaker, Gramophone, and Other Sound Recording or Reproducing Apparatus. Charles Mahe de Chenal de la Bourdonnais, Loventer Manor, near Totnes, England.
- 1,690,010. Radio telephony. Warren D. House, Kansas City, Mo.
- 1,690,011. Speaker. Warren D. House, Kansas City, Mo.
- 1,690,077. Variable Control Device. Louis G. Pacent, Winfield, N. Y. Assor. to Pacent Electric Co., Inc., New York, N. Y.

NOVEMBER 6, 1928

- 1,690,095. Variable Condenser. Morris H. Bennett, Waterbury, Conn. Assor. to Scovill Mfg. Co., Waterbury, Conn.

- 1,690,147. Electromagnet for Sound-Reproducing Instruments. Benson F. Waddell, New York, N. Y.
- 1,690,167. Vacuum Tube and Associated Element. William H. T. Holden, Brooklyn, N. Y. Assor. to American Telephone and Telegraph Co.
- 1,690,224. Wave-Transmission System. Edgar W. Gent, Morristown, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,690,227. Transmission by Modulated Waves. Raymona A. Heising, Milburn, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,690,232. Vacuum Tube and Socket. John J. Kuhn, Elizabeth, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,690,250. Radio Signaling System. Alfred W. Saunders, Mount Vernon, N. Y. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,690,279. Apparatus for the Visual Interpretation of Speech and Music. Edward B. Craft, Hackensack, N. J. Assor. to Western Electric Company, Inc., New York, N. Y.
- 1,690,300. Transmission of Pictures by Electricity. Joseph W. Horton, Bloomfield, N. J. Assor. to Bell Telephone Laboratories, Inc., New York, N. Y.
- 1,690,670. Illuminated Dial. Leslie F. Curtis, Springfield, Mass. Assor. to American Bosch Magneto Corp., Springfield, Ohio.
- 1,690,676. Radio Vacuum Tube Condenser. Preston E. Gilling, Camden, N. J. Assor. to Radio Condenser Co., Camden, N. J.
- 1,690,719. Method and Means for Secret Radio-Signaling. Emory Leon Chaffee, Belmont, and Ellison S. Purington, Boston, Mass. Assor. to John Hays Hammond, Jr., Gloucester, Mass.
- 1,690,814. Power-Supply Units for Radio Sets. Francis De Willy, New York, N. Y.
- 1,690,881. Circuit for Amplifying Direct or Alternating Currents by Vacuum Tubes. Günther Thilo, Friednau, near Berlin, Germany. Assor. to Radio Patents Corp., New York, N. Y.
- 1,690,918. Tone Receiver for Undamped Oscillations. Jonathan Zenneck, Munich, Germany. Assor. to Ernst Knopp, New York, N. Y.

NOVEMBER 13, 1928

- 1,691,071. Transmission of Pictures by Electricity. Herbert E. Ives, Montclair and Maurice B. Long, Glen Ridge, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,691,076. Two-Way Radio Signaling system. Robert C. Mathes, Wyoming, N. J. Assor. to Western Electric Co., Inc., New York, N. Y.
- 1,691,099. Electrical Receiver. Henry M. Williamson, Chicago, Ill. Assor. to Johnson-Williamson Laboratories, Inc., Chicago, Ill.
- 1,691,125. Transformer. Wladimir J. Polydoroff, Chicago, Ill. Assor. to Johnson-Williamson Laboratories, Incorporated, Chicago, Ill.
- 1,691,147. Electrical Picture Transmitting System. Alva B. Clark, Brooklyn, N. Y.; Harry Nyquist, Milburn, N. J.; and Danforth K. Gannett, Jackson Heights, N. Y. Assors. to American Telephone and Telegraph.
- 1,691,243. Electrodynamical Signal Device. Clinton R. Hanna, Wilkingsburg, Pa. Assor. to Westinghouse Electric & Mfg. Co.
- 1,691,251. Grid Leak. Thomas C. Rathbone, Moore, Pa. Assor. to Westinghouse Electric & Mfg. Co.
- 1,691,338. Aerial System. Frank Conrad, Pittsburgh, Pa. Assor. to Westinghouse Electric & Mfg. Co.
- 1,691,375. Condenser. Ernest A. Bohlman, Chicago, Ill. Assor. to Kellogg Switchboard and Supply Co., Chicago, Ill.
- 1,691,413. Radio Apparatus. Alfred F. Sanford, Knoxville, Tenn.
- 1,691,446. Electron-Discharge Device with Oxide-Coated Filament. Harvey Clayton Rentschler, East Orange, N. J. Assor. to Westinghouse Lamp Co.
- 1,681,864. Radio Aerial Support. Carl Wicke, New York, N. Y.
- 1,691,877. Vacuum-Tube Socket. Milton Alden, Springfield, Mass. Assor. to Alden Mfg. Co., Brockton, Mass.
- 1,691,901. Electrical Condenser. Alexander Nyman, New York, N. Y. Assor. to Dublier Condenser Corp., New York, N. Y.

REISSUES

OCTOBER 6, 1928

- 17,105. Amplifying System. Alfred Crossley, Washington, D. C. Assor. to Wired Radio, Inc., New York, N. Y.

Standard Quality Tubes

**BUILD CUSTOMER CONFIDENCE AND
REPEAT BUSINESS**

*That's one big reason
dealers are selling
Ken-Rad Archatrons*

Are You Getting All This?

A Broad Customer
Guarantee

Liberal Discounts

Protection Against
Price Decline

Protection Against
Obsolescence

Powerful Sales Helps

*These are some of
the things Ken-Rad
dealers enjoy*



PEOPLE TODAY want the best radio reception. They insist on standard quality tubes—such as Ken-Rad Archatrons—they know they can't have the best reception with inferior tubes.

These long-life tubes will make friends for you and build a foundation for repeat business. They are made by one of the three oldest tube manufacturers in business today, and are tested to the most exacting specifications.

Ken-Rad is giving dealers the season's most complete line-up of sales helps, a broad guarantee and

liberal discounts. Protection against price decline and obsolescence are other features which mean extra profit over the season.

It makes no difference what line of tubes you are handling now, the Ken-Rad proposition will help you to make the most of your tube opportunity this year.

Fill out and mail the coupon below . . . It will bring you all the details of this year's outstanding radio tube offer.

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Owensboro, Kentucky

*The Ken-Rad plant has been in
operation 24 hours a day since
October first as a result of the
record demand.*

KEN-RAD ARCHATRON



The Ken-Rad Corporation, Incorporated, Owensboro, Kentucky

I want to do a bigger tube business . . . Show me the way to do it!

Firm Name _____

City _____

Street Address _____

State _____

PARTS and WHO MAKE THEM

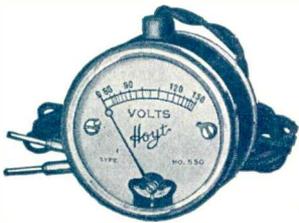
The following is a regular monthly feature. Radio parts manufacturers are here listed together with the principal items used in receivers. The diamond indicates the part made. Manufacturers are requested to supply corrections or additions to this list at any time.

Manufacturer's Name and Address	Binding Posts	Coils, Choke	Coils, R. F.	Condensers				Dials	Filament Ballasts	Jacks	Panels		Resistances				Sockets	Switches	Transformers, Pwr. Supply	Transformers, Audio	Wire & Cables
				Fixed Mica	Fixed Paper	Electrolytic	Variable				Metal	Composition	Fixed		Variable						
													Wire Wound	Processed	Carbon Type	Carbon Type					
Acme Appar. Co., Cambridge, Mass.																					
Acme Wire Co., New Haven, Conn.																					
Aero Prod. Co., Inc., Chicago																					
Aerovox Wireless Corp., Brooklyn, N. Y.																					
Alden Mfg. Co., Springfield, Mass.																					
Allen-Bradley Co., Milwaukee, Wis.																					
American Hard Rubber Co., N. Y. C.																					
Auturn Button Wks., Inc., Auburn, N. Y.																					
Bastian Bros. Co., Rochester, N. Y.																					
Beaver Mach. & Tool Co., Newark, N. J.																					
Belden Mfg. Co., Chicago																					
Benjamin Elec. Mfg. Co., Chicago																					
Birnbach Radio Co., N. Y. C.																					
Brach Mfg. Co., Newark, N. J.																					
Bremer-Tully Mfg. Co., Chicago																					
Brooklyn Metal Stamp Co., Brooklyn, N. Y.																					
Brown & Calne, Inc., Chicago																					
Bruno Radio Co., Long Is. City, N. Y.																					
Carborundum Co., Niagara Falls, N. Y.																					
Cardwell Mfg. Corp., Bklyn, N. Y.																					
Carter Radio Co., Chicago																					
Central Radio Labs., Milwaukee, Wis.																					
Chicago-Jefferson Fuse & Elec. Co., Chicago																					
Chicago Transformer Corporation, Chicago, Ill.																					
Claroat Mfg. Co., Inc., Brooklyn, N. Y.																					
Cornish Wire Co., N. Y. C.																					
Crescent Braid Co., Providence, R. I.																					
Cutler-Hammer Mfg. Co., Milwaukee, Wis.																					
Daven Corp., Newark, N. J.																					
De Jur Amseco Corp., N. Y. C.																					
Dubiller Cond. & Radio Corp., N. Y. C.																					
Dudlo Mfg. Corp., Ft. Wayne, Ind.																					
Eagle Elec. Mfg. Co., Bklyn, N. Y.																					
Easton Coil Co., Easton, Pa.																					
Eby Mfg. Co., H. H. Phila., Pa.																					
Electrad, Inc., N. Y. C.																					
Erla Corp., Chicago																					
Elkon Works, Port Chester, N. Y.																					
Fahnestock Elec. Co., Long Is. City, N. Y.																					
Fast & Co., John E., Chicago																					
Ferranti, Inc., New York City																					
Fibroc Insulation Co., Valparaiso, Ind.																					
Fleron & Son, M. M., Trenton, N. J.																					
Ford Radio & Mica Corp., New York City																					
Frost Co., H. H., Chicago, Ill.																					
Gardner & Heppner, Phila., Pa.																					
Gardner Elec. Mfg. Co., Oakland, Calif.																					
Gearhart Radio Co., Fresno, Calif.																					
General Coil Co., Weymouth, Mass.																					
General Instrument Corp., New York City																					
General Radio Co., Cambridge, Mass.																					
Gossard Radio & Wire Co., Belvidere, Ill.																					
Gray & Danielson Mfg. Co., San Francisco, Cal.																					
Gray Prod., Inc., Poughkeepsie, N. Y.																					
Halldorson Co., Chicago, Ill.																					
Hammarlund Mfg. Co., N. Y. C.																					
High Frequency Labs., Chicago																					
Hardwick, Field, Inc., New York City																					
Harvey Hubbell Co., Bridgeport, Conn.																					
Igrad Cond. & Mfg. Co., Rochester, N. Y.																					
Insuline Corp. of America, N. Y. C.																					
International Resistance Co., Philadelphia, Pa.																					
Karas Elec. Co., Chicago																					
Keystone Radio Lab., Inc., Chicago																					
Kimley Elec. Co., Buffalo, N. Y.																					
Kwik-Test Radio Lab., Detroit, Mich.																					
Micamold Radio Corp., Bklyn, N. Y.																					
Micarta Fabricators, Inc., New York and Chicago																					
Mountford, C. E., N. Y. C.																					
Muter Co., Lisle, Ill., Chicago																					
National Company, Inc., Malden, Mass.																					
New England Elec'l Works, Lisbon, N. H.																					
Niagara Insul-Bake Spec. Co., Albany, N. Y.																					
Norton Labs., Inc., Lockport, N. Y.																					
Pacent Radio Corp., N. Y. C.																					
Packard Elec. Co., Warren, Ohio																					
Paragon Elec. Co., Chicago																					
Pilot Electric Mfg. Co., Brooklyn, N. Y.																					
Platter Cabinet Co., North Vernon, Ind.																					
Polymet Mfg. Corp., N. Y. C.																					
Potter Mfg. Co., North Chicago																					
Powrad, Inc., Bklyn, N. Y.																					
Precise Mfg. Corp., Rochester, N. Y.																					
Precision Mfg. Co., Los Angeles, Calif.																					
Radiall Co., N. Y. C.																					
Radio Appliance Corp., Springfield, Mass.																					
Radio Condenser Co., Camden, N. J.																					
Ranger Coil Co., W. Davenport, N. Y.																					
Rittenhouse Co., A. E., Honeoye Falls, N. Y.																					
Robertson-Davis Co., Chicago																					
Samson Electric Co., Canton, Mass.																					
Sangamo Elec. Co., Springfield, Ill.																					
Saturn Mfg. & Sales Co., N. Y. C.																					
Scanlan Elec. Mfg. Co., Chicago																					
Scott Transformer Co., Chicago																					
Silver-Marshall, Inc., Chicago																					
Smith, B. H., Danbury, Conn.																					
Specialty Insul Mfg. Co., Hoosick Falls, N. Y.																					
Sprague Specialties Co., Quincy, Mass.																					
Thordarson Elec. Mfg. Co., Chicago																					
Tobe Deutschmann Co., Canton, Mass.																					
Transformer Corp. of Amer., Chicago																					
Tyrman Elec. Corp., Chicago, Ill.																					
Union Insulating Co., N. Y. C.																					
Van Doorn Co., Chicago																					
Ward Leonard Elec. Co., Mt. Vernon, N. Y.																					
Waterbury Button Co., Waterbury, Conn.																					
Webster Elec. Co., Racine, Wis.																					
Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.																					
Wireless Specialty Appar. Co., Boston, Mass.																					
X-L Radio Labs., Chicago																					
Yaxley Mfg. Co., Chicago																					

Hoyt

OFFERS to the RADIO SERVICE MAN

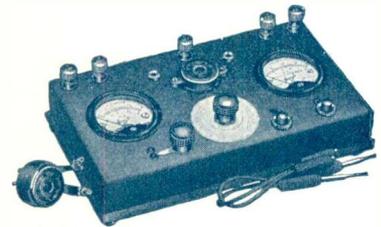
A COMPLETE LINE OF TESTING EQUIPMENT; from the Universal Set and Tube Tester, Model 500, which combines all meter ranges necessary in one convenient and compact portable case, to the newest meter in the Hoyt line for testing line voltage—No. 550. All are Hoyt quality in accuracy, ruggedness and dependability.



TYPE 550 A.C. POCKET
VOLTMETER
A. C. LINE TESTER
List Price, \$3.75



UNIVERSAL A.C. D.C. SERVICE
SET TESTER
(Model 500)
List Price, \$90.00



UNIVERSAL TUBE TESTER
(Model 400)
List Price, \$30.00

For complete information
consult your jobbers'
salesman, or write us on
your letterhead.

HOYT ELECTRICAL INSTRUMENT WORKS
857 BOYLSTON ST., BOSTON, MASS.

RADIO'S HALLMARK OF QUALITY

DeJUR-AMSCO

WORLD'S LARGEST
MANUFACTURERS OF
HIGH GRADE RADIO PRODUCTS

The DeJur-Amsco line of quality radio parts is the most complete and diversified in the industry. With this line in stock you can supply your trade with anything they need from the smallest part to the largest unit in a receiver. We are the world's largest and oldest manufacturers of high-grade radio parts. Our long experience assures highest quality and our larger output and most modern manufacturing facilities assure the lowest prices consistent with quality.

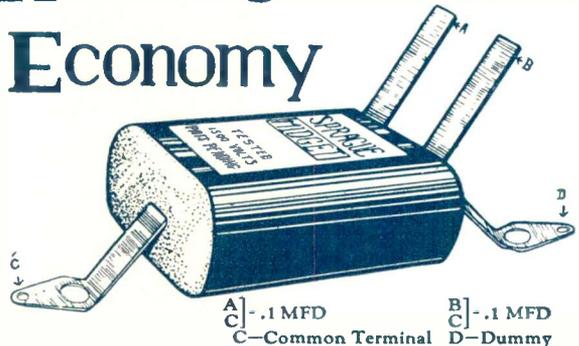
AT ALL JOBBERS

If your jobber cannot supply you, write us for complete descriptive literature, prices and discounts.

WRITE FOR CATALOG

DeJUR-AMSCO CORPORATION
Broome and Lafayette Sts., New York City

Here's Condenser Economy



A] -.1 MFD B] -.1 MFD
C—Common Terminal D—Dummy

Two condensers in one unit, suitable for direct eyeletting to metal or insulated base panel. That's the latest Sprague development—their latest contribution to lowering condenser costs for manufacturers. For these Dual Condensers effect many savings in space and assembly operation. Waterproofed with asphalt covering and special process of triple impregnation. Available in sizes from .01 to .5 MFD.

SPRAGUE SPECIALTIES CO.
Quincy, Mass.

SPRAGUE

To the Radio Trade:

THE Hazeltine Corporation desires to call to the attention of the radio trade the decision rendered November 15, 1928, by Judge Grover M. Moscowitz of the United States District Court for the Eastern District of New York in Brooklyn, in the action brought by the Hazeltine Corporation against a Brooklyn distributor of radio receivers.

In this decision Judge Moscowitz holds that the radio receivers involved in the action infringe Hazeltine Patent No. 1,533,858.

As a result of this decision the Hazeltine Corporation is entitled to an injunction against the defendant (Brooklyn distributor), and an accounting and recovery of profits, and to damages based on the sale by the defendant of all these receivers.

Every distributor and dealer selling radio receivers which are an infringement of the Hazeltine patents is liable to the Hazeltine Corporation for profits and damages sustained because of such infringement. *Such profits and damages are independently recoverable entirely apart from any recovery that may be had from the manufacturer.* It is the penalty provided by the Patent Law for handling and selling infringing apparatus.

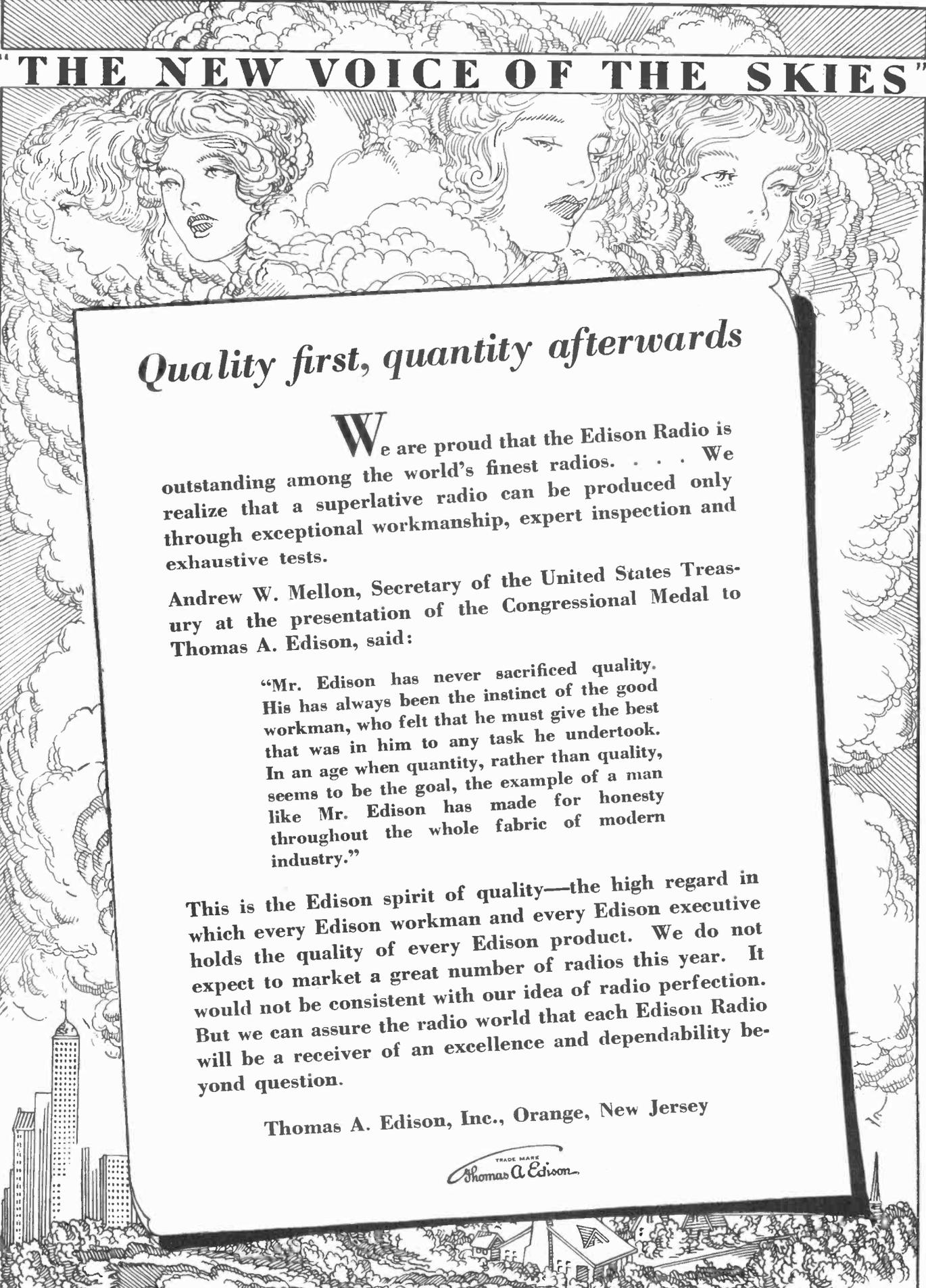
The decision of Judge Moscowitz is the fourth such favorable decision by Federal Courts, holding infringement and sustaining the validity of the various Hazeltine patents covering the inventions of Professor L. A. Hazeltine as employed in Neutrodyne radio receiving sets.

Judge Moscowitz in his decision held that the use of an inherent neutralizing capacity to effect neutralization is an infringement of the Hazeltine Patent. In most of the modern Neutrodyne receivers manufactured under license a physical neutralizing condenser is used.

Distributors and Dealers — To be safe from infringement and from liability for profits and damages, be sure the radio sets you handle are manufactured under license and therefore fully protected under the Hazeltine Neutrodyne and Latour patents.

All infringements of these patents will be prosecuted promptly and vigorously by the Hazeltine Corporation.

HAZELTINE CORPORATION
15 EXCHANGE PLACE, JERSEY CITY, N. J.



"THE NEW VOICE OF THE SKIES"

Quality first, quantity afterwards

We are proud that the Edison Radio is outstanding among the world's finest radios. . . . We realize that a superlative radio can be produced only through exceptional workmanship, expert inspection and exhaustive tests.

Andrew W. Mellon, Secretary of the United States Treasury at the presentation of the Congressional Medal to Thomas A. Edison, said:

"Mr. Edison has never sacrificed quality. His has always been the instinct of the good workman, who felt that he must give the best that was in him to any task he undertook. In an age when quantity, rather than quality, seems to be the goal, the example of a man like Mr. Edison has made for honesty throughout the whole fabric of modern industry."

This is the Edison spirit of quality—the high regard in which every Edison workman and every Edison executive holds the quality of every Edison product. We do not expect to market a great number of radios this year. It would not be consistent with our idea of radio perfection. But we can assure the radio world that each Edison Radio will be a receiver of an excellence and dependability beyond question.

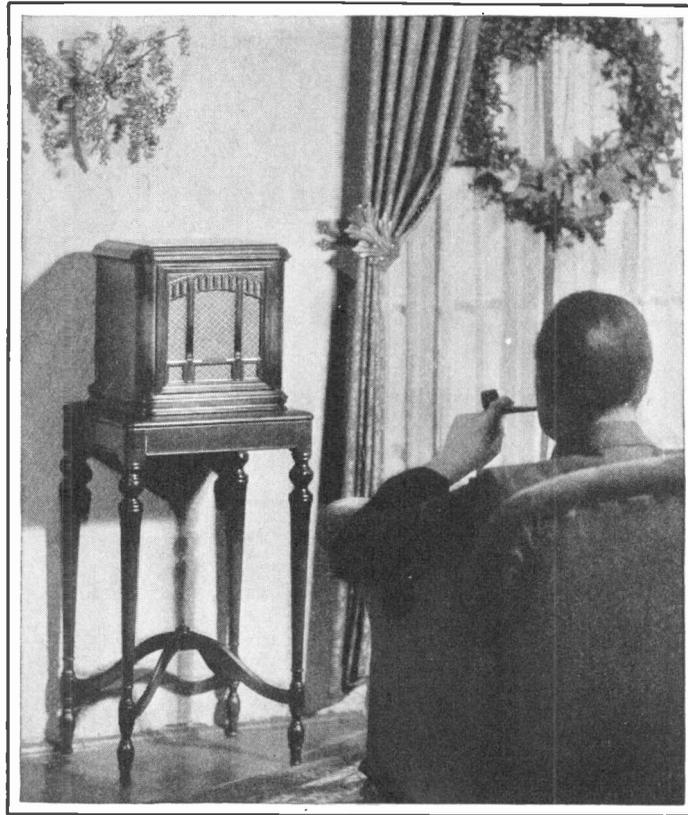
Thomas A. Edison, Inc., Orange, New Jersey

TRADE MARK
Thomas A. Edison

**The Jensen
Model 7 Cabinet**

This beautifully designed cabinet harmoniously fits into artistically furnished music and drawing rooms.

Jensen Dynamic Speakers are made in types to operate with 110 volt A. C. house current, 6 volt storage battery, "A" eliminator or trickle charger, 110 volt D. C. house current and 90 to 180 volt D. C. current as provided by many of the late model radio sets. The sensitivity of the instruments is the same in any case.



At the end of this year of Jensen achievement

AS 1928 draws to a close, the Jensen Radio Manufacturing Company extend heartiest season's greetings to all who have taken part in placing Jensen in its respected position throughout the industry. 1928 has been a year of great achievement. Jensen has gained acceptance as the leader in the field of dynamic speakers. No small part of this widespread approval can be traced to the enthusiasm of the trade. Jensen thanks the trade and assures them that for 1929 Jensen will continue to keep far in advance of the industry.

Jensen Radio Manufacturing Company
338 N. Kedzie Avenue, CHICAGO, ILL. 212 9th Street, OAKLAND, CALIF.

Jensen
DYNAMIC SPEAKER

JENSEN PATENTS ALLOWED AND PENDING
Licensed under Lektophone and Magnavox Patents

With the new low prices and the new Symphion Receiver

Balkite becomes the most remarkable line on the market

There has never been any question that Balkite is one of the finest receivers on the market. For performance and quality of reproduction it leaves nothing to be desired.

In addition, the regular Balkite AC Receiver now costs no more than ordinary sets. The new low prices of \$125.00 and \$140.00 for the table models are unequalled by radio of any similar character.

This combination of quality and price is in itself enough to make Balkite one of the most attractive lines in the field.

But in addition there is the Balkite Symphion Receiver. This receiver is literally the only new thing in the industry. AC, but based on an entirely new

principle, it gives a quality of reproduction hitherto unequalled. The difference between Symphion and any other receiver is obvious and, more to the point, easily demonstrable to the average prospect.

Interest in this new receiver is enormous on the part of both trade and public. It has already been called *the* 1929 receiver. The two re-

ceivers together give you everything you could ask for in a radio line, from a price for the humblest buyer to a receiver for the music connoisseur. They are rapidly making Balkite one of the most popular and fastest-selling lines on the market.

Fansteel Products Company,
Inc., North Chicago, Illinois.

The new Balkite SYMPHION . . . SYMPHION through an entirely new principle converts the ordinary 60-cycle AC house current to 3,000,000 cycles . . . This makes possible the use of the 201A tube with its far wider range of frequencies and excludes heterodyning and hum . . . Result: every tone is reproduced — as it is played. Two models: B-7 Highboy at \$475, and B-9 Combination Radio Receiver and Electric Record Reproducer at \$950. Both in cabinets by Berkey & Gay. Prices slightly higher West of Rockies

FANSTEEL
Balkite Radio

Compare This Speaker with Any Other

Selling at TWICE its Price!

CONNECT this new Quam speaker with your favorite demonstration set and watch the result. Will your customers want it? Will it bring you volume business and splendid profits? From the way orders are pouring into our factory from dealers and jobbers, there is only one answer. It doesn't take Mr. John Public long to recognize a quality product at an amazingly low price like this!

We know you'll want to feature the new Quam at once. All we want you to do is send for a sample, without any obligation on your part. Examine it closely. Listen to it. Never have you seen or heard a speaker selling at anywhere near this price built with such an eye to beauty, with such built-in quality. It's more than a speaker. It's a Fine Musical Instrument! It has worlds of volume . . . wonderful clarity of reproduction . . . deep, rich, resonant tone. Perfect for both A.C. and battery operated sets.

This unusual speaker calls for ACTION . . . NOW! It offers you a real opportunity for volume business and liberal profits throughout the entire big selling season. Don't delay. . . . Mail the coupon . . . today!

MANUFACTURERS—Send today for samples of units shown at right.



Model A—List Price \$17.50

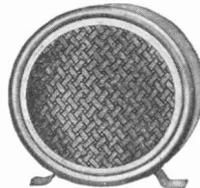
Attractive lacquered steel base and frame of gold bronze finish, sturdily built, faced in gold silk, size 13 inches in diameter—lasting beauty!



MODEL-B
\$15.00
LIST PRICE

Beautiful clock-type Speaker, attractively faced in gold silk, with sturdy gold bronze lacquered steel base and frame, only 9½ inches in diameter. Convenience — beauty — and performance plus!

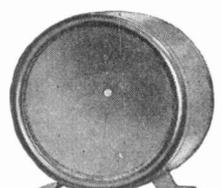
Prices slightly higher west of the Rockies.



Model 1



Model 3



Model 2

Units fitted exactly for attractive cabinets. Model 1 has unit and cone complete in lacquered steel drum with silk screen. Model 3 is unit complete with cone and mounting bracket. Model 2, unit complete with cone, in lacquered steel drum but without silk screen. All priced right for manufacturers' use.

QUAM RADIO PRODUCTS CO.
9703 Cottage Grove Ave.
Chicago, Ill.

The New QUAM CONE SPEAKER

Quam Radio Products Co.,
9703 Cottage Grove Ave., Chicago, Ill.

Send samples at once of Models B, A, 1, 2, 3. (Check those desired.) This does not obligate me to buy.

Name
Address

SONORA *extends to you* THE SEASON'S GREETINGS



THE SONORA MELODION WITH RADIO

Model A-46. An exquisitely-designed combination instrument embodying the highest perfection of the electrical reproduction of music—either by record or from the air. Choice of richly covered leather canopies and base cabinets of various designs.

ON this, the eve of the world's greatest holiday, we pause from our work to wish you—one and all—a very merry Christmas... and a most prosperous and happy New Year.

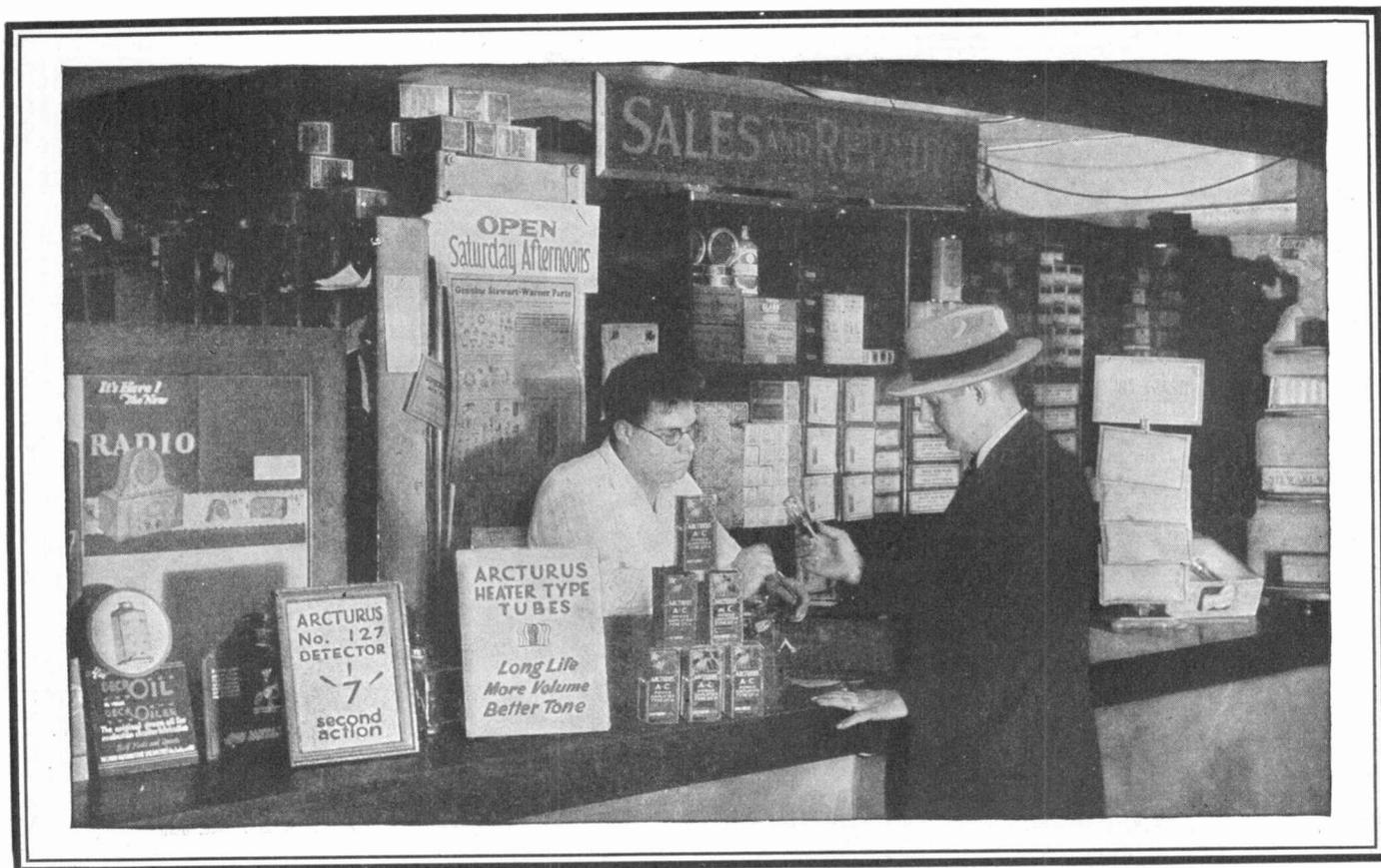
THE SONORA MELODION
MELODION WITH RADIO
SONORA PHONOGRAPHS

Sonora
CLEAR AS A BELL
(Acoustic Products Company)



NEW SONORA RADIOS
MELODIONIC SPEAKER
SONORA PORTABLES

SONORA PHONOGRAPH CO., INC., SONORA BUILDING, 50 WEST 57th STREET, NEW YORK CITY



Stewart-Warner Sales Co. recommends Arcturus Tubes

"We have sold a large number of Arcturus Tubes", writes the Stewart-Warner Sales Co., Cleveland Ohio. "They are proving very satisfactory, especially when used in sets operated in localities with high line voltages. We highly recommend them to anyone, particularly those who have been having trouble with the A-C Detector Tubes they have been using."

Stewart-Warner Sales Co., of Cleveland, Kaufmann of Pittsburgh, Walthal of New York—leading retailers all over the country—have discovered that selling Arcturus Tubes is selling tube satisfaction—the first step to increased sales.

This Arcturus Detector Tube which, as Stewart-

Warner has discovered, is immune to line surge—is also the fastest acting detector tube in the world. Acts in 7 seconds against 30 to 60 seconds for other tubes. Recommend Arcturus Tubes for every socket—for quick action, undistorted volume, better all around reception. Arcturus Tubes assure satisfaction—boost tube sales.

Watch for the Arcturus Dealer's "increased sales" plan. Valuable—original—profitable. Investigate the dealer's proposition—write, right now. ARCTURUS RADIO COMPANY, 220 Elizabeth Ave., Newark, N. J.

ARCTURUS

A-C LONG LIFE TUBES

**THE NEW
MODEL 989
PORTABLE
DYNAMIC
REPRODUCER**

By
**NEWCOMBE-
HAWLEY**

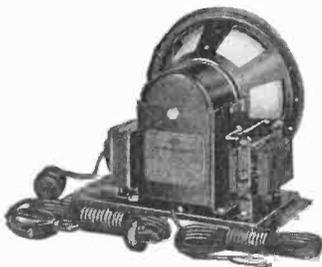
**For A. C. Sets
\$65.00**

**For Battery Sets
\$55.00**

**Chassis only
\$40.00**



**A PORTABLE DYNAMIC
REPRODUCER
AT A POPULAR PRICE**



Model 989 is equipped with a full wave Kodel rectifier and rectifier transformer, which permits the unit to be operated with any A. C. set. No storage battery or other source of direct current is required.

THIS new Model 989 Portable Reproducer is so attractively priced that every radio set owner can now enjoy a dynamic speaker.

The cabinet of beautifully grained walnut harmonizes with the most refined appointments.

There is plenty of volume in reserve for those who wish to use this speaker for dancing, and the tone quality is unsurpassed.

Send for latest literature and discounts today!

NEWCOMBE-HAWLEY

Division of United Reproducers Corporation

**201 First Avenue
ST. CHARLES, ILL.**

**Export Dept. 130 W. 42nd St.
NEW YORK CITY, N. Y.**

Day-Fan RADIO

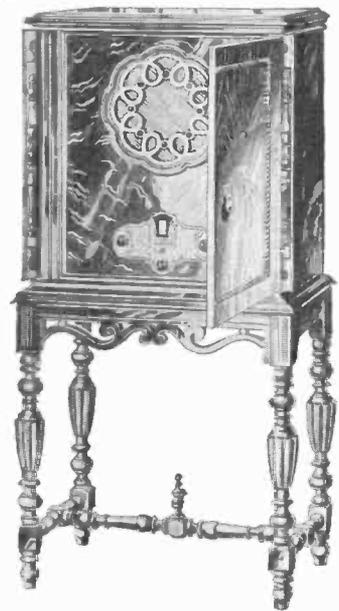
A Day-Fan Year!

In a season when radio sets are better than ever, Day-Fan has introduced an 8-tube, all-electric receiver that is winning enthusiastic approval on all sides. It takes a good set to merit the praise that has been spoken of the 1928-29 Day-Fan.

With its superior quality of performance commanding a price which means good profits, the Day-Fan offers you an attractive merchandising proposition. Others are taking advantage of this opportunity with such success as to make this an outstanding Day-Fan year.

It is not too late to find out all that Day-Fan has to offer you this season. Write to

DAY-FAN ELECTRIC COMPANY
Dept. M, DAYTON, OHIO



An investment that pays dividends

An indicating instrument is an essential part of the equipment of every good radio receiver installation, since it aids in maintaining efficient operation, secures the best reception and fully protects the financial investment.

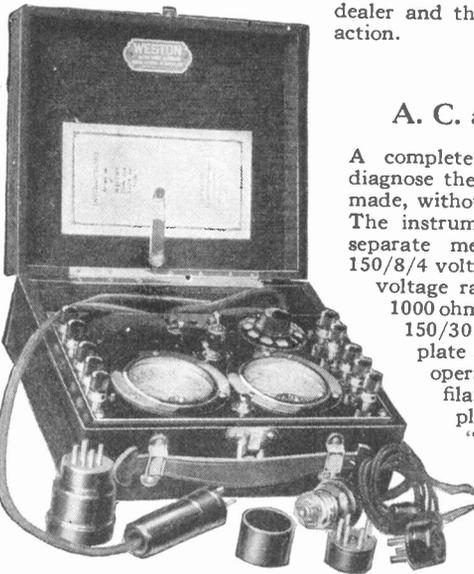
To dealers and service men the selection of instruments is highly important. Testing equipment which insures reliability not only increases the efficiency of servicing work, but it is a factor in securing business—for the ability to quickly and accurately diagnose set troubles, as well as to test and certify tubes and other merchandise in a customer's presence, instills confidence and makes every purchaser a booster.

Illustrated and described herewith are four instruments selected from the complete Weston Radio Line because of their great utility as service instruments. Moreover, the small portable instruments are popular items of merchandise for over-the-counter sales. All four instruments represent a profitable investment on either side of the counter benefiting both the dealer and the customer on every transaction.



A. C. and D. C. 3-Range Voltmeters

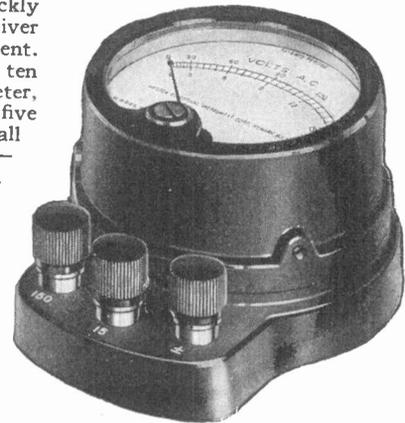
The excellent characteristics and performance of these portable models command the attention of all who appreciate the finest workmanship and demand un-failing reliability. They are enclosed in bakelite cases—black for D. C. and mottled red and black for A. C. instruments. D. C. Voltmeter—750/250/10 volts—1000 ohms per volt. A. C. Voltmeter—150/8/4 volts.



Model 537

A. C. and D. C. Radio Set Tester

A complete servicing outfit that will quickly diagnose the trouble in any type of radio receiver made, without need for any additional equipment. The instruments provided are equivalent to ten separate meters:—a 3-range A. C. Voltmeter, 150/8/4 volts; a D. C. Volt-Milliammeter with five voltage ranges—600/300/120/60/8 volts all 1000 ohms per volt; and two current ranges—150/30 milliamperes. Tests filament, grid, plate and cathode voltages under actual operating conditions. Determines filament current requirements and plate current drain. Locates "shorts" between grid and plate as well as distortion in the audio system due to tube overloading. Provides for filament circuit and general continuity tests and also serves as a rapid tube tester.

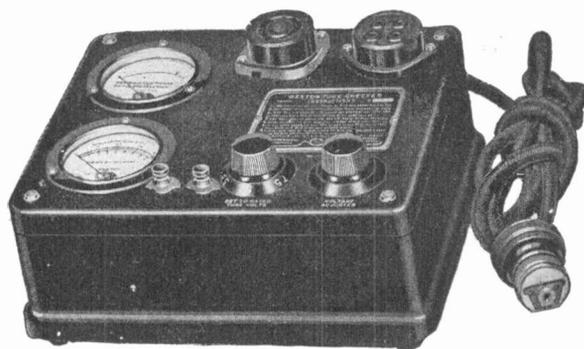


A. C. and D. C. Single and Double-Range Instruments

These instruments are identical to the model shown in the top illustration in design and electrical characteristics, except that they are made as single and double-range instruments with binding posts instead of pin-jacks. They are furnished as D. C. double-range voltmeters (125 or 1000 ohms per volt) and as single and double-range D. C. Ammeters. For A. C. testing they are made as single-range Ammeters and Milliammeters and double-range Voltmeters.

Model 533
Counter
Tube Checker

Requires no batteries. Operates direct from an A. C. light socket—or any other A. C.—60 cycle—90 to 130 volt—source of supply. Will test every type of tube—A. C. or D. C.—having filament voltages of 1.5, 2.5, 3.3, 5 or 7.5 volts, including rectifying type tubes. Proper voltage regulation is obtained quickly with the voltage adjusting dial and voltage indicator.



WESTON ELECTRICAL INSTRUMENT CORPORATION
581 Frelinghuysen Ave., Newark, N. J.

WESTON RADIO INSTRUMENTS

“Fitting companion-pieces for our finest receivers”

... *Stewart-Warner*

Rare beauty of design—truly fine woods—skilled craftsmanship—remarkably low cost—these qualities which identify Buckeye Console Cabinets, have brought them *exclusive selection* by the Stewart-Warner Speedometer Corporation of Chicago.

To us, this selection is a high tribute; to Stewart-Warner, a *sales asset of inestimable value*. For the exquisite beauty of Buckeye

Consoles makes as definite an appeal to discriminating buyers as does the depth, color, and realistic tone quality of the receiver itself.

In spite of its superior quality, Buckeye Radio Furniture is remarkably low in price—and wherever used, it is a *distinct* sales asset. Find out how it will help sell *your* receiving sets. Write today for complete information, attractive illustrations, and price lists.

BUCKEYE MANUFACTURING COMPANY SPRINGFIELD, OHIO

*National Sales Agent, Studner Bros., Inc., New York City, 67 West 44th St.;
Chicago, Ill., 28 East Jackson Blvd.*



Model SW No. 6



Model SW No. 6

Buckeye
RADIO FURNITURE



Majestic

Crosses Ocean in Graf Zeppelin!

FIRST AS USUAL



Extreme left, Karl Beuerle, Chief Engineer
 Extreme right, Knute Eckener,
 Son of Commander and hero of flight
 Center, Assistant Engineer

For the first time in history a console radio set has crossed the ocean in an airship. It was a MAJESTIC, of course.

And MAJESTIC was chosen because of merit!

Read this interesting letter received from the Zeppelin's Chief Engineer:

(Translation)

Lakehurst, N. J., Oct. 20, 1928

Gentlemen:

I am the Chief Engineer of the dirigible Graf Zeppelin and came to America in her very recently, and through relatives in Philadelphia I heard your Majestic Radio Apparatus.

I like the performance of the built-in loud speaker very well and since we do not have anything like that in Germany I beg to ask you if it would not be possible to take one of your sets back with me in the Zeppelin to Germany, and under what conditions.

I would show the set with great joy over there and it would help me remember the enthusiastic reception which all of us found in America.

Very sincerely,

Karl Beuerle, Chief Eng.,
 Luftschiff "Graf Zeppelin"
 Lakehurst, U. S. A. Navy Aero Station



Proving...wherever
 people talk of radio they think of **Majestic First**

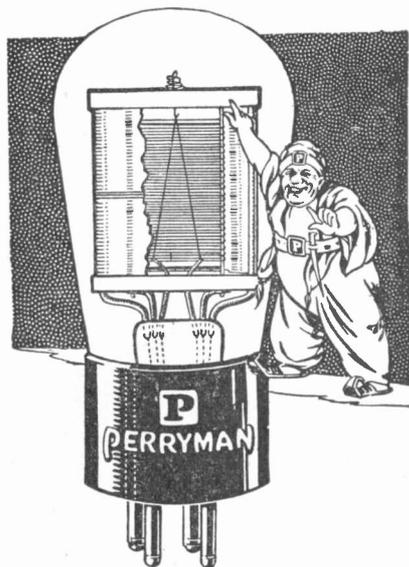
GRIGSBY-GRUNOW COMPANY, 5801 Dickens Ave., Chicago





PERRYMAN RADIO TUBES

"DISTANCE WITHOUT DISTORTION"



*More Hours of Service
per tube...because of a
PATENTED FEATURE*

The PERRYMAN Guarantee protects YOU—as well as your Customer!

We don't have to tell you that the dealer frequently has to make good out of his own pocket on tube replacements. This, in spite of elaborately worded guarantees.

But we can tell you that no Perryman Dealer has ever had to pay out his own money to make good for us.

Perryman Tubes perform with the best year in and year out. That's why they sell as fast as we can make them. And, in addition to the extra profit, Perryman Dealers have a griefless proposition so far as replacements go. Which means a lot.

If you wish to examine the Perryman 1929 proposition, write us today.

WHOLESALEERS PLEASE NOTE

Proof that we have an interesting proposition for wholesalers will be furnished to you on request. Not by us alone, but by Perryman Wholesalers who have been with us for years and who will write you directly, telling you of their experiences with regard to sales, profits and cooperation.

PERRYMAN ELECTRIC COMPANY

INCORPORATED

33 West 60th St.

NEW YORK, N. Y.

Laboratories and Plant: NORTH BERGEN, N. J.



PERRYMAN RADIO TUBES
A Complete Line of Standard Equipment for every Radio Purpose



ATWATER KENT RADIO



MODEL 40

\$77

(without tubes)



MODEL 40 A. C. The 1929 improvement on the famous Model 37. More powerful, more sensitive. New sealed power unit. **FULL-VISION Dial.** Requires six A. C. tubes and one rectifying tube. For 110-120 volt, 50-60 cycle alternating current. Without tubes, \$77.

MODEL 41 D. C. Satin-finished in brown and gold or golden bronze and gold. **FULL-VISION Dial.** For 110-120 volt direct current. Requires five D. C. tubes and two power tubes. Without tubes, \$87.



MODEL 42 A. C. Similar electrically to Model 40, with addition of automatic line voltage control. Many refinements in cabinet design—crowned lid, panelled corners, ball feet. **FULL-VISION Dial** with over-size numbers. Requires six A. C. tubes and one rectifying tube. For 110-120 volt, 50-60 cycle alternating current.

Without tubes, **\$86**



MODEL 44 A. C. Extra-powerful, extra-sensitive, extra-selective. Crowned lid, panelled corners, ball feet. Automatic line voltage control. Local-distance switch. **FULL-VISION Dial** with over-size numbers. Requires seven A. C. tubes and one rectifying tube. For 110-120 volt, 50-60 cycle alternating current.

Without tubes, **\$106**

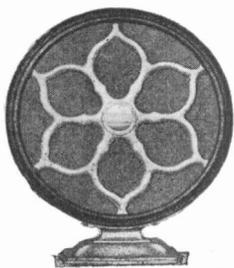
ATWATER KENT RADIO

Turn off the ice water!

"Three-quarters of the calls are for Atwater Kent Radio. When customers ask for a definite thing, you throw a pail of ice water on them if you have to say you don't carry it."... *From a large New York retailer.*

The country over, from Seattle to Key West, Atwater Kent Radio is the most asked for. Merchants who feature Atwater Kent Radio use ice water only for drinking purposes.

*On the air—every Sunday night—
Atwater Kent Hour—listen in!*



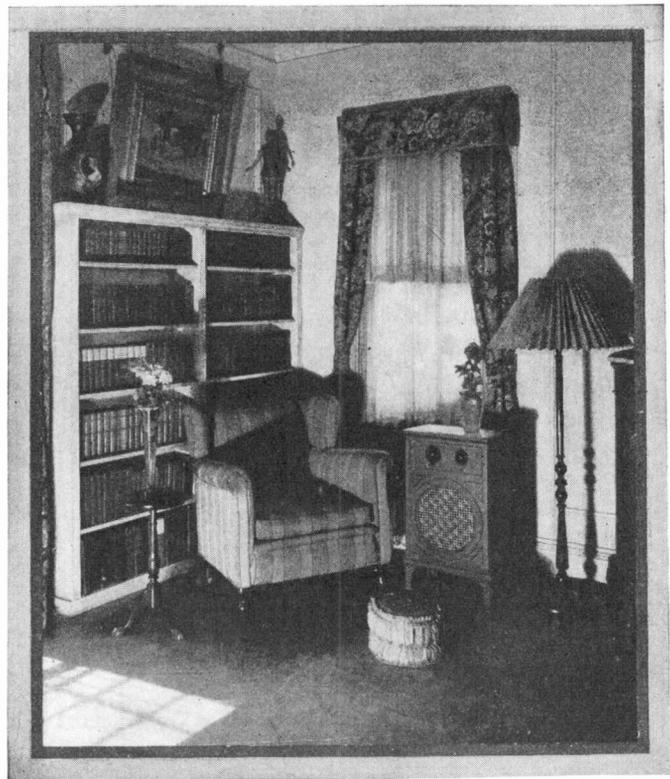
"RADIO'S TRUEST VOICE"

Atwater Kent Radio Speakers: In a variety of beautiful finishes. Models E, E-2, E-3, same quality, different in size.

Each **\$20**

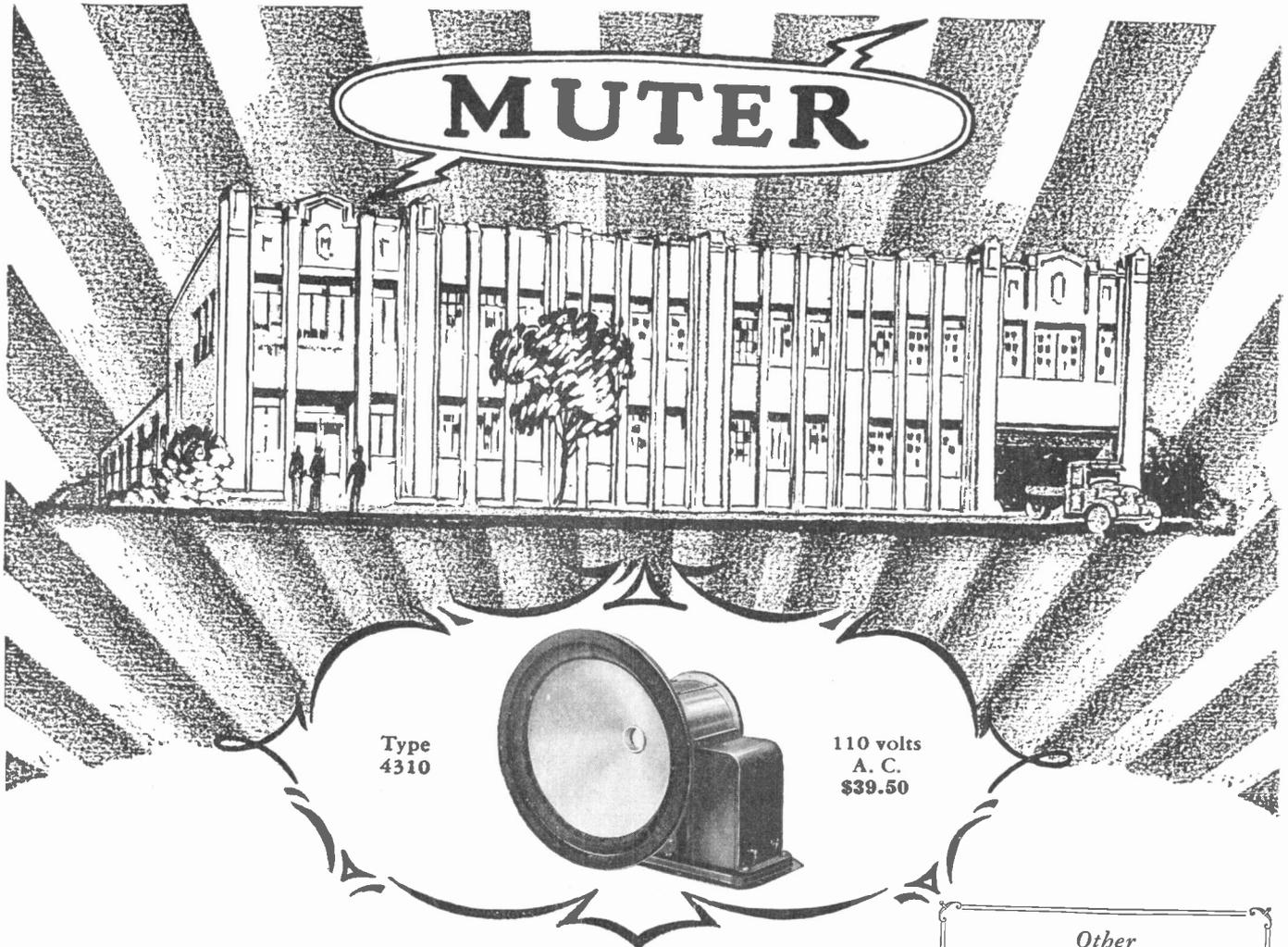
Prices slightly higher west of the Rockies

MODEL 52 A. C. Combining receiver and speaker in smart, modern, compact cabinet. FULL-VISION Dial. Uses six A. C. tubes and one rectifying tube, with automatic line voltage control. Without tubes, \$117.



In the home of Rex Beach you will find the Model 52

ATWATER KENT MFG. CO. *A. Atwater Kent, Pres.* 4733 Wissahickon Ave., Philadelphia, Pa.



Muter Dependable Dynamic Type Speaker

THE Dynamic Speaker with its superlative performance is this season's outstanding radio sensation. It has changed the radio set from a mechanical reproducer of sounds to a musical instrument supreme. The distinctive tone of the various new manufactured receivers can be attributed almost entirely to the Dynamic Speaker, and this same improvement can be embodied in any set by the attachment of a Muter Dependable Dynamic.

Dependable Dynamic Speaker Unit

Power	Type	Price
6 volts D. C.	4306	\$29.50
90 volts D. C.	4390	33.00
110 volts A. C.	4310	39.50

Table Model in Solid Walnut Cabinet

Power	Type	Price
6 volts D. C.	4406	\$49.50
90 volts D. C.	4490	53.00
110 volts A. C.	4410	59.50

Spinet Console Model of Solid Walnut

Power	Type	Price
6 volts D. C.	4506	\$64.50
90 volts D. C.	4590	68.00
110 volts A. C.	4510	74.50

LESLIE F. MUTER COMPANY

8440 South Chicago Avenue Chicago

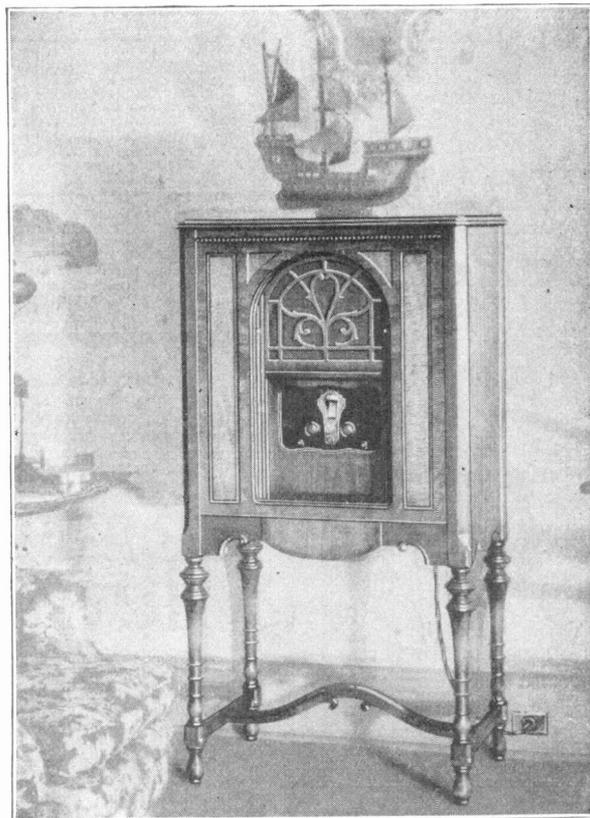
Other MUTER DEPENDABLE Products

- Dynamic Speakers
- By-Pass Condensers
- Filter Condensers
- Fixed Condensers
- Rheostats
- Tubestats
- "B" Eliminators
- Resistance Amplifiers
- Phone Plugs
- Antenna Kits
- Lead in Insulators
- Panel Switches
- Knife Switches
- Ground Clamps
- Interference Eliminators
- Clarifier and Tone Filter
- Soldering Lugs
- A. C. Power Units
- Neutralizing Condensers
- Trimming Condensers
- Audio Transformers
- "B" Power Unit Transformers
- Choke Coils—A.F. and R.F.
- Grid Leaks
- Power Resistances (tapped and variable)
- Antenna Plugs
- Lightning Arresters and many others.

The Complete Quality Popular Priced Line

RADIO'S
 Most Popular Model
 the
Bremer-Tully
 Seven-Seventy-one

A.C. Electric
 —
 Seven Tubes
 —
 Push-Pull
 Power Audio
 —
 Tone Control
 a new and
 exclusive
 B-T Feature
 —
 Dynamic
 Drive



Dynamic
 Speaker
 —
 Genuine
 Walnut
 Cabinet
 —
 Matched
 Sliding
 Doors
 —
 A new and
 Distinctly
 Different
 Furniture
 style

The tremendous popularity of the B-T 7-71 originated the present vogue in radio furniture.

A distinct departure from ordinary radio cabinet design it won the instant approval of the public. At all the shows it is the "pick" of the crowd.

Here is a market already pre-sold—a market that you can tap for bigger and better profit. Are you prepared to capitalize on it?

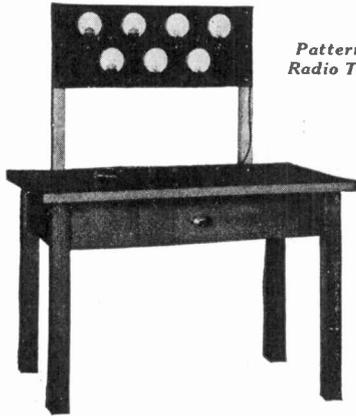
Start now—mailing the coupon is the first step.

Bremer-Tully Manufacturing Co.
 656 Washington Blvd., Chicago, Illinois

Dealer

Street

City State R.R.-12



Pattern No. 580
Radio Test Bench

Satisfactory Equipment for Radio Testing

For the radio dealer having a large retail set business there is probably no testing equipment on the market today so thoroughly satisfactory as the Jewell Radio Test Bench for checking his product before delivery to his customers or for servicing radio receiving sets brought into his shop for repairs.

Seven large instruments $4\frac{1}{8}$ inch scale diameter, equipped with knife edge pointers are used to provide ranges needed for complete radio testing. The large size make reading easy and knife edge pointers insure accuracy. Ranges provided are as follows:

- 0-7.5, 0-75, 0-150-300-750 volts D.C.
- 0-15-150 D. C. Milliamperes
- 0-4-8-16, 0-150-750 volts, A.C. and 0-1.5-15 microfarads.

Binding posts and switches to cover all ranges are provided and a plug and cord is supplied so that all circuits in a radio set can be tested along with the tube. All instruments are interconnected using the regular Jewell test circuit.

Full description of this test bench is given in Jewell Form No. 2002. Write for a copy.

"28 Years Making Good Instruments"

Jewell Electrical Instrument Co.
1650 Walnut St., Chicago

JEWELL

Private Label Radio— the Answer!

Radio retailing is fast approaching standardization. Let us compare. On the one hand we have "restricted" dealers handling "national brand" sets—at narrow, factory-controlled prices and profits with competition everywhere, with a big radio stock to carry on their inventories.

On the other hand are the independent dealers selling Premier sets with their own private label—at unlimited profits and no competition because of exclusive rights. They have no territory restrictions—no fixed price—no problem of unturned stock.

The wise radio dealers today—the ones who are making most money—select Premier for their private brand. This is the answer to the present radio sales question and it spells P-R-O-F-I-T-S. Every set you sell advertises for you—and you only.



CONSOLE
MODEL

Beautiful walnut finished cabinet, equipped with Magnetic or Dynamic Speaker. Furnished in 6-tube standard Code No. PC-2829-RAC-6 and 7-tube "Push Pull" Code No. PC-2829-RAC-7.

CHASSIS SPECIFICATIONS

All-metal chassis; rigid, strong, stays put. Unconditionally guaranteed. Apparatus 100% shielded. Licensed under U. S. Navy Patents and Hogan Patent No. 1,041,002.

Premier Private Label Radio Receivers are equal in tone, power, looks, distance and selectivity to any sets offered today. No other receivers outperform them regardless of price, because high price and costly advertising do not make radio quality. That

is determined by engineering skill, materials and careful manufacturing. Premier comes in both Table and Console Models—Furnished standard in 6-tube and 7-tube "Push Pull." Also combination phonograph with electric pick-up.

Write for price and full details. No obligation.

PREMIER ELECTRIC COMPANY

Established 1905—Manufacturers Ever Since
3828 Ravenswood Ave., Chicago, Illinois

GRAYBAR RADIOLA BRUNSWICK

Distributors and Service Stations

Type
320



Test
Oscillator

Licensed under
Patent No. 1,113,149

The Type 320 Test Oscillator is particularly designed for the neutralizing, aligning, and peaking of the 180 kilocycle superheterodynes. Radiola 60, 62, 64, Graybar 330, 340, Brunswick 5-NO, 5-NC-8, 3-NC-8.

Good for neutralizing and aligning other receivers too.

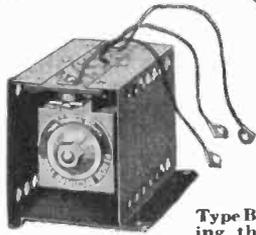
Full details on Request.
Price \$95.00

GENERAL RADIO COMPANY
30 State Street, CAMBRIDGE, MASSACHUSETTS

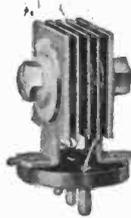
ELKON REPLACEMENT RECTIFIERS Are Saving Radio Fans MILLIONS of DOLLARS



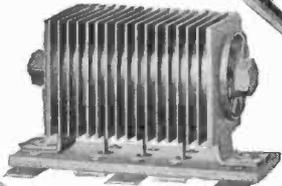
Type BNK for replacing the acid jars in Balkite Types N and K Trickle chargers. Display Cartons



Type BJ for replacing the acid jars in Balkite Type J chargers



Type V-4 for replacing the rectifiers in 6 makes of Trickle chargers. Display Cartons



Type M-16 for replacing the rectifiers in 11 makes of "A" Eliminators and 3 Ampere chargers. Display Cartons



Type FBH for replacing the BH type Tubes in "B" Eliminators. Display Cartons



—and bringing in substantial and increasing profits to Elkon Dealers!

HOW TO TELL WHEN RECTIFIERS NEED REPLACING?

If a trickle charger no longer keeps the storage battery up the way it did when it was new, sell the customer a new rectifier.
If a set has not the same pep as it did when the "A" Eliminator was installed, sell the customer a new rectifier.

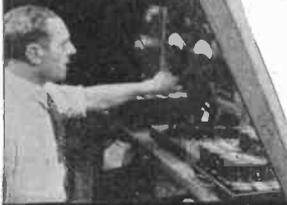
Do not void the Manufacturers Guarantee on Balkite Power Units

The Elkon Replacement Units and those made by the Fansteel Products Company containing an Elkon Rectifier, are the only ones authorized for replacement of the acid jars in Balkite Power Units.

Ask about the new Elkon Replacement Rectifier for Philco Trickle Chargers and Power Units.

ELKON, INC.

350 Madison Ave., New York City
Division P. R. Mallory & Co., Inc.

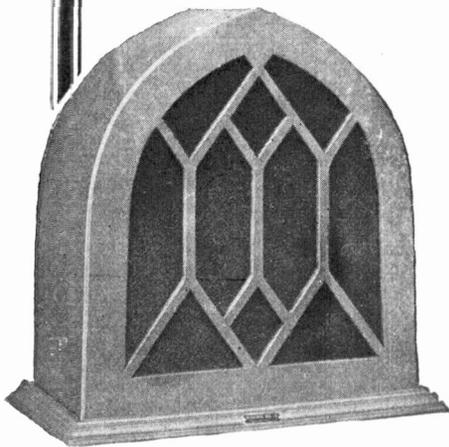


Every Elkon Rectifier goes through these exacting tests.

ELKON, Inc., Dept. F-46, 350 Madison Ave., N. Y. C.
Circulate! Send me complete information on the Elkon line for 1929.
Jobber _____ Dealer (Please check which)
If you are a dealer indicate favorite jobbers' name
Your name _____
Address _____

The New 1929 ULTRATONE

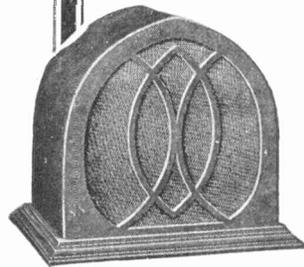
Exponential Air Column Amplifiers
and
Super Magnetic Cones



Model 12
\$22.50
LIST

— a new note
in speaker
satisfaction

One of the main advantages of ULTRATONE Air Column Amplifiers lies in their depth of tone and faithful reproduction on sets incapable of great power. At the same time they can easily withstand the excessive voltages of high powered A.C. Sets.



Model 10
\$18.00
LIST

ULTRATONE
*Balanced
Reproduction*

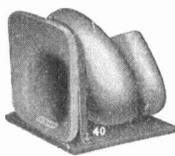
Magnetic cone assures an absolute fidelity of tone over the whole musical range as well as the perfect reproduction of a speaking voice.

DEALERS have found that ULTRATONE speakers actually improve their radio set sales. Get all the facts. Write today.

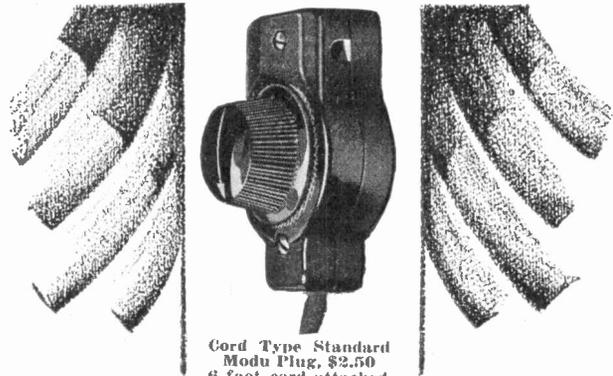


A cone type, and 7 different models of air columns for built in use are available for set and cabinet manufacturers.

Price range on Table Speakers from \$13.50 to \$22.50. Mfgs. requesting prices on built in type write direct.



ULTRATONE MFG. CO., INC.
1046 W. Van Buren St., Chicago, Illinois



Cord Type Standard
Modu Plug, \$2.50
6 foot cord attached.

The Art of Tuning is more than just turning a Dial

More reception of a radio signal is not enough. It has ceased to be. "How many stations did you get?" The thing of importance today is, "How well did you get them?"

There are two major operations in tuning a set; locating the station—and modulating it so as to obtain the best quality of tone.

The Centralab Modu Plug is the perfect volume and modulation control. With it, all the true beauty of tone and naturalness of speech reproduction can be obtained.

It is attached to any set in a moment without additional wiring or complicated connections. Equally as adaptable for volume control on phonograph pick-ups and speakers remote from the set.

An interesting book full of picture and wiring diagrams showing the use of Centralab Volume Controls and Resistors is yours for the asking.

Centralab

CENTRAL RADIO LABORATORIES
30 KEEFE AVENUE MILWAUKEE, WIS.



MODERN, indisputably so, but a piece of furniture that will never lose its charm. Its 100% Burl Walnut front and Stainwood overlay topping the doors instantly catches the eye. The sliding doors reveal a French polychrome speaker grille with a dash of color that completes the symposium of beauty.

Its practicability has not been overlooked. Send for a catalog of ASTON designs, they are unmatched for beauty.

ASTON CABINET MANUFACTURERS
1223-1229 W. Lake St., CHICAGO, ILL.

Bark or BITE?

A NATIONAL advertising program makes a thunderous bark from a sales portfolio, but don't forget that you are *most* interested in its *bite*—the amount of *local* influence it will exert for *you*, the amount of *local* selling it will do for *you*, the amount of merchandise it will move for *you*!

The American Weekly is the one publication that *backs up* its national bark with a local bite—the one publication that blankets nationally and dominates locally—the one publication that does as big a job for the dealer as for the manufacturer!

What Is The American Weekly?

The American Weekly is the magazine distributed through the sixteen great Hearst Sunday newspapers from sixteen principal American cities*. It reaches every fourth English speaking home in the United States. It is read every week—all week—by 5,646,898 prosperous American families—the *greatest circulation of any publication in the world!*

It *concentrates* and *dominates* in 485 of America's 784 towns and cities of 10,000 population and over.

In each of 153 cities it reaches one out of every two families
In 119 more cities it reaches from 40 to 50%
In an additional 108 cities it reaches from 30 to 40%
In another 105 cities it reaches from 20 to 30%

And it is bought every week by almost two million *additional* families in thousands of other populous communities!

Before you get enthusiastic about a national advertising program, look for its *teeth*—look for *dominating* strength in *your* community—look for The American Weekly!

*Atlanta
 Baltimore
 Boston
 Chicago
 Detroit
 Los Angeles
 Milwaukee
 New York
 Omaha
 Pittsburgh
 Rochester
 Syracuse
 San Antonio
 San Francisco
 Seattle
 Washington

THE AMERICAN
 Greatest
 Circulation
 in the World
 A WEEKLY

Main Office: 9 East 40th Street, New York City

Branch Offices:
 Wrigley Bldg.
 Chicago
 222 Monadnock Bldg.
 San Francisco
 5 Winthrop Square
 Boston
 1138 Hanna Bldg.
 Cleveland
 11-250 General Motors Bldg.
 Detroit
 753 Bonnie Brae
 Los Angeles
 101 Marietta Street
 Atlanta

CONVERT D.C. SETS TO A.C.
DEALERS—Make this extra profit

S·L·C.
Laboratories

How many D.C. operated receivers do you have in your store today? Turn this merchandise over at a profit to yourself by *simply* converting them into complete A.C. operated receivers that will use A.C. tubes.

Complete conversion packs, already wired, including installation diagrams for all popular makes of receivers.

Write for complete descriptive literature.

SUPER RADIO LABORATORIES
 3109 Montrose Ave. Chicago, Ill.

Readrite

UNIVERSAL TEST SET

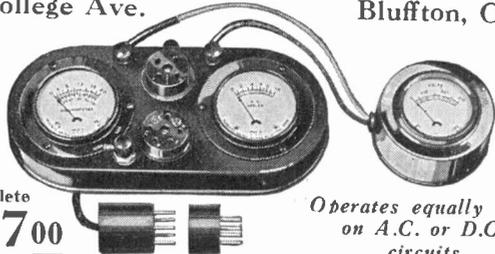
*Tests A.C. and D.C. Circuits
 Quickly Locates Set Troubles*

Standard with No. 215 Tube Tester, list price \$12.00, and No. 346 Voltmeter, range 0-300 volts, list price \$5.00. Optional with No. 347 Voltmeter, 0-500 volts, for \$1.00 additional. Tube Tester plugs into socket from which tube to be tested has been removed. A practical outfit for service man or set owner.

Readrite Meter Works

Established 1904

6 College Ave. Bluffton, Ohio



List Price Complete
\$17.00

*Operates equally well
 on A.C. or D.C.
 circuits*

CONTINUOUS PROFITS

When You Keep Customers Satisfied!



**VOGUE
 NONPAREIL**

Will Quickly Prove Profitable

You Can Confidently Expect

More Tube Sales More Satisfied Customers More Profit

ALLAN MANUFACTURING CO., Harrison, N. J.
 Los Angeles: 487 Chamber of Commerce Bldg.

Ready for Delivery!

**MASTER
 HEAVY DUTY
 VOLTAGE CONTROL**

Eliminates Free Service Calls

Especially adapted for use on radio sets with *Built-in* Dynamic Speakers which draw 80 to 100 watts, such as Majestic, Radiola 62, Zenith, Sparton, Kolster, Bosch, Freed-Eisemann, Fada, Day-Fan, Amrad, Freshman NR 12, etc. Also Radiola 60.

Maximum Capacity 100 Watts
 List Price \$3.00

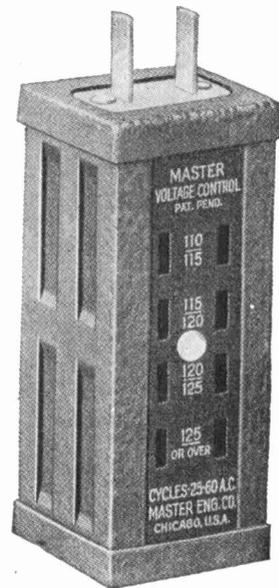
Also Standard Model MASTER VOLTAGE CONTROL, for use on all popular price sets such as Atwater Kent, Radiola 18, Crosley, Apex, Steinite, Philco, Stewart-Warner, Case, Acme, A-C Dayton, Freshman, etc., which draw 40 to 60 watts. Now in use on more than 30,000 sets.

Maximum Capacity 60 Watts
 List Price \$2.50

*Order at Once From
 Your Jobber*

MASTER ENGINEERING CO.

122 So. Michigan Ave., Chicago, U. S. A.



UDELL CABINETS
make new profit records

The name UDELL has always been associated with the highest cabinet craftsmanship. Dealers featuring the UDELL line find that this year's new attractive prices, associated with the unique UDELL reputation, have created a popularity that is making a substantial contribution to their profits.

[You will be interested in our new catalog of distinguished Period and Art Moderne Cabinets. Write now for your copy.]

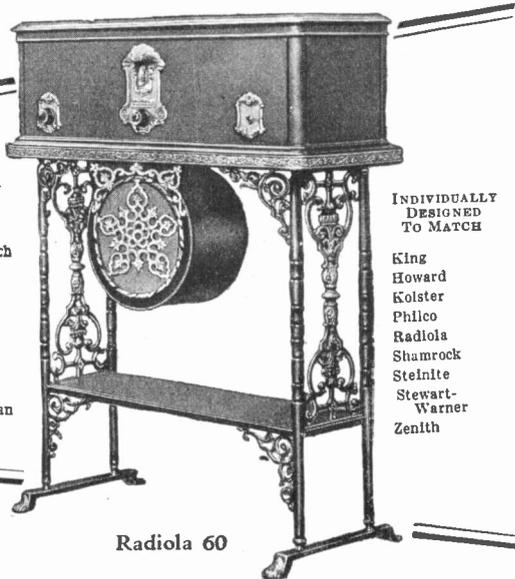
THE UDELL WORKS
 28th St. at Barnes Ave., Indianapolis, U. S. A.

The Fastest Selling Radio Accessory

BIGGEST PROFIT BY REASON
OF FASTEST TURNOVER

INDIVIDUALLY
DESIGNED
TO MATCH

American Bosch
Apex
Atwater Kent
Bremer-Tully
Crosley
Eveready
Fada
Federal
Freed-Elseman
Graybar



INDIVIDUALLY
DESIGNED
TO MATCH

King
Howard
Kolster
Philco
Radiola
Shamrock
Steinltz
Stewart-
Warner
Zenith

Radiola 60

PRONOUNCED distinction in quality—superior craftsmanship—excellence in artistry—beauty in design—popular and fast-selling . . . these are the outstanding features of the FINDLAY RADIO TABLES. No others on the radio market can boast of such extraordinary fine selling points for the dealer as those manufactured by Findlay.

Dealers have enjoyed many profitable sales from the FINDLAY RADIO TABLES, and have sold more radio sets by mounting them on the Findlay Tables. Demonstrate the Table in the home and you will find out how easily

*“Findlay Radio Tables
Sell Sets”*

Write to us for the new method of selling more radio sets and making additional profits while selling. Address Dept. 12.

FINDLAY
**RADIO
TABLE**

ROBERT FINDLAY MFG. CO., Brooklyn, N. Y.

Just tell 'em about it
and they want it—

Paragon Radio Ground Master



There is an established and growing demand for a good radio ground. The PARAGON RADIO GROUND embodying important patented features is the original and only scientifically constructed radio ground on the market.

With the advent of electric sets many dealers' accessories have been wiped out. The PARAGON RADIO GROUND MASTER is particularly adapted for use with electric sets either as a ground or as an aerial, effecting marked improvement in clearness of tone and reduction of static.

IT WILL PAY YOU TO PUSH
THIS PROFITABLE DEPEND-
ABLE RADIO ACCESSORY

Low in price with a real incentive in discount, carried in stock by leading radio jobbers or write us direct

Paragon Electric Company
OLD COLONY BLDG. CHICAGO

GOOD
WILL

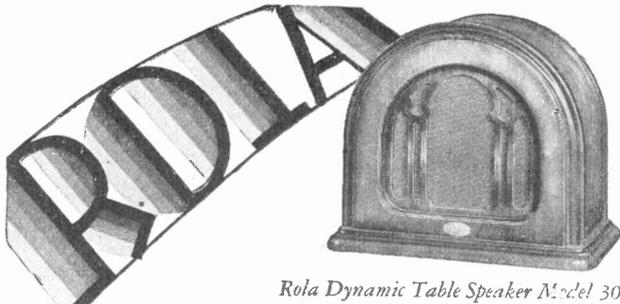


IF a better tube could be built it would bear the name TELE-VOCAL. Televocal Quality Tubes are made in all standard types.

*Write for full description
and prices.*

Televocal Corporation
Televocal Building
Dept. E-7, 588 - 12th Street
West New York, N. J.

Televocal
Quality Tubes



Rola Dynamic Table Speaker Model 30

Marvelous Dynamic Realism now \$67.50

The Rola Dynamic is the radio sensation of the year. Out-demonstrating every other speaker it is now priced to insure even greater sales for Rola dealers!

At every demonstration radio users instantly proclaim this new Rola a winner above all others. At the radio shows in Chicago, San Francisco, Los Angeles, New York, St. Louis, and other cities, this new speaker "brought down the house." It offers today unquestionably the finest sound re-creation it is possible to secure.

The new Rola dynamic table speaker Model 30 is equipped with the now famous D-110 Rola Dynamic Power Unit. It operates directly from the electric light socket and performs efficiently with type 171, 210 or 250 tubes. This new Rola speaker gives a response approximately twice that of any other dynamic on a given input. From the deepest bass to highest treble it reproduces with marvelous accuracy—gives matchless realism.

IN ADDITION to the Model 30 the following Rola speakers are furnished equipped with the new Rola D-110 Dynamic Power Unit, providing dealers with just the loudspeaker for every radio installation.

Model 35. A console dynamic speaker. Top dimensions sufficient to accommodate any standard radio set. Operates directly from 110-volt AC socket. List Price, \$110

Model 25-D. A radio speaker table with built-in dynamic power unit. List Price, \$90

Model D-110. A complete, self-contained, dynamic speaker unit, with built-in transformer-rectifier for exciting from 105/125 volt, 60-cycle current, and with base bracket, 20-1 input transformer, equalizer filter, tinsel cord and ten-foot power cord with through-switch. List Price, \$50

MANUFACTURERS: The following units are ready for installation in cabinet and console sets.

Write for prices.

Model D-180. A dynamic unit with field coil wound to 7,000 ohms for excitation by 20 to 30 milliamperes at 150 to 225 volts.

Model D-90. A dynamic unit with field coil wound to 1,950 ohms for excitation by 40 to 80 milliamperes of direct current at 75 to 150 volts.

Model M. A magnetic-armature unit combining surpassing performance with ruggedness and dependability, at moderate cost.

Ask your jobber for full details on the 1929 line of Rola loudspeakers, or write factory for name of Rola jobber nearest you

THE ROLA COMPANY

CLEVELAND, OHIO
2570 East Superior Avenue

OAKLAND, CALIF.
Forty-fifth & Hollis Streets

CASE

ELECTRIC RADIO

A Great Line Offering Unlimited Possibilities to Jobbers and Dealers

READ THESE FACTS

1. Case ranks with the five largest manufacturers in production this year, proving the quality of the set.
2. Fully licensed by Neutrodyne, Hazeltine, Miessner—combined with our own patents—producing a set that outperforms any on the market.
3. Case sets are built and engineered within our own plant, assuring uniform high quality at an unusually low price.
4. Beautiful, Well Built Cabinets.
5. A price range from \$98 to \$500 (with phonograph attachment) and each model an outstanding value.

WRITE NOW

for details of the Case liberal franchise and outline of our helpful sales plan for Case Jobber and Dealers.

CASE ELECTRIC CORP.
Division United States Electric Corporation
MARION, INDIANA



Braidite

HOOK UP WIRE
"THE BRAID SLIDES BACK"

Here are the features that make Corwico Braidite Hook-Up Wire the fastest seller in its line. It is excellent for all A-C work. It holds its shape permanently after bending. You cannot scorch or burn Braidite with a soldering iron. Braidite is safe to work with and is as convenient as bare wire. The insulation can be easily shoved back far enough for both solder and post connections, sliding back into place after the connection is made. Braidite provides a neat, clean and effective insulation for all exposed areas.

LIST PRICES
25 Ft. Stranded 35c. 25 Ft. Solid 30c.
Red, Green, Yellow, Blue and Black

SPECIAL SAMPLE OFFER TO DEALERS
Send us the name and address of your jobber and we will send you two packages of Braidite free. One Solid and one Stranded. We do this because we want you to get acquainted with Braidite and prove to yourself its many exclusive features.

CORNISH WIRE Co

30 Church Street New York City

SEARCHLIGHT SECTION

SURPLUS STOCKS—BUSINESS OPPORTUNITIES

UNDISPLAYED—RATE PER WORD:
 Positions Wanted, 6 cents a word, minimum \$1.25 an insertion, payable in advance.
 Positions Vacant and all other classifications, 10 cents a word, minimum charge \$2.00.
 Proposals, 40 cents a line an insertion.

INFORMATION:
 Bar Numbers in care of any of our offices count 10 words additional in undisplayed ads.
 Discount of 10% if one payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED—RATE PER INCH:
 1 to 3 inches \$6.65 an inch
 4 to 7 inches 6.40 an inch
 8 to 14 inches 6.20 an inch
 Rates for larger spaces, or yearly rates on request.
 An advertising inch is measured vertically on one column. 3 columns—30 inches—16 a page.

Radio Retailing

POSITION WANTED

EXPERIENCED, DEPENDABLE—Radio and phonograph manager, seeks a Pacific Coast connection. Established reputation as a builder, thoroughly grounded in modern merchandising methods of high class music firms and store departments. Would accept floor position or wholesale position with reliable firm. Details and proof on request. PW-86, Radio Retailing, 883 Mission St., San Francisco, Calif.

PUBLICITY

Radio, technical and popular, for set and accessory manufacturers. Long established, very successful and highly effective. (Promoters of business and good will.)

Thousands of inches of newspaper, magazine and trade journal space obtained for clients.

Superior clientele solicited.

Alfred M. Caddell News Bureau
 70 Fifth Avenue, New York City

"Radio Publicists for the Radio Industry"

ONE DEALER

sold 200 Lambert Pocket Radios from 9:00 A. M. to 3:00 P. M. May 21st. How many can you sell between now and Christmas?

Write today for special dealers' offer.
LEON LAMBERT MFG. COMPANY
 133 N. Market St., Wichita, Kansas

LOG BOOKS

Radex converts dial numbers into frequencies and vice versa. Best possible premium or souvenir. Always up-to-date.

THE RADEX PRESS
 P. O. Box 143-W, Cleveland, Ohio

WANTED

WANTED

Surplus Radio Stocks
 Highest Cash Prices Paid.
 Write or Wire.

FULTON RADIO CO.
 16 Hudson St., New York City, N. Y.

WE PAY CASH
 for your
SURPLUS RADIO STOCKS
 What have you for sale?

AMERICAN SALES CO.
 21 Warren Street, New York City
 Established 1919

Vacuum Cleaner Bags at 85c. each

Made of the highest grade black dust proof material to fit all makes. Less hardware. Hoover brushes rebristled in exchange for old one—85c. each.

Belts—Hoover 15c. ea.
 Premier Dup. 7c. ea.
 Western Elec. 15c. ea.
 Hamilton Beach 7c. ea.
 Ohio (Flat) 7c. ea.

Write for jobbers bulletins *s.o.b.* Indianapolis
Vacuum Cleaner Supply Co.
 1314 W. Washington St., Indianapolis, Ind.

Write
 Wire
 or
 'Phone

"Searchlight" advertisements can be received up to 10 A.M. the

FIRST DAY
 of each month for the issue of that month.

SEARCHLIGHT DEPT.,
 RADIO RETAILING

Tenth Ave. at 36th St., New York City

"B" Eliminators

Specially built "Basco" using B. H. Raytheon.

"A" Eliminators

All dry Sentinel using Elkon Rectifiers and Condensers.

Borkman speakers \$25.00 list with \$7.00 unit air column type. } \$3.25

Write for prices on "A" & "B" Powers

SMERAGE MUSIC CORP.

53 W. Jackson Blvd., Chicago, Ill.

TO HELP YOU

LOCATE SELLING OPPORTUNITIES

"Searchlight" Advertising

Surplus Stocks

When you have surplus stocks of radio equipment to sell—coils, tubes, sets, speakers, cabinets, insulators, etc., or when you are in the market to purchase such surplus stocks of other dealers—

Use a "Searchlight" Ad.

CORRECTING AN ERROR

Through an unfortunate error in our print shop the advertisement of the American Sales Company—page 145 of the November 1928 issue of *Radio Retailing*—shows a price of \$3.95 each on the Timmons Power Amplifier. This price should have been \$11.50 each according to the copy furnished by the American Sales Co.

We regret exceedingly any annoyance caused prospective customers, and the company, through our error in printing the price as \$3.95 each when it should have been \$11.50 each.

Searchlight Department, RADIO RETAILING

Here's one of those *real opportunities*

1190

Genuine

Davis
INDUSTRIES, Inc.

built Radio Table Cabinets

*to be sold at practically
one-half of former price*

5-ply tops and 3-ply panels.

Mahogany

Can be used for either A. C. or D. C.

*The best low priced table cabinets in the
country. The construction is excellent.*



Style 42—400 on hand.

Was \$15.00 NOW \$8.10 each.

Mahogany only. Ample battery
space, center grill. 30-in. high,
36-in. wide, 15-in. deep.

We have these few table cabinets left over from three discontinued models. We want to close them out quick to make room for new models. This sacrifice in price on our part for such high quality opens up an unusual opportunity for a certain few. Here is a time when quick action on your part will mean money to you. All three models are attractive and have been fast sellers. Stock on hand subject to prior sale.



Style 40—375 on hand.

Was \$11.00 NOW \$5.05.

Mahogany finish. Solid parts
red gum, mahogany. Two
front doors opening to large
battery space, 30-in. high,
34-in. wide, 16-in. deep.



Style 39—415 on hand.

Was \$10.25 NOW \$4.55.

Mahogany finish. Solid parts
red gum, mahogany finish.
Outlined front panel, two
toned and removable back
with ample battery space.
30-in. high, 34-in. wide,
16-in. deep.



WRITE—WIRE OR PHONE

DAVIS INDUSTRIES, Inc.

Radio Division

314 W. 43d St., CHICAGO, ILL.

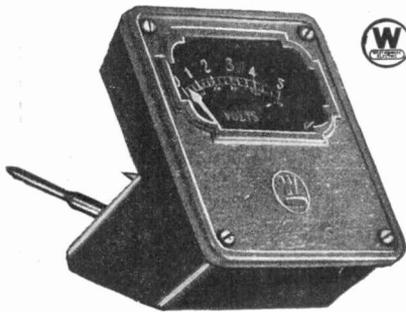
FACTORY — KOKOMO, IND.



TO ALL THOSE with whom we have done business during the past year and all those with whom we shall do business during the coming year we extend our heartiest best wishes for their continued prosperity during the New Year and at the same time point out that we shall be able to offer the same prompt service and good bargains that have always characterized our offerings.

Westinghouse PORTABLE VOLTMETER

(Double Range—0-5 and 0-150 V.)



List Price \$6.50 ea.

This high grade Jack Double Reading Voltmeter is especially suited for sets equipped with pin jacks as the Radiola 20, 25, and 28, Victor and Brunswick Radiola Combinations. Also can be used to measure voltages on any set.

This Meter has two ranges and will measure "A" and "B" voltages and can be used as a portable or pocket Voltmeter. The tilted face makes readings easy to take from any position.

Genuine Bakelite case with beautiful bronze finished brass faceplate and gilt dial and pointer to harmonize with panel fittings of any set.

Every one of these Meters are packed in individual cartons, and with direction sheet.

Special \$1.49 Ea.

New *Algonquin* CONE SPEAKER



List Price \$30.00
Reduced to \$15.00 ea.

Will stand powerful or weak volume equally well and reproduce with wonderful tone quality and volume.

Has a full-floating large 18-inch Cone, brought to the highest point of perfection. Made of a special impregnated fabric (not paper) which is absolutely unaffected by moisture or atmospheric conditions.

Equipped with an extremely sensitive electro-magnetic Cone unit with direct drive to Cone and is exact to highest degree.

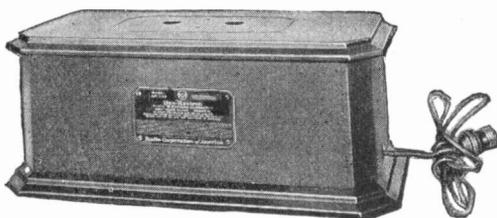
A beautifully designed Speaker with art metal scroll. Ship model. Finished in polychrome gold stipple.

Special \$3.95 Ea.

UNI-RECTRON POWER AMPLIFIER



[Ideal for use with Dynamic Speakers.]



Model AP-935
List Price \$88.50 ea.
[without tubes]

As the Uni-Rectron stands it is a super power amplifier, which can be used in connection with any radio set and loud speaker. Requires no batteries for its operation. Radiotron UX-210 and Rectron UX-216-B or 281 Tube are used with this Amplifier. All that is necessary is to insert the plug into a wall or lamp socket. The whole unit is enclosed in a metal cabinet which is small and compact and presents a good appearance.

This super power amplifier cannot overload. From the faintest whisper to the loudest crash of sound—R.C.A. Uni-Rectron amplifies each note at its true value. High and low notes are all treated alike.

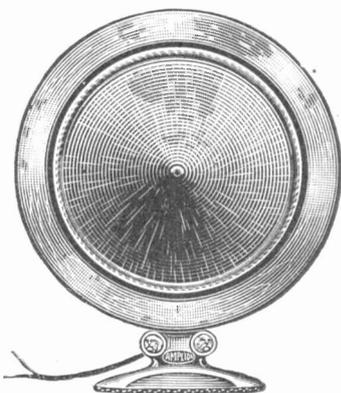
Not only is its volume and quality a revelation but when used with battery set it lowers the cost of set operation, as the drain on the batteries which operate the receiver is greatly reduced.

Special at \$14.50 Ea.

[All units offered in this advertisement are BRAND NEW, packed in original factory sealed carton and fully guaranteed! TERMS: 20% cash with order, balance C. O. D. f.o.b., New York. (2% Discount for Full Remittance with Order)]

AMERICAN SALES CO., 19-21 Warren Street, NEW YORK CITY

Pre-holiday radio offering



**A. C. 21 Amplion
Lion Cone Speaker**

Exceptional value at a very moderate price.

A beautifully blended bronze finish Cone, 14 inches in diameter, mounted on an 18-inch walnut sounding board. Height, 20 1/2 inches, including bronze moire base. New balanced armature unit with straight bar magnets of the finest grade English Tungsten steel. The new balanced armature unit used in the Lion is the latest and most scientific development in unit construction. It includes features which are recognized by radio engineers to be the most efficient for quality reproduction.

List Price \$25.00

Special Price

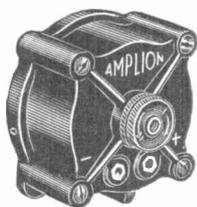
\$6.50

Lots of Six \$36.00

A "Once in a lifetime" opportunity to buy into some real easy selling radio stock priced unusually low for the holiday season.

Your attention is called specifically to the Amplion Lion Cone Speaker. All articles shown here are guaranteed new and in original factory sealed cartons.

Park Radio Service
72 Grand St., N. Y.



**Amplion
Phonograph
Unit A-U-6-X**

This unit made Amplion famous. It is designed for use on any phonograph or horn.

It is an unusually powerful unit that will deliver great volume in all frequencies, even without a power amplifier.

Amplion Model A-U-6-X is the finest phonograph unit ever offered at any price.

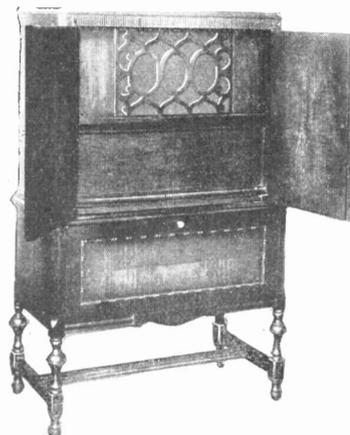
Special Price

\$1.50 with cord

Lots of 150

at \$1.35 each

\$1.50



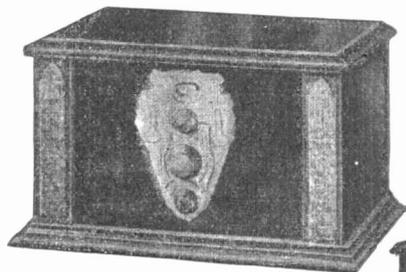
**Beautiful Walnut
Cabinet for
Radiola 18, etc.**

This beautiful walnut console manufactured for KELLOGG MODEL 508 Receiver. Panel size made to fit RADIOLA 18, KELLOGG MODEL 515 and other similar sets. This console constructed up to high standard of excellence offered to you at a price considerably below cost of manufacturing.

Panel Size — 7 3/4 x 27 1/2 x 13 in. Ample space for any dynamic or magnetic speaker.

Special **\$37.50** Price

Unequaled radio set value—your choice \$20.00 each



**Mohawk
Navajo Model**

Six tube Battery Set, one dial illuminated. Shielded R.F. with three audio and one output transformers. Which gives you unequalled volume and tone quality.

A set that appeals to all who have not yet realized the joys of a good radio.

Manufactured by Mohawk Radio Corp.

List Price \$75.00

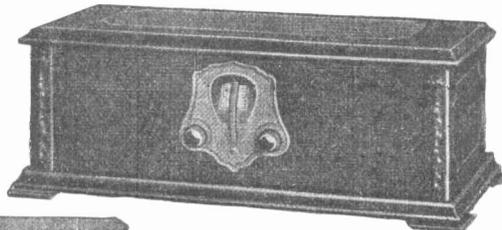
Special Price

\$20.00

Here is radio value supreme. Only a short time ago, these standard battery sets were selling at list prices from \$75 to \$100.

Don't overlook this opportunity. Feature these low-priced sets and you can cash-in on the pre-holiday buying.

[20% with order]
[Balance C.O.D.]



**ALL-AMERICAN
Model No. 44**

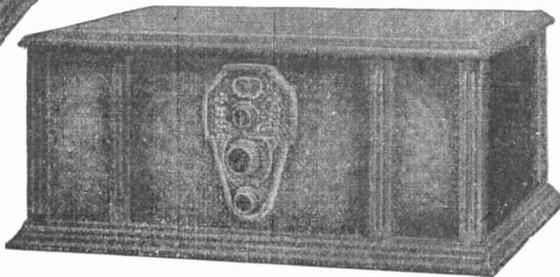
Here is a real buy. Model 44 is the famous 6 tube, one dial, All-American Battery Set. Dial is illuminated and cabinet is of best duco-finished walnut.

Get in touch with us today. The quicker you begin to feature this set the sooner your gross sales will begin to increase.

List Price \$85.00

Special Price

\$20.00



Mohawk—Winona

This is a receiver any dealer will be glad to offer his most elite trade. Six tube battery set, one dial illuminated. Shielded R.F. with three audio and one output transformers. Made by Mohawk Radio Corporation. Feature this set as a pre-holiday best buy. It will bring real business into your store.

List Price \$100.00

Our Special Price **\$20.00**

Are you on our mailing list? If not send us your name and address
Write for our Prices on Magnatron Tubes

Park Radio Service . . . 72 Grand St., New York

Be Prepared for the Season's Rush!

All Items New and Guaranteed



No. 9

Readrite Test Kit

Contains 9 meters fitted in tip jacks 0-50, 0-500, 0-8 D.C., 0-15, 0-6, 0-150 A.C. Voltmeters; 0-10, 0-100, 0-300 Milliammeters, in black leather case with leather handle, size 7x10-4-in. high. Has 4 meter tube tester connected with five-foot cord, plug and adapters. Also a five-foot polarity cable with tips for special test meter Power rheostat, grid switch, four and five prong sockets, with interchangeable meters all on marked Bakelite panel. Makes every kind of test of tubes and circuits. Locates faults quickly without switches or other cord connections. Full instructions and Tube Chart.

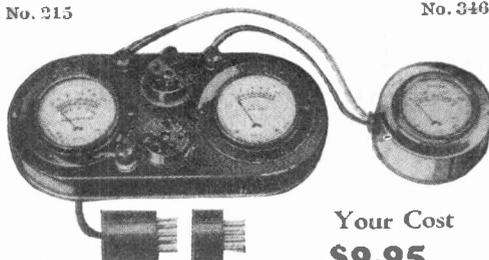
No. 9Your cost \$20.10

Readrite Radio Test Set

Tests A.C. and D.C. Circuits
Quickly Locates Set Troubles

No. 215

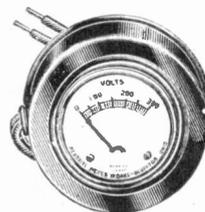
No. 346



Your Cost
\$9.95

A laboratory at your finger tips. Checks the voltage of B eliminators. Tells the condition of tubes and circuits. Instructions included. Twelve different tests can be made with this outfit.

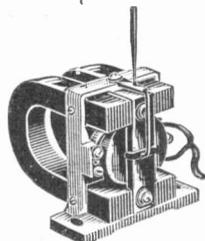
Every store should have one for the shop and one for each repair man's kit.



No. 316

High Resistance Voltmeters

- 346 For B Eliminators 0-300 volts (portable) Your cost.. \$2.95
- 347 For B Eliminators 0-500 volts (portable) Your cost.. \$3.50
- 348 For A.C. Current Supply Line 0-150 volts. Your cost.. \$2.95



This Duo Magnetic Unit embodies an entirely new principle in unit construction.

List Price \$10.00

Your Cost **\$4.90**

The Marvelous New Duo Magnetic Loud Speaker

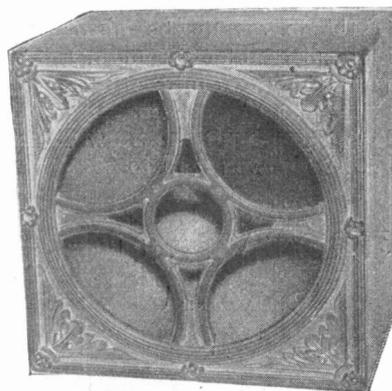
This unit has two powerful tungsten steel magnets. No chattering or blasting possible due to a specially designed armature.

All harmonics and overtones are clearly reproduced.

Supplied with a 10-ft. cord.

This speaker employs the Duo Magnetic Unit shown opposite. Beautifully finished in brown and gold or bronze and green. Order a sample for the holiday trade. It is a sure seller.

Your Cost **\$8.90**



DRESNER SHIELDED SHORT WAVE CONVERTER UNIT

Every Set Owner is a Prospect!



Increase the range of the receiving set. Sell them a Dresner short wave Converter unit, range from 15 to 550 meters. No extra tubes or batteries are required nor does it interfere with the usual broadcast wave lengths. Let them have the thrill of receiving low wave broadcasting stations and thousands of amateur stations that are sending messages all hours of the day.

Specifications

The unit is completely shielded and measures 8 1/4 x 5 1/4 x 5 1/4 in. Weighs only four pounds. Five plug in type, short wave coils of different colors to identify them are included. These units are all brand new and packed in original factory sealed cartons. State whether 3 prong socket A.C. or U.X. D.C. is wanted.

YOUR PRICE
\$9.75

Send for complete
List of Bargains!

VENUS RADIO CORP.

142 Liberty St., New York City
Phone: REctor 7190-7191

Terms:
20% with order
Balance — C.O.D.

For Quick Turnover

STOCK THESE RADIO VALUES

for the HOLIDAY TRADE

The New

PHILHARMONIC

8 Tube Electric

Operates from A. C. Light Socket, 110 Volts, 50-60 Cycles

Philharmonic is the greatest all-electric set ever designed in its class. Uses five Sonatron 226-AC tubes; one 227-AC detector; one 171 AC power tube and one 280 rectifier—8 tubes in all.

Has built-in PHONOGRAPH PICK-UP. Works with any speaker, dynamic or magnetic. One dial, beautifully illuminated. Four condensers—a sure sign of fine selectivity.

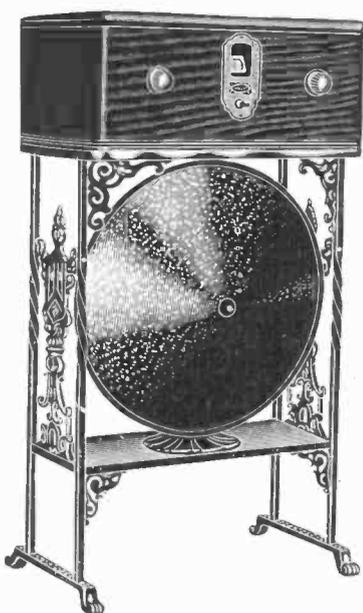


DEALERS PRICE
\$37.50 Net

Each set carries factory guarantee

1 DIAL—4 CONDENSERS—ALL SHIELDED

ORDER ONE TODAY AND BE CONVINCED



Wrought iron table. Designed and Finished to suit the good taste of any home. Table (only) **Net \$ 9.00**

Table with Philharmonic Set, in Mahogany Cabinet, (in metal cabinet \$1.00 less) **Net 46.50**

Table with Philharmonic Set and Cone Speaker **Net 50.75**

WRITE FOR QUOTATIONS ON TABLES TO TAKE ANY STANDARD SET.

DUBILIER CONDENSERS

No. 908 By-Pass—(will carry 400 working volts) latest model, never before offered, all new in original boxes.

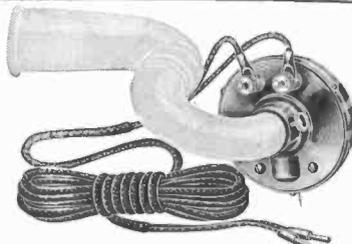
	List	Net	Doz.
.1 MFD	\$1.00	\$.25 ea.	\$2.64
.25 MFD	1.10	.28 ea.	3.00
.5 MFD	1.25	.30 ea.	3.36
1. MFD	2.00	.35 ea.	3.65

DUBILIER FILTER CONDENSERS

No. 901 all new in original boxes. B-Block List Net Lots of 6

2 MFD	\$2.25	\$.70	\$3.30 net
4 MFD	3.50	1.25	6.90 net
6 MFD	5.00	1.90	10.50 net

Polynet 1 MFD Filter Condenser \$3.35 ea.—lots of 12. \$3.60.



B.M.S. Phono Pick Up

Using this electric pick up permits any old model phonograph or portable machine to be

MISCELLANEOUS ITEMS SPEAKERS—

	List	Net
Fairfax magnetic, beautiful mahogany cabinet speaker	\$30.00	\$ 8.50
Melorad 18-in. cone with heavy duty magnet	15.00	4.50
Kennedy A.C. Dynamic Chassis	45.00	22.50

LOUD SPEAKER UNITS—

Baldwin Type H Aluminum case	\$ 9.00	\$ 1.50
Baldwin type C	10.00	1.69
Utah Big Chief Unit	5.50	1.85

SETS—

Freed Eisemann, 3 dial control, fully shielded	\$65.00	\$15.00
Valleytone, 7 tube, one dial	95.00	25.50

BATTERY CHARGERS—

Westinghouse Rectox 3 rate Trickle Charger	\$15.00	\$ 4.85
Webster Bone Dri Charger 2.5 and 5 amp. rate—less Raytheon cartridge	12.00	1.69
With Cartridge	\$2.50 extra	

converted so as to give the same reproduction as obtained from a Victor Orthophonic or Brunswick Panatrope. Simply remove the old reproducer from phonograph and attach the above in its place. A volume control and adapter are furnished so that they can be used on sets which have no built in facilities for using the pick up alone. List Price Complete \$10.00— Net \$3.45 Specify for A.C. or D.C. Sets.

Federated Purchaser

SONATRON

THE WORLD'S LARGEST RADIO TUBE LINE



50% OFF ON ALL TUBES
Except Those Starred

No.	Description	List	Net
X201 A	Det. or Amp.	\$1.50	\$0.75
X200 A	Det. only	4.00	2.00
X199	Det. or Amp.	2.25	1.13
X171	Power Amp. Last Stage	2.75	1.38
X171 A	Power Amp. Last Stage	2.75	1.38
X171 A.C.	Power Amp. Especially designed for A.C. Sets	4.25	2.13
X112	Det.-Amp.	2.75	1.38
X112 A	Power Amp.	2.75	1.38
X210	Power Amp.	9.00	4.50
X226	Amp., A.C. Filament	2.25	1.13
Y227	Heater type Det.-Amp.	4.00	2.00
S.H.125	Full Wave Rect., 125 Mills	4.50	2.25
S.H. 85	Full Wave Rect., 85 mills	4.50	2.25
X280	Full Wave Rect.	4.25	2.13
X281	Half Wave Rect.	7.50	3.85
* X201 B	Det.-Amp. D.C. Electric Set	3.00	1.80
* X250	Super Power Amp.	12.00	7.20
* X222	Screen Grid. Used in Freshman Sets.	6.50	3.25

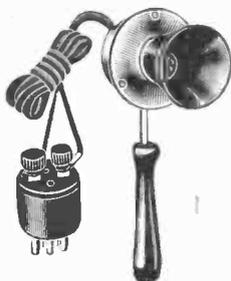
* These tubes are quoted 40% off list.

Guaranteed with a most liberal replacement policy by one of the largest tube manufacturers.

Their generous advertising policy means quick Turnover and Larger Profits.



(Lots of Fun with This Home Broadcaster)



Just tell your customer that by placing the adapter in the detector socket of his set, and talking through the "mike," his voice can be heard through the loud speaker. The customer will say "That's wonderful. How much?" You say "\$5.50" and a sale is made. Just remind him about playing a joke on his friends—or kiddies.

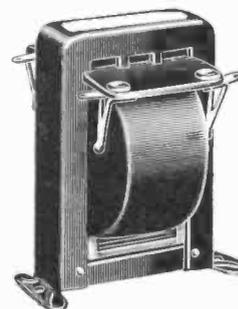
A new form of entertainer for the whole family and house parties. Every Set a Broadcaster. Type UX, for sets using 4-prong Detector tubes. Type AC, for sets using 5-prong Detector tubes.

List Price, \$7.50. Our Price, \$2.85. Order a Dozen. Any Customer Seeing It Will Buy One.

TRANSFORMERS

	List	Net	Doz. Lots
Genuine Freed Eisemann List	\$5.00	\$1.89	\$20.00
Giantone replacement transformer small, compact and sturdy	(ea.) 4.00	.95	11.40
Genuine Grimes Shielded	(ea.) 4.50	.85	9.60
All American type, replacement	3.75	1.10	12.00

These transformers have been selected as best fitted for replacements in most standard sets.



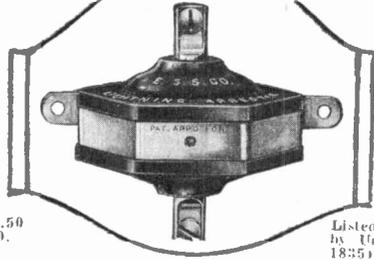
2% for full remittance with order, or 20% deposit, balance C. O. D. References. Corn Exchange Bank and thousands of radio dealers throughout the country.

Be sure to send us your name so that we may add it to our list of the many dealers who are receiving the FEDERATED PURCHASER Catalog.

Order by air mail, wire, or telephone.
BARclay 7583

206B BROADWAY, NEW YORK CITY

KEYSTONE



Retail price \$1.50
In Canada \$2.00.

Listed as Standard
by Underwriters (E-1835).

Sell one with every set!

Every time you sell a radio set or some antenna material, you can easily sell the purchaser a Keystone Radio Lightning Arrestor.

This proven protective device is made of genuine Bakelite and heavy brass and provides maximum protection always. It is reliable, safe and stays sold.

Manufactured by a company having more than thirty years' experience in design and manufacture of lightning arresters.

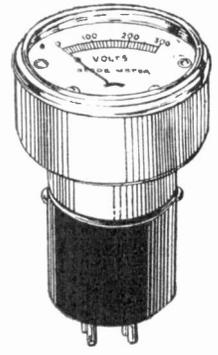
Jobbers and retailers—send for complete details of our attractive proposition.

ELECTRIC SERVICE SUPPLIES CO.

Home office and plant at 17th & Cambria Sts., PHILADELPHIA; District Offices at 111 N. Canal St., CHICAGO; 50 Church St., NEW YORK; Bessemer Bldg., Pittsburgh; 88 Broad St., Boston; General Motors Bldg., Detroit; 316 N. Washington Ave., Scranton.

RADIO LIGHTNING ARRESTERS

BEEDE SOCKET TEST METERS



No. 50

are just as useful to set owners as tire gauges are for Auto-mobilists.

Show them to your customers and make a profit and a friend.

No. 50 for plate voltages to 300 volts
List Price \$3.00

No. 60 for AC filament voltage
List Price \$2.50

Attractive discounts for dealers and jobbers.

Write for complete Catalogue.

Beede Electrical Instrument Co.
136 Liberty St., New York

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"A Carload by Fast Freight"

**-Begs a
Jobber—and
Steinite
Responds!**

From Philadelphia, Chicago or Los Angeles, jobbers send frantic wires. The public wants the Steinite Electric AC Radio—the dealer calls on the jobber—and the jobber calls on the factory!

Thus we have a picture of the tremendous demand which sends carload after carload of Steinite radios over thousands of miles to the great distributing centers of the nation. To quiet the hungry cry for Steinities, requires the utmost skill in production, the most modern mechanical facilities, and the whole-hearted co-operation of every Steinite employee.

The splendid equipment of Steinite in men and machinery, and the fine spirit of co-operation which Atchison has accorded to Steinite, are assurances that Steinite will continue to meet an ever-growing demand with an ever-increasing production of Steinite Electric AC Radios.

STEINITE RADIO COMPANY

General Sales Office:

506 S. Wabash Ave., Chicago, Ill.

Factories:

Atchison, Kans. and Chicago, Ill.

STEINITE

An Atchison Institution

This is one of a series of advertisements appearing in the Atchison, Kansas, Globe

**A Radiotron
for every purpose**

- RADIOTRON UX-201-A**
Detector Amplifier
- RADIOTRON UV-199**
Detector Amplifier
- RADIOTRON UX-199**
Detector Amplifier
- RADIOTRON WD-11**
Detector Amplifier
- RADIOTRON WX-12**
Detector Amplifier
- RADIOTRON UX-200-A**
Detector Only
- RADIOTRON UX-120**
Power Amplifier Last
Audio Stage Only
- RADIOTRON UX-222**
Screen Grid Radio
Frequency Amplifier
- RADIOTRON UX-112-A**
Power Amplifier
- RADIOTRON UX-171-A**
Power Amplifier Last
Audio Stage Only
- RADIOTRON UX-210**
Power Amplifier Oscillator
- RADIOTRON UX-240**
Detector Amplifier for
Resistance-coupled
Amplification
- RADIOTRON UX-250**
Power Amplifier
- RADIOTRON UX-226**
A.C. Filament
- RADIOTRON UV-227**
A.C. Heater
- RADIOTRON UX-280**
Full-Wave Rectifier
- RADIOTRON UX-281**
Half-Wave Rectifier
- RADIOTRON UX-874**
Voltage Regulator Tube
- RADIOTRON UV-876**
Ballast Tube
- RADIOTRON UV-886**
Ballast Tube

The standard by
which other vacuum
tubes are rated



Look for this mark
on every Radiotron

A Radiotron
for every purpose

RADIOTRON UX-201-A
Detector Amplifier

RADIOTRON UV-199
Detector Amplifier

RADIOTRON UX-199
Detector Amplifier

RADIOTRON WD-11
Detector Amplifier

RADIOTRON WX-12
Detector Amplifier

RADIOTRON UX-200-A
Detector Only

RADIOTRON UX-120
Power Amplifier Last
Audio Stage Only

RADIOTRON UX-222
Screen Grid Radio
Frequency Amplifier

RADIOTRON UX-112-A
Power Amplifier

RADIOTRON UX-171-A
Power Amplifier Last
Audio Stage Only

RADIOTRON UX-210
Power Amplifier Oscillator

RADIOTRON UX-240
Detector Amplifier for
Resistance-coupled
Amplification

RADIOTRON UX-250
Power Amplifier

RADIOTRON UX-226
A.C. Filament

RADIOTRON UV-227
A.C. Heater

RADIOTRON UX-280
Full-Wave Rectifier

RADIOTRON UX-281
Half-Wave Rectifier

RADIOTRON UX-874
Voltage Regulator Tube

RADIOTRON UV-876
Ballast Tube

RADIOTRON UV-886
Ballast Tube

The standard by
which other vacuum
tubes are rated

A radio set that was a Christmas gift last year now needs a Christmas gift of a brand new set of RCA Radiotrons.

To maintain fine performance in a radio receiver, the manufacturers recommend a complete change of vacuum tubes after a year of average daily use. And the engineers advise that all tubes be changed at one time. Old tubes left in mar the performance of new ones.

RCA Radiotron
MADE BY THE MAKERS OF THE RADIOLA

RADIO CORPORATION OF AMERICA - NEW YORK - CHICAGO - SAN FRANCISCO

This is No. 12 of the 12 color pages selling RCA Radiotrons to the consumer in the foremost magazines in 1928. It is part of a nation-wide campaign on Radiotrons.

No other item of radio can be compared with RCA Radiotrons on these high points of salability:

- LARGE SALES VOLUME
- LOW STOCK INVESTMENT
- ADVANCED ENGINEERING
- HIGH MARGIN OF PROFIT
- STEADY RATE OF TURNOVER
- ASSURED CONSUMER DEMAND
- COMPLETE LINE FOR EVERY PURPOSE
- GREATEST NATIONAL ADVERTISING CAMPAIGN



RADIO CORPORATION OF AMERICA
NEW YORK CHICAGO SAN FRANCISCO

RCA Radiotron

MADE BY THE MAKERS OF THE RADIOLA